

Financing of the Geriatric Day Hospital – Supplement

KCE reports 99S

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Financing of the Geriatric Day Hospital - Supplements

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I

APPENDIX TO CHAPTER 3: METHODOLOGY OF THE EVALUATION OF THE GERIATRIC DAY HOSPITAL

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Within the framework of the pilot project on geriatric day hospitals (45 day-hospitals in general acute hospitals from 1/1/2006, and 15 more day-hospitals from 1/1/2007, provisionally financed by the B4 part of the hospital budget for 2 years) the Public Health Minister team asked to the KCE :

to elaborate an evaluation methodology for geriatric day hospitals,

to determine the data to be registered,

with the goal of defining :

- type of care
- type of patients
- financing system.

I.1 INTRODUCTION

Recently, due to the strong increase of the number of elder people, the geriatric care has slightly grown up. In 2001, 107 from the 120 acute care hospitals had a geriatric ward added to 9 specialized geriatric hospitals.

In order to promote a qualitative offer to the geriatric patient centred on multidisciplinary care and continuity of care, the implementation of a Geriatric Healthcare Program has been decided by the Public Health Minister.

This program will include a geriatric ward, an ambulatory care facility, a geriatric day hospital and a team charged to offer the geriatric expertise to the other clinicians (liaison geriatrics).

Due to the launch of a pilot experience of geriatric day care hospital in January 2006, the present study is a top priority.

I.2 OBJECTIVES

Evaluation is a systematic assessment of the needs, structures, procedures, implementations, results and prevalence of activities in the health care system (DACEHTA). The present study is an observational prospective research which has the goal to support a policy development: the geriatric day hospital (Kentucky). The usefulness of the GDH will not be investigated through this work but will be assessed through a review of the scientific literature.

A GDH has to offer

- an outpatient setting
- to patients whose profile has to be defined,
- technical activities proper to a hospital setting,
- with clinical outcomes at least equivalent to those reached after a classical hospitalisation,
- with hospital LOS or number of hospitalisation decrease as economical outcome,
- and a patient satisfaction at least equal or greater.

The search question is:

What is the care delivered by the geriatric day hospital to which patients and at what price?

Patient: the geriatric patient

Intervention: diagnosis, treatment and rehabilitation within a geriatric day hospital

Comparator: classical hospitalization, mainly on the basis of existing studies (RGM MC Closon, discharge abstract data - RCM).

It would be difficult indeed to compare the outcomes of GDH with classical hospitalization within our time frame and without a reasonable follow up period of the patients.

Outcome: health status improvement, patient satisfaction, LOS reduction

Our major search questions may be divided in the following sub-questions: (assessment mainly based on Cochrane SR of Forster et al ¹ and Day P²).

1. Structure of the GDH:

- Is the structure of the GDH in conformity with the Royal Decree Text? What is the available workforce? Is there transport facility available for the patients?

2. Patients admitted in the GDH:

- What is the profile of a patient admitted in GDH (demographic, socio-economic, health status e.g. diagnosis at admission, ongoing treatment, disability profile, homecare use...)? What is the impact of the patient profile on the use of a GDH? Is the patient profile different than the patient profile of a hospitalized G patient?

- What is the origin of the patients (home, nursing home, G ward, other ward)?

3. Admission and discharge:

- What is the way patients are admitted? Are there emergency admissions? What is the accessibility? How many patients are refused and what are the reasons? Is there admission delays?

- What is the way patients are discharged? Is there a discharge planning?

4. Activities:

- What are the interventions in a GDH? Is the intervention composed of diagnosis, treatment, rehabilitation and/or prevention and for each category, what are the tools or tests or procedures used? What is the intensity of the interventions in workload for every category of professionals? What is the link between a patient's profile and the interventions?

-What are the organizational choices? Is there multidisciplinary or interdisciplinary work?

4. Outcomes of the GDH:

- What are the main outcomes of the GDH in term of LOS, frequency of stay, readmission, results of diagnosis tests, in house mortality, destination of patients at discharge, satisfaction of patients? Is there a link between patient profile or interventions received and outcomes?

What is the utility of GDH compared with a classical hospitalisation?

The evaluation should allow a comparison with patients admitted in a geriatric ward through the comparison with studies like RGM or with database like the RCM.

I.3 CONTEXT

We will give a short definition and/or description of the important items used in this project.

Geriatric patient:

The text of the project of Royal Decree for the Geriatric healthcare Program gives the following definition for the geriatric patient:

- patient older than 65
- with poly-pathology
- with poly-pharmacy
- with reduced homeostasis
- with a trend toward inactivity and confinement to bed
- with a risk of institutionalisation and dependency for the ADL

The full project (2006 18 HSR) includes the building of an operational definition of the geriatric patient in a later phase but meanwhile we will use this one with a few precisions.

First, a geriatric patient is exposed to several specific syndromes (disorders characterised by the combination of age-related changes, accumulated pathology, poly-pharmacy and acute illness reducing the threshold for the occurrence of falls, cognitive problems, incontinence and adverse outcomes like functional decline, post-acute syndrome or even death after acute episode).

Secondly, the specific situation of the geriatric patient (frailty, functional decline, failure to thrive) imposes a rehabilitation treatment to gain or at least preserve his functional status in the same time than the medical treatment.

Third, the transition of the patient from one setting to another must be carefully prepared because the adaptation of the older patient to new situations is slower.

Finally, the care planning must be discussed not only with the patient himself when possible but also with his close relatives whose intervention is essential.

Although in geriatrics it is often talked about the “frail elderly” there are unfortunately no clear consensus on the definition of this term.

The American Geriatric Society defines it as the “...clinical expression of cumulative biologic changes with aging which result in decreased ability to maintain homeostasis and lead to vulnerability to stressors.”

Features of frailty include among others:

- - Unexplained weight loss (>5% over a year)
- - Poor endurance and energy (self reported)
- - Poor strength (in lowest 20th percentile)
- - Slow walking speed (Poor “Get up and Go” test).
- - Low physical activity (lowest 20th percentile)

(<http://www.fhs.mcmaster.ca/medicine/geriatric/GH2004.pdf>)

However, there are many definitions of frailty (physical, cognitive, functional and social) and without clear consensus on these definitions, it is important before using one as an operational tool to bear in mind the criteria for a successful definition of frailty, as for example:

Content validity: frailty includes multiple determinants, is dynamic, validly outperforms earlier successful definitions, broadly useful across contexts (e.g. clinical trials, population studies) and is computationally tractable.

Construct validity: frailty is more common in women than in men, is more common with age, is related to disability and is related to co-morbidity and self-rated health.

Criterion validity (ability to classify people correctly): frailty predicts mortality, predicts other outcomes (delirium, fall, worse function), predicts an age at which everyone is frail and scales from cellular and animal models to studies in people³.

The geriatric day hospital:

The project of Royal decree on geriatric program of care gives the following definition of a geriatric day hospital:

To supply to the geriatric day hospital the same technical means than those used in a hospital, in order to fulfil the following missions:

- patient observation
- multidisciplinary diagnostic assessment program (ambulatory diagnostic program for somatic, cognitive and social aspects), including among others a memory clinic, assessment programs of fall risks, incontinence, nutritional status, walk and gait ...
- intensive functional rehabilitation
- treatment,

with the goal to reduce the length of stay in case of hospitalisation or to reduce the number of hospitalisations. These missions must be active and not only maintenance treatments. This is why the maximal mean duration must not exceed 2 months.

The project of Royal decree on the program of care also specifies that the GDH

offers minimum 6 places, with 2 FTE nurses, 1 FTE occupational therapist/physiotherapist, can rest on all the multidisciplinary team of the program of care and

must have the necessary infrastructure, located in rooms dedicated to the GDH.

Traditionally, geriatric day hospital is associated with rehabilitation, maintenance, medical and nursing investigations, social care and role in crisis intervention (alternative for emergency ward). Other specialist services provided within the day hospital include comprehensive falls service, leg ulcer clinics, memory clinics, diabetic clinics, incontinence clinics, TIA clinic, management of movement disorders (Parkinson) and recently also chronic disease management⁴.

The classical hospitalization:

By essence, the classical hospitalization and the day hospitalization are very similar, except than the first implied that the patient stays overnight. Of course, the indications of both types of services may be specific but may also overlap.

The Outcomes:

The goal of all health service is first to improve the patients health status, with the best possible patients satisfaction. For the financing body, the cost effectiveness is also an important outcome.

It is worth noting that the gains could not be the same for all patients admitted in GDH, but more studies are needed to confirm that hypothesis⁵. Also, the discharge destination depends on factors like physical function, gender, cognition, living alone, presenting problems in addition to main diagnosis⁶.

I.4 METHODOLOGY

I.4.1 Literature review

The objective of the literature search was to find the existing evidence on the usefulness of a GDH and to see the indicators used to assess its efficiency.

In that goal, in order to review the background we first searched the internet through a search engine (<http://www.journalservice.com/Main.asp>) with geriatric day hospital as key word. We went through the 200 first hits selecting all papers reporting an evaluation of the GDH. We searched then the Medline database (clinical queries, systematic reviews) and sum search engine. The results of this search will be added later at the present report.

On the basis of the NZ HTA report found on the internet ², we operated a search for primary studies related to GDH. We reviewed therefore the recent scientific literature focusing on the geriatric day hospital. The search was made in Medline, Embase and Cinhal databases for 2003 to 2006 using the same search strategy than that of the NZ HTA report², except for the terms non relevant for a reflection on the utility of GDH in a Belgian context (e.g rural) (the detailed search strategy will be added later at the present report and a table of evidence is in appendix I). We introduced limits related to the age group, i.e. at least 65 year-old people and related to the language, i.e. French, English, Dutch, Spanish and German. We also have limited the search to the 'geriatrics' in the subject.

On the basis of the selected papers and the conceptual frameworks we have identified the type of indicator we needed from the conceptual frameworks presented above. Secondly, we have selected indicators regarding their pertinence for the evaluation process. Once the indicator were defined, we identified if the data required to measure it are available in the data routinely collected by the team of the GDH or if it was necessary to specifically collect them. Finally, the list of indicators has been submitted to the Belgian College of Geriatrician to assess their pertinence and feasibility.

To assess the effectiveness of the GDH, we reviewed the scientific literature as described before, giving priority to systematic reviews, meta-analyses and RCT.

The first comment is that scientific literature on GDH effectiveness is really scarce.

A critical appraisal of the literature from 1980 until 2003 has been published in the NZ HTA report of 2004 ². The subject of the report is the effectiveness of specialised geriatric services, including GDH. The authors selected seven studies and concluded that there is a lack of evidence of efficacy of day hospital and outpatient setting. There is no conclusive evidence regarding their benefits compared to usual geriatric care. The indicators studied were functionality, mortality, quality of life and physical and mental health status.

As reported in the Cochrane review ¹, the advantage of geriatric cares seems to lie more in the globality of comprehensive care than in the particular setting where the cares are given. In this review it is reported that day hospitalisation reduces hospital bed use and institutionalisation placement.

In general, the New Zealand HTA report concluded that the improvements of outputs seem not sustained after several months following discharge.

The only paper that evaluates specifically the cost-effectiveness of the GDH is Tousignant study ⁷. Regarding the cost-effectiveness of the GDH, this Canadian quasi-experimental study showed that the GDH is cost-effective for functional autonomy changes, measured with the SMAF score (functional autonomy measurement system): for 1\$ invested, 2.14\$ of benefit (95%CI: 1.72-2.56). The direct and indirect costs (charged to the patient) were taken into account. They report a globally cost-effectiveness for the GDH, all diagnosis categories included. Nevertheless, this study compares GDH to 'do-nothing' and reflects perhaps more the cost-effectiveness of care for people in functional decline than really the effect of the GDH intervention.

Hershkovitz shows in an observational study a positive evolution of IADL and “get up and go” scores after a stay in an Israeli GDH, but no significative evolution of FIM (Functional Independent measure) score. In the study, the impact on mobility is less important for patients who received inpatient rehabilitation prior referral to day care (probably due to a ceiling effect). However, the only investigated outcomes of this cost-benefit study were functional changes. The GDH goals are a lot more than this one. Therefore this study gives only one side of the response related to cost-effectiveness of the GDH.

I.4.2 The evaluation method

The framework we propose to use in this project is the one developed by the Centre of Disease Control (Program Evaluation on Public Health).

The framework is composed of six steps that are inter-dependent:

1. Engage stakeholders (those affected, those involved in operations, those who will use the evaluation results)
2. Describe the program (need, targets, outcomes, activities, outputs, inputs/resources, relationship of activities and outcomes, stage of development, context)
3. Focus the evaluation design
4. Gather credible evidence (indicators, data sources, data collection methods, quality and quantity of data, protocol of data collection)
5. Justify conclusions (utility, feasibility, propriety, accuracy)
6. Ensure use of evaluation findings and share lessons learned (recommendations, feed-back...)

The first step is upon the responsibility of the Minister of Public Health, his staff and the Ministry team.

The second step is based on the project of Royal Decree for the Geriatric healthcare Program and completed with definitions taken from the scientific literature.

The third and fourth steps are the objective of the present work.

The following steps will be the responsibility of the selected operator after the call for tender organised by the Ministry of Public Health.

I.4.3 Modelling of the trajectory of the geriatric patient

In order to build evaluation indicators for the geriatric day hospital, it is important to have a good model of the geriatric disease framework and the geriatric care pathway. The disease trajectory is made by several phases.

1. Pre-trajectory: before the illness course begins, the prevention phase, no symptoms, no signs
2. Event onset: signs and symptoms are present, includes diagnostic period
3. Acute: active illness or complications that require hospitalization for management and possible initial rehabilitation (may be a life-threatening situation requiring emergency, critical care)
4. Comeback: signs and symptoms reduced or eliminated, rehabilitation active and intensive or recovery (physical, but also recuperation of roles, relationships, full recovery may involve a reorganization of skills and abilities to incorporate or accommodate for changes in physical status such that an active and vital life is possible).
5. Stable: illness course/symptoms controlled by regime
6. Unstable: Illness course/symptoms not controlled by regime but not requiring hospitalizations

7. Downward: progressive deterioration in physical/mental status characterized by increasing disability or symptoms
8. Dying: immediate weeks, days, or hours preceding death (Corbin and Strauss)

The hospitalisation is mainly concerned by the phases 2 to 4 (except phase 8: palliative care which is beyond the scope of this study): onset of an acute event followed by a comeback period with intensive rehabilitation. During this trajectory, the hospitalized patient will get an intervention made of:

Diagnosis:

The frailty and functional decline of the geriatric patient are the reasons why a comprehensive geriatric assessment is necessary in complement of the classical diagnosis workup. This assessment is made by several professional within an interdisciplinary framework.

Different tools exist. The Belgian college of geriatricians has built up one picking up different instruments in the existing tool (see appendices).

Among diagnoses, the specific geriatric syndromes (the giants) have to be underlined.

Treatment:

There are few specific geriatric treatments which have to be given during a hospitalisation. However, chemotherapy, transfusion, surgery for example may impose day or classical hospitalisation.

Rehabilitation:

It is surely one of the most important interventions specific to geriatric care. However it is difficult to make a clear cut between acute rehabilitation just after a stroke or a hip fracture for instance, intermediate rehabilitation where the patient may still recover some independence and chronic rehabilitation where only the prevention of decline is possible.

Prevention:

To avoid or delay dependence, preserve familial support and decrease unjustified institutionalisation of elderly, prevention activities are useful. They focus mainly on gait troubles, falls, post-falls syndrome, malnutrition, incontinence, difficulties due to poly-medication as well as arthritis, osteoporosis, visual acuity or audition, depression and social isolation.

Schematically, the trajectory of a geriatric patient for whom an admission is requested could be the following:

He is coming from his own home, or transferred from another ward or hospital straight forward or after a short stay in his home, or from a long term care facility/nursing home.

Depending on his health status (i.e. health, social, disability.... risks), on his request or the request of the attending physician, on the availability of places in the geriatric ward or in the GDH, on the treatments or intervention he needs, the patient will be directed either to a geriatric ward, to another hospital ward or to a GDH.

He will get an intervention including one or several of the following elements:

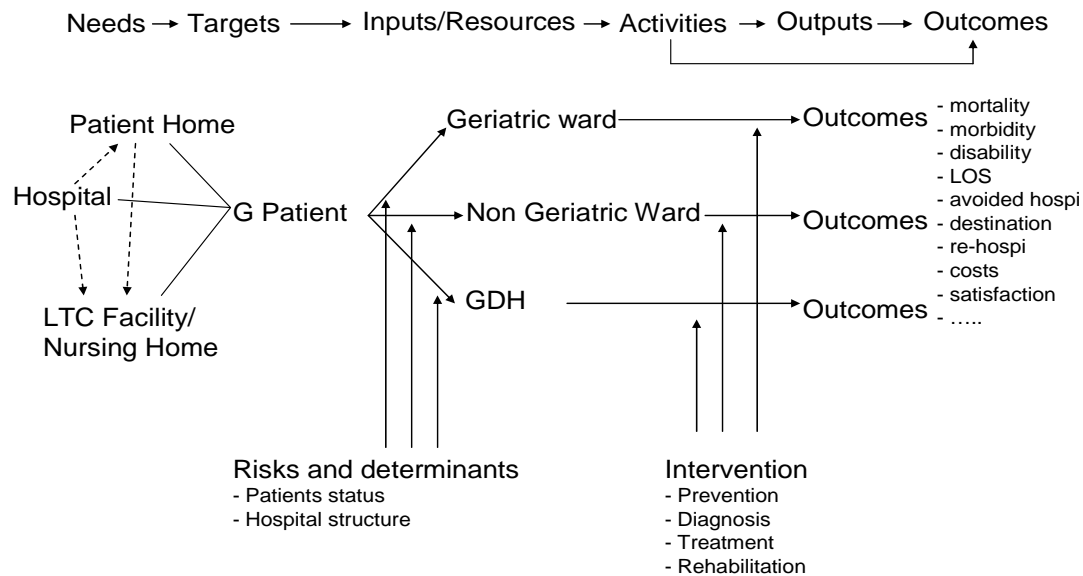
- a multi-disciplinary Comprehensive Geriatric Assessment
- complementary diagnostic tests
- one or several treatments
- intensive rehabilitation

Finally, his trajectory ends up with certain results:

- Health status: short term mortality, residual morbidity, residual disability or frailty, re-hospitalisation
- Quality: destination at discharge: home, nursing home..., patients satisfaction

- Cost effectiveness: LOS, classical hospitalisation avoided
-

TRAJECTORY OF A G PATIENT CANDIDATE FOR HOSPITALISATION



A patient discharged from a geriatric ward and oriented to a geriatric day hospital is a special case. This patient, indeed, will probably have received a diagnosis and an initial treatment. In that case, the main activity of the day hospital will be rehabilitation.

1.5 DATA AND INDICATORS REQUIRED FOR EVALUATION OF THE GDH

1.5.1 Introduction

In this chapter we will identify which questions, data and derived indicators are necessary to evaluate GDH.

Many definitions of what is an indicator exist. We present thus here just one: "Indicators are presentations of measurements. An indicator quantifies and simplifies phenomena and helps us understand complex realities. Indicators are aggregates of raw and processed data but they can be further aggregated to form complex indices."⁸

It is important to precisely know the indicators we need before to start the data collection. It is as important not to miss relevant indicators as to reduce the list of indicators to be collected to the strict minimum. The time of geriatricians, indeed is scarce.

Indicators make sense only according to the context and the objectives of who selects it, and uses it.

To be useful, an indicator must give an answer to a precise question ⁹.

1.5.2 Objectives of the indicators

The indicators presented hereunder have the objectives describe patients admitted to the GDH and to describe interventions made in the GDH. They will also have to support or justify the financing system to be developed for the GDH. The conceptual framework is presented here after.

1.5.3 DATA NEEDED: Conceptual frameworks

1.5.3.1 *Description of the structure*

Firstly, in order to describe the implementation of the GDH, it is useful to get some information on the historic of the service: how long does it exist? What the main activities were before to get into the pilot project (diagnostic, revalidation, therapy, etc)?

Indeed, the type of activities implemented in the GDH could result from difference in its history. The area and the location of the GDH are also useful to know in order to compare the GDH.

The possible problems met during the implementation of the GDH as required by the pilot project are useful to collect to identify barriers and strengths.

The project of the Royal Decree, as for it, defines the GDH following different structure features, i.e. the number of beds and nurses and occupational therapist/physiotherapist FTE. The evaluation will have among other purpose to assess if the criteria are respected and describe the size of the GDH expressed in the same units. This type of information has therefore to be collected.

Multidisciplinary work is also mentioned as a specificity of this structure. As there is no precise specification of the skills that have to be represented, it will be useful to describe the choices made in terms of staff by the different GDH, identifying the kind of workers employed.

To be admitted in a GDH, patients have to be able to come and go easily. The elderly people are often not so mobile. To facilitate the access to the GDH it is interesting to know if the hospital has foreseen a mean of transportation for the more dependant (physically or socially) persons. If transportation is provided, this information could be used as a proxy to describe the population and / or to assess the accessibility of GDHs.

1.5.3.2 *Description of the patients*

To be considered as 'geriatric' according to the Royal Decree, patients have to respond to some criteria of age and health status. Data about it have then to be collected.

As we are in a pilot study, it is important to have a clear idea about the kind and status of patients admitted in a GDH. We need thus, socio-demographic information (age, sex, living alone, geographical area) health status information, origin (geographic area and setting), etc.

Patient's isolation is an important indicator due to its repercussion on the accessibility to GHD or on the length of stay.. It could also be used as a proxy for social environment characterization

To define the catchment's area of the GDH, we need data on the place of residence of the patient.

The origin (in terms of home / nursing home / hospital) could have an effect on the outcomes: an older coming from his/her home before his/her admission, is probably in better health than a patient coming from a nursing home or from an hospital. The therapeutic will probably be different as well as the length of stay. The objectives to reach in term of health outcomes could possibly be less ambitious in the latter case.

IA patient coming from another hospital, not linked to the GDH, may indicate the general need of this type of setting.

For all these reasons, data on the origin of the patients has to be gathered.

The socio-economical status (SES) of the patients using the GDH could be very specific. Are low SES elderly more or less represented in the patient population? This indicator could shed light on the accessibility issue ¹⁰. From another point of view, we know that the health status could be linked to the SES ¹¹. It is then useful to be able to verify this hypothesis in a GDH context. The SES is a very difficult concept to define and to measure. Classically, it could be built using educational level, employment situation, type of profession and income level.

The last aspect is in general very difficult to approach in Belgium. The employment status is no more pertinent for an older person. To define the type of profession, very precise data needed to be collected, which require heavy work to be analysed. To minimize the data collection, educational level could be used as a proxy of the SES of the geriatric patient.

Social complexity is needed to describe the type of patient coming to the GDH. It will eventually allow a comparison with inpatients, in a later stage.

Patient health status could have an impact on the financing system of the GDH (see after), i.e. ADL, IADL, diagnostic and co-morbidity, because the work intensity of nurses or paramedics could be linked with it. More, for patient in poor health condition, the length of stay could be higher and outcomes could be less satisfying. An important measure in this context is the functional health status at admission. It predicts mortality, institutionalisation and financing¹².

The ADL and IADL are often measured¹³⁻¹⁷. The co-morbidities of the patients as well as a high number of medicines intake are also criteria used in the definition of a geriatric patient according to the Royal Decree and are useful for case-mix adjustment¹⁸. We have thus to get this information and to verify if patients in GDH really fulfil the RD criteria to be a geriatric patient.

1.5.3.3 *Description of the admission*

The way that the patient is admitted is something that we could not theoretically foresee and need to be measured. Particularly, emergency admissions could have an impact on the general organisation of the GDH.

The refusal of admission is important to assess the adequacy between the supply and the demand for day hospitalisations. That information could be refined by analysing the reasons of refusal.

Also, information on possible delay for admission is needed to evaluate the general accessibility to the GDH.

1.5.3.4 *Description of activities*

According to the Royal Decree, GDH have to take geriatric patients who need interventions only available in a hospital structure. At middle or long term, every GDH will have to propose diagnostic, therapeutic and revalidation interventions.

For the moment, we need to know what will be exactly done in each GDH: does it satisfy the criteria to be financed as a pilot GDH? Are diagnostic, therapeutic and revalidation interventions offered to the patients? If the GDH was in activity before the pilot phase, the passed organisational choices may have influenced the availability of interventions.

The details of the activities are necessary for the study of a financing system (see after).

In terms of diagnostic activities, we have to know which tools are used. The Belgian Minimum Geriatric Screening Tools (BMGST) is recommended to be used for the Comprehensive Geriatric Assessment by the Belgian College of Geriatric. It consists of several scales and tests to assess among other things, the functional, cognitive, emotional, environmental, nutritional, co-morbidity and poly medication status of an older. As the use of the CGA improve outcomes¹⁹⁻²², it is important to know how it is used and for which patients.. The CGA tool is therefore also useful to describe patient's profile.

Some of the diagnostic scales are useful to describe the population of the GDH. They also could be used to define categories of patients. The amount of care needed by a category of patients will influence the cost and therefore the financing system.

Other diagnostic activities could be done in a GDH, as medical imaging and biology/laboratory test. It is important to record it to get a clear image of the activities done in a GDH in Belgium.

For the same reasons, the therapeutic, rehabilitation and preventive interventions have to be recorded and also, the work done by the different carers (dietician, speech therapist, physiotherapist, etc). On the other hand, the organizational choices (multidisciplinary team work, existence of a planning of care, and /or of discharge ...) may influence the outcomes of a GDH: it is thus important to record them .

1.5.3.5 Outcomes

Intermediary outcomes are very often measured in the literature. In our evaluation, we need some of them to have an idea of what is happening once a patient has been admitted in a GDH ²³, i.e. Length of Stay (LOS), destination, frequency of stay and readmission. We have no ambition to evaluate the quality of care while this type of outcomes could be used for it. Nevertheless monitoring or later comparisons will be possible with a minimal set of indicators.

A classically outcome measured is the LOS ^{13, 24}. It is used for financial purpose. In the context of the Royal Decree, LOS in a GDH is not allowed to exceed 3 months. We have to verify if this length is adequate and respected..

The destination of the patient also is an important indicator: the aim of the rehabilitation is to avoid institutionalization, so far as it is possible.

The patient satisfaction of the GDH is an important data to collect to evaluate the success or the utility of such a structure in the patient point of view.

1.5.3.6 Financing system

The financing of GDH will first depend on the main activities of the GDH: diagnostic assessment, intensive functional rehabilitation, combination of both or diagnostic and rehabilitation combined with some therapeutic interventions. Data about diagnostic activities, rehabilitation activities and therapeutic interventions are therefore needed.

If GDH have rehabilitation activities, financing will depend on:

- the length of the rehabilitation treatment and the frequency of stays;
- The intensity of rehabilitation care, in terms of:
 - Nursing activities
 - Paramedical activities such as speech therapy, occupational therapy, psychology, dietician activities, social work

In geriatric inpatient units, physiotherapists are until now financed on basis of a fee-for-service system, we can thus consider that this system will be maintained for GDH. The intensity of physiotherapy would therefore probably not be used to determine a financing system. This type of data could nevertheless be collected in order to allow a possible change in the financing system.

Geriatrician are and will continue to be financed with a fee-for-service system. Information about medical activities is therefore not useful for a future financing system.

The length of rehabilitation treatment and the intensity of rehabilitation care will probably be influenced by patient characteristics as age, health status at admission, and diagnosis. A common methodology is to develop a patient classification system which is predictive of resource use (for example RUG- "Resource Utilization Groups" or AP-DRG- "All Patient Diagnosis Related Groups"). Therefore, data about intensity of rehabilitation care, length of treatment and patient characteristics are needed.

Therapeutic interventions are a special concern. Medical interventions are financed by a fee-for service system and don't need to be collected. Special nursing interventions could be an indicator of patient heaviness (in the RUG system for example, it is considered as a dichotomous variable). Presence of such interventions could also raise the question of the validity of the care: should such patients be treated in a geriatric hospital? Therefore data about special nursing interventions have to be collected.

I.5.4 Source of data

For practical purpose, data needed to measure indicators have to be easily available. Indeed, the data collect is not a priority of the GDH hospital team. To guarantee the better quality of the data, the recording has to ask as less work as possible. Therefore, for each indicator, we first look in the dataset that is required to be used by the Minister of Public Health, i.e. the Minimal record dataset (MDS) from the Geriatric RAI (build from the MDS developed for home-care).

For certain items they are not included or insufficiently in the geriatric RAI, we first look their availability in the BGMST, recommended to be used by the Belgian College of Geriatrics. In case of absence of needed data in these datasets, we propose a specific registration.

Each GDH should give the data collection responsibility to a person clearly designated.

For the specific data, not already included in mandatory databases (RAI?) or available databases (Claims data?), we suggest to use a sample of patients in order to alleviate the workload.

A sample of 1 /3 new patients followed up to the end of their 'stay' (theoretically no more than 3 months) should be sufficient to calculate indicators on a national level. The total process of data collection would therefore take 9 months, i.e. a 6 months period for patients' inclusion and a 3 months period to complete the follow up. The pertinence of the sample size has to be validated by the volume of patients in already functioning GDH.

A register with all the patients admitted in the GDH will be put at disposal of the evaluation team to assess the good quality of the sampling procedure.

I.5.5 Selected indicators

The list of the type of information we need, the indicators, their justification in our evaluation context and the potential source of them are presented in the following table.

Table I: Type of data and indicators related required to evaluate the GDH

| ID | TYPE OF DATA | INDICATORS TO BE MEASURED | REASONS FOR INCLUSION | SOURCE |
|----|---|---|---|--|
| | Structure of the GDH | | | |
| | Historic | | | |
| S1 | Age of the GDH | | To describe the GDH implementation process | Specific qualitative collect |
| S2 | List of activities before entering the pilot project | | To describe the GDH implementation process | Specific qualitative collect- potential list of categories (diagnostic – treatment – revalidation – prevention) |
| S3 | List of difficulties with implementation | | To describe the GDH implementation process | Specific qualitative collect |
| S4 | Total area of the hospital in m ² | | | Specific qualitative collect |
| S5 | Area of the GDH in m ² | Proportion of the total area used for the GDH | To describe the GDH structure | Specific qualitative collect |
| S6 | Location of the GDH (in the hospital) | | To describe the GDH structure | Specific qualitative collect |
| S7 | Capacity in number of beds | | To describe the GDH structure | Specific qualitative collect |
| ID | TYPE OF DATA | INDICATORS TO BE MEASURED | REASONS FOR INCLUSION | SOURCE |
| S8 | Human resources: Staffing (in FTE): Geriatrician, MD, nurses, physiotherapist, occupational therapist, dietician, speech and language therapist, psychologist, social worker | | To describe the GDH structure | Specific qualitative collect: inventory of the different skills represented in the GDH |
| S9 | Patient transportation foreseen | | To describe the GDH structure | Specific qualitative collect: Has the GDH a service to transport patients from their residence place to the GDH? |
| | Patients | | | |
| | Origin | | | |
| PI | Home | Rate of patients coming from home | To describe the profile of the patients using the GDH | Specific collect: where was the |

| P2 | Nursing home | Rate of patients coming from nursing home | To describe the profile of the patients using the GDH | patient just before to present him/herself at the GDH? (home – ret home - NH – general hospital – other general hospital) |
|-----|----------------------------|--|--|--|
| P3 | General hospital | Rate of patients coming from general hospital | To describe the profile of the patients using the GDH | |
| P4 | Other general hospital | Rate of patients coming from other general hospital | To describe the profile of the patients using the GDH: Is the GDH referred by other hospital that have not their own GDH | |
| ID | TYPE OF DATA | INDICATORS TO BE MEASURED | REASONS FOR INCLUSION | SOURCE |
| P5 | Geriatric service | Rate of patient coming from geriatric service | To evaluate if the GDH could reduce the inpatient LOS by admission of patients coming directly from hospital to continue their treatment/revalidation | Specific collect: in which service was the patient just before to be admitted in the GDH? (Not relevant - geriatric service – emergency – other service) |
| P6 | Emergency department | Rate of patient coming from emergency department | To evaluate if GDH could reduce inpatient admission | |
| | Socio-demographic data | | | |
| P7 | Gender | Sex ratio | To describe the profile of the patients using the GDH | MDS Homecare BB1 |
| P8 | Age | Distribution of age | To describe the profile of the patients using the GDH: age is a criteria to target geriatric patient (project of royal decree) | MDS Homecare BB2 |
| P9 | SES | Educational level distribution | <ul style="list-style-type: none"> - To describe the profile of the patients using the GDH: Educational level as proxy for SES could reveal accessibility differences - Education could be a proxy of the size of social network because people with low education level have more children¹⁸ - Link between SES and pathology / heaviness | Specific collect because of MDS Homecare BB6 is not relevant for Belgium: higher obtained diploma (no / primary school / low secondary school/ high secondary school / university-high school) |
| ID | TYPE OF DATA | INDICATORS TO BE MEASURED | REASONS FOR INCLUSION | SOURCE |
| P10 | Geographic situation | Distribution of the postal code | To describe the profile of the patients using the GDH: to define the catchment's area | Specific collect: postal code |
| P11 | Living alone | Distribution of who is living with the patient | <ul style="list-style-type: none"> - To describe the profile of the patients using the GDH - Could have an impact on LOS | MDS Homecare CC6 |
| P12 | Social complexity | Distribution of the scores of the Socio scale at admission | <ul style="list-style-type: none"> - To describe the profile of the patients using the GDH - Could have an impact on LOS | BGMST |
| | Health status at admission | | | |
| P13 | ADL | Distribution of the score | <ul style="list-style-type: none"> - To describe the profile of the patients using the GDH - needed for financing system | MDS Homecare H2 a-j + MDS Homecare I1 + I3 |
| P14 | IADL | Distribution of the score | <ul style="list-style-type: none"> - To describe the profile of the patients using the GDH | MDS Homecare H1 a-g (A) |

| | | | - needed for financing system | |
|------------------------------|-----------------------------|---|---|--|
| P15 | All diagnostics | Distribution of all diagnostics at admission (or if no diagnostic, after 1 st CGA) | To describe the profile of the patients using the GDH | MDS homecare: J 1-2 (ICD-9 codes) |
| P16 | Main diagnostic | Distribution of main diagnostic at admission (or if no diagnostic, after 1 st CGA) | To describe the profile of the patients using the GDH | Specific collect: ICD-9 code + category 'To be investigated' (in case of hospitalisation for evaluation) |
| P17 | Co-morbidity assessment | Distribution of the Indice of Greenfield | - To describe the profile of the patients using the GDH: co-morbidity is a criteria to be identified as a geriatric patient (project of royal decree) | Specific collect: BGMST |
| P18 | Poly medication | Distribution of the number of different therapeutic classes consumed | To describe the profile of the patients using the GDH: poly pharmacy is a criteria to be identified as a geriatric patient (project of royal decree) | Specific collect: BGMST |
| ID | TYPE OF DATA | INDICATORS TO BE MEASURED | REASONS FOR INCLUSION | SOURCE |
| Admission | | | | |
| A1 | Date of admission | | To compute age and LOS | Specific collect |
| A2 | Admission in emergency | Rate of patients arriving to the GDH for emergency reasons | To describe GDH activities: to evaluate potential organizational difficulties | specific collect |
| A3 | Refusal of admission in GDH | Rate of patients refused at admission | To evaluate the application of the criteria of admission (project of royal decree) | specific collect |
| A4 | Reason for refusal | Distribution of reason for refusal of admission in GDH | - To evaluate who arrives at the GDH for unjustified reasons - To evaluate barriers to admission in a GDH | specific collect |
| A5 | Delay of admission | Number of waiting days to be admitted | To evaluate the 'success' of the GDH / the needs / and therefore the potential need to be grown | specific collect |
| ID | TYPE OF DATA | INDICATORS TO BE MEASURED | REASONS FOR INCLUSION | SOURCE |
| Activities | | | | |
| Diagnostic activities | | | | |
| AC1 | Medical imaging | Use of medical imaging | To describe GDH activities: | Specific collect: has it been use of medical imaging (yes/no) or billing data |
| AC2 | Biology / laboratory tests | Use of biology/ laboratory test | To describe GDH activities: | Specific collect: has it been use of biology or laboratory test (yes/no) or billing data |
| | CGA | | | |
| AC3 | BGMST | Number of completed BGMST among new patients of the GDH | To describe GDH activities: Evaluation of the use of the diagnostic tool recommended by the College of Geriatrics | specific collect: list of the tools with BGMST scale + several others possible (open) → Derived from data: if X tools of the BGMST done, then BGMST done |

| AC4 | <i>Tools for diagnostic</i> | Distribution of tools not included in the BGMST used for diagnostic at admission | Identification and importance of used tools, other than the recommended ones | specific collect: list of the tools with BGMST scale + several others possible (open) |
|------|------------------------------|---|--|---|
| | <i>Functional assessment</i> | | | |
| AC5 | ADL | % ADL assessment done when useful | To describe GDH activities: diagnostic | Specific collect: done/ not done / not relevant |
| ID | TYPE OF DATA | INDICATORS TO BE MEASURED | REASONS FOR INCLUSION | SOURCE |
| AC6 | IADL | % IADL assessment done when useful | To describe GDH activities: diagnostic | Specific collect: done/ not done / not relevant |
| AC7 | <i>Risk of falls</i> | % Evaluation of risk of falls done when useful | To describe GDH activities: diagnostic | Specific collect: done/ not done / not relevant |
| AC8 | | Distribution of the scores of the Stratify score at admission | To describe the profile of the patients using the GDH | Specific collect: results (BGMST)/ other tool used / not relevant |
| AC9 | <i>Depression</i> | Evaluation of the depression done when useful | To describe GDH activities: diagnostic | Specific collect: done/ not done / not relevant |
| AC10 | | Distribution of the scores of the Geriatric depression scale (GDS) at admission | To describe the profile of the patients using the GDH: useful for financing system | Specific collect: results (BGMST)/ other tool used / not relevant |
| AC11 | | Distribution of the scores of the Cornell scale for depression (CSDD) at admission | To describe the profile of the patients using the GDH: useful for financing system | Specific collect: results (BGMST)/ other tool used / not relevant |
| AC12 | <i>Cognitive assessment</i> | Cognitive assessment done when useful | To describe GDH activities: diagnostic | Specific collect: done/ not done / not relevant |
| AC13 | | Distribution of the result at the clock drawing test | To describe the profile of the patients using the GDH: useful for financing system | Specific collect: results (BGMST)/ other tool used / not relevant |
| AC14 | <i>Social complexity</i> | Evaluation of the social complexity done when useful | To describe GDH activities: diagnostic | Specific collect: done/ not done / not relevant |
| AC15 | <i>Nutritional status</i> | Evaluation of the nutritional status done when useful | To describe GDH activities: diagnostic | Specific collect: done/ not done / not relevant |
| AC16 | | Distribution of the scores of the Malnutrition universal screening tool (MUST) at admission | To describe the profile of the patients using the GDH: useful for financing system | Specific collect: results (BGMST)/ other tool used / not relevant |
| AC17 | <i>Pain</i> | Evaluation of the presence of pain at admission done when useful | To describe GDH activities: diagnostic | Specific collect: done/ not done / not relevant |
| ID | TYPE OF DATA | INDICATORS TO BE MEASURED | REASONS FOR INCLUSION | SOURCE |
| AC18 | | Distribution of the results of the pain description at admission | To describe GDH activities: diagnostic | Specific collect: results (BGMST)/ other tool used / not relevant |
| AC19 | | Distribution of the items for pain description of the check list | To describe the profile of the patients using the GDH: useful for financing system | Specific collect: results (BGMST)/ other tool used / not relevant |
| AC20 | <i>Frailty</i> | Identification of senior at risk (ISAR) used when useful | To describe GDH activities: diagnostic | Specific collect: done/ not done / not relevant |
| AC21 | | Distribution of the results of the ISAR at admission | To describe the profile of the patients using the GDH: useful for financing system | Specific collect: results (BGMST)/ other tool used / not relevant |

| | | | | |
|-----------|--|--|---|--|
| AC22 | <i>Co-morbidity assessment</i> | Indice of Greenfield done | To describe GDH activities: diagnostic | Specific collect: done/ not done / not relevant |
| AC23 | <i>Poly pharmacy</i> | Record of different therapeutic classes consumed done | To describe GDH activities: diagnostic | Specific collect: done/ not done / not relevant |
| AC24 | Therapeutic intervention | Distribution of the therapeutic intervention by patient of a same category | - To describe GDH activities: therapeutic - needed for financing system | MDS Homecare P2 a-m <u>BUT NOT 7 DAYS</u> (1-2-3= yes – empty= no) |
| AC25 | Rehabilitation activities | Distribution of the rehabilitation interventions by patient of a same category | - To describe GDH activities: rehabilitation - needed for financing system | Specific collect cf By nurses: acute MDS : P3 + MDS Homecare P2 n-p <u>BUT NOT 7 DAYS</u> (1-2-3= yes – empty= no) + Specific collect for psy, diet, speech, occupational therapist and social workers |
| AC26 | Prevention activities | Distribution of the prevention interventions by patient of a same category | To describe GDH activities: prevention | Specific collect (open) |
| ID | TYPE OF DATA | INDICATORS TO BE MEASURED | REASONS FOR INCLUSION | SOURCE |
| | Staff activities | | | |
| AC27 | Nursing activities | Distribution of nursing activities | - To describe GDH activities - Needed for financing system | Sum of therapeutic and rehabilitation interventions by nurses |
| AC28-29 | Physiotherapist activities | - Distribution of the number of session of individual work with a physiotherapist per patient category (dependence, diagnostic and any other pertinent category) - Distribution of the number of session of work in group with a physiotherapist per patient category (dependence, diagnostic and any other pertinent category) | - To describe GDH activities - Needed for financing system | specific collect: how many session of physiotherapy (individual and collective) |
| AC30 | Occupational therapist activities | Distribution of the number of session with occupational therapist per patient category (dependence, diagnostic and any other pertinent category) | - To describe GDH activities - Needed for financing system | specific collect: how many session of occupational therapy |
| AC31 | Speech and language therapist activities | Distribution of the number of session with Speech and language therapist per per patient category (dependence, diagnostic and any other pertinent category) | - To describe GDH activities - Needed for financing system | specific collect: how many session of speech and language therapy |
| AC32 | Dietician activities | Distribution of the number of session with dietician per patient category (dependence, diagnostic and any other pertinent category) | - To describe GDH activities - Needed for financing system | specific collect: how many session with a dietician |

| ID | TYPE OF DATA | INDICATORS TO BE MEASURED | REASONS FOR INCLUSION | SOURCE |
|------|------------------------------|---|---|---|
| AC33 | Psychologist activities | Distribution of the number of session with a psychologist per patient category (dependence, diagnostic and any other pertinent category) | - To describe GDH activities - Needed for financing system | specific collect: how many session with a psychologist |
| AC34 | Social workers activities | Distribution of the number of session with a social worker per patient category (dependence, diagnostic and any other pertinent category) | - To describe GDH activities - Needed for financing system | specific collect: how many session with a psychologist |
| | Organizational choice | | | |
| AC35 | Multidisciplinary work | Number of meeting hours where at least persons of 4 different skills are present (within one MD, one physiotherapist, one occupational therapist and one nurse) | To evaluate GDH activities: multidisciplinary work is a criteria of the project of AR | Specific (qualitative?) collect: description of the meetings (length and skills represented) |
| AC36 | Planning of care | Frequency of planning of care build | To describe GDH activities | specific collect: has a planning of care been build (yes/no) |
| AC37 | Discharge planning | Frequency of discharge planning build | To describe GDH activities | specific collect: has a discharge planning been build (yes/no) |
| ID | TYPE OF DATA | INDICATORS TO BE MEASURED | REASONS FOR INCLUSION | SOURCE |
| | Outcomes | | | |
| O1 | Date of discharge | | To compute LOS | Specific collect |
| O2 | Length of stay | Distribution of LOS | - To describe GDH activities - Needed for financing | Derived from data: date of discharge-date of admission |
| | Destination | | | |
| O3 | Nursing home | Institutionalisation rate | To describe GDH outcomes | Specific collect: where has gone the patient after outlet: home -hospital (non/ specialized, non/ geriatric)- rest home - NH - 'residence service' – convalescent home - death) |
| O4 | Home | Return at home rate | To describe GDH outcomes | |
| O5 | hospital | Hospitalisation rate | To describe GDH outcomes | |
| O6 | Mortality | Mortality rate during the hospitalization period | To describe GDH outcomes | |
| O7 | Frequency of stay | Distribution of frequency of day stay | Needed for financing | Specific collect / billing data |
| O8 | Follow up | Follow up foreseen | To describe GDH activities | Specific collect |
| O9 | Drop out | Rate of dropout at 3 month | To describe GDH outcomes | Specific collect /Derived from data |
| O10 | Patient satisfaction | Contentment with services | To describe GDH outcomes | Specific qualitative collect: are you satisfied with the services yes/ no – why? comments |

I.6 TABLE OF EVIDENCE

| Authors, year | Country | Type of study / sample | Methods | Indicator used | Results | Comment |
|----------------------|---------|--|--|--|--|---|
| De Gomez et al, 2003 | Spain | Systematic review on CGA effectiveness in primary care | Medline (1997-2001) and Cochrane library 16 RCT on 64 years and more non institutionalised patients | Mortality Institutionalisation Functional status | Evaluation of the CGA for ambulatory care Results are not clear | CGA in Primary care |
| Ellis, 2004 | UK | Systematic review on CGA 20 studies included GEMU - IGCS | Review on Medline embase cinhal dare and Cochrane | Mortality Functional data Perceived health status LOS Costs Functional outcome Cognitive function Emotional outcome Institutionalization | Criteria to target geriatric patients: age Physical disease Geriatric syndromes, impairment of functional ability Social problems Core team members: Geriatrician, geriatric fellow, trained nursing, social work, physiotherapy, occupational therapy, dietetics, pharmacy, speech and language, audiology, dentistry, psychology, pastoral care Improvement of the CGA on outcomes: Reduction of RR in mortality for in-patient (6-months): GEMU>IGCS but not after update. Living at home. Improvement in functional status GEMU not IGCS. Benefit on cognition (1-year). | See references for geriatric patient definition and concrete indicators useful for geriatric liaison |

| Authors, year | Country | Type of study / sample | Methods | Indicator used | Results | Comment |
|---------------------|---------|------------------------|---------|---|---|--|
| Gaujard et al, 2005 | France | | | <p>Pre exams: Renal function by Cockcroft and Gault or Jelliffe equation / 24 hours urine</p> <p>CGA Information collect: -Physical assessment (clinical examination, inventory of medication, Mini nutritional assessment, performance-oriented assessment, -thymical and cognitive assessment (GDS, Mini-mental status) -environnemental assessment functional assessment: BADL, IADL, AADL)</p> <p>screening: senior adult oncology program - mini CGA</p> | <p>Care of cancer patients by elderly : Effectiveness of chemotherapy seems not to depend on age – age is no contraindication. The impact of chemotherapy have to be considered in a geriatric assessment Inter-individual variability due to co-morbidities, poly medication, drugs interactions, nutritional status. Importance of the way to administrate chemotherapy: because of poly medication, interaction, compliance: simplify the number and the schedule of drug intake. To define the cancerologic situation: is the pathology curable? Is it a palliative situation? If the risk of recurrence or mortality is lower than the interval of time lower than the life expectancy an adjuvant chemotherapy could be proposed. CGA could improve results but has to be used by geriatricians.</p> <p>3 groups of patients: - group 1: good ageing- only cancer reduce life expectancy - group 2: 'vulnerable patients': need to hierarchy problems / standard treatment for the cancer or not - group 3: 'frail' patients (important co-morbidity or dependants)</p> | <p>5 steps for CGA: 1/ information collect 2/ elaboration of medico-social care programme 3/ setting of the programme 4/ transmission of information to different stakeholder 5/ follow up</p> |

| Authors, year | Country | Type of study / sample | Methods | Indicator used | Results | Comment |
|-------------------|---------|---|---|--|---|---|
| Hershkovitz, 2003 | Israël | Observational study. Evaluation of a geriatric day hospital (single site). 236 patients Exclusion of patients who left the programme, were readmitted to day hospital or readmitted to inpatient wards. Treatment : 30 min physical therapy, 30 min occupational therapy, 60 min of group exercise, 30 min of fitness. Speech therapy, psychological evaluation, social worker intervention according to patients' needs | Measure of evolution of FIM score, get up and go score and extended ADL score. Relation between positive or negative Δ FIM and age, admission FIM score, gender and main diagnosis | Functional Independent measure (FIM), Nottingham Extended ADL Index (IADL measure), get up and go test | No evolution of FIM score. Patients with a lower admission score have a greater probability of positive evolution of FIM score. Positive evolution of IADL and get up and go score Impact on mobility is less important for patients who received inpatient rehabilitation prior referral to day care (ceiling effect) | Results of literature vary according to test sensitivity, population case-mix and type of rehabilitation programs. Unfortunately, above parameters are often not provided. . |

| Authors, year | Country | Type of study / sample | Methods | Indicator used | Results | Comment |
|---------------------|---------|---|--|--|---|------------------------------|
| Jonsson et al, 2003 | Denmark | Brainstorming + literature review on stroke, hip fracture acute admissions and programmes in nursing home, day hospital and home services | 'Geriatric rehabilitation' | <p>Mortality rate at 1 year, ADL, LOS, function, readmission rate, costs, placement in a nursing home, physical function, contentment with services</p> <p>Issues described in figure p441</p> <p>Discharge planning</p> <p>Follow up</p> <p>Barthel index score</p> <p>Effectiveness has to be measured after at least one year</p> | <p>Geriatric rehabilitation: organ-specific, multifaceted, base on interdisciplinary work.</p> <p>Differences in function, contentment and cost between nursing home, day hospital and in-home services</p> <p>To be considered for geriatric rehabilitation: See page 439</p> <p>4 levels of consequences of a disease or event on a older patient: 1- pathology 2-impairment 3-functional (in)capacity 4-(dis)ability</p> <p>description of the process of geriatric rehabilitation (possible approaches) p440</p> <p>tolls used: geriatric team described</p> <p>follow up in day hospital</p> <p>functional assessment : no instrument to predict which patient would benefit more than other from rehabilitation</p> <p>Effect of rehabilitation on mortality, living location and on patients' physical and cognitive status + reduction of costs</p> | Useful for geriatric liaison |
| Kuo et al, 2004 | USA | Meta-analysis on effect of outpatient CGA on survival | Medline 1966-2003) – 9 RCT in the analyses | <p>Functional status</p> <p>Cost patient satisfaction</p> <p>rate of institutionalisation</p> <p>Rate of hospitalization</p> | <p>No improvement on survival of frail older persons compared to usual care (at least 12 month follow up)</p> | Outpatients |

| Authors, year | Country | Type of study / sample | Methods | Indicator used | Results | Comment |
|--------------------|---------|---|---|--|--|-----------------------|
| Leslie et al, 2005 | USA | Longitudinal follow up (1 year) of a randomized trial | 800 hospitalized 70 year-old and more patients community based care and NH | Cognitive impairment Sleep deprivation Immobility Vision impairment Hearing impairment Hearing impairment dehydration Cost calculate using Medicare reimbursed amounts -Age -Marital status -mBDRS >4 / >2 and MMSE>20 / duration of cognitive symptoms of at least 6 months to assess dementia -ADL | Preventing delirium: Ref that MTI (multi component targeted intervention) reduce risk by 40% of delirium, is cost-effective for the short term improve long term outcomes for high risk patients MTI does not influence risk having a long-term NH stay Patients in the intervention groups had lower total cost, total day of care and cost per survival day than patients in the control group. These lower costs were primarily due to fewer days of long-term NH placement | Nursing home |
| Malone et al, 2004 | USA | Literature review | | | ACE unit GEU unit Elder Life program Attention required for nursing home patient in case of hospitalisation: Prevent constipation and fecal impaction Foley catheters should be avoided Delirium prevention Use physical therapy to improve mobility Close attention to patient oral intake Prevent depersonalisation and isolation Models using an interdisciplinary team to care for NH patients seem to be more promising in terms of improving these patient's outcomes. | described methodology |

| Authors, year | Country | Type of study / sample | Methods | Indicator used | Results | Comment |
|------------------|---------|--|---|---|---|--|
| Mayo et al, 2005 | Canada | Cluster randomized trial on the impact of computerized decision support for drug management on the rates of inappropriate prescribing by primary care physicians | 107 primary care physician 6465 patients 65 y or more who have seen their physician on 2 or more occasion during the year preceding the trial | FSI Self-reported health status SF-12 Outcomes: -Emergency room visit -Hospitalization -Institutionalization -Death For case-mix adjustment: -ICF -Charlson co-morbidity index -CDS (chronic disease score) -Number of medications received, -number of different physician seen -number of medical visits | FSI predict health events as did complex co-morbidity indices. The most predictive FSI were limitation in stairs climbing and limitation in performing moderate activities including housework. The Charlson index is a good index of co morbidity because it predicts (after the age) future hospitalization, emergency room visit + hospitalization, and death but not good to predict institutionalisation. ICF coding system is a mechanism whereby information on FSI could be incorporated into administrative databases through electronic health records | Response rate 51% Table 1 p1196: ICF FSI arising from SF-12 Note of the authors: emergency visits that not lead to hospitalisation could reflect inpatients beds availability rather than health status of the patient Items of FSI (ICF code) are in table 3 CDS is not based on routine data Education could be a proxy of the size of social network because people with low education level have more children |

| Authors, year | Country | Type of study / sample | Methods | Indicator used | Results | Comment |
|---------------|---------|------------------------|---------|----------------|---|---|
| Oliver, 2005 | UK | | | | <p>Hip fracture: shorter LOS, lower institutionalization rate in units where there is a system of geriatric liaison</p> <p>Key element of medical care:</p> <ul style="list-style-type: none"> - Early assessment and intervention (pressure sore risk hydration and nutritional status, fluid balance, pain and analgesic requirement, core body temperature, continence, co-existing medical problems, mental status, pre-morbid mobility, function and social circumstances). - Pre and early postoperative care - Rehabilitation and early discharge planning - 'failure to thrive' postoperatively: possible causes: poor nutrition, intercurrent infection, inadequate or irregular analgesia, iatrogenic problems, fluid and electrolyte balance, unrecognized depression, delirium or dementing illness, anxiety and fear of falling, gait instability responsible for the index fall, syncope, presyncope and dizziness on standing, medical comorbidity, uncorrected visual or hearing deficit, unrecognized subdural haematoma, initial functional history inaccurate - destinations on discharge - therapeutic futility and palliative care - consideration of falls risk and bone health - handling families <p>roles of medical and multidisciplinary liaison service are described p19</p> | <p>'Bernard Isaacs' giants: falls, incontinence, confusion and immobility</p> <p>useful for the 'geriatric liaison'</p> |

| Authors, year | Country | Type of study / sample | Methods | Indicator used | Results | Comment |
|--------------------|---------|--|--|---|--|---|
| Palmer et al, 2003 | USA | | Acute Care for Elders Units (ACE) | ADL – IADL APACHE | Classical hospitalisation: hostile environment, depersonalisation, bed rest, starvation, medicines, procedures ACE is a multi component intervention that combines the principles of geriatric assessment and quality improvement: preparation of the environment, patient centred care, interdisciplinary team rounds and planning for home, and medical care review. Target: positive outcome: returning home rather than 'discharge planning' Results: Improved functional status, lower risk of nursing home placement, higher level of patient and professional satisfaction. Costs: lower because shorter length of stay | To avoid loss of independent physical functioning during the course of an acute illness that required hospitalisation. Allusion au GEMU and HELP (hospital elder life program) and geriatric consultation and comprehensive discharge planning |
| Rao, 2005 | USA | RCT to evaluate impact of CGA in inpatient and outpatient care for cancer patients. 99 patients in 11 sites. Inclusion criteria's : > 65 years, frailty Exclusion criteria's : patients admitted from nursing home, re-admissions, terminal illness, severe dementia. | Patients randomized to be transferred after stabilisation of acute illness to GEMU or usual inpatient care, and, at discharge, to be discharged to a geriatric outpatient clinic or usual outpatient care. Stratification according to site and functional status. | Primary outcome survival and health-related quality of life, measured by SF-36. Secondary outcomes Secondary outcome : functional status (ADL and iADL), physical performance (PPT-Physical Performance Test). Utilisation of health services and costs | No survival difference. Positive effect of geriatric inpatient care in SF-36 bodily pain, emotional limitation, and mental health.No effect of outpatient care on SF-36 No effect on functional status, length of stay and number of hospitalisations during follow-up. No effect on costs. | Definition of frailty. |

| Authors, year | Country | Type of study / sample | Methods | Indicator used | Results | Comment |
|------------------|----------------|---|--|--|---|--|
| Sherief, 2005 | | Literature review (RCTs) over effectiveness of GEMU. | Outcomes analyzed: quality of life, mortality, admission to long-term care, cognition, mobility and costs | | Survival similar at one year. Health-related QoL better on GEMU at discharge. ADLs and physical performance better at discharge, but not sustained at 1 year. No difference in IADLs. Length of stay longer but costs similar. | Patients populations examined differed in age and gender. Definition of frailty inconsistent. This could explain the varied results. Improvement in QoL in both studies. |
| | | Cohen et al (2002). 1388 patients 65 years of age or older in 11 veterans' facilities in U.S.A. frailty. Exclusion criteria: admission from nursing home, already receiving care at a GEM outpatient clinic, | Patients randomly assigned to GEMU or usual care. Follow-up by outpatient geriatric care or usual care for one year. | Survival. Health-related quality of life. ADLs. IADLs. Physical performance, use of health services, costs | No effect on survival or ADLs. Improvement in IADLs after one year but not at discharge. Higher self-perceived health and QoL at 1 year. Shorter length of stay. No difference in the number of admission in nursing home but longer delay before admission. Hospital re-admissions similar. Cost savings | |
| | | Nikolaus et al. (1999) Single site study. 545 patients. Inclusion criteria 65+ years, multiple chronic conditions, functional deterioration. Exclusion criteria: terminal illnesses, severe dementia. | Patients randomly assigned to CGA + interdisciplinary follow-up, CGA+ usual follow-up, usual care | Survival, functional status, re-hospitalization rate, QoL, nursing home admission rate and costs. | | |
| Tousignant, 2003 | Quebec, Canada | Cost-benefit analysis 151 day care admissions de jour dans. « quasi experimental design » : Comparison group drafted from a previous longitudinal study. Matching on age category, gender and « functional autonomy measurement system - SMAF » at outset | Estimation of real cost per day. Estimation of benefit/day on basis of a previous study [cost related to SMAF score at discharge] – [cost associated to SMAF score at the beginning of the treatment]. Multiplication by number of days until death (median survival time of the comparison group) | SMAF | Length of stay : 15,6 weeks and 28,9 visits 1\$ invested=return of 2,14\$ | |

| Authors, year | Country | Type of study / sample | Methods | Indicator used | Results | Comment |
|---------------|---------|---|---------|---|---|--|
| Wieland, 2003 | USA | Literature review on CGA – to application to older cancer patients | | History, Objectives, Components, effectiveness | Ex: Ref to forster et al: patients attending day hospital had lower odds of functional deterioration and death or institutionalization compared to usual services + reduced hospital bed use and long term institutional placement. | Ref on definition of 'frailty' See ref forster for indicators of outcomes |
| Wieland, 2003 | USA | Literature review on effectiveness and cost-effectiveness of CGA Studies from 1990 to 2002, patients =>65 years experimental or quasi experimental design. | | | CGA and multidimensional assessment may improve the knowledge base in determining which older patients may benefit from active cancer treatment and who may benefit from clinical oncology and geriatric co-management. Efficiency related to follow-up, and to targeting (exclusion of too healthy or too disabled-ill) Cost-efficiency : effect on outcomes but raising of total costs for day care | |

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2 APPENDICES TO CHAPTER 4

2.1 SEARCH STRATEGIES

2.1.1 Medline

MeSH terms :

health services for the aged, day hospital, day care, (outpatient clinics,hospital), aged, aged 80 and over, patients, outpatients, frail elderly, geriatric assessment, rehabilitation, diagnosis, primary prevention, treatment outcome, economics.

#1 Search health services for the aged AND (("1987"[PDat]:"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])) 8273

#2 Search day hospital AND (("1987"[PDat]:"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])) 10259

#3 Search ("Outpatient Clinics, Hospital"[Mesh]) AND (("1987"[PDat]:"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])) 1385

#4 Search day care AND (("1987"[PDat]:"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])) 1185

#5 Search (((day hospital AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR ((day care AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR (((("Outpatient Clinics, Hospital"[Mesh]) AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) 12361

#6 Search ((health services for the aged AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND (((((day hospital AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR ((day care AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR (((("Outpatient Clinics, Hospital"[Mesh]) AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])) 307

#7 Search patients AND ("1987"[PDat]:"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])) 671724

#8 Search outpatients AND ("1987"[PDat]:"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])) 7653

#9 Search frail elderly AND ("1987"[PDat]:"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])) 4097

#10 Search (((patients AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR ((outpatients AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR ((frail elderly AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])) 675500

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"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR ((frail elderly AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH]))) 133

#12 Search geriatric assessment AND (("1987"[PDat]:"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH]))) 10280

#13 Search rehabilitation AND (("1987"[PDat]:"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH]))) 41198

#14 Search diagnosis AND (("1987"[PDat]:"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH]))) 687747

#15 Search primary prevention AND (("1987"[PDat]:"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH]))) 4528

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#17 Search (((health services for the aged AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND (((day hospital AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR ((day care AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR (((Outpatient Clinics, Hospital"[Mesh]) AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND (((geriatric assessment AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR ((rehabilitation AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR ((diagnosis AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR ((primary prevention AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND ((("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH]))))) 132

#18 Search treatment outcome AND (("1987"[PDat]:"2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH]))) 104874

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#20 Search ("Economics"[Mesh]) AND (((health services for the aged AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND (((day hospital AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR ((day care AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) OR (((Outpatient Clinics, Hospital"[Mesh]) AND ("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) AND ((("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))))

80 and over[MeSH])))) AND (("1987"[PDat] : "2007"[PDat]) AND (aged[MeSH] OR aged, 80 and over[MeSH])))) 74

2.1.2 Embase

EmTree :

elderly care, geriatric hospital, day care, outpatient department, patient, outpatient, frail elderly, geriatric assessment, rehabilitation, diagnosis, primary prevention, treatment outcome, economic evaluation.

- | | | |
|---|---------|-------------|
| #2. 'elderly care'/exp AND [aged]/lim AND [embase]/lim | 13,536 | 13 Jun 2007 |
| AND [1987-2007]/py | | |
| #3. 'geriatric hospital'/exp AND [aged]/lim AND [embas | 485 | 13 Jun 2007 |
| e]/lim AND [1987-2007]/py | | |
| #4. 'day care'/exp AND [aged]/lim AND [embase]/lim AND | 345 | 13 Jun 2007 |
| [1987-2007]/py | | |
| #5. 'outpatient department'/exp AND [aged]/lim AND [em | 1,982 | 13 Jun 2007 |
| base]/lim AND [1987-2007]/py | | |
| #6. #3 OR #4 OR #5 | 2,791 | 13 Jun 2007 |
| #7. #2 AND #6 | 271 | 13 Jun 2007 |
| #8. 'patient'/exp AND [aged]/lim AND [embase]/lim AND | 36,755 | 13 Jun 2007 |
| [1987-2007]/py | | |
| #9. 'outpatient'/exp AND [aged]/lim AND [embase]/lim A | 4,472 | 13 Jun 2007 |
| ND [1987-2007]/py | | |
| #10. 'frail elderly'/exp AND [aged]/lim AND [embase]/li | 159 | 13 Jun 2007 |
| m AND [1987-2007]/py | | |
| #11. #8 OR #9 OR #10 | 36,883 | 13 Jun 2007 |
| #12. #7 AND #11 | 39 | 13 Jun 2007 |
| #13. 'geriatric assessment'/exp AND [aged]/lim AND [emb | 101 | 13 Jun 2007 |
| ase]/lim AND [1987-2007]/py | | |
| #15. 'rehabilitation'/exp AND [aged]/lim AND [embase]/l | 19,575 | 13 Jun 2007 |
| im AND [1987-2007]/py | | |
| #16. 'diagnosis'/exp AND [aged]/lim AND [embase]/lim AN | 291,661 | 13 Jun 2007 |
| D [1987-2007]/py | | |
| #17. 'primary prevention'/exp AND [aged]/lim AND [embas | 808 | 13 Jun 2007 |
| e]/lim AND [1987-2007]/py | | |
| #18. #13 OR #15 OR #16 OR #17 | 307,794 | 13 Jun 2007 |
| #19. #7 AND #18 | 46 | 13 Jun 2007 |
| #20. 'treatment outcome'/exp AND [aged]/lim AND [embase | 101,560 | 13 Jun 2007 |
|]/lim AND [1987-2007]/py | | |
| #21. #7 AND #20 | 34 | 13 Jun 2007 |
| #22. 'economic evaluation'/exp AND [aged]/lim AND [emba | 8,905 | 13 Jun 2007 |
| se]/lim AND [1987-2007]/py | | |
| #23. #7 AND #22 | 14 | 13 Jun 2007 |

2.1.3 Cochrane Database of Systematic Reviews <2nd Quarter 2007>

2.1.3.1 "Free text" words used in Cochrane Database of Systematic Reviews

geriatric day care, geriatric day hospital, day care, day hospital, geriatri\$, aged patients, elder patients, frail elder, geriatric patients, geriatric outpatients, geriatric assessment, rehabilitation, diagnosis, primary prevention, treatment outcome, cost benefit analysis, cost effectiveness analysis, cost utility analysis.

- 1 geriatri\$ day care.mp. [mp=title, abstract, full text, keywords, caption text] (0)
- 2 geriatri\$ day hospital.mp. [mp=title, abstract, full text, keywords, caption text] (1)
- 3 day care.mp. [mp=title, abstract, full text, keywords, caption text] (80)
- 4 day hospital.mp. [mp=title, abstract, full text, keywords, caption text] (44)
- 5 3 or 4 (114)
- 6 geriatri\$.mp. [mp=title, abstract, full text, keywords, caption text] (139)
- 7 5 and 6 (10)
- 8 1 or 2 or 7 (10)
- 9 limit 8 to yr="1987 - 2007" (10)
- 10 aged patients.mp. [mp=title, abstract, full text, keywords, caption text] (6)
- 11 elder patients.mp. [mp=title, abstract, full text, keywords, caption text] (1)
- 12 frail elder.mp. [mp=title, abstract, full text, keywords, caption text] (0)
- 13 geriatric patients.mp. [mp=title, abstract, full text, keywords, caption text] (13)
- 14 geriatric outpatients.mp. [mp=title, abstract, full text, keywords, caption text] (0)
- 15 10 or 11 or 12 or 13 or 14 (20)
- 16 9 and 15 (0)
- 17 geriatric assessment.mp. [mp=title, abstract, full text, keywords, caption text] (7)
- 18 rehabilitation.mp. [mp=title, abstract, full text, keywords, caption text] (486)
- 19 diagnosis.mp. [mp=title, abstract, full text, keywords, caption text] (2112)
- 20 primary prevention.mp. [mp=title, abstract, full text, keywords, caption text] (124)
- 21 17 or 18 or 19 or 20 (2420)
- 22 9 and 21 (10)
- 23 treatment outcome.mp. [mp=title, abstract, full text, keywords, caption text] (556)
- 24 9 and 23 (1)
- 25 cost benefit analysis.mp. [mp=title, abstract, full text, keywords, caption text] (61)
- 26 cost effectiveness analysis.mp. [mp=title, abstract, full text, keywords, caption text] (71)
- 27 cost utility analysis.mp. [mp=title, abstract, full text, keywords, caption text] (5)
- 28 25 or 26 or 27 (134)
- 29 9 and 28 (2)

2.1.4 Centre for Reviews and Dissemination

2.1.4.1 *Centre for Reviews and Dissemination MeSH terms*

Day care, health services for the aged, (outpatient clinics, hospital), aged, outpatients, geriatric assessment, rehabilitation, primary health care, diagnosis, treatment outcome, costs and cost analysis, financial management. Plus "geriatric AND day AND hospital" used as free text.

- #1 MeSH Day Care EXPLODE I 2 67
- #2 MeSH Health Services for the Aged EXPLODE I 184
- #3 MeSH Outpatient Clinics, Hospital EXPLODE I 2 3 136
- #4 geriatric AND day AND hospital 39
- #5 #1 or #2 or #3 or #4 RESTRICT YR 1987 2007 393
- #6 MeSH Aged EXPLODE I 6597
- #7 MeSH Outpatients EXPLODE I 103
- #8 #6 or #7 6674
- #9 #5 and #8 259
- #10 MeSH Geriatric Assessment EXPLODE I 2 3 4 5 6 7 103
- #11 MeSH Rehabilitation EXPLODE I 2 3 836
- #12 MeSH Primary Health Care EXPLODE I 649
- #13 MeSH Diagnosis EXPLODE I 11688
- #14 #10 or #11 or #12 or #13 12706
- #15 #5 and #14 166
- #16 MeSH Treatment Outcome EXPLODE I 2 3 4825
- #17 #5 and #16 45
- #18 MeSH Costs and Cost Analysis EXPLODE I 13618
- #19 MeSH Financial Management EXPLODE I 326
- #20 #18 or #19 13699
- #21 #5 and #20 229

2.1.5 EconLit

2.1.5.1 Free text keywords used in Econlit

Day care, day hospital*, outpatient clinic*, outpatient hospital*, post acute care, rehabilitation, diagnosis, assessment*, aged, geriatr*, elder*, old*, frail*, outcome*, cost*, financ*.

| | | |
|-----|---------------------------------|--------|
| #23 | #5 and #22 | 50 |
| #22 | #20 or #21 | 204316 |
| #21 | FINANC* | 142079 |
| #20 | COST* | 77953 |
| #19 | #17 and #18 | 1 |
| #18 | OUTCOME* | 16166 |
| #17 | #5 and #16 | 12 |
| #16 | #11 or #12 or #13 or #14 or #15 | 13205 |
| #15 | FRAIL* | 113 |
| #14 | OLD* | 9083 |
| #13 | ELDER* | 4615 |
| #12 | GERIATR* | 43 |
| #11 | AGED | 1141 |
| #10 | #5 and (#6 or #7 or #8 or #9) | 4 |
| #9 | ASSESSMENT* | 11499 |
| #8 | DIAGNOSIS | 578 |
| #7 | REHABILITATION | 739 |
| #6 | POST ACUTE CARE | 13 |
| #5 | #1 or #2 or #3 or #4 | 158 |
| #4 | OUTPATIENT HOSPITAL* | 17 |
| #3 | OUTPATIENT CLINIC* | 16 |
| #2 | DAY HOSPITAL* | 6 |
| #1 | DAY CARE | 120 |

2.2 STUDY SELECTION

2.2.1 Systematic reviews

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|---|---|---|----------------------------|---|---|
| Forster (1999) | International | To examine the effectiveness of day hospital attendance in prolonging independent living for elderly people | Day hospital care, comprehensive care, domiciliary care, and no comprehensive care. | Systematic review of 12 controlled clinical trials (available by January 1997). Comparing day hospital care with comprehensive care (five trials), domiciliary care (four trials), or no comprehensive care (three trials). | 2867 elderly people | Odds ratio with 95% confidence intervals. Chi-square tests. | Outcome measures: death, institutionalisation, disability, global poor outcome, and use of resources. |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
|--------------------------------------|---|--|---|----------------------|
| Forster (1999) | No significant difference between day hospitals and alternative services for death, disability, or use of resources. However, compared with subjects receiving no comprehensive care, patients attending day hospitals had a lower odds of death or poor outcome and functional deterioration. The day hospital group showed trends towards reductions in hospital bed use and placement in institutional care. Eight trials reported treatment costs, six of which reported that day hospital attendance was more expensive than other care, although only two analyses took into account costs of long term care. | Day hospital care seems to be an effective service for elderly people who need rehabilitation but may have no clear advantage over other comprehensive care. | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Yes.</p> <p>3. Data quality: Yes, but unfortunately no costs data available</p> <p>4. Analysis: 4.1. Methods clearly explained Yes 4.2. Appropriate statistics Yes 4.3. Goodness of fit of the models Not available 4.4. Validity of models tested Not available</p> <p>5. Discussion 5.1. Internal validity Geriatric day hospitals have several functions, but the authors used a predetermined definition of day hospital which is focused on rehabilitation and thus identified and categorised comparison services before collecting and analysing data. Day hospital for patients with specific conditions such as mental illness, dementia, or rheumatoid arthritis were excluded. The validity must be however confronted with the usual restrictions of systematic reviews as the length of the review period (30 years) and thus changes in the medical practices, international location, diversity of services, lack of statistical power resulting from small and heterogeneous trials.</p> <p>5.2. External validity By its international character, a systematic review must have essentially an external validity</p> <p>6. Conclusions supported by findings? Not particularly</p> | |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|---|---|---|---|------------------|-----------|
| Forster (2007) | International | The authors aimed to systematically review the effects of medical day hospitals for elderly people compared with alternative forms of care. | Geriatric day hospital versus alternative forms of care | Systematic review of prospective controlled design in which there was ideally random assignment of participants to alternative treatment groups (one of which involved day hospital care) without other major confounding treatments. | Elderly (usually >60 years) medical patients. | | |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|--|--|--|--|---|---|
| Parker (2000) | UK | To assess the evaluative literature on the costs, quality and effectiveness of different locations of care for older people. | Stroke units, hip units, geriatric assessment units (GAU), and acute care for elders (ACE) units; and rehabilitation (in-patient, community-based, and day hospitals). | Literature review from 1988. Only studies which were described as randomised or pseudo-randomised, and had a clear comparison of the location of care, were selected for the data extraction and review stage. | Participants were elderly people aged at least 65 years, receiving acute, post- and sub-acute rehabilitation care. MEDLINE and EMBASE were re-searched in April 1999 to identify any newly published material. Additional studies were identified by examining reference lists of retrieved articles and by handsearching key journals. 84 papers were selected and included in the review. These reported findings from 45 separate | 2 sets of quality assessment tools were applied to included studies: the quality of trials algorithm of Jadad, and the criteria of the Cochrane Effective Practice and Organisation of Care (EPoC) Group. The analysis was predominantly qualitative; the opportunities for performing a meaningful meta-analysis were limited. Individual study ORs were reported for mortality and destination outcome at final follow-up, and a weighted pooled OR was reported for each location of care. ORs were calculated using the Mantel-Haenszel (fixed-effect) method for binary data. Where significant heterogeneity was evident, | Data were extracted on the following: bibliographic details, quality scores, model of care or study, time of final follow-up, mortality rates, readmission rates, destination by time of follow-up, odds ratios (ORs) and 95% confidence intervals (CIs). |

| | | | | trials. 14 trials addressed adjusted skill mix schemes (n=2,283); 20 trials addressed specialist expertise schemes (n=5,213); and 19 trials addressed rehabilitation (n=3,946). | ORs were recalculated using a random-effects model. Heterogeneity was not investigated formally, but important differences in the interventions were discussed in the text, and some study details were presented in tables. | |
|--------------------------------------|--|---|--|---|--|--|
| author / date {endnote reference} | Results | comments | critical appraisal | | global evaluation | |
| Parker (2000) | 21 trials received a maximum score of 3 on the Jadad scale; 4 trials received a maximum score of 7 on the EPOC scale. The weighted pooled ORs for mortality at time of final follow-up were: for admission avoidance, 0.88 (95% CI: 0.53, 1.47); nurse-led beds, 1.00 (95% CI: 0.62, 1.60); early discharge, 0.97 (95% CI: 0.71, 1.32); stroke unit, 0.74 (95% CI: 0.61, 0.88); hip unit, 0.93 (95% CI: 0.65, 1.33); GAU and ACE, 0.98 (95% CI: 0.78, 1.23); in-patient rehabilitation, 0.71 (95% CI: 0.56, 0.90); community-based rehabilitation, 1.07 (95% CI: 0.73, 1.58); and day hospital, 1.30 (95% CI: 0.96, 1.76). Health service costs per patient were reported for each service of interest. Cost data obtained from individual articles could not be pooled. | The authors concluded that, despite considerable recent development of different forms of care for older patients, evidence regarding effectiveness and costs is weak. Services that adjusted skill mix had some potential for reducing costs without worsening outcomes, but evidence is sparse and, for nurse-led beds, of poor quality. They also state that stroke unit care appears to deliver better outcomes in terms of mortality and return home in the short term, although the reasons for this cannot be fully explained by the current evidence. There is insufficient evidence to make firm conclusions about the impact of hip unit care, and there is no evidence to suggest that GAU care results in lower mortality than 'normal' care. | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: The study selection criteria were appropriate to the review question</p> <p>3. Data quality: The literature search was exhaustive, and validity assessment was carried out using two published checklists.</p> <p>4. Analysis: 4.1. Methods clearly explained Yes. 4.2. Appropriate statistics Descriptive statistics 4.3. Goodness of fit of the models Not relevant 4.4. Validity of models tested Not relevant</p> <p>5. Discussion 5.1. Internal validity Details of the individual studies were presented in tables, and the pooling and summary of these studies was appropriate. However, it is unclear from this article how the quality assessment and data extraction processes were carried out. Nevertheless, the authors' conclusions seemed appropriate and follow from the evidence presented in the review. 5.2. External validity The authors did not state any implications for practice.</p> <p>6. Conclusions supported by findings? Yes</p> | | For the comparison between mortality rates, it would have been necessary to hold account of the length of stay in the various types of care. | |

2.2.2 HTA review

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|--|---|--|--|--|---------------------|-----------|
| Day (2004) {Day, 2004} | International (UK, USA, Canada, Finland, New Zealand) | To provide evidences for the effectiveness of specialist geriatric services | One systematic review, 4 RCTs, 1 prospective observational study, 1 before/after study | Review of the literature Databases: Medline Embase Current content Cinahl Web of Science Plus many other electronic and library catalogue sources | inclusion: studies published between 1980 and March, 2003 inclusive in the English language. Studies including people aged 70 years and over with complex morbidities or at risk of deteriorating function referred to day hospital for short-term rehabilitation or ongoing care of chronic conditions. Studies with functionality, mortality, quality of life or physical or mental health status as outcome. exclusion: long-term residential care, general ward, stoke unit, fewer than 50 persons included, less than three months follow-up, methodological errors. | HTA review | |

| author / date endnote reference | Results | Comments | critical appraisal | global evaluation |
|------------------------------------|--|---|--|-------------------|
| Day (2004) {Day, 2004} | The outcomes associated with specialist geriatric team intervention in GDH settings do not show a clear benefit of these services compared with control group care | Functional outcomes and physical and mental status weighted together could be considered more important outcomes than simply reduced mortality. | 1. Research question well explained: Comprehensive description 2. Appropriate study design: Yes 3. Data quality: Each article was appraised using an adapted schedule of the Cochrane Effective Practice and Organisation of Care Review Group, and in-house checklist developed by | good |

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|--|--|--|---|--|
| | | | NZHTA 4. Analysis: 4.1. Methods clearly explained Yes 4.2. Appropriate statistics Yes 4.3. Goodness of fit of the models 4.4. Validity of models tested Not tested 5. Discussion 5.1. Internal validity Strong critical appraisal tool Possible preselection bias Bias resulting on language restriction Significant heterogeneity among the include studies The control arms of the RCTs and comparative studies received usual or normal discharge care Limitations described by authors 5.2. External validity Studies from industrial countries but only two from Europe 6. Conclusions supported by findings? Yes | |
|--|--|--|---|--|

2.2.3 RCT and RT

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|---|---|---|--|---|---|
| Cohen (2002) | US | To assess the effects of inpatients units and outpatients clinics for geriatric evaluation and management | Multicenter trial in veterans affairs medical centres | Randomized trial; two by two factorial design | 1388 65+ frail elderly, condition stabilized; care in an inpatient geriatric unit or usual inpatient care, followed by either care at an outpatient geriatric clinic or usual outpatient care. | Kaplan-Meier curves; lof-rank test; Cox regression Two sample T-test | -Primary Outcomes: --Survival --Health-related quality of life (SF-36) -Secondary outcomes --ADL --physical performance --utilization health care services --costs |

| author / date endnote reference | results | comments | critical appraisal | global evaluation |
|------------------------------------|---|---|---|---|
| Cohen (2002) | <ul style="list-style-type: none"> -No significant effect on mortality -No synergistic effect between the two interventions - For Inpatient geriatric units, greater improvements at discharge in <ul style="list-style-type: none"> --ADL --Physical performance --SF-36 ---general health ---Bodily pain ---energy ---Physical functioning - For Outpatient geriatric units, greater improvement after one year for <ul style="list-style-type: none"> --mental health subscale (SF-36) -Total costs were similar for the intervention and usual care group --increase in cost during the initial admission (Geriatric unit); at the end of the year no significant differences in usual care and geriatric evaluation and management | <p>Differences in results regarding mortality with previous studies can be due to:</p> <ul style="list-style-type: none"> -changes in practice or circumstances during the interval between the initial trial and subsequent trials -a smaller and more homogenous trial in the initial trials -potential for a single-site bias in the initial trials | <ol style="list-style-type: none"> 1. Research question well explained: yes 2. Appropriate study design: yes 3. Data quality: Number of patients needed to see statistical significance at primary outcomes was calculated to be 1400 and was nearly reached 4. Analysis: <ol style="list-style-type: none"> 4.1. Methods clearly explained Yes; although it is not clearly explained what is understood by geriatric outpatients care (frequency of visits ?...) 4.2. Appropriate statistics yes 4.3. Goodness of fit of the models 4.4. Validity of models tested 5. Discussion <ol style="list-style-type: none"> 5.1. Internal validity Conclusions drawn from the results seem to be appropriate 5.2. External validity Study seems to be applicable to other situations; the only problem is that it is not well described how the outpatient geriatric care was organised. 6. Conclusions supported by findings? Yes | <ul style="list-style-type: none"> -Well designed study comparing four groups of patients <ul style="list-style-type: none"> --geriatric inpatients and geriatric outpatient --geriatric inpatients and usual care outpatients --Usual care inpatients and geriatric outpatients --Usual care inpatients and usual care outpatients -Intervention is the multi-disciplinary assessment and follow up |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---|--|-------------------------------|---|---|---|---|
| Hui, 1995 {Hui, 1995} | New Territories East region, Hong Kong | To compare the outcome of elderly stroke patients managed at a GDH versus conventional medical management | One stroke ward One GDH | Prospective randomized study The patients were stratified into two groups according their Barthel Index score (group A with score \leq 15, group B with score $>$ 15) and then randomized to receive either geriatric or conventional rehabilitation | Elderly patient with acute stroke (n=120) randomized to receive either geriatric (n=59) or conventional (n=61) rehabilitation Exclusion criteria: age $<$ 65 years, previous history of stroke or dementia, residence outside catchment area, Barthel Index score of 20 | Cost effectiveness Chi square, paired t-test, ANOVA | Patient demographic, medical history, clinical feature of stroke, bladder function, Barthel Index score, mental state (using an Abbreviated Mental Test), duration of stay, new hospital admission, outpatient visits, use of community services, use of general practitioner services, number of visits to the GDH, information on well-being, Geriatric Depression Scale, problem with sleeping, costs |

| author / date endnote reference | results | comments | critical appraisal | global evaluation |
|------------------------------------|---|---|---|-------------------|
| Hui, 1995 {Hui, 1995} | Care in the GDH hastened functional recovery and reduced outpatient visits in elderly stroke patients without additional cost compared to conventional medical management | It was not possible to carry out statistical analysis for some items (change of Barthel Index score in subgroup B, number of readmission) due to small numbers Apart from the Geriatric Depression Scale, the assessment instruments used for mood, well-being, use of community services,... were quite crude and may not have been sensitive enough | 1. Research question well explained: yes 2. Appropriate study design: yes 3. Data quality: some assessment instruments were quite crude 4. Analysis: 4.1. Methods clearly explained: yes 4.2. Appropriate statistics: yes 4.3. Goodness of fit of the models: good 4.4. Validity of models tested: not tested 5. Discussion 5.1. Internal validity: some items could not have been analysed due to small sample, possible bias due to assessment instruments 5.2. External validity: costs results can't be generalized for they come from local information 6. Conclusions supported by findings? yes | good |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---|---|------------------------|--|---|--|---|
| Eagle (1991) | Canada Hamilton-Wentworth region. | To determine whether there is a Difference in the quality of life between elderly patients managed in a day hospital and those receiving conventional care | Geriatric day hospital | Randomized controlled trial; assessment upon entry to study and at 3, 6 and 12 months afterward. | From April 1986 to October 1987, a total of 113 consecutively referred elderly patients with deteriorating functional status believed to have rehabilitation potential; 55 were assessed and treated by | Repeated measures analysis of variance was used for comparison of means, the 95% confidence intervals (CIs) around differences between the two groups were | The patient's quality of life was measured with the use of the Geriatric Quality of Life Questionnaire (GQLQ). Functional status measured by Barthel Index. |

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| | | | | | an interdisciplinary team in a day hospital (treatment group), and 58 were assessed in an inpatient unit or an outpatient clinic or were discharged early with appropriate community services (control group). | calculated and Fisher's exact test was used for dichotomous variables. | Emotional function measured by the Rand Questionnaire. Overall health status, as measured by the Global Health Question (GHQ) |
|--|--|--|--|--|--|--|---|

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
|--------------------------------------|---|--|---|-------------------|
| Eagle (1991) | Death and admission to an institution : 8 study subjects and 4 control subjects died; the difference was insignificant. Functional status deteriorated over time in the two groups; although the difference was not significant there was less deterioration in the control group. The GQLQ scores indicated no significant difference between the two groups in the ability to perform daily living activities and in the alleviation of symptoms over time but did show a trend favouring the control group. The GQLQ scores did indicate a significant difference in favour of the control group in the effect of treatment on emotions ($p = 0.009$). | The care received at the day hospital did not improve functional status or quality of life of elderly patients as compared with conventional care. | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Yes.</p> <p>3. Data quality: Yes, but unfortunately no costs data available</p> <p>4. Analysis:</p> <p>4.1. Methods clearly explained Yes</p> <p>4.2. Appropriate statistics Yes, but basic statistical analysis</p> <p>4.3. Goodness of fit of the models Not available</p> <p>4.4. Validity of models tested Not available</p> <p>5. Discussion</p> <p>5.1. Internal validity There was no particular difference in term of care between the day clinic and conventional care. For the use of resources, the author notes 1388 hospital days for the study group and only 1351 hospital days in the control group. However, 1349 of the 1388 days were spent in the day hospital. In term of community cost, it should be rather different</p> <p>5.2. External validity It does not have objective reason so that these data are not able to be extrapolated in other areas or countries. One does not understand why the autor compares two identical inpatient or outpatient geriatric programs of care.</p> <p>6. Conclusions supported by findings? Not particularly</p> | |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|--|--|------------------------------|---|---|---|
| Hui (1995) | Hong Kong, China | To assess the outcomes and costs of two forms of rehabilitation: (1) geriatric day hospital (GDH); and (2) conventional medical management | Geriatric day hospital (GDH) and conventional medical management | Randomised controlled trial. | The study was carried out in a single centre. 120 patients, 65 years of age and over, with a clinical diagnosis of cerebrovascular accident, without previous history of stroke or dementia and with a Barthel Index score less than 20. Patients, who were randomised by stratified allocation into groups, were followed-up at 3 and 6 months between December 1992 and October 1993. | Chi-square test for categorical variables. For continuous variables, one-way ANOVA and paired t test was performed. | Baseline comparison of demographics, medical history, clinical features related to stroke, and functional ability as measured by the Barthel Index were noted. Subjects were reviewed at 3 and 6 months to assess functional level, hospital and outpatient services received, general well-being, mood, and level of satisfaction. Costs of treatment of the two groups were also compared. Total costs included acute bed per day; rehabilitation bed per day; GDH per attendance; outpatient clinic per visit. |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
|--------------------------------------|---|--|---|----------------------|
| Hui (1995) | Functional improvement (Barthel Index score) was greater in the group managed by the geriatricians with a day hospital facility compared with the conventional group at 3 months (P=.03). There were also fewer outpatient visits among the day hospital patients at 6 months (P=.03). No significant difference was found in costs between the two treatment groups. The results of this analysis suggest that elderly stroke patients should be better treated in a geriatric day hospital. | Compared with conventional medical management, care in the geriatric day hospital hastened functional recovery and reduced outpatient visits in elderly stroke patients without additional cost. | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Yes</p> <p>3. Data quality: Yes</p> <p>4. Analysis: 4.1. Methods clearly explained Yes</p> <p>4.2. Appropriate statistics Yes, but only univariate</p> <p>4.3. Goodness of fit of the models Not available</p> <p>4.4. Validity of models tested Not available</p> <p>5. Discussion 5.1. Internal validity This study is clearly described and interesting. Unfortunately, financial data are not detailed and statistical methods are primary. The author notes that to reduce cost of GDH, the occupational rate could be improved.</p> <p>5.2. External validity Survey sample is probably not representative according to its low size and of the particular patient profile (stroke patient).</p> <p>6. Conclusions supported by findings? Yes</p> | |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|----------------------|---|---|--------|---|--|--|
| Löck (1991) | Stockholm, Sweden | to evaluate possible long-term effects of a focused psychosocial complementary programme added to a 3-month day care rehabilitation programme | 1 day care unit (25 places) implemented in the Clinic of Geriatrics of Dalen's Hospital | RCT | <p>65 elderly patients referred to day care unit</p> <p>exclusion: MMSE < 28 current infection</p> <p>Evaluation before therapy, at 6 and 12 weeks during therapy and 12 weeks after the end of the programme</p> <p>One year follow-up data concerning deaths, hospital readmissions and length of stay</p> | <p>Chi-square analysis</p> <p>two-tailed t- test</p> | <p>- demographics</p> <p>- diagnosis</p> <p>- mortality</p> <p>- hospital readmission</p> <p>- length of stay</p> <p>- ADL</p> <p>- behavioural and psychological measures</p> |

| author / date endnote reference | Results | Comments | critical appraisal | global evaluation |
|------------------------------------|--|----------|---|---|
| Lökk (1991) | significant beneficial effect on the readmission rate to in-patient care significant difference in favour of the experimental group concerning length of stay | | 1. Research question well explained: yes 2. Appropriate study design: yes 3. Data quality: good 4. Analysis: 4.1. Methods clearly explained methods explained in another article 4.2. Appropriate statistics yes 4.3. Goodness of fit of the models 4.4. Validity of models tested 5. Discussion 5.1. Internal validity good 5.2. External validity small patient sample MMSE ≥ 28 6. Conclusions supported by findings? yes | study stipulating effect of specific treatment in day hospital on small subgroup of patients not relevant for review |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|--|--|---|---|---|--|
| Roderick (2001) | East Dorset, UK | The aim of the study was to compare the effectiveness and cost of a new domiciliary rehabilitation service for elderly stroke patients with geriatric day-hospital care. | Poole Hospital NHS Trust and one of its associated community hospitals, East Dorset, a mixed urban/rural area on the south coast of England. 2 settings were studied, domiciliary care and day-hospital. | Randomized control trial. The participants were randomised before discharge by calling a central office where closed lists of computed-generated randomisation schedules were kept. | Stroke patients aged 55+ who required rehabilitation after hospital discharge or after referral to a geriatrician. Randomisation was stratified by gender, age, disability level (Barthel index <10, 10 to 14 or ≥ 15) and day-hospital catchment. This was a single-centre study with associated centres. The duration of follow-up was 6 months. The outcome data were reported for 54 (84%) of the domiciliary patients and 58 | Analysis followed the intention-to-treat principal. Paired t-tests was used to estimate significance and to provide confidence limits to compare changes over 6 months between groups, as these followed a normal distribution. For comparisons of cross-sectional outcomes data at 6 | Functional status (Barthel Index), mobility (Rivermead Mobility Index), mental state (Philadelphia Geriatric Center Morale Scale), social activity (Frenchay Activities Index), quality of life, and generic health status (SF-36) and cognitive status (Abbreviated |

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| | | | | | (78%) of those in the day-hospital group. | months and cost data, Mann-Whitney U-test was preferred as data are skewed. | Mental Test). Economic analysis included health service and social service costs, including transport and services payable by the patient and capped. In domiciliary rehabilitation service, all therapists recorded their activities in 15 min periods. The indirect costs were not included in the study |
|--|--|--|--|--|---|---|--|

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
|--------------------------------------|---|--|--|--|
| Roderick (2001) | No significant differences in patient outcomes, although there was a non-significant improvement in measures of physical function and social activity in the domiciliary group. Domiciliary patients had more physiotherapy time per session and more district nurse time, and made greater use of social service day centres and home helps. Total cost per patient did not differ significantly between the two groups, with reduced health service costs in the domiciliary arm offset by higher social service costs. | No significant differences were detected in the effectiveness of the two services. Neither service influenced patients' mental state, and their social activity remained low. Total costs were similar. A mixed model of day-hospital and domiciliary care may be most cost-effective for community stroke rehabilitation, but this requires further evaluation. | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Yes</p> <p>3. Data quality: Yes</p> <p>4. Analysis: 4.1. Methods clearly explained Yes. 4.2. Appropriate statistics Yes but basic statistical analysis 4.3. Goodness of fit of the models Not relevant 4.4. Validity of models tested Not relevant</p> <p>5. Discussion 5.1. Internal validity One is opposite two structures of care very different and even probably complementary. Domiciliary care is particularly well adapted to the revalidation and moreover</p> | Very interesting study even if it is directed towards a type of patients, the stroke patients and it is not really the purpose of our study. |

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| | | | <p>with the potential advantage of greater involvement of the informal caregivers. However, rehabilitation may be easier to coordinate from the day hospitals, which provide the opportunity for geriatrician management of cares, regular medical monitoring, access to medico-technical services, but also social contact and group therapies. Moreover, it is necessary to be careful by diverting the patients of the day clinic towards the domiciliary cares. In this case, one is likely to see falling the occupational rate of the GDH.</p> <p>5.2. External validity</p> <p>The authors propose a mixed-model of day-hospital and domiciliary therapy. Such a model could be transposed elsewhere</p> <p>6. Conclusions supported by findings?</p> <p>Yes</p> | |
| | | | | |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|--|--|--|---|---|--|
| Trentini (2001) | Bologna, Italy | The aim of this study was to demonstrate the effectiveness of outpatient elderly care based on Comprehensive Geriatric Assessment (CGA). | Geriatric Evaluation and Management units (GEMs) | Multicentre randomized clinical trial utilizing the same patient selection plan and an uniform model of CGA. | Eleven hospital Geriatric Evaluation and Management units (GEMs) systematically screened 1386 inpatients over a 10-month period. At the end of this screening, 152 eligible frail elderly patients were randomized to either a comprehensive outpatient GEMs program (intervention group: N=79) or to usual care by their family doctors (control group: N=73). | Mann-Withney U-test was applied to verify correct randomization of the patients to the intervention or control groups. Mean, range and SD were calculated for both pre-test and post-test data, comparing the treated and control group. Contingency tables were made scales after discretization and Chi-square tests were realised. Finally, the survival probability was checked out by Kaplan-Meier product limit test. | Demographic variables, specific active medical problem, mental and functional status with Mini-Mental State Examination (MMSE), Geriatric Depression Scale (GDS), Katz, Basic Activity of Daily Living (BADL), Lawton Instrumental Activity of Daily Living (IADL). Social network was explored by the Rubenstein's Social Support Assessment (SSA). Mortality, compliance and location were also noted for all patients. Health care costs must be considered as a simple estimate of real costs. |

Expenses were coded to reflect daily average costs for hospital, nursing home, day hospital and rehabilitation treatment, while hourly average costs were used for unskilled home help and specialized home care.

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
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| Trentini (2001) | <p>We did not find any statistically significant difference between the two groups at entry. During the one-year follow-up period, 6 GEMs patients (7.6%) and 12 controls (17.1%) died, without significant differences between the two survival curves. Only three patients (all controls) ultimately dropped out, and eight (3 unit patients and 5 controls) entered a nursing home. GEMs patients were significantly more likely to have individual improvement in mental status ($p=0.006$), morale ($p=0.024$) and functional level ($p=0.023$), compared to controls. Even though intervention participants spent fewer days in hospital and nursing home ($p<0.05$), they received much more home care and day-hospital assistance ($p<0.001$), which explains why total expenditure on health care was the same in the two groups.</p> | <p>A standardized selection plan may contribute to identify the older inpatients in need of CGA; and CGA-based outpatient care may be clinical- and cost-effective if directly managed by GEMs, and may provide targeted older patients with more substantial benefits than standard care, without inflating health care expenses.</p> | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Yes</p> <p>3. Data quality: Yes, but cost data are not clearly defined.</p> <p>4. Analysis:</p> <p>4.1. Methods clearly explained Yes.</p> <p>4.2. Appropriate statistics Yes, but basic statistical analysis.</p> <p>4.3. Goodness of fit of the models Not relevant.</p> <p>4.4. Validity of models tested Not relevant.</p> <p>5. Discussion</p> <p>5.1. Internal validity In a multicentre study is perhaps unwise with such a sample. Since both groups underwent the same CGA-based geriatric care, and in particular to the more frequent utilization of the out-patient geriatric clinics, rehabilitation, home care and day hospital. The improvements seem to have a low cost, because GEM units do not increase health care expenditures, but try to redistribute the costs by favoring non-hospital assistance.</p> <p>5.2. External validity</p> <p>6. Conclusions supported by findings? Yes</p> | |

2.2.4 Cohort Studies

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
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| Baumgarten (2002) | Montreal Canada | To assess outcomes and satisfaction among frail elderly day care patients and their informal caregivers and the impact of adult day care on the cost of health services. | Geriatric day hospital and waiting list | Randomized case-control study. Multicenter study. Enrollment period from april 1990 to december 1991 Patients and informal caregivers were interviewed at the study admission (T1) and 3 months later (T2). | Study group (GDH) 108 eligible patients, control group (waiting list) 104 eligible patients, randomly recruited in 6 day centers | Cronbach's coefficient of internal consistency multiple linear regression analysis | Outcome Variables: Depression Scale (CES-D). Symptoms of anxiety were assessed using the State-Trait Anxiety Inventory (STAI). Functional status was measured using the functional subscale of the Older Americans Research and Service (OARS) Multidimensional Functional Assessment Questionnaire To assess caregiver burden, Novak and Guest's (1989) Caregiver Burden Inventory was used. Covariates: The client's cognitive status was measured using the MMSE The clients' experience of stressful life events was determined using the 34 undesirable events from the Louisville Older Person Events Scale. The OARS Social Resources Scale (Duke University Center for the Study of Aging and Human Development) was used to assess social support. Costs: Information on the frequency of utilization of health and social services was obtained from client and caregiver interviews. This information, in conjunction with information on the unit cost of services, was used to estimate total cost |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
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| Baumgarten (2002) | Participants' and caregivers' subjective perceptions of the day center's effects were positive. However, using standard research instruments, there was no evidence of an effect of day center attendance on the client's anxiety, depression, or functional status; on caregiver burden; or on the cost of health services | This study was not able to demonstrate a positive impact of adult day care on symptoms of anxiety or depression among elderly clients over a 3-month study period. In addition, there was no evidence indicating that participation in the day center program had an effect on the functional status of the elderly clients or on caregiver burden | <p>1. Research question well explained: yes</p> <p>2. Appropriate study design: A little bit complicated by addition of multicentric effect.</p> <p>3. Data quality: The costs variables are not clearly defined.</p> <p>4. Analysis: 4.1. Methods clearly explained yes 4.2. Appropriate statistics yes, but each outcome variable is defined as dependent factor thus lack of overall perspective. 4.3. Goodness of fit of the models not available 4.4. Validity of models tested Not tested</p> <p>5. Discussion 5.1. Internal validity Various factors need to be considered when interpreting these results. First, it has been suggested that the heterogeneity of individual day centers with respect to structure, operations, activities, and client mix may make it difficult to assess their impact. Therefore, in the present study, special attention was given to selecting day centers according to explicit criteria and to ensuring that the centers that were selected were fairly similar in orientation. The fact that the statistical analysis revealed no evidence of heterogeneity of results across study sites suggests that this strategy was successful.</p> <p>5.2. External validity This study shows that the mean cost of health and social services over the 3-month study period was somewhat higher in the experimental group than in the control group, although the difference was not statistically significant. This finding is consistent with a large number of previous experimental and quasi-experimental cost effectiveness studies of adult day care, home care, homemaker services, respite care, and other types of community-based long-term care that have found that community-based care is not less expensive than institutional care.</p> <p>6. Conclusions supported by findings? yes</p> | the cost of home-based services was underestimated because reliable information on administrative and infrastructure costs for those services was not available at the time of the study. |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
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| Boult (2001) | USA Minneapolis, Minnesota | Measure measure the effects of outpatient geriatric evaluation and management (GEM) on high-risk older persons' functional ability and use of health services | Outpatient Geriatric Evaluation and Management (GEM) is the study group and usual care (control group) | Randomizes clinical trial during 18 months | A population-based sample of community-dwelling Medicare beneficiaries age 70 and older who were at high risk for hospital admission in the future (N = 568). | T test, chi-square, logistic regression, linear regression, Cox proportional hazards model | <p>Outcomes: Sickness Impact Profile: Physical Functioning Dimension (SIP:PFD). Geriatric Depression Scale (GDS). Bed disability days (BDDs). Restricted activity days (RADs).</p> <p>Costs: HCFA (Health Care Financing Administration)'s records (Standard Analytical File) for payments to participants of Medicare-covered health care during 12 months before randomization and 18 months after, and use of health services</p> <p>Mortality: By interviews and the National Death Index (NDI)</p> |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
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| Boult (2001) | The study participants were significantly less likely than the controls to lose functional ability, to restrict their daily activities, to have possible depression or to use home healthcare services. Mortality, use of most health services, and | Targeted outpatient GEM slows functional decline | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Yes.</p> <p>3. Data quality: Yes</p> | |

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| | total Medicare payments did not differ significantly between the two groups | | <p>4. Analysis:</p> <p>4.1. Methods clearly explained Yes</p> <p>4.2. Appropriate statistics yes, but the results of regression models and life table are not available.</p> <p>4.3. Goodness of fit of the models Not available</p> <p>4.4. Validity of models tested Not available</p> <p>5. Discussion</p> <p>5.1. Internal validity The control (n=274) and the GEM group (n=294) were similar at baseline. Statistical analysis seems to clearly demonstrate the results. Unfortunately, the costs data are incomplete. We are far of total cost of care.</p> <p>5.2. External validity The population from which the study sample is randomly extracted is a 23,801 community-dwelling Medicare beneficiaries age 70 and older in Ramsey County, Minnesota. Medicare policy-holders are a selected group from the whole US population. Moreover, the Geriatric Evaluation and Management (GEM) program are not clearly described, particularly for staffing. Finally, costs data are not very detailed.</p> <p>6. Conclusions supported by findings? Yes</p> | |
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| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
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| Dang (2002) | USA, Arkansas | Estimation of the billed charges generated for the university hospital (UH) by patients seen in a outpatient senior clinic over a 6-month period. In the same time, estimated the average billed charges per geriatric patient. | Hospital-based outpatient senior clinic at a university medical center. | Economical analysis. Retrospective analysis | 1998 outpatients aged 65 and older seen in the outpatient senior clinic between January 1 and December 31, 1998.. | Descriptive analysis | The total inpatient, outpatient, and professional fee charges generated by the senior health center (SHC) patients were estimated for a 6-month period, with the use of billing data from the professional and hospital billing systems. |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
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| Dang (2002) | <p>For every \$1 billed in professional charges in the senior health center (SHC), \$17 was billed elsewhere in the hospital system.</p> <p>The 6-month charges by the rest of the hospital system for the same 1,998 patients included hospital inpatient charges, hospital outpatient charges (ancillary plus technical, including facility fees for the SHC) and professional fees for other departments, thereby producing a multiplier factor of 17</p> | <p>This study provides a reasonable estimate of the substantial multiplier, or "flow-through," effect of a senior clinic on its parent medical center. Although senior clinics may be a cost center when viewed in isolation, these clinics are actually revenue generators when viewed from the perspective of the entire health system.</p> | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Yes.</p> <p>3. Data quality: Yes</p> <p>4. Analysis: 4.1. Methods clearly explained Yes 4.2. Appropriate statistics Only descriptive statistics 4.3. Goodness of fit of the models Not relevant 4.4. Validity of models tested Not relevant</p> <p>5. Discussion 5.1. Internal validity Although outpatient services in and of themselves are therefore not financially beneficial, they provide patients an entry point into the system. The downstream economic effect of hospitalization and referrals of geriatric clinic patients in a fee-for-service environment make the clinics financially viable. It is critical that overall healthcare systems costs, and not just the cost of running a senior clinic, be taken into account in assessing the financial validity of such a program. 5.2. External validity Recognizing the financial constraints, and placing value on the positive institutional effect, qualitatively and quantitatively, may assist hospital in making future decisions about the strategy and operation of senior clinics.</p> <p>6. Conclusions supported by findings? Yes</p> | |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|---|----------------------|--|-----------------------------|-----------------------|---|
| Daniels (2000) | USA | A description of the needs when developing a geriatric outpatient clinic. | Geriatric day clinic | Evaluation study, detailed marketing analysis; and forecast expenses and revenues. | Medicare and Medicaid data. | Descriptive analysis. | Staffing and financial data from geriatric outpatient clinics |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
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| Daniels (2000) | Descriptive of the financial balance of GDHs based on Medicare data sources inside of the whole hospital activities. | Evaluating the performance of an existing geriatric clinic is complicated by a clinic's diverse effects on hospital activity. A clinic is not simply a hospital department but also a marketing program, a way to control inpatient costs and a innovative clinical service. | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: No study design</p> <p>3. Data quality: Source and type of data is not clearly explained.</p> <p>4. Analysis: 4.1. Methods clearly explained Not relevant 4.2. Appropriate statistics No statistical analysis. 4.3. Goodness of fit of the models Not relevant 4.4. Validity of models tested Not relevant</p> <p>5. Discussion 5.1. Internal validity The authors give the recommendation that the best way to evaluate the clinic's financial performance is to estimate its incremental effects on all aspects of hospital costs and payments. Areas that should be included are the clinic itself, outpatient and inpatient activity at the hospital, activity generated at other operating units such as home health care and skilled nursing facility. 5.2. External validity The source of data gives at this study a community viewpoint.</p> <p>6. Conclusions supported by findings? Yes</p> | |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
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| Fortney (2005) | Department of Veterans Affairs (VA), USA | To determine whether strategies designed to increase members' use of primary care services result in decreases (substitution) or increases (complementation) in the use and cost of other types of health services. | Community-Based Outpatient Clinics (CBOCs). | Retrospective study | Data collected for all veterans using VA health services who resided in the catchment areas of new CBOCs (n=15) and for a matched group of veterans residing outside CBOC catchment areas. The sample included 52,801 veterans divided into a study group which consists of 29,770 veterans in CBOC Catchment Area and a control group of 23,031 matched veterans. | Ordinary least squares (OLS) regression. Endogeneity bias was assessed using a Hausman test. | The dependent variables were defined as post minus pre changes in utilization and costs. |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
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| Fortney (2005) | Change in distance to primary care was a significant and substantial predictor of change in primary care visits. OLS analyses indicated that an increase in primary care service use was associated with increases in the use of all specialty outpatient services and inpatient services, as well as increases in inpatient and outpatient costs. Instrumental variables analyses indicated that an | Using longitudinal data from the VA's natural experiment of increasing geographic access to primary care by establishing new CBOCs, we tested the substitution hypothesis using a difference-in-differences analysis in conjunction with OLS and instrumental variables regression techniques. Because of endogeneity bias, the results of the OLS and the instrumental variables analysis were dramatically different for specialty medical encounters and physical health admissions. The OLS analysis results indicated that | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Yes.</p> <p>3. Data quality: Yes</p> <p>4. Analysis: 4.1. Methods clearly explained Yes 4.2. Appropriate statistics Yes 4.3. Goodness of fit of the models</p> | |

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| | increase in primary care encounters was associated with a decrease in specialty medical encounters and was not associated with an increase in physical health admissions, or outpatient costs. In terms of costs, the OLS analysis results indicated that increases in primary care service utilization were associated with significantly higher outpatient and inpatient costs. However, in the instrumental variables analysis, the parameter estimate for outpatient cost was insignificantly negative. | primary care encounters complement specialty medical encounters and physical health admissions. In contrast, the instrumental variables analysis results indicated that primary care was a substitute for specialty medical encounters and that increases in primary care utilization have no significant impact on physical health admissions. The policy interpretation of the biased OLS results is that organizational innovations and strategies designed to promote the use of primary care will increase specialty medical encounters and physical health admissions. The findings suggest that the benefits of organizational innovations and strategies promoting use of primary care services may come at no additional cost to the payer beyond the initial implementation cost. | Not available 4.4. Validity of models tested Not available 5. Discussion 5.1. Internal validity The policy interpretation of the biased OLS analysis of outpatient costs is that organizational innovations designed to increase use of primary care services will drive per member per month costs higher. The policy interpretation of the instrumental variables analysis of outpatient costs is that such organizational innovations are likely to be cost neutral for outpatient services. 5.2. External validity An important caveat is that the results reported here should be considered context dependent because health care system characteristics are likely to moderate the substitution and complementation effects between primary care and other types of health services. 6. Conclusions supported by findings? Not particularly | |
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| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
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| <u>Gerard (1988)</u> | UK | Specialist day services for frail elderly people can be considered at least as effective as either day hospital or social centre care | 3 alternative day care settings for frail elderly people are compared: day hospital, social centre and specialist centre. | Cost-effectiveness analysis by way of published data sources. | 190 principally elderly (over 75 years old) who require personnel assistance in daily living. | Descriptive analysis | Physical and social impairments. Costs : Capacity, revenue, transport, capital. |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
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| Gerard (1988) | <p>The use of a specialist day service is more cost-effective than the day hospital.</p> <p>More analysis of the benefits of care in social centres is required before any judgement</p> | <p>A crude analysis indicate that social centre is cheaper than specialist centre and day hospital more expensive than specialist centre. Nevertheless the author notes the great differences between the services proposed in the 3 settings and also in their patients.</p> | <p>1. Research question well explained: Moderately</p> <p>2. Appropriate study design: Limited study</p> <p>3. Data quality: Poor</p> <p>4. Analysis: 4.1. Methods clearly explained Not available 4.2. Appropriate statistics Not available 4.3. Goodness of fit of the models Not available 4.4. Validity of models tested Not available</p> <p>5. Discussion 5.1. Internal validity The studied populations and settings are really too heterogeneous. This paper proves that we should not compare what is incomparable. Some interesting but obvious remarks : a day hospital is situated in a geriatric unit, then cost estimation is complicated if the day hospital is not a separate unit; although the capital cost of a day centre is negligible, since it makes use of existing capacity, any policy to increase specialist provision would have to consider the implications of purpose-built day centres. 5.2. External validity Yes for general remarks</p> <p>6. Conclusions supported by findings? Not particularly</p> | |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
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| Le Faou, 2004 {Le Faou, 2004} | Paris, France | To identify differences in the characteristics of two groups of patients attending either a day care unit or a rehabilitation unit | 1 geriatric hospital | Cross-sectional questionnaire | Study group: each new patient admitted to the day care hospital (n=82) Control group: hospitalized patients with no need of long term care nor acute care (n=160) Exclusion criteria: refusal, recording to belong to the other group | Statistical method made by using t-test, Chi square and Fisher's exact tests | Demographic variables, housing, social network characteristics, medical background (ICD-9), Katz index, social coverage, home aid services before hospitalization, admission procedure |
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| author / date endnote reference | results | comments | critical appraisal | global evaluation |
|------------------------------------|--|---|---|-------------------|
| Le Faou, 2004 {Le Faou, 2004} | Day care hospital provide care to a new group of patients in term of past medical history, medical coverage and type of home aid services before admission | No significant difference for: gender, social network, absence of aid at home Significant difference for admission procedure due to the organization of French hospitals These results identify the characteristics of the patients who benefited from day care services Family doctors have a central role according that they are the ones who prescribe nursing care, housekeeping help,... contributing to maintain elderly people at home | 1. Research question well explained: Yes 2. Appropriate study design: yes 3. Data quality: good 4. Analysis: 4.1. Methods clearly explained: yes 4.2. Appropriate statistics: yes 5. Discussion 5.1. Internal validity: questionnaire built using validate scales, 5.2. External validity: these results could concerned elder people in our country 6. Conclusions supported by findings? yes | good |
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| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
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| Maciejewski (2002) | USA | To examine the direct costs of treating veterans in Community-Based Outpatient Clinics (CBOC) and primary care clinics operated by VA (Veterans Affairs) medical centers (VAMCs) between April 1998 and September 1998. | Outpatient Clinics and primary care clinics. | Retrospective analysis | 18 CBOCs (6,546 patients) and 14 VAMCs (101,598 patients). Data are collected from patients treated between 4/1/98 and 9/30/98. | Ordinary least squares regressions | <p>Demographic characteristics, health status proxy data, patients costs.</p> <p>Health status are measured with Medicare Diagnostic Cost Group (DCGs). Case-mix adjustment was necessary between CBOC and VAMCs.</p> <p>Three types of costs were examined, include direct cost per primary care visit, direct primary care cost per patient, and total direct cost per patient. Indirect costs for overhead and administration were excluded.</p> <p>All cost comparisons controlled for patient characteristics and case-mix differences via the Diagnostic Cost Group methodology.</p> |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
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| Maciejewski (2002) | Results indicate that CBOC patients and VAMC patients had similar direct primary care costs on a per visit and per patient basis. Total direct costs for CBOC patients were lower compared with VAMC patients, because of lower specialty and ancillary care costs. | Lower total costs for CBOC patients may be a consequence of substituting primary care at CBOCs for expensive specialty and ancillary care at VAMCs. CBOCs may be an alternative approach to providing care to veterans at a lower cost than traditional delivery models based in VA Medical Centers. | 1. Research question well explained: Yes 2. Appropriate study design: Yes 3. Data quality: Yes 4. Analysis: 4.1. Methods clearly explained Yes. 4.2. Appropriate statistics Yes 4.3. Goodness of fit of the models Not available 4.4. Validity of models tested Not available 5. Discussion 5.1. Internal validity This paper focuses on direct costs for primary and speciality care costs but ancillary services are excluded just as the indirect costs. We don't know if these costs are similiary between CBOCs and VAMCs. 5.2. External validity VA patients and perhaps specificity of settings do not allow to extrapolate these results to foreign care services. 6. Conclusions supported by findings? Yes | The objective of the research is not exactly in the field of our purposes. Moreover, VA patients cannot be regarded as geriatric (mean age 63 years). |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
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| McCallum (1996) | Dubbo base hospital, New South Wales, Australia | This study examines the costs of community services and construct a model predicting the cost of post-acute services. | Home and Community Care (HACC) Program | Prospective study | The HACC service use of those discharged from hospital in the 12 months from 1 July 1992 to 30 June 1993 (n=263 aged 60 years and over) was measured by linking study interview data with the records of HACC providers for 12 weeks after the discharge date. | The model was used to predict the total cost of services used after discharged. The full set of variables was used initially to model cost, then backward and forward stepwise regression (OLS) | Predisposing variables: Age, sex, living alone, widowed; Enabling variables: Private health insurance, veteran's or pensioner's health card, education, owning one's home, having friends, having a pet; Needs variables: |

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| | | | | | The service use data were supplemented by interviews with consumers and all main service providers. Those older people who had been discharged in the previous six months (n=152) were interviewed by telephone to assess their satisfaction with services and to obtain self-reports of visits to general practitioners. | confirmed the significant factors in a trimmed model. The distribution of error terms was inspected, it closely approximated a normal distribution but became a little more irregular when the model was trimmed. | Doctor visits in the 3 months before interview, hospitalisation in the six months before interview, depression, self-rated health, activities of daily living, diabetes, previous coronary artery disease; Health risk factors: Smoking, drinking, high blood pressure. |
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| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
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| McCallum (1996) | Only a quarter of older people received any type of Home and Community Care service in the 12 weeks after discharge and two-thirds of these received only one type of service. While less than 5 per cent received a service from an occupational therapist, physiotherapist or speech therapist, 78 per cent visited a general practitioner after discharge. The average cost of all Home and Community Care services received after hospital discharge was around \$12.50 per week per person discharged. The predictors of higher costs of service use were: living alone, and the interactions of high levels of disability with owning a house. The final model explained 13% of variance. | Allied health and HACC services may be more appropriate than general practitioner visits for older people's needs. However, only 24% of people received any HACC services. By comparison, 78% visited a general practitioner in the same 12 weeks after discharge. These different rates of use are directly attributable at the fact that all services provided by general practitioner are reimbursed from public funds without limitation on the budget. By comparison, HACC services are provided only to those assessed as needing them. This gatekeeping on services is required because HACC services have capped budgets. | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Yes</p> <p>3. Data quality: Yes</p> <p>4. Analysis:</p> <p>4.1. Methods clearly explained Yes.</p> <p>4.2. Appropriate statistics Yes</p> <p>4.3. Goodness of fit of the models Yes</p> <p>4.4. Validity of models tested Yes</p> <p>5. Discussion</p> <p>5.1. Internal validity This paper describes a classical method of business plan but important data are not taken into account like physical therapy, occupational therapy, audiology, physician referrals fees.</p> <p>5.2. External validity The same financial analysis can be made elsewhere but by holding account of specificities of health care organisation.</p> <p>6. Conclusions supported by findings? Yes</p> | |

| author / date Endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
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| Malone M, Hill A and al. 2002 | Canada British Columbia | To determine if mobility and functional status of patients attending geriatric day hospital are maintained 3 months after discharge | Community-dwelling elderly referred for geriatric assessment to de day hospital | Prospective, before – after, quasi-experimental design | 41 patients were eligible; at least 5 visits in G day hospital | Friedman, chi square | Barthel index, Timed get up and go, Berg balance scale, MMSE, GDS |
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| author / date endnote reference | results | comments | critical appraisal | global evaluation |
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| Malone M 2002 | From admission to discharged significant improvements were seen in Timed up and go test Berg balance and GDS but decline is observed in the test 3 months post discharge with no significant change in Barthel index and GDS. MMS also declined in the 3 months post discharge | It is difficult to assess G day hospital and their effectiveness is not clear Improvements in mobility appear between admission and discharge but are lost after 3 months of discharge | 1. Research question well explained: yes 2. Appropriate study design: Yes 3. Data quality good: yes 4. Analysis: 4.1. Method clearly explained: yes 4.2. Appropriate statistics: yes 4.3. Goodness of the model: yes 4.4 Validity of the model tested: elsewhere 5. Discussion: 5.1. Internal validity: What is done in the day clinic is not well explains in term of rehabilitation to improve some functional markers 5.2 External validity: can be realised everywhere because prospective study quasi experimental design 6. Conclusions supported by findings: yes | interesting |
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| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
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| Powell (2002) | UK | <p>This paper describes an approach to evaluating day care services which brings together costs and service users' views as a means of establishing the overall 'value'. This strategy underlines the purpose of day care itself as a means of promoting the independence and autonomy of older people. This two-year study had the following aims:</p> <ol style="list-style-type: none"> 1. To identify the characteristics of the elderly populations receiving different types of day care and develop criteria for attendance. 2. To determine whether achievement of a negotiated goal(s) is the most appropriate outcome measure for elderly people attending day centres or day hospitals. 3. To determine which of the three models of day care studied is the most effective and the most cost-effective. | <p>3 different settings:</p> <ol style="list-style-type: none"> 1) day centre which catered for a diverse elderly population with mixed physical and mental disabilities. 2) NHS outreach service for older people with complex rehabilitation needs 3) The third setting was a traditional, purpose-built NHS day hospital. | Descriptive analysis with cost-effectiveness analysis | <p>139 patients, with a median age of 79.6 years, were initially recruited to the overall NHS study. This sample is broadly representative of older people attending day care in UK. People in the different care settings were comparable in terms of age and ethnic group with a higher proportion of females and widowed people attending the day centre. They are distributed between the 3 settings in the following way:</p> <p>Day centre: n=39, Outreach service: n=50 and, Day hospital: n=50.</p> | Descriptive analysis | <p>Age, gender, marital status, ethnic group, domestic situation, medical problems. Costs data were also collected for each setting. Costings were defined as the organisational costs which included staffing (professional and managerial), transport and catering. In addition, capital charges were incorporated to reflect the differential use of capital assets in each of the three services. Costs are presented at three levels of analysis: total costs of each service, based on budgeted costs for the study year, average cost per patient day (in the case of the outreach service, the average cost per domiciliary visit was also calculated), finally, costs per patient episode were calculated using the total costs and average patient stays.</p> |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
|--------------------------------------|--|---|---|---|
| Powell (2002) | <p>The day hospital was substantially more expensive in total than the other settings. This was mainly due to the broader range of medical services offered, the substantially more expensive transport and the purpose built nature of its accommodation and range of equipment. The outreach service was the least costly as it only used its capital resources one day each week. This enabled a flexible use of that resource for other services on other days of the week.</p> <p>In terms of cost per patient day, the day centre was substantially cheaper than the other settings as it provided seven day coverage and had lower staff costs. The cost per average patient episode was an attempt to compare the total costs of treating an average patient in each of the three settings.</p> <p>The day centre was the most expensive because of its very long average length of stay.</p> <p>The cost per average patient, however, is somewhat misleading as each setting has a different profile of patients with the day centre concentrating on lower dependency and the day hospital on higher dependency patients.</p> | <p>In presenting these findings, which provide some evidence of the various aspects of the services valued by its key stakeholders in all three settings, an attempt has been made to draw out some key features of this combined approach to evaluating day care provision. Its use as a 'description of value' across a range of day care settings is important as it offers a means of promoting standards common to both health and social care settings, whilst acknowledging their different but overlapping roles.</p> | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Not enough information to answer</p> <p>3. Data quality: Not enough information to answer</p> <p>4. Analysis: 4.1. Methods clearly explained Yes. 4.2. Appropriate statistics Descriptive statistics 4.3. Goodness of fit of the models Not relevant 4.4. Validity of models tested Not relevant</p> <p>5. Discussion 5.1. Internal validity The findings discussed here are based on an analysis of the qualitative data and presented in the form of a description of value or overview of the most important aspects of these three services. These aspects might best be considered as indicators of 'value' rather than 'effectiveness', as they collectively describe the aspects of the service which are most valued by the principal stakeholders: the patients or day care members, their carers and the service providers. 5.2. External validity The authors did not state any implications for practice.</p> <p>6. Conclusions supported by findings? The use of goals did represent an improvement in defining effectiveness but was again fraught with problems. It was clear that different types of goal were being set in different settings and that the processes of negotiation were also different.</p> | <p>It is difficult to compare the day centre to the other two settings as it is concerned primarily with social aspects of care whereas the day hospitals are more concerned with medical care. Considering the complexity of elders care, can one believe that a so weak sample does reflect the elderly population.</p> |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|-------------------------------|---|--|--|---|--|--|
| Tousignant (2003) | Sherbrooke, Quebec, Canada | Whether the benefits related to a geriatric day hospital program exceeded the costs, using a cost-benefit analysis based on changes in functional autonomy. | The Geriatric Day Hospital program at the Sherbrooke Geriatric University Institute in the Province of Quebec, Canada. | A quasi-experimental design with a historical cohort (for ethical reason) as comparison group. | The study group comprised all elderly people admitted to the GDH programme between 1 April, 1998 and 31 March, 1999 (n=171). Complete data were collected for 151 of the 171 patients included in the study at T0. Twenty subjects refused to be included in the study. | t-test, median time, Kaplan-Meier survival curve. Mean, standard deviation, median and semi-interquartile interval are used to describe total costs and total benefit. Cost-benefit is expressed by the difference between costs and benefit, and by the cost/benefit ratio. A 95% confidence interval (CI) was estimated for this ratio using the Taylor linearization technique for variance estimation. | The clinical measure used to estimate the benefits of the GDH program in terms of changes in functional autonomy was the SMAF. Direct costs associated with resources consumed by the GDH programme were estimated. They were divided into two categories: general costs and specialised costs. General costs include four subcategories: costs related to the GDH unit (administration, staff, services related to patient care and furniture), support services, and administrative support. Specialised costs relate to specialised health professionals. Moreover, indirect costs related to the GDH programme are also taken into account. Indirect costs are those charged to the elderly at each GDH visit. They are related to transportation and lunch. The benefit estimation method is based on a previous study. Based on a regression equation, the benefit of the GDH programme was calculated on the difference in the costs associated with functional autonomy (adjusted for natural decline) at discharge (SMAF T ₁) and at admission to the programme (SMAF T ₀). |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
|--------------------------------------|--|---|--|---|
| Tousignant (2003) | <p>The effect of the GDH programme on functional autonomy is shown by the SMAF score improvement (-3.1) from T0 to T1 for the GDH sample. The natural decline in functional autonomy observed in the comparison sample for a one-year period is represented by an increase of 2.9 points on the SMAF score. The average length of stay in the GDH programme was 15.6 (SD: 7.7) weeks and the average number of visits per patient was 28.9 (SD: 5.2).</p> <p>For every dollar invested in the geriatric day hospital programme, the benefit for the health system was \$2.14 (95% confidence interval: \$1.72–\$2.56).</p> | <p>based on our sample of Sherbrooke Geriatric University Institute patients, the benefit related to the geriatric day hospital programme seems to exceed the costs by 114%</p> | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Yes</p> <p>3. Data quality: Yes</p> <p>4. Analysis: 4.1. Methods clearly explained Yes. 4.2. Appropriate statistics Yes. 4.3. Goodness of fit of the models Previous study. 4.4. Validity of models tested Previous study.</p> <p>5. Discussion 5.1. Internal validity Functional autonomy was assessed by a trained nurse using the SMAF on admission to and discharge from the GDH programme. For the comparison group, the SMAF was also administered by a trained nurse at the beginning of the study and one year after the initial interview. The SMAF's reliability and validity have been tested in numerous studies. Financial data (cost and benefit) are also valid. Finally, since this study only estimates the benefit related to functional autonomy changes, it should be considered as the lower limit of potential benefits from a GDH programme. Other important aspects such as improvement in cognitive function, socialisation, well-being, etc., cannot be estimated in terms of dollar benefits. 5.2. External validity From the methodological point of view, the external validity is not any doubt. Of course, the coefficients of regression allowing an estimation of the benefit are only applicable in this context.</p> <p>6. Conclusions supported by findings? Yes</p> | <p>Undoubtedly the best economic evaluation on the subject.</p> |

2.2.5 Cohort studies and Case Studies

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|--|---|---|------------------------------------|--|---|
| Burch (2001) | UK | -Comparison of regular day centre attendees with trial patients (1999) -health care in social services day centre | Rural Health District -three day centres | -random samples of day centre attendees compared to 93 trial patients -semi-structured interviews with manager and care worker of the day centre | -60 patients and 93 trial patients | -Kruskal Wallis H-test -Mann-Whitney U-test - initial coding; subcategories divided into negative and positive assessments of day centre model of care | -Barthel index -Philadelphia Geriatric Morale scale -Caregiver strain index |
| | | | | | | | |

| author / date endnote reference | results | comments | critical appraisal | global evaluation |
|------------------------------------|---|--|--|--|
| Burch (2001) | <p>-trial patients are significantly more disabled at baseline for Barthel Index – at three months the difference is not longer significant</p> <p>-baseline trial caregivers are under less strain than those of regular attendees (this difference became significant after three months)</p> <p>-trial patients morale actually declined somewhat</p> <p>-Weakness of day care model:</p> <p>-discharge policies</p> <p>-staff working markedly more positive about standards of care</p> <p>-lack of treatment facilities</p> <p>-acceptability</p> <p>-attitudes of staff</p> <p>-differential treatments</p> <p>-Strengths of day care model</p> <p>-shared resources</p> <p>-access to different systems of care</p> <p>-health and social care staff relationships</p> <p>-skill transmission</p> <p>-commitment to concept and collaboration</p> | <p>-day care facilities should include treatment areas as a matter of routine (multi-purpose facilities)</p> <p>-rehabilitation as a preventive strategy</p> <p>-day care centres as community</p> | <p>1. Research question well explained: yes</p> <p>2. Appropriate study design: As the authors say the first purpose of the study was not to examine the numerous micro-processes on collaborative working. It was added on the first study as described in another paper (Burch 1999)</p> <p>3. Data quality: OK</p> <p>4. Analysis:</p> <p>4.1. Methods clearly explained yes</p> <p>4.2. Appropriate statistics yes</p> <p>4.3. Goodness of fit of the models</p> <p>4.4. Validity of models tested</p> <p>5. Discussion</p> <p>5.1. Internal validity Conclusions in this study seems in agreement with the presented data</p> <p>5.2. External validity Due to the local aspect of the communities the data differs from day centre to day centre and are not always generalisable</p> <p>6. Conclusions supported by findings? yes</p> | <p>-concerning day centre care especially and the care provided in care centres is compared (normal care versus rehabilitative care)</p> |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|---|--|---|--|--|--|
| McAtee (2005) | Arkansas, USA | Systems theory was used to develop a methodology for determining the financial viability of a rural provider-based geriatric outpatient clinic in a rural hospital using data commonly found in rural hospital financial systems. | Rural provider-based geriatric outpatient clinic | A case-study model was used to test the formulas derived to examine the financial viability of a rural geriatric clinic | A rural hospital in Arkansas was chosen as the unit of analysis and its provider-based geriatric clinic was identified as the subsystem. The clinic is a vertically integrated subsystem of the for-profit hospital, which has less than staffed beds and is located in a country with more than 16% of its population older than 65. The clinic had more than 5000 visits per year. | Economical analysis, cost-benefice analysis but only on a methodological viewpoint (no quantified result). | Number and type of geriatric clinic visits, billable professional visits, and associated expenses. Statistics is associated with their APC (Ambulatory Patient Classification, a kind of DRGs system). Other ancillary visits (social worker, pharmacist, dietitian) included into APC reimbursement. Financial adjustment was taken into account (uncollectible debt, contracts, charity care). Direct expenses were included (salaries). Indirect costs were added (contract services, medical and office supplies, rent, malpractice insurance, housekeeping) and also overhead expenses (administration, depreciation, building maintenance) |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
|--------------------------------------|---|---|--|--|
| McAtee (2005) | Total clinic financial net profit or loss was calculated. Then the same analysis were made for the geriatric outpatient clinic to determine the downstream net profit or loss generated by the subsystem to the system. | The financial impact was showed to be negative. There was a loss for the clinic and a loss of the traceable downstream revenue. But if operational and tracking issues were addressed correctly, it was possible that the day clinic may have generated a profit. | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Yes</p> <p>3. Data quality: Yes</p> <p>4. Analysis: 4.1. Methods clearly explained Yes. 4.2. Appropriate statistics Not relevant 4.3. Goodness of fit of the models Not relevant 4.4. Validity of models tested Not relevant</p> <p>5. Discussion 5.1. Internal validity This paper describes a classical method of business plan but important data are not taken into account like physical therapy, occupational therapy, audiology, physician referrals fees. 5.2. External validity The same financial analysis can be made elsewhere but by holding account of specificities of health care organisation.</p> <p>6. Conclusions supported by findings? Yes</p> | The study revealed the data needed for a such analysis. A comprehensive business plan must include statistics, a financial analysis and a community assessment. Notably, a careful examination of the community's demographics and health practices to determine if the 65+ population is large enough to establish and maintain a GDH. The financial break-even point should be carefully calculated to control the clinic viability. |
| | | | | |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|------------------------|---|---|----------------------------------|---|------------------|---|
| Stock (2004) | Eugene, Oregon, USA | Description of a Chronic Care Model and its consequences on medical practice, staffing, interactions and costs. | The PeaceHealth Senior Health and Wellness Center (SHWC) provides primary care coordinated by geriatricians and an interdisciplinary office practice team that addresses the multiple needs of geriatric patients. The SHWC is a hospital outpatient clinic, based on the Chronic Care Model, operated as a component of an integrated health system and is focused on the care of frail elders with multiple interacting chronic conditions and management of chronic disease in the healthier older population. | Case study, descriptive analysis | The PeaceHealth SHWC opened in February 2000 and is located in a city of 132,000. The Center serves a countywide population of 322,900 with a senior population of 45,000. The SHWC attracts a frailer, higher-risk senior patient than other primary care practices. Approximately 35% are classified as high risk for hospitalization, functional decline, high cost of care, nursing home placement, and death within 12 months. | Not relevant | Lists of services, staffing, financial constraints, satisfactory level. |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
|--------------------------------------|--|--|--|--|
| Stock (2004) | <p>The clinic is integrated with a multispecialty clinic that includes family practice, internal medicine, women's health, pediatrics, physical therapy, behavioral health, health information library, radiology, and medical laboratory. Three full-time geriatricians and a nurse practitioner serve a patient population of 1,700 seniors with an average age of 77. Sixty-eight percent are female, and 53% have a high school or greater education. The insurance mix is 45% Medicare Part B fee for service, 35% Medicare preferred provider organization (discounted fee for service), and 20% Medicare health maintenance organization. The SHWC interdisciplinary team includes physicians, nurse practitioners, medical social worker, nurses, receptionists, a pharmacist, and a dietitian. The SHWC staff scored 72 (scale 0–100) on satisfaction surveys, compared with an average of 60 in comparable Primary Care Physician (PCP) practices and 61 for the entire organization. Published American Geriatrics Society guidelines of chronic pain, falls, and diabetes mellitus are used along with practice-developed guidelines for geriatric depression, urinary incontinence, dementia, and osteoarthritis. Each patient's health-risk status is assessed at the first visit.</p> | <p>Providing decision support through the integration of evidence-based geriatric medicine into daily practice is a challenge. This collection of services addresses the interrelationships of all senior issues, including nutrition, social support, spiritual support, caregiver support, physical activity, medications, and chronic disease. A major challenge in developing a senior health clinic model is maintaining financial viability and sustainability. Medicare, oriented toward indemnity insurance, has an acutecare approach to reimbursement. Consequently, innovative models that promote prevention and wellness are not well supported. Classified as an outpatient clinic of the hospital, the SHWC leverages existing hospital-based services and bills for some ancillary services. Reimbursement is also optimized through capture of a professional and facility fee that supports ancillary services. PeaceHealth leadership also currently believes that, if the frail, vulnerable population were cared for in the traditional manner, the outcome would be lower quality with less reimbursement.</p> | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Yes</p> <p>3. Data quality: Not available.</p> <p>4. Analysis: 4.1. Methods clearly explained Not relevant. 4.2. Appropriate statistics Not relevant. 4.3. Goodness of fit of the models Not relevant 4.4. Validity of models tested Not relevant</p> <p>5. Discussion 5.1. Internal validity Although the SHWC model provides empirical evidence of improved access and quality of care for seniors, conclusive research indicating that this model will confer clinical and functional outcomes that are better than more traditional models of outpatient geriatric care is lacking. The authors insist on the fact that using a patient-centered rather than a practice-centered approach to redesign care is a promising, although mostly untested, concept. Clearly, this consumer-centered approach will require a transformation in the “culture” of American medicine. 5.2. External validity Even if this study is a particular case, the great principles stated by the authors are from a theoretical point of view applicable elsewhere.</p> <p>6. Conclusions supported by findings? Yes</p> | <p>Very interesting study which makes think that invest in quality of care don't automatically lead to fast return on investments.</p> |

2.2.6 Others designs

| author / date Endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|--|---------|-----------|-------------------------------|------------------------------|-----------|
| Black DA | England | The geriatric medical day hospital | | Hot topic | | Description of literature | |
| | | | | | | | |
| | | | | | | | |

| author / date endnote reference | results | Comments | critical appraisal | global evaluation |
|------------------------------------|---------|--|---|-------------------|
| Black DA 2005 | | Review of the literature published up to 2005 with all the main papers. Evaluation of the geriatric day hospital . The author shows that the roles and functions have evolved over time to meet patients needs because of their specificity. A weakness is the lack of controlled trial evidence for their role in rehabilitation. | 1. Research question well explain: yes 2. Appropriate study design 3. Data quality Show that specificity greatly depends on the health system of the country. 4. Analysis: 4.1. Methods clearly explained: yes 4.3. Goodness of fit of the model 4.4. Validity of the models tested: not tested 5. Discussion 5.1 Internal validity Make the difference between day hospital and day centre 5.1 External validity: specific to England and organisation of health care, but discuss other countries Conclusions supported by findings | Excellent |
| | | | | |

| author / date Endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|---|--|--|---|---|--|
| O'Reily J, Lawson C and al. | England | To assess cost effectiveness of post acute care >76 years | District general hospital and community hospital | Randomised control trial Multidisciplinary care in the district general hospital or prompt transfer to the community hospital | 220 patients needing rehabilitation after acute illness | Cost effectiveness approach and acceptability curve T test to compare the groups Reanalyse after exclusion of died during the study | Quality of life Health and social service costs |
| | | | | | | | |

| author / date Endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|--------------------------------------|---------------------|--|--|---|---|--|---|
| Dasgupta M, Clarke N and al. 2005 | Canada Ontario | Characteristics of patients who made gains in geriatric day hospital | 400 bed chronic care and rehabilitation facility | Retrospective review of charts of patients over a period of 16 months | 112 patients Initial gains and persistent gains were performed Comparison between patients with gains and without gains | Univariate analyse t test and Fischer exact test Multivariate and backwards regression models | Reasons for visiting day hospital(falls, mobility, depression, functional impairment,...) Functional, psychosocial or medical gains Medical conditions (falls, cardiac, stroke,...) |
| | | | | | | | |

| author / date endnote reference | results | comments | critical appraisal | global evaluation |
|------------------------------------|---|---|---|-------------------|
| Dasgupta M 2005 | In uni-ivariate analysis no difference between patient with or without gain except the group with gain have more female. The most common improvements were in mobility, socialization ADLs, mood and pain People with cardiac conditions and depression were more likely to make initial gains with day hospital intervention 76 % has persistent gains, mainly for socialization and outdoor activity, mobility, ADLs and pain. | Small number of patients No information variability of gains into their measures of outcomes | 1.Research question well explained:yes 2.Appropriate study design: yes 3.Data quality Essentially rehabilitation day hospital Confusion in the profile of patients; no evidence on frailty in the 2 populations 4. Analysis 4.1. Methods clearly explained: yes 4.2 Appropriate statistics: yes 4.3 Goodness of fit of the models 4.4 Validity of models tested: not tested 5 Discussion 5.1 Internal validity: Little number of patients Hypothesis generating and not hypothesis supportive Also observational study 5.2 External validity: Study made in Canada where primary cares are specifically organised Conclusions supported by findings: yes | good |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|------------------------|---|--|---|--|--|---|
| Donald, 1989 {Donald, 1989} | Nottingham, England | To assess the workload of geriatric medical outpatient clinics, to assess the clinical outcome of the visits and to | Geriatric clinics at City Hospital (n=8) | Cross-sectional questionnaire to be completed before seeing the doctor Another questionnaire on the use of geriatric clinics | 127 attendances (23 new patients, 104 reviews) 40 general practitioners | Statistical comparison made using Chi square test with Yates' correction | Mode of transport, journey time, arrival time, time of the appointment, awakening time, if they had eaten, if |

| | | | | | | | |
|--|--|---|--|---|--|--|--|
| | | examine the transport arrangement necessary for attendance | | sent to the general practitioner whose patients had been included | | | they'd like refreshment, time of visit, satisfaction |
| | | To evaluate how general practitioner estimate day hospitals | | Data collected during two weeks in March 1987 | | | |

| author / date endnote reference | results | comments | critical appraisal | global evaluation |
|------------------------------------|---|---|---|-------------------|
| Donald, 1989 {Donald, 1989} | <p>Management was altered for 39 patients, new diagnoses for 16 patients.</p> <p>Transport arrangement is mostly inadequate</p> <p>85% of general practitioners thought that it was helpful or essential for patients recently discharged to be reviewed, but 78% would welcome an increased proportion of reviews performed at home by a liaison nurse</p> | <p>92 patients (72%) completed the questionnaire satisfactorily</p> <p>80% of general practitioners respond</p> | <p>1. Research question well explained: yes</p> <p>2. Appropriate study design: yes</p> <p>3. Data quality: good</p> <p>4. Analysis:</p> <p>4.1. Methods clearly explained: yes</p> <p>4.2. Appropriate statistics: yes</p> <p>4.3. Goodness of fit of the models</p> <p>4.4. Validity of models tested</p> <p>5. Discussion</p> <p>5.1. Internal validity: statistical comparison between discharged and not discharge group not described</p> <p>5.2. External validity: generalisation is uncertain for this study is based on very local data and habits</p> <p>6. Conclusions supported by findings? yes</p> | Average |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|--|---------------------|--|--------------------------|--|----------------------------|-------------------|---|
| Durand-Gasselin, 2002 {Durand-Gasselin, 2002} | France | To describe the day care units of the APHJPA (French acronym for "association for the promotion of day care units for older adults") | Geriatric day care units | Questionnaire sent to all day care units belonging to the APHJPA | N=80 | Descriptive study | Administrative characteristics, full-time equivalent staff, statistic of activity |
| | | | | | | | |

| author / date endnote reference | results | comments | critical appraisal | global evaluation |
|------------------------------------|--|--|--|-------------------|
| Durand-Gasselin, 2002 | There is 3 categories of day care unit for the elderly: Gerontological evaluation day care unit, Evaluation and Rehabilitation day care unit, Psychogeriatric day care unit | The APHJPA includes 80% of French geriatric day hospital | 1. Research question well explained: yes 2. Appropriate study design: yes 3. Data quality: good 4. Analysis: 4.1. Methods clearly explained: yes 4.2. Appropriate statistics: descriptive study 4.3. Goodness of fit of the models 4.4. Validity of models tested 5. Discussion 5.1. Internal validity: descriptive study 5.2. External validity: These results are relevant to France for the APHJPA includes 80% of French geriatric day hospital. Thus, they could be significant for us 6. Conclusions supported by findings? yes | average |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|--------------------------|--|--|---|--|---|--|
| Fenton, 2006 {Fenton, 2006} | Washington state, USA | To evaluate the health utilisation impacts of an intervention emphasizing chronic disease self management and physical activity promotion among frail elders in primary care | A single primary care clinic within Group Health Cooperative (GHC) | Retrospective cohort study Inclusion period: from March 2002 to November 2003 End of the study: 24 th March 2004 | Subjects over age 65 years selected for high rate use of outpatient services (n=146) and matched 3:1 to control group (drawn from population over age 65 years with primary physician at 3 other GHC clinics, n=437) by sex and propensity score | Chi square test, t-test and Fischer's exact test for demographic, clinical and utilisation factors Propensity score matching to account for selection bias Comparison of rates of outcome made by incidence rate ratio and 95% confidence intervals Random effects linear regression used to estimate total cost differences | Rate of hospitalisation, outpatient and speciality visits, nursing home admission, mortality, prescription of selected high risk medications |

| author / date endnote reference | results | comments | critical appraisal | global evaluation |
|------------------------------------|--|---|---|----------------------|
| Fenton, 2006 {Fenton, 2006} | The rate of hospitalisation was 43% lower among intervention subjects relative to matched controls | This result is unaffected neither by simultaneous adjustment for age, disease or addition of block group proportion of non-white adults nor in separate conditional models. The reduces hospitalisation rate did not require a compensatory increase in outpatient or speciality clinics | 1. Research question well explained: yes 2. Appropriate study design: yes 3. Data quality: good 4. Analysis: 4.1. Methods clearly explained: yes 4.2. Appropriate statistics : yes 4.3. Goodness of fit of the models: yes 4.4. Validity of models tested: not tested 5. Discussion 5.1. Internal validity: 95% confidence intervals, alpha scores conducted at the 5% level of significance, there might have selection bias despite using propensity score matching 5.2. External validity: generalisation is uncertain because of this study evaluate the effect of an intervention delivered by a single geriatrician among patients from two primary care practices in managed care 6. Conclusions supported by findings? yes | good |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|--|--------------------|--|---|---|--|
| Leidl (1998) | Germany | Adequacy of economic evaluation studies about the cost-effectiveness of medical care to the elderly. Multidisciplinary program compared with traditional treatment. | Unspecific setting | Viewpoint based on MEDLINE-based review over the publication years 1995 to 1997. | MEDLINE terms for economic evaluation are: Cost-effectiveness-, Cost-utility-, Cost-benefit-analysis, combined with : trial, decision-tree, decision-model decision-analysis, The result was 578 publications. These were matched with age terms (elderly, aged and age). In total, 40% of the publications mentioned age terms. | Revue of literature, only comments without statistical analysis or meta-analysis. | Quality of life indicators, comorbidities, use of drug treatment, use of services like readmissions, |
| | | | | | | | |

| author / date {endnote reference} | Results | comments | critical appraisal | global evaluation |
|--------------------------------------|--|---|---|-------------------|
| Leidl (1998) | Compared with traditional care, the multidisciplinary care was marginally more expensive. However, readmission rate is better than in the traditional care. Investigations made into quality of life also showed less health restrictions in the multidisciplinary group. In conclusion, the multidisciplinary intervention program is more medically effective and economically more cost effective than traditional treatment. | A significant information gap concerning the efficiency of care for the elderly exists, including information on the efficiency of drug treatment. There is also a need to test and, eventually, specify evaluation methodology (such as the appropriateness of quality of life measurement) for elderly patients. Since the elderly have a shorter life expectancy, they may be at a disadvantage when cost-effectiveness measures are compared across age groups. Depending on the normative position, such comparisons can be accepted from a utilitarian, population-oriented perspective, or rejected from a libertarian, individualistic perspective. The normative position needs to be discussed when making use of evaluation results. Avoiding this discussion can bring about ethically unfavourable consequences. | <p>1. Research question well explained: Yes</p> <p>2. Appropriate study design: Not relevant</p> <p>3. Data quality: Not relevant</p> <p>4. Analysis: 4.1. Methods clearly explained Yes. 4.2. Appropriate statistics Not relevant 4.3. Goodness of fit of the models Not relevant 4.4. Validity of models tested Not relevant</p> <p>5. Discussion 5.1. Internal validity Remarks about quality of life evaluation, cost analysis and economic evaluation of drugs need are appropriated. 5.2. External validity International literature. 6. Conclusions supported by findings? Yes</p> | |

| author / date endnote reference | region / country | research question | setting | design | sample data description | type of analysis | variables |
|------------------------------------|---------------------|---|----------------------------|----------------------|---|--|---|
| Martin (1993) | Glasgow | <p>1) to describe the workings of a high throughput GDH</p> <p>2) perceptions of general practitioner</p> <p>3) perception of patients</p> <p>4) therapy time</p> | 1 day hospital – 30 places | descriptive analysis | day hospital activity during one year - all patients referred during 1991 (731) | data were examined by computer analysis as part of a separate project aimed at evaluating a particular software package for geriatric unit functions | <p>* source of referral</p> <p>* date of referral</p> <p>* reason for referral</p> <p>* delay to first attendance</p> <p>* period of attendance</p> <p>* frequency and reason for non-attendance</p> <p>* outcome</p> <p>* follow-up arrangements</p> |

| author / date endnote reference | Results | Comments | critical appraisal | global evaluation |
|------------------------------------|--|----------|---|-------------------|
| Martin (1993) | <p>(1)</p> <ul style="list-style-type: none"> - mean age 79 years - 9.8% of those referred never attended (main reasons: too ill to attend or refusal) – actual occupancy was 76% - 666 attended, 539 were discharged - 120 patients were admitted to hospital (planned or in emergency) - mean number of attendances was 8.2/patient - average period of attendance was just over 3 weeks - median delay from referral to first attendance was 6 working days - specific arrangements for follow-up were made for more than 5 patients in 6 - re-attendance was planned for 32 patients and there were 32 unplanned re-referrals - main reasons for referral were assessment and physical rehabilitation <p>(2)</p> <ul style="list-style-type: none"> - 65% considered functional assessment to be the most important function of GDH - 60% thought hospital admission was prevented by DH attendance in half of the patients they referred - 98% were quite or very satisfied with service provided <p>(3)</p> <ul style="list-style-type: none"> - 75% did like most “company and diversional aspects” - 75% had no dislikes <p>(4)</p> <ul style="list-style-type: none"> - average treatment time available was 4 hours 30 minutes | | <p>1. Research question well explained: yes</p> <p>2. Appropriate study design: yes</p> <p>3. Data quality: good</p> <p>4. Analysis: 4.1. Methods clearly explained no</p> <p>4.2. Appropriate statistics data were examined by computer analysis as part of a separate project aimed at evaluating a particular software package for geriatric unit functions</p> <p>4.3. Goodness of fit of the models</p> <p>4.4. Validity of models tested</p> <p>5. Discussion 5.1. Internal validity good</p> <p>5.2. External validity software package available ? 1 geographic site</p> <p>6. Conclusions supported by findings? yes</p> | good |

3 APPENDICES TO CHAPTER 5

3.1 APPENDIX I: SPECIFIC MEDICAL PROBLEM (SMP).

Correspondance between the number of related patients in GDH study (nPat_GDH) and the number of records in the RCM/MKG diagnosis file (nDiag_RCM).

| SMP Codes | Wordings | nPat GDH | nDiag RCM |
|-----------|---|----------|-----------|
| 0 | Unclassified | 39 | 9,921 |
| 1 | Bacterial and viral dermatologic diseases | 5 | 961 |
| 2 | Malignant neoplasm of digestive organs and peritoneum | 11 | 3,872 |
| 3 | Malignant neoplasm of respiratory and intrathoracic organs | 13 | 3,698 |
| 4 | Breast cancer | 11 | 1,278 |
| 5 | Prostate cancer | 16 | 2,132 |
| 6 | Malignant neoplasm and carcinoma | 55 | 7,947 |
| 7 | Malignant neoplasm of lymphatic and hematopoietic tissue | 28 | 1,081 |
| 8 | Endocrine, nutritional and metabolic diseases | 26 | 13,420 |
| 9 | Diabetes mellitus | 102 | 22,127 |
| 10 | Anemias | 112 | 12,953 |
| 11 | Diseases of blood | 13 | 2,111 |
| 12 | Senile, presenile, hereditary and degenerative diseases of the central nervous system and personality disorders | 219 | 19,872 |
| 13 | Parkinson's disease | 22 | 4,729 |
| 14 | Epilepsy | 5 | 2,125 |
| 15 | Disorders Of The Peripheral Nervous System | 7 | 2,545 |
| 16 | Glaucoma | 1 | 847 |
| 17 | Cataract | 12 | 1,593 |
| 18 | Diseases Of The Ear | 35 | 2,525 |
| 19 | Diseases of mitral and aortic valves | 1 | 1,808 |
| 20 | Hypertensive Diseases | 22 | 39,870 |
| 21 | Ischemic heart disease | 9 | 30,725 |
| 22 | Cardiac dysrhythmias | 30 | 17,147 |
| 23 | Heart failure | 49 | 9,250 |
| 24 | Cerebrovascular Disease | 45 | 11,733 |
| 25 | Phlebitis and Varicose veins | 22 | 4,650 |
| 26 | Vascular Diseases | 13 | 6,454 |
| 27 | Diseases of upper respiratory tract | 5 | 423 |
| 28 | Pneumonia, influenza and tuberculosis | 5 | 6,402 |
| 29 | Chronic bronchitis and respiratory failures | 14 | 17,397 |
| 30 | Asthma | 9 | 1,802 |
| 31 | Diseases of the salivary glands and oral soft tissues | 4 | 223 |
| 32 | Diseases of esophagus, stomach, and duodenum | 55 | 14,189 |
| 33 | Hernia Of Abdominal Cavity | 12 | 6,469 |
| 34 | Anal and rectal disorders | 8 | 998 |
| 35 | Gastrointestinal bleeding | 17 | 810 |
| 36 | Other diseases of digestive system | 10 | 6,180 |
| 37 | Hypotension, syncope and collapse | 10 | 3,976 |
| 38 | Diseases Of The Genitourinary System | 96 | 24,424 |
| 39 | Disorders of female genital tract | 9 | 374 |
| 40 | Diseases of skin and subcutaneous tissue | 59 | 5,344 |
| 41 | Dorsopathies, Arthropathies and related disorders | 76 | 15,657 |

| SMP Codes | Wordings | nPat GDH | nDiag RCM |
|--------------|--|--------------|----------------|
| 42 | Osteopathies, chondropathies, and acquired musculoskeletal deformities | 69 | 11,097 |
| 43 | Symptoms involving respiratory system and other chest symptoms | 58 | 13,647 |
| 44 | Symptoms involving abdomen and pelvis | 131 | 14,730 |
| 45 | Asthenia, weakness, lack of energy and strength, loss of strength | 61 | 6,286 |
| 46 | Headache | 11 | 406 |
| 47 | Subdural hemorrhage | 2 | 90 |
| 48 | Falls | 33 | 4,926 |
| Total | | 1,677 | 393,224 |

3.2 APPENDIX II : THESAURUS OF SPECIFIC MEDICAL PROBLEM (SMP) AND GDH KEYWORDS

We describe here the thesaurus of specific medical problems as cause of admission at the geriatric day hospital. For the 48 smp groups, we give the selected ICD-9 diagnosis codes which correspond to GDH keywords. The groups are sorted by order of ICD chapters.

3.2.1 Chapter 1 : Infectious And Parasitic Diseases (001-139)

Group 1 : Bacterial and viral dermatologic diseases

| Keywords |
|------------|
| ERYSIPELAS |
| ZONA |

The only code for the first keyword is 035 (Erysipelas). For herpes, we retained the three-digit rubric 053 (Herpes zoster).

3.2.2 Chapter 2 : Neoplasms (140-239)

Group 2 : Malignant neoplasm of digestive organs and peritoneum

| Keywords |
|------------------------|
| ADENOCARCINOME COLIQUE |
| AUGMENTATION CEA |
| CANCER COLON |
| COLONCA |
| COLONCARCINOMA |
| DARMCA |
| DARMKANKER |
| NEO COLIQUE |

The ICD-9 codes corresponding with the following keywords are those in the range from 153 to 159.

We kept the following rubrics:

- 152 : Malignant neoplasm of small intestine including duodenum (all codes)
- 153 : Malignant neoplasm of colon (all codes)
- 154 : Malignant neoplasm of rectum rectosigmoid junction and anus (all codes)
- 158 : Malignant neoplasm of retroperitoneum and peritoneum
- 159 : Malignant neoplasm of other and ill-defined sites within the digestive organs and peritoneum

We exclude the three-digit rubrics 150 (malignant neoplasm of esophagus), 151 (malignant neoplasm of stomach), 155 (malignant neoplasm of liver and intrahepatic bile ducts), 156 (malignant neoplasm of gallbladder and extrahepatic bile ducts) and 157

(malignant neoplasm of pancreas) because these localizations are not resumed in the list of keywords.

Thirteen patients are concerned by these pathologies with or without comorbidities.

Group 3 : Malignant neoplasm of respiratory and intrathoracic organs

| Keywords |
|-----------------------------|
| BRONCHOSCOPIE |
| BRONCHUSCA |
| BRONCHUSCARCINOOM |
| LONG-CA |
| LONGADEMOCARCINOMA |
| LONGCA(RCINOOM) |
| LONGCARCINILA |
| LONGCARCINOMA |
| LONGNEO |
| NODULES PULMONAIRES SUSPECT |

To illustrate present keywords, we select only the rubric 162 (malignant neoplasm of trachea bronchus and lung).

Group 4 : Breast cancer

| Keywords |
|--------------------|
| BORSTCA |
| BORSTKLIERPUNCTIE |
| BORSTNEO |
| MAMACARCINOOM |
| MASTECTOMIE |
| MASTECTOMIE |
| NEO DE SEIN |
| NEOPLASIE MAMMAIRE |
| SEIN |

Breast cancers are included in the group of codes 170 to 175, which are the malignant neoplasm of bone, connective tissue, skin, and breast.

By considering the following keywords, we shall keep only the codes 174 (malignant neoplasm of female breast) and 175 (malignant neoplasm of male breast).

Group 5 : Prostate cancer

| Keywords |
|------------------------|
| GEZWEL LI-LIES |
| NEO DE PROSTATE |
| NEOPLASIE PROSTAT |
| PROSTAAT CA |
| PROSTAAT GEZWEL |
| PROSTAATADENOCARCINOMA |
| PROSTAATCA |
| PROSTAATKANKER |

Prostatic cancers correspond to the group of codes 185, which are the prostatic localisation of the malignant neoplasm of genitourinary organs (179-189). The codes 602.8 (other specified disorders of prostate) and 602.9 (unspecified disorder of prostate) initially included, are unspecific and very rare, they will be excluded.

Group 6 : Malignant neoplasm and carcinoma

| Keywords |
|-------------------------|
| BASO CELLULAIRE |
| BILAN EXTENSION CANCER |
| BLAASCA |
| BOTMETA |
| BOTMETA'S |
| BOTMETASTASEN |
| CA |
| CANCER |
| CARCINOME VESICAL |
| CARCINOOM |
| CHEMOTHERAPIE SEQUELLEN |
| ENDOMETRIUMCA |
| KANKER |
| LEVERMETA'S |
| MAAGCARCINOOM |
| MENINGIOOM |
| NEO |
| NEO DE LA FACE |
| NEOPATIËNT |
| NIERTUMOR |
| ONCOLOGEN |
| ONCOLOGIQUE |
| TONGCA |
| TUMOR |
| TUMORECTOMIE |
| UITZAAIING |
| URETERCARCINOOM |

When we meet general terms of cancer diagnosis without localisation, we have to make reference to a general group containing all the possible codes, including those already meet in the previous groups. In which case, this wide-ranging group will contain all the neoplastic codes from 140 to 199. Cancers in the range 200 to 208 (malignant neoplasm of lymphatic and hematopoietic tissue) will be elsewhere classified. Benign neoplasms will not be retained. Several localised cancers, concerning every time a single patient, were classified in this group. It is the case for bladder, bone, endometrial, liver, renal, tongue and urethral cancers. Finally, we additionally retain a V code from the Supplementary Classification Of Factors Influencing Health Status And Contact With Health Services (V66.2 = convalescence and palliative care following chemotherapy).

Group 7 : Malignant neoplasm of lymphatic and hematopoietic tissue

| Keywords |
|------------------------------|
| KAHLER |
| LEUCEMIE LYMPHOIDE CHRONIQUE |
| LEUKEMIE |
| LEUKERAN |
| LLC |
| LYMFOOM |
| MALTLYMFOOM |
| MANTELCELLYMFOOM |
| MYELOYDYSPLASIE |
| MYELOFIBROSE |
| MYELOME |
| MYELOME MULTIPLE |

| |
|-------------|
| MYELOOM |
| NSLLC |
| WALDENSTRÖM |

From the ICD-9 rubric “Malignant Neoplasm Of Lymphatic And Hematopoietic Tissue” (200-208), we kept the codes 203.0x that codes the multiple myeloma, the codes 204.1x for the chronic lymphoid leukemia, the codes 205.1x for the chronic myeloid leukemia and the codes 208.1x for the chronic leukemia of unspecified cell type. As we can notice it, we excluded the acute forms of these disorders which are less likely at the old patient's, especially in its lymphoid type. Moreover, we can think that the acute forms will rather be assessed and treated during an hospitalization.

To be close to keywords like “myelodysplasia” and “myelofibrosis”, we can return in the neoplasms chapter of the ICD-9 (140-239). In the three-digit rubric 238 (neoplasm of uncertain behavior of other and unspecified sites and tissues), we found the code 238.7 (neoplasm of uncertain behavior of other lymphatic and hematopoietic tissues). This is a non-specific code that cannot be used to specify a diagnosis and which is now outdated. This code is no longer in effect and new codes appeared at the effective date of the 10/1/2006. The new hierarchy is :

- 238.71 Essential thrombocythemia
- 238.72 Low grade myelodysplastic syndrome lesions
- 238.73 High grade myelodysplastic syndrome lesions
- 238.74 Myelodysplastic syndrome with 5q deletion
- 238.75 Myelodysplastic syndrome, unspecified
- 238.76 Myelofibrosis with myeloid metaplasia
- 238.79 Other lymphatic and hematopoietic tissues

Waldenstrom's disease (macroglobulinemia) is coded with the 273.3. Although considered as a lymphoma, macroglobulinemia is classified in the ICD-9 three-digit rubric “Other Metabolic Disorders And Immunity Disorders” (270-279) and more particularly “Disorders of plasma protein metabolism” (273).

3.2.3

Chapter 3 : Endocrine, Nutritional And Metabolic Diseases, And Immunity Disorders (240-279)

Group 8 : Endocrine, nutritional and metabolic diseases

| Keywords |
|--------------------|
| GOITER |
| HYPERPARATHYROIDIE |
| HYPERTHYREOSE |
| HYPERTHYRO |
| HYPERTHYROIDIE |
| HYPOTHYRO |
| OBESITAS |
| OBESITE |
| PB THYROÏDE |
| SCHILDKLIER |
| THYROID |

In this chapter, we retained the range of ICD-9 codes “Disorders of thyroid gland” (240-246) and particularly the code 240.9 (unspecified goiter),

We also retained the rubric 241 (nontoxic nodular goiter) and the rubric 242 (thyrotoxicosis with or without goiter. For hypothyroidism, without other precision, we retained the code 244.9. In the rubric 246, we kept the codes 246.8 and 246.9. We found disorders of parathyroid gland in the rubric 252, and more specially the hyperparathyroidism with the code 252.0.

Obesity is coded in the three digit rubric 278 (overweight, obesity and other hyperalimentation), in particular with the code 278.00 which corresponds to unspecified obesity.

Group 9 : Diabetes mellitus

| Keywords |
|-------------------------|
| DIAB |
| DIABEET |
| DIABETE |
| DIABETICA |
| DIABETIQUE |
| DIABETISCH |
| TRAITEMENT PAR INSULINE |
| TROUBLE GLYCEMIQUE |

To code diabetic patients, we shall notice first of all that keywords are very ill-defined. The three-digit rubric for diabetes is 250. We find 40 different fifth-digit codes there.

The following four-digit subclassification is for use with category 250:

- 250.0x : Diabetes mellitus without mention of complication
- 250.1x : Diabetes with ketoacidosis
- 250.2x : Diabetes with hyperosmolarity
- 250.3x : Diabetes with other coma
- 250.4x : Diabetes with renal manifestations
- 250.5x : Diabetes with ophthalmic manifestations
- 250.6x : Diabetes with neurological manifestations
- 250.7x : Diabetes with peripheral circulatory disorders
- 250.8x : Diabetes with other specified manifestations
- 250.9x : Diabetes with unspecified complication

In the list above, we excluded the rubrics 250.1, 250.2 and 250.3 because these pathologies are not seen on a day clinic.

We shall also retain codes for the hypoglycemia such as 251.1 (other specified hypoglycemia) and 250.2 (hypoglycemia unspecified).

3.2.4 Chapter 4 : Diseases Of The Blood And Blood-Forming Organs (280-289)

Group 10 : Anemias

| Keywords |
|--------------------|
| ANAEMIE |
| ANEMIE |
| ANEMISCH |
| HEMOGLOBINE |
| HEMOGLOBLINE BASSE |
| IJZER TEKORT |
| IJZERTEKORT |
| LAAG HEMOGLOBINE |
| LAAG HG |

The chapter 3 contains 6 three-digit rubrics for coding anemias, namely:

- 280 : Iron deficiency anemias
- 281 : Other deficiency anemias
- 282 : Hereditary hemolytic anemias
- 283 : Acquired hemolytic anemias

- 284 : Aplastic anemia
- 285 : Other and unspecified anemias

We excluded hereditary anaemia which go out of the frame of the geriatric pathologies. Anyway, they are absent in the database.

Group 11: Diseases of blood

| Keywords |
|---------------------------|
| BLOEDVERLIES |
| HEMATOLOGISCHE AANDOENING |
| HEMORRAGIE |
| PERTES DE SANG |
| POLYCYTHEMIE |
| SUIVI HEMATO |
| THROMBOCYTOSE |
| VAQUEZ |

The ICD-9 codes 238.4 (polycythemia vera) for the Vaquez's disease and 289.0 (polycythemia secondary) should be enough to describe keywords below.

In the three-digit rubric 287 (Purpura and other hemorrhagic conditions), the codes are:

- 287.0 : Allergic purpura
- 287.1 : Qualitative platelet defects
- 287.2 : Other nonthrombocytopenic purpuras
- 287.3 : Primary thrombocytopenia
- 287.4 : Secondary thrombocytopenia
- 287.5 : Thrombocytopenia unspecified
- 287.8 : Other specified hemorrhagic conditions
- 287.9 : Unspecified hemorrhagic conditions

We also add, from the rubric 289 (other diseases of blood and blood-forming organs), the code 289.8 (other specified diseases of blood and blood-forming organs) and 289.9 (unspecified diseases of blood and blood-forming organs). In the same way, we retain, from the rubric 459 (other disorders of circulatory system), the code 459.0 (hemorrhage unspecified).

3.2.5 Chapter 5 & 6 : Mental Disorders (290-319) & Diseases Of The Nervous System And Sense Organs (320-389)

Group 12 : Senile, presenile, hereditary and degenerative diseases of the central nervous system and personality disorders

In order of importance, we are in the presence of the second smp category with 124 patients (approximately 10%) concerned by the keywords below.

| Keywords |
|-------------------|
| AGNOSIE |
| AGRESSIF |
| AGRESSIVE |
| AGRESSIVITE |
| AGRESSIVITEIT |
| ALCOHOL |
| ALZEIMER |
| ALZHEIMER |
| ALZHEIMERDEMENTIE |
| ANGOISSE |
| ANGST |
| ANOSOGNOSIE |

| Keywords |
|--|
| ANXIETE |
| ANXIO-DEPRESSION |
| ANXIO-DEPRESSION |
| APRAGMATISME |
| ARICEPT |
| BIPOLAIRE |
| COGN TESTEN |
| COGNITIEVE EVALUATIE |
| COGNITIF |
| COMPORTEMENT |
| CONFUSION |
| CORPS DE LEWY |
| DEFICIENTE MENTALE |
| DEGENERESSENCE CORTEX |
| DELIER |
| DELIRE |
| DELIRE DE PERSECUTION |
| DELIRIUM |
| DEMENCE |
| DEMENCE VASCULAIRE |
| DEMENTERENDE |
| DEMENTIE |
| DEMENTIEEL SYNDROOM |
| DEMETIESCREENING |
| DEPRESSIE |
| DESORIENTATION |
| DESORIENTATION SPACIO TEMPORELLE |
| DISATHRIE PROGRESSIVE |
| DTA |
| ETHYLABUSES |
| ETHYLISME |
| GEDRAGSPROBLEMEN |
| GEHEUGEN PROBLEMATIEK |
| GEHEUGENKLINIEK |
| GEHEUGENPROBLEMEN |
| GEHEUGENVERLIES |
| HALLUCINATIONS |
| HALLUCINATIONS AUDITIVES |
| HYDROCEPHALIE |
| HYPOMANIAQUE |
| LEWY BODY |
| LITHIUM |
| MANIAC |
| MEMOIRE |
| MNESI |
| NEUROPSYCHOLOGISCHE TESTEN |
| NEVROSE DE PERSECUTION |
| OPVOLGEN COGNITIE |
| OUBLIE? EGARE? CONFOND |
| PARANOIA |
| PROBL DE DOSAGE DE LA POSOLOGIE DU MDCMT EXELON |
| PROBLEME DE DEPRESSION |

| Keywords |
|-----------------------------|
| PROBLEME RELATIONNEL |
| PSYCHOLOGUE |
| RALENTISSEMENT |
| RELATIEPROBLEMEN |
| REMYNIL |
| REVALIDATION NEUROPSY |
| ROUWVERWERKING |
| S. DEPRESSIF |
| SDAT |
| SOMMEIL |
| SUIVI PAR PSYCHIATRE |
| SYNDROME ANXIO DEPRESSIF |
| SYNDROME DEMENTIEL |
| SYNDROME DEPRESSIF |
| SYNDROME DEPRESSIF SEVERE |
| TROUBLE DE MEMOIRE |
| TROUBLE DEPRESSIF |
| TROUBLE PRAXIQUE |
| VERGEETACHTIG |
| VERGEETACHTIGHEID? VERGETEN |
| VERWARD |
| VERWARDHEID |
| WOORDVINDINGSPROBLEMEN |

We wanted to include here all the pathological states which forms the main part of the mental disorders. They are moreover all include in the MDC 19. Naturally it is about a heterogeneous group but we can suppose that their therapeutic and diagnostic approach are relatively similar.

For describe all these keywords, we selected 108 ICD-9 codes. In the chapter on mental disorders (290-319), we retain the following codes in agreement with keywords:

- 290 (dementias) :
 - 290.0 : Senile dementia uncomplicated
 - 290.1 : Presenile dementia
 - 290.2 : Senile dementia with delusional or depressive features
 - 290.3 : Senile dementia with delirium
 - 290.4 : Vascular dementia
 - 290.8 : Other specified senile psychotic conditions
 - 290.9 : Unspecified senile psychotic condition
- 293 (transient mental disorders) :
 - 293.0 : Acute delirium
 - 293.1 : Subacute delirium
 - 293.82 : Psychotic disorder with hallucinations
 - 293.84 : Anxiety disorder
- 296 (episodic mood disorders) :
 - 296.0 : Bipolar disorder, single manic episode
 - 296.1 : Manic disorder recurrent episode
 - 296.2 : Major depressive disorder single episode
 - 296.3 : Major depressive disorder recurrent episode
 - 296.4 : Bipolar disorder, most recent episode manic
 - 296.5 : Bipolar disorder, most recent episode depressed
 - 296.6 : Bipolar disorder, most recent episode mixed

- 296.7 : Bipolar disorder, most recent episode unspecified
- 296.8 : Other and unspecified bipolar disorders
- 296.9 : Other and unspecified episodic mood disorder
- 297 (delusional disorders) :
 - 297.0 : Paranoid state simple
 - 297.1 : Delusional disorder
 - 297.2 : Paraphrenia
 - 297.3 : Shared psychotic disorder
 - 297.8 : Other specified paranoid states
 - 297.9 : Unspecified paranoid state

In the rubric 300 (anxiety, dissociative and somatoform disorders), we only select the codes 300.0x (anxiety states). ICD-9 allows to distinguish between the paranoid personality disorder (301.0) and the paranoid state (297.0), than we kept both codes.

With Alzheimer's disease (AD), we leave the MDC 19 (mental disorders) to go through the nervous system (MDC 1). ICD-9 classifies also Alzheimer's disease into the fifth chapter : Diseases Of The Nervous System And Sense Organs (320-389) and most particularly in the range 330 to 337 (hereditary and degenerative diseases of the central nervous system). The three digit rubric is the 331 in which are classified cerebral degenerations at adult age. The specific code for Alzheimer's disease, 331.0, refers to presenile dementia including dementia in AD. Dementia in AD can be also coded under 290.0, 290.2, or 290.3. However, the term Alzheimer's Disease is never used as such.

The 331.1 ICD-9 code, that correspond to Pick's disease, do not correspond to an entry in the keywords table. However, we can consider that it can correspond to generic keywords as "dementia". The same question arises for the code 331.2 (senile degeneration of brain) which can be considered as a SDAT. We also selected the codes 331.3 (communicating hydrocephalus) and 331.4 (obstructive hydrocephalus) to answer keywords. It concerns secondary normal pressure hydrocephalus, for the first, and acquired hydrocephalus NOS, for the other one. Naturally, it excluded congenital hydrocephalus and spina bifida. ICD-9 define the code 331.7 as "cerebral degeneration in diseases classified elsewhere". We talk here not about a precise pathologie but about a consequence of another disease. In particular, alcoholism, cerebrovascular disease and neoplastic disease.

If Lewy body dementia (331.82) is absent as result in diagnose file, the code 331.89 has 209 results. But this code rather correspond at cerebral ataxia. At last, 331.9 (cerebral degeneration unspecified) is a not specific, but very frequent code in the coded diagnosis (search result = 2460 cases). We can think its fuzzy character match indeed with insufficiently informed cases.

It is also necessary to collect signs and complaints related to neurotic and personality disorders, essentially memory and behavioral disorders. We first used, in the three digit rubric 294 (persistent mental disorders due to conditions classified elsewhere), the code 294.0 (amnesic disorder in conditions classified elsewhere) and the code 294.1 (dementia in conditions classified elsewhere) with its components 294.10 and 294.11 : "dementia in conditions classified elsewhere without or with behavioral disturbance". We selected moreover the last codes of this rubric, 294.8 (other persistent mental disorders due to conditions classified elsewhere) and 294.9 (unspecified persistent mental disorders due to conditions classified elsewhere). This last code is also known as cognitive disorder NOS or

organic psychosis (chronic). We retained the four digit heading 305.0 (nondependent alcohol abuse), 307.4 (specific disorders of sleep of nonorganic origin) and 310.1 (personality change due to conditions classified elsewhere) also know as

- a. Cognitive or personality change of other type, of nonpsychotic severity
- b. Organic psychosyndrome of nonpsychotic severity
- c. Presbyophrenia NOS

d. Senility with mental changes of nonpsychotic severity

Because memory disorders can be also a consequence of cerebrovascular diseases, we added the code 437.7 (transient global amnesia) which results from the rubric 437 (other and ill-defined cerebrovascular disease). For evaluation and psychiatric assessment, we can use a V code as V70.1 which allows to code a general psychiatric examination. Unfortunately, V codes are insufficiently used.

In summary, we have to remind, from the point of view of patient care, there is very few difference between the pathologies of this group, whether it is at the level of the assessment, of the treatment or even of the workload

Group 13: Parkinson's disease

| Keywords |
|-------------|
| PARKINSON |
| TREMBLEMENT |

The codes 332.0 (paralysis agitans) and 332.1 (secondary parkinsonism) are enough for describing this pathology. As for non pathognomic tremor, we selected the code 333.1 (essential and other specified forms of tremor) also known as:

Benign essential tremor

Familial tremor

Medication-induced postural tremor

In the ICD chapter about Symptoms, Signs, And Ill-Defined Conditions (780-799), the three digit rubric 781 (symptoms involving nervous and musculoskeletal systems) contains the 781.0 code (abnormal involuntary movements) which also also known as:

- Abnormal head movements
- Fasciculation
- Spasms NOS
- Tremor NOS

ICD-9 defined these abnormal involuntary movements as “Cyclical movement of a body part that can represent either a physiologic process or a manifestation of disease. Intention or action tremor, a common manifestation of CEREBELLAR DISEASES, is aggravated by movement. ... They may represent a benign condition or occur as a manifestation of MOTOR NEURON DISEASE or PERIPHERAL NERVOUS SYSTEM DISEASES. (Adams et al., Principles of Neurology, 6th ed, p1294)”. Regarding an unspecified keyword like “tremor”, it seems to be appropriate to also retain this code.

Group 14 : Epilepsy

| Keywords |
|----------------------|
| EPILEPSIE |
| MOUVEMENTS CLONIQUES |

Epilepsy is coded through the rubric 345, we found the following codes :

1. 345.0 : Generalized nonconvulsive epilepsy
2. 345.1 : Generalized convulsive epilepsy
3. 345.2 : Petit mal status epileptic
4. 345.3 : Grand mal status epileptic
5. 345.4 : Partial epilepsy with impairment of consciousness
6. 345.5 : Partial epilepsy without mention of impairment of consciousness
7. 345.7 : Epilepsia partialis continua
8. 345.8 : Other forms of epilepsy
9. 345.9 : Epilepsy unspecified

Group 15 : Disorders Of The Peripheral Nervous System

| Keywords |
|--------------------|
| POLYNEUROPATHIE |
| RADICULONEVRITE |
| TROUBLES SENSITIFS |

In the ICD-9 range from 350 to 359 (disorders of the peripheral nervous system), we kept, in the rubric 353 (nerve root and plexus disorders), the following codes:

1. 353.2 : Cervical root lesions not elsewhere classified
2. 353.3 : Thoracic root lesions not elsewhere classified
3. 353.4 : Lumbosacral root lesions not elsewhere classified

And in the rubric 355 (mononeuritis of lower limb and unspecified site), the codes :

1. 355.79 : Other mononeuritis of lower limb
2. 355.8 : Mononeuritis of lower limb unspecified
3. 355.9 : Mononeuritis of unspecified site

Finally, in the rubric 357 (inflammatory and toxic neuropathy), the codes :

1. 357.2 : Polyneuropathy in diabetes
2. 357.4 : Polyneuropathy in other diseases classified elsewhere
3. 357.8 : Other inflammatory and toxic neuropathy

Group 16 : Glaucoma

| Keywords |
|----------|
| GLAUCOME |
| GLAUCOOM |

The range of ICD-9 codes 360 to 379 contains disorders of the eye and adnexa. Glaucoma is coded with the codes of the rubric 365.

Group 17 : Cataract

| Keywords |
|-----------|
| CATARACT |
| CATARACTE |
| OOGARTS |
| SUIVI OPH |

For cataract we retained the codes of the rubric 366.

Group 18 : Diseases Of The Ear

| Keywords |
|-------------------------|
| ACCOUPHENES |
| BPPV |
| DUIZELIGHEID |
| EQUILIBRE |
| EVENWICHTS |
| HYPOACOUSIE |
| SYNDROME VESTIBULAIRE |
| TROUBLES DE L'EQUILIBRE |
| VERTIGE |
| VERTIGO |

The range of ICD-9 codes 380 to 389 contains the diseases of the ear and mastoid process. Keywords make essentially reference in problem of balance. Meniere's disease is coded with the codes of the three digit rubric 386 (vertiginous syndromes and other disorders of vestibular system), and most particularly the four digit rubric 386.0. In this codes we choose the 386.03 (active meniere's disease vestibular) because it makes reference to the vestibular problem. In the same way, in the four digit rubric 386.1 (other and unspecified peripheral vertigo), we kept all the codes :

- a. 386.10 : Peripheral vertigo unspecified
- b. 386.11 : Benign paroxysmal positional vertigo (BPPV)
- c. 386.12 : Vestibular neuronitis
- d. 386.19 : Other peripheral vertigo
- e. 386.2 (vertigo of central origin) also known as:
 - Central positional nystagmus
 - Malignant positional vertigo

Finally, the unspecified code 386.9 (unspecified vertiginous syndromes and labyrinthine disorders). We excluded specific codes for the labyrinth disorders (386.3, 386.4, 386.5 and 386.8) because keywords do not really make it reference. Moreover, they are very rarely used. However, we kept unspecific code 386.9, which make reference to both disorders.

To code other abnormal auditory perception, we choose the 388.40 (abnormal auditory perception unspecified) but it is not often used.

We also took the symptom code 780.4 (dizziness and giddiness) also known as light-headedness and vertigo NOS, and the V code V412 (problems with hearing).

Towards the diagnose file, we can think that, although less specific, it is the code 386.00 (Meniere's disease unspecified) which serves essentially for coding this disease, some its forms (n = 338). In the rubric 388 (other disorders of ear), the most used code is the 388.01 (presbycusis). This term is defined as hearing loss of older people and, as such, should be included (n = 649).

3.2.6 Chapter 7 : Diseases Of The Circulatory System (390-459)

Group 19 : Diseases of mitral and aortic valves

Keywords

MITRALIS STENOSE

This group corresponds to an unique GDH patient for whom the keyword is "MITRALIS STENOSE".

Diseases of mitral valve is classified in the range of ICD-9 codes 393 to 398 (chronic rheumatic heart disease). The concerned rubric is 396 (Diseases of mitral and aortic valves) and the appropriate codes are :

- a. 396.0 : Mitral valve stenosis and aortic valve stenosis
- b. 396.1 : Mitral valve stenosis and aortic valve insufficiency
- c. 396.2 : Mitral valve insufficiency and aortic valve stenosis
- d. 396.3 : Mitral valve insufficiency and aortic valve insufficiency
- e. 396.8 : Multiple involvement of mitral and aortic valves
- f. 396.9 : Mitral and aortic valve diseases unspecified

Group 20 : Hypertensive Diseases

Keywords

ART.HYPERTENSIE

HOLTER

HTA

HYPERTENSIE

HYPERTENSION

MISE AU POINT TA

The keywords coming from the GDH patients indicate hypertension without any precision on the origin. From then on, we keep all the ICD codes included in the group 401 to 405 (Hypertensive disease). This group consists of following headings :

- 401 : Essential hypertension
- 402 : Hypertensive heart disease
- 404 : Hypertensive heart and kidney disease
- 405 : Secondary hypertension

For the rubric 403 (Hypertensive kidney disease), we chose to place it in the smp group 40 "Nephritis, Nephrotic Syndrome, And Nephrosis". We keep here only the essential and secondary hypertensions.

By analyzing the results of the appendix II, we notice that it is especially the rubrics 401 and 402 which are especially represented in the diagnose file.

Group 21 : Ischemic heart disease

| Keywords |
|-------------------------|
| ACUUT MYOCARDINFARCT |
| CARDIALE ISCHEMIE |
| CARDIOPATHIE ISCHEMIQUE |
| ISCHEMIQUE |
| STENT |
| THORACALE PIJN |

These pathologies are resumed in the range of ICD-9 codes 410 to 414 (Ischemic heart disease).

- 410 : Acute myocardial infarction
- 411 : Other acute and subacute forms of ischemic heart disease
- 412 : Old myocardial infarction
- 413 : Angina pectoris
- 414 : Other forms of chronic ischemic heart disease

All the codes of the rubrics 411 and 412 are kept. The rubric 410 is excluded because acute pathologies cannot be handle in GDH. In rubric 413, only the code 413.9 (Other and unspecified angina pectoris) is coded in the ICD-9 diagnose file. In rubric 414, we retain the following codes :

- 414.0 : Coronary atherosclerosis
- 414.10 : Aneurysm of heart (wall)
- 414.11 : Aneurysm of coronary vessels
- 414.19 : Other aneurysm of heart
- 414.8 : Other specified forms of chronic ischemic heart disease
- 414.9 : Chronic ischemic heart disease unspecified

For their very acute character, we excluded :

- 414.12 : Dissection of coronary artery
- 414.2 : Chronic total occlusion of coronary artery
- In rubric 429 (ill-defined descriptions and complications of heart disease), we also selected the code 429.79 (certain sequelae of myocardial infarction not elsewhere classified) also known as Mural thrombus (atrial) (ventricular) acquired, following myocardial infarction. In the rubrics of symptoms (780-789), we retained the following codes :
- 786.50 : Unspecified chest pain
- 786.51 : Precordial pain

- 786.59 : Other chest pain

Group 22 : Cardiac dysrhythmias

| Keywords |
|-----------------------------|
| AV-BLOCK GRAAD 2 |
| BRADYCARDIE |
| EXTRA-SYSTOLE |
| FA |
| FIBRILATION AURICULAIRE |
| FIBRILLATION AURICULAIRE |
| HARTRITMESTOORNIS |
| HARTRITMESTOORNISSEN |
| ONREGELMATIGE POLS |
| TACHYCARDE |
| TROUBLE DU RYTHME CARDIAQUE |
| VKF |
| VOORKAMERFIBRILLATIE |
| VOORKAMERFLUTTER |

All the keywords make reference to cardiac dysrhythmias which correspond to the ICD-9 three digit rubric 427. Nevertheless, we find a keyword which makes very exactly reference in a conduction disorders which are coded in the rubric 426. To meet this keyword, we include the code 426.12 (mobitz (type) ii atrioventricular block). For cardiac dysrhythmias, we select the following codes :

- 427.31 : Atrial fibrillation
- 427.89 : Other specified cardiac dysrhythmias
- 427.9 : Cardiac dysrhythmia unspecified

Group 23 : Heart failure

| Keywords |
|--------------------------|
| BILAN CARDIAQUE |
| CARDIAAL BILAN |
| CARDIAAL PROBLEEM |
| CARDIALE PROBLEMATIEK |
| CARDIOLOGISCH NAZICHT |
| CARDIOMYOPATHIE |
| CORDECOMPENSATIE |
| CORFALEN |
| DECOMPENSATION CARDIAQUE |
| EVALUATION CARDIO |
| HART |
| HARTDECOMPENSATIE |
| HARTFALEN |
| HARTLIJDEN |
| HARTPROB |
| INSUF CARDIAQUE |
| LONGOEDEEM |
| NAZICHT CARDIO |
| NAZICHT HART |
| ORTHOPNOE |
| PROBLEME CARDIAQUE |
| REVALUATION CARDIAQUE |

Heart failure correspond to the ICD-9 three digit 428. We kept the following codes :

1. 428.0 : Congestive heart failure unspecified

2. 428.1 : Left heart failure
3. 428.2 : Systolic heart failure
4. 428.3 : Diastolic heart failure
5. 428.4 : Combined systolic and diastolic heart failure
6. 428.9 : Heart failure unspecified

Group 24 : Cerebrovascular Disease

| Keywords |
|--|
| AANGEZICHTSVERLAMMING |
| AFFAIBLISSEMENT MUSCULAIRE CÔTE GAUCHE |
| AIT |
| APHASIE |
| AVC |
| CVA |
| DEFICIENCE DU COTE |
| DIFFICULTES DE LANGAGE |
| ENCEPHALOPATHIE |
| FAIBLESSE 1/2 CORPS DRT |
| HEMIPLEGIE |
| HERSENINFARCT |
| PARALYSIE FACIALE |
| PAROLE |
| PHASIQUE |
| STENOSE CAROTIDIENNE |
| THROMBOSE |
| TIA |
| TROMBOSE |

First, to answer keywords such as those who make reference in hemiplegia, we return in the nervous system, chiefly the rubric 342 (hemiplegia and hemiparesis)

ICD-9 Coder's choice book gives this note : *"This category is to be used when hemiplegia (complete) (incomplete) is reported without further specification, or is stated to be old or long-standing but of unspecified cause. The category is also for use in multiple coding to identify these types of hemiplegia resulting from any cause"*.

We select the following codes :

1. 342.0x : Flaccid hemiplegia
2. 342.1x : Spastic hemiplegia
3. 342.8x : Other specified hemiplegia
4. 342.9x : Hemiplegia unspecified

For the keyword "encephalopathy", we retains the code 348.3 (encephalopathy, not elsewhere classified) which is classified in the rubric 348 (other conditions of brain)^a.

For occlusions and stenosis, we selected, in the three digit rubric 433 (occlusion and stenosis of precerebral arteries), the following codes :

1. 433.0x : Occlusion and stenosis of basilar artery
2. 433.1x : Occlusion and stenosis of carotid artery

^a Signs of encephalopathy is an altered mental state. Depending on the type and severity of encephalopathy, common neurological symptoms are loss of cognitive ability, personality changes, inability to concentrate, lethargy, and depressed consciousness. There is a lot of causes for encephalopathy and, naturally, not only of disorders of the circulatory system. We could intend to place this keyword as well as the codes which correspond in the another group, maybe the group 14 (neurotic disorders, personality disorders).

3. 433.2x : Occlusion and stenosis of vertebral artery
4. 433.3x : Occlusion and stenosis of multiple and bilateral precerebral arteries
5. 433.8x : Occlusion and stenosis of other specified precerebral artery
6. 433.9x : Occlusion and stenosis of unspecified precerebral artery

We also retain the rubric 434 (Occlusion of cerebral arteries) with the following codes:

- 434.0x : Cerebral thrombosis
 - 434.1x : Cerebral embolism
 - 434.9x : Cerebral artery occlusion unspecified
- a. For keyword TIA (Transient ischemic attack), ICD-9 gives the code 435.9 (unspecified transient cerebral ischemia).
 - b. For unspecific cerebrovascular diseases, we selected the code 436 (Acute but ill-defined cerebrovascular disease)
 - c. After all, we kept in the three digit rubric 438 (late effects of cerebrovascular disease), the codes below:
 - 438.0 : Cognitive deficits
 - 438.10 : Speech and language deficit unspecified
 - 438.11 : Aphasia
 - 438.12 : Dysphasia
 - 438.19 : Other speech and language deficits
 - 438.20 : Hemiplegia affecting unspecified side
 - 438.21 : Hemiplegia affecting dominant side
 - 438.22 : Hemiplegia affecting nondominant side

Group 25 : Phlebitis and Varicose veins

| Keyword |
|----------------------------|
| DIEPE VENEUZE TROMBOSE |
| OEDEEM ONDERSTE LEDEMATEN |
| OEDEMEN |
| OEDEMEN ONDERSTE LEDEMATEN |
| OEDEMES DES MBRES INF |
| OMI |
| PIJN IN LEDEMATEN |
| PIJN ONDERSTE LEDEMATEN |
| VARICES |

In the three digit rubric 451 (Phlebitis and thrombophlebitis), we only selected ICD-9 codes corresponding to superficial vessels and deep veins of lower extremities as sites. They are the codes 451.0, 451.1x and 451.2. We kept moreover the whole rubric 454 (Varicose veins of lower extremities)

If we consider unspecific keywords like “*pain in lower limbs*”, we must found in the thirteenth chapter of ICD-9, Diseases Of The Musculoskeletal System And Connective Tissue (710-739), and most particularly in the rubric 729 (other disorders of soft tissues), the code 729.5 (Pain in limb).

For the keyword “*oedema*”, we are in front of an unspecific sign or symptom. This fact correspond, in the rubric 782 (symptoms involving skin and other integumentary tissue), with the code 782.3 (Edema).

Group 26 : Vascular Diseases

| Keyword |
|---------------------------|
| AMPUTATIE |
| AMPUTATION |
| ANEVRISME DE L'AORTE ABBO |
| ARTERITE DE HORTON |
| ARTERITIS |
| CLAUDICATIO |
| DOORBLOEDINGSPROBLEMEN |
| PROBLEME ARTERIEL |
| VOOSHEID VINGERS |

The codes retained are, in the rubric 440 (Atherosclerosis), the 440.21 (Atherosclerosis of native arteries of the extremities with intermittent claudication). The code 440.9 (Generalized and unspecified atherosclerosis) is associated with the keywords : Arteriosclerosis, arteriosclerotic (artery) (deformans) (diffuse) (disease) (endarteritis) (general) (obliterans) (obliterative) (occlusive) (senile) (with calcification). In rubric 443 (Other peripheral vascular disease), the code 443.81 (Peripheral angiopathy in diseases classified elsewhere). In the rubric 446 (Polyarteritis nodosa and allied conditions), the code 446.5 (Giant cell arteritis, also known as Horton's disease). Finally, in the rubric 447 (Other disorders of arteries and arterioles), the code 447.6 (Arteritis unspecified).

To describe "gangrene", we used the code 785.4 (Gangrene). ICD-9 states that this code must be combined with 440.21 to eliminate other types of diseases. This combination of codes is moreover equivalent to the single code 440.24 (atherosclerosis of native arteries of the extremities with gangrene).

A single GDH patient is concerned by abdominal aneurysm, we retained only one code : 441.4 (Abdominal aneurysm without rupture). The code 441.3 (Abdominal aneurysm ruptured) was rejected because it is a true medical emergency.

3.2.7 Chapter 8 : Diseases Of The Respiratory System (460-519)

Group 27 : Diseases of upper respiratory tract

| Keyword |
|------------|
| SINUSPROB |
| GORGE |
| KEEL |
| NKO |
| ORL |
| STEMBANDEN |

In the eighth ICD-9 chapter, "Diseases Of The Respiratory System" (460-519), we selected, in the range 470 to 478 (other diseases of upper respiratory tract), and most particularly from the rubric 478, the following codes :

- a. 478.0 : Hypertrophy of nasal turbinates
- b. 478.1 : Other diseases of nasal cavity and sinuses
- c. 478.2x : Other diseases of pharynx not elsewhere classified
- d. 478.3x : Paralysis of vocal cords or larynx
- e. 478.4 : Polyp of vocal cord or larynx
- f. 478.5 : Other diseases of vocal cords
- g. 478.6 : Edema of larynx
- h. 478.7 : Other diseases of larynx not elsewhere classified
- i. 478.8 : Upper respiratory tract hypersensitivity reaction site unspecified
- j. 478.9 : Other and unspecified diseases of upper respiratory tract

Group 28 : Pneumonia, influenza and tuberculosis

| Keyword |
|----------------|
| LONGINFILTRAAT |
| PNEUMONIE |
| TBC |
| TUBERCULOSE |

For tuberculosis, without other precision, we choose the code 011.9x (unspecified pulmonary tuberculosis), because it is easily the most frequent form.

For pneumonia, we selected :

- 480 : Viral pneumonia
- 481 : Pneumococcal pneumonia [streptococcus pneumoniae pneumonia]
- 482 : Other bacterial pneumonia
- 483 : Pneumonia due to other specified organism
- 484 : Pneumonia in infectious diseases classified elsewhere
- 485 : Bronchopneumonia organism unspecified
- 486 : Pneumonia organism unspecified
- 487 : Influenza

The heading 488 (Influenza due to identified avian influenza virus) has no entry and is neglected.

Group 29 : Chronic bronchitis and respiratory failures

| Keyword |
|------------|
| BPCO |
| BRONCHITIS |
| COPD |

In this group, we want to collect the chronic bronchitis and the respiratory failures.

For bronchitis, in the rubric 491 (Chronic bronchitis), we selected :

- 491.0 : Simple chronic bronchitis
- 491.1 : Mucopurulent chronic bronchitis
- 491.2 : Obstructive chronic bronchitis
- 491.8 : Other chronic bronchitis
- 491.9 : Unspecified chronic bronchitis

For respiratory failures, in the rubric 518 (Other diseases of lung), we selected :

- 518.81 : Acute respiratory failure
- 518.82 : Other pulmonary insufficiency not elsewhere classified
- 518.83 : Chronic respiratory failure
- 518.84 : Acute and chronic respiratory failure

Group 30 : Asthma

| Keywords |
|------------|
| ASTHME |
| KORTADEMIG |

To describe asthma, without precision at the level of keywords, we retained all the codes contained in the rubric 493, that is :

- 493.0x : Extrinsic asthma
- 493.1x : Intrinsic asthma
- 493.2x : Chronic obstructive asthma
- 493.8x : Other specified asthma

- 493.9x : Asthma unspecified

3.2.8 Chapter 9 : Diseases Of The Digestive System (520-579)

Group 31 : Diseases of the salivary glands and oral soft tissues

| Keywords |
|------------------|
| AFTEN |
| DOULEUR DE GORGE |
| KAAKHOEK |
| MONDAANDOENING |
| PAROTIS |

We have searched in the ICD-9 range 520 to 529 (diseases of oral cavity, salivary glands, and jaws) unspecific codes which can meet these fuzzy keywords.

In the rubric 527 (Diseases of the salivary glands)

- 527.8 : Other specified diseases of the salivary glands
- 527.9 : Unspecified disease of the salivary glands

In the rubric 528 (Diseases of the salivary glands) Diseases of the oral soft tissues excluding lesions specific for gingiva and tongue)

- 528.0 : Stomatitis
- 528.2 : Oral aphthae
- 528.7 : Other disturbances of oral epithelium including tongue
- 528.8 : Oral submucosal fibrosis including of tongue
- 528.9 : Other and unspecified diseases of the oral soft tissues

In the rubric 784 (Symptoms involving head and neck), we retained the code 784.1 (throat pain).

Group 32 : Diseases of esophagus, stomach, and duodenum

| Keywords |
|-----------------------|
| BRAKEN |
| BUIKKLACHTEN |
| BUIKLAST |
| BUIKPIJN |
| DIFFICULTE A DIGERE |
| DOULEURS EPIGASTRIQUE |
| DYSPEPSIE |
| EPIGASTRIQUE |
| EPIGASTRISCHE PIJN |
| GASTALGIES |
| GASTROSTOMIE |
| HYPOGASTRISCHE PIJN |
| MAAG |
| MAAGAST |
| MAAGPROBLEEM |
| MAAGRESECTIE |
| MAAGULCUS |
| MAGPIJN |
| NAUSSE |
| OESOHAGITIS |
| OESOPHAGE |
| VOMISSEMENT |

The range concerning with the diseases of esophagus, stomach, and duodenum is from 530 to 538. Before approaching the codes of this group, we retained the code allowing to characterize varicose veins, 456.0 (esophageal varices with bleeding). To describe esophageal varices, this is not sufficient. We enlarged the range of codes at 456.1 (esophageal varices without bleeding – n=127) and 456.2 (Esophageal varices in diseases classified elsewhere – n=332).

In the rubric 530 (Diseases of esophagus), we kept :

1. 530.1x : Esophagitis
2. 530.2 : Ulcer of esophagus

In the rubric 531 (Gastric ulcer) :

- 531.0x : Acute gastric ulcer with hemorrhage
- 531.1x : Acute gastric ulcer with perforation
- 531.2x : Acute gastric ulcer with hemorrhage and perforation
- 531.3x : Acute gastric ulcer without mention of hemorrhage or perforation
- 531.4x : Chronic or unspecified gastric ulcer with hemorrhage
- 531.5x : Chronic or unspecified gastric ulcer with perforation
- 531.6x : Chronic or unspecified gastric ulcer with hemorrhage and perforation
- 531.7x : Chronic gastric ulcer without mention of hemorrhage or perforation
- 531.9x : Gastric ulcer unspecified as acute or chronic without mention of hemorrhage or perforation

In the rubric 532 (Duodenal ulcer)

- 532.0x : Acute duodenal ulcer with hemorrhage
- 532.1x : Acute duodenal ulcer with perforation
- 532.2x : Acute duodenal ulcer with hemorrhage and perforation
- 532.3x : Acute duodenal ulcer without mention of hemorrhage or perforation
- 532.4x : Chronic or unspecified duodenal ulcer with hemorrhage
- 532.5x : Chronic or unspecified duodenal ulcer with perforation
- 532.6x : Chronic or unspecified duodenal ulcer with hemorrhage and perforation
- 532.7x : Chronic duodenal ulcer without mention of hemorrhage or perforation
- 532.9x : Duodenal ulcer unspecified as acute or chronic without mention of hemorrhage or perforation

In the rubric 533 (Peptic ulcer site unspecified)

- 533.0x : Acute peptic ulcer of unspecified site with hemorrhage
- 533.1x : Acute peptic ulcer of unspecified site with perforation
- 533.2x : Acute peptic ulcer of unspecified site with hemorrhage and perforation
- 533.3x : Acute peptic ulcer of unspecified site without mention of hemorrhage and perforation
- 533.4x : Chronic or unspecified peptic ulcer of unspecified site with hemorrhage
- 533.5x : Chronic or unspecified peptic ulcer of unspecified site with perforation

- 533.6x : Chronic or unspecified peptic ulcer of unspecified site with hemorrhage and perforation
- 533.7x : Chronic peptic ulcer of unspecified site without mention of hemorrhage or perforation
- 533.9x : Peptic ulcer of unspecified site unspecified as acute or chronic without mention of hemorrhage or perforation

In the rubric 534 (Gastrojejunal ulcer)

- 534.0x : Acute gastrojejunal ulcer with hemorrhage
- 534.1x : Acute gastrojejunal ulcer with perforation
- 534.2x : Acute gastrojejunal ulcer with hemorrhage and perforation
- 534.3x : Acute gastrojejunal ulcer without mention of hemorrhage or perforation
- 534.4x : Chronic or unspecified gastrojejunal ulcer with hemorrhage
- 534.5x : Chronic or unspecified gastrojejunal ulcer with perforation
- 534.6x : Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation
- 534.7x : Chronic gastrojejunal ulcer without mention of hemorrhage or perforation
- 534.9x : Gastrojejunal ulcer unspecified as acute or chronic without mention of hemorrhage or perforation

In the rubric 535 (Gastritis and duodenitis)

- 534.0x : Acute gastritis
- 534.1x : Atrophic gastritis
- 534.2x : Gastric mucosal hypertrophy
- 534.3x : Alcoholic gastritis
- 534.4x : Other specified gastritis
- 534.5x : Unspecified gastritis and gastroduodenitis
- 534.6x : Duodenitis

In the rubric 536 (Disorders of function of stomach)

- 536.2 : Persistent vomiting
- 536.8 : Dyspepsia and other specified disorders of function of stomach
- 536.9 : Unspecified functional disorder of stomach

In the rubric 537 (Other disorders of stomach and duodenum)

- 537.89 : Other specified disorders of stomach and duodenum
- 537.9 : Unspecified disorder of stomach and duodenum

In the range 555 to 558 (noninfective enteritis and colitis), from the rubric 555 (regional enteritis), we kept the code 555.9 (regional enteritis of unspecified site). From the rubric 558 (other and unspecified noninfectious gastroenteritis and colitis), we selected the code 558.9.

In the rubric 786 (Symptoms involving respiratory system and other chest symptoms), we retained the code 786.8 (Hiccough).

For the keyword gastrostomy, it makes reference to a procedure rather than in a diagnosis. This procedure evokes rather the attention than the surgical operation itself. We found an ICD-9 V code in the group V55 (attention to artificial openings) that codes for attention to gastrostomy (V55.1). Unfortunately, it is rarely coded (n=123).

Group 33 : Hernia Of Abdominal Cavity

| Keywords |
|------------|
| BREUKEN |
| HERNIA |
| LIES |
| LIESBREUK |
| NAVELBREUK |

The rubrics concerned by hernia are :

- 550 : Inguinal hernia
- 551 : Other hernia of abdominal cavity with gangrene
- 552 : Other hernia of abdominal cavity with obstruction but without mention of gangrene
- 553 : Other hernia of abdominal cavity without mention of obstruction or gangrene

Group 34 : Anal and rectal disorders

| Keywords |
|--------------------|
| ANAAL BLOEDVERLIES |
| ANUSDILATIE |
| FISTULE |
| RECTITE RADIQUE |

In the rubric 565 (Anal fissure and fistula), we selected following codes:

- 555.0 : Anal fissure
- 555.1 : Anal fistula

In the rubric 569 (Other disorders of intestine), we selected following codes:

- 569.0 : Anal and rectal polyp
- 569.2 : Stenosis of rectum and anus
- 569.3 : Hemorrhage of rectum and anus
- 569.41 : Ulcer of anus and rectum
- 569.42 : Anal or rectal pain
- 569.49 : Other specified disorders of rectum and anus

Group 35 : Gastrointestinal bleeding

| Keywords |
|--------------------------------|
| BLOED IN STOELGANG |
| BLOEDARMOEDE |
| BLOEDING DARMEN |
| GASTROINTESTINAAL BLOEDVERLIES |
| HEMATEMESE : CONTROLE GASTRO |
| MELENA |

In the rubric 578 (Gastrointestinal hemorrhage), we selected following codes:

- 578.0 : Hematemesis
- 578.1 : Blood in stool
- 578.9 : Hemorrhage of gastrointestinal tract unspecified

Group 36 : Other diseases of digestive system

| Keywords |
|---------------------|
| CHOLANGITIS |
| CHOLEDOCHOLITHIASIS |
| FOIE |

| |
|-----------------------|
| GALSTENEN |
| HEPATIQUE |
| LEVERPROBLEMEN |
| LITHIASSE VESICULAIRE |

In the rubric 573 (Other disorders of liver), we selected:

- 573.9: Unspecified disorder of liver

In the rubric 574 (Cholelithiasis), we selected following codes:

- 574.0x : Calculus of gallbladder with acute cholecystitis
- 574.1x : Calculus of gallbladder with other cholecystitis
- 574.2x : Calculus of gallbladder without mention of cholecystitis
- 574.3x : Calculus of bile duct with acute cholecystitis
- 574.4x : Calculus of bile duct with other cholecystitis
- 574.5x : Calculus of bile duct without mention of cholecystitis
- 574.6x : Calculus of gallbladder and bile duct with acute cholecystitis
- 574.7x : Calculus of gallbladder and bile duct with other cholecystitis
- 574.8x : Calculus of gallbladder and bile duct with acute and chronic cholecystitis
- 574.9x : Calculus of gallbladder and bile duct without cholecystitis

In the rubric 575 (Other disorders of gallbladder), we selected following codes:

- 575.0 : Acute cholecystitis
- 575.1x : Other cholecystitis
- 575.2 : Obstruction of gallbladder
- 575.3 : Hydrops of gallbladder
- 575.4 : Perforation of gallbladder
- 575.5 : Fistula of gallbladder
- 575.6 : Cholesterolosis of gallbladder
- 575.8 : Other specified disorders of gallbladder
- 575.9 : Unspecified disorder of gallbladder

In the rubric 576 (Other disorders of biliary tract), we selected following codes:

- 576.0 : Postcholecystectomy syndrome
- 576.1 : Cholangitis
- 576.2 : Obstruction of bile duct
- 576.3 : Perforation of bile duct
- 576.4 : Fistula of bile duct
- 576.5 : Spasm of sphincter of oddi
- 576.8 : Other specified disorders of biliary tract
- 576.9 : Unspecified disorder of biliary tract

Group 37 : Hypotension, syncope and collapse

| Keywords |
|---|
| HYPOTA |
| HYPOTENSION |
| MALAISE AVEC PERTE DE CONNAISSANCE |
| MALAISE LIPOTHYMIQUE ET TROUBLES DIGETIFS |
| MALAISE POST PRANDIAL |
| SYNCOPE |

These keywords suggests hypotension problems which are coded in the rubric 458. The codes used are :

- 458.0 : Orthostatic hypotension
- 458.1 : Chronic hypotension
- 458.2 : Iatrogenic hypotension
- 458.8 : Other specified hypotension
- 458.9 : Hypotension unspecified

The term “syncope”, is coded by the rubric 780 (General Symptoms), the appropriate code is 780.2 (Syncope and collapse). This code also known as “Blackout”, “Fainting”, “(Near) Pre)syncope”, “Vasovagal attack”. We retained also, in the rubric 796 (Other Nonspecific Abnormal Findings), the code 796.3 (nonspecific low blood pressure reading).

3.2.9 Chapter 10 : Diseases Of The Genitourinary System (580-629)

Group 38 : Diseases Of The Genitourinary System

| Keywords |
|-------------------------------|
| BLAAS |
| BLAASPOLIEPEN |
| BLAASPROB |
| CHRONISCHE NIERINSUFFICIENTIE |
| CYSTOCATH |
| CYSTOFIX |
| CYSTOMETRIE |
| CYSTOSCOPIE |
| EVALUATIE MICTIETRAINING |
| FUITE URINAIRE |
| GLOMERULOSCLEROSE |
| HEMATURIE |
| INCONTINENCE |
| INSUF RENALE |
| INSUF. RENALE CHRONIQUE |
| IRC |
| NEFROLITHIASIS |
| NEFROLOGIE |
| NEFROSTOMIEWISSEL |
| NIERFALEN |
| NIERPROBLEMEN |
| POLIEPEN |
| POLLAKIURIE |
| POLYPE |
| PROSTAAT |
| PROSTAAT PROBL |
| PROSTAATPROB |
| PROSTAATPROBLEMATIEK |
| PROSTATE |
| PROSTATISME |
| RENALE |
| URETEROSCOPIE |
| URETHRITE |
| URETOSTOMIE |
| URGENCE MICTIONNELLE |
| URINAIRE |
| URINAIRE INCONTINENTIE |

| Keywords |
|---------------------|
| URINAIRE PROBLEMEN |
| URINE INCONTINENTIE |
| URINERETENTIE |
| URINEWEGINFECTIE |
| UROLOG |

In the point of view of the unity of the three-digit ICD-9 rubrics, we can say that this category is rather heterogeneous. We have, on the other hand, try to keep a some coherence at the level of keywords.

First of all, we retained three codes from benign neoplasms (210-229) :

- 222.2 : Benign neoplasm of prostate
- 223.3 : Benign neoplasm of bladder
- 236.7 : Neoplasm of uncertain behavior of bladder

In the three-digit rubric 403 (hypertensive kidney disease), we discussed the opportunity to leave these codes in the group 22 of hypertensive diseases or to put them in this group. We privileged the localization rather than the ICD-9 classification. Then we selected the codes :

- 403.0x : Malignant hypertensive renal disease
- 403.1x : Benign hypertensive renal disease
- 403.9x : Unspecified hypertensive renal disease

In the tenth chapter of ICD-9 classification, Diseases of the Genitourinary System, we decided to select, in the range 580 to 589 (nephritis, nephrotic syndrome, and nephrosis), all the codes of the following rubrics :

- 580 : Acute glomerulonephritis
- 581 : Nephrotic syndrome, we selected the codes with mention to glomerulonephritis (581.0 to 581.3)
- 582 : Chronic glomerulonephritis
- 583 : Nephritis and nephropathy not specified as acute or chronic
- 585 : Chronic kidney disease
- 586 : Renal failure unspecified

We do not retained the rubric 584 (acute renal failure), for its severe nature, 587 (renal sclerosis unspecified), 588 (disorders resulting from impaired renal function) and 589 (small kidney of unknown cause), because we turn away, it seems to us, from keywords.

In the range 590 to 599 (other diseases of urinary system), we selected the most unspecified codes of the rubric 593 (other disorders of kidney and ureter) :

- 593.89 : Other specified disorders of kidney and ureter
- 593.9 : Unspecified disorder of kidney and ureter

In the rubric 595 : Cystitis

595.9 : Cystitis unspecified

In the rubric 596 : Other disorders of bladder

- 596.4 : Atony of bladder
- 596.59 : Other functional disorder of bladder
- 596.8 : Other specified disorders of bladder
- 596.9 : Unspecified disorder of bladder

In the rubric 597 : Urethritis not sexually transmitted and urethral syndrome

- 597.8x : Other urethritis

In the rubric 599 : Other disorders of urethra and urinary tract

- 599.0 : Urinary tract infection site not specified
- 599.7 : Hematuria
- 599.9 : Unspecified disorder of urethra and urinary tract

Thus, in the unselected rubrics, 590 (Infections of kidney), 591 (Hydronephrosis), 592 (Calculus of kidney and ureter), 594 (Calculus of lower urinary tract), and 598 (Urethral stricture), we identified no correspondence with the keywords.

In the range 600 to 608 (diseases of male genital organs),

In the rubric 600 : Hyperplasia of prostate

- 600.0 : Hypertrophy (benign) of prostate
- 600.1 : Nodular prostate
- 600.2 : Benign localized hyperplasia of prostate without urinary obstruction
- 600.3 : Cyst of prostate
- 600.9 : Hyperplasia of prostate unspecified
- 602 : Other disorders of prostate
- 602.2 : Atrophy of prostate
- 602.3 : Dysplasia of prostate
- 602.8 : Other specified disorders of prostate
- 602.9 : Unspecified disorder of prostate

In the ICD chapter about Symptoms, Signs, And Ill-Defined Conditions (780-799), the three-digit rubric 788 (symptoms involving urinary system) gives the following codes :

- 788.30 : Urinary incontinence unspecified
- 788.39 : Other urinary incontinence
- 788.41 : Urinary frequency
- 788.61 : Splitting of urinary stream
- 788.62 : Slowing of urinary stream
- 788.63 : Urgency of urination
- 788.69 : Other abnormality of urinary stream

Group 39 : Disorders of female genital tract

| Keywords |
|----------------------------|
| BLOEDING VAN DE BAARMOEDER |
| CURETAGE |
| LESION VULVAIRE |
| METRORRAGIE |
| VAGINAAL BLOEDVERLIES |

We selected the following codes :

In the rubric 616 : Inflammatory disease of cervix vagina and vulva

- 616.1x : Vaginitis and vulvovaginitis
- 616.8x : Other specified inflammatory diseases of cervix vagina and vulva
- 616.9 : Unspecified inflammatory disease of cervix vagina and vulva

In the rubric 621 : Disorders of uterus not elsewhere classified

- 621.0 : Polyp of corpus uteri
- 621.8 : Other specified disorders of uterus not elsewhere classified
- 621.9 : Unspecified disorder of uterus

In the rubric 622 : Noninflammatory disorders of cervix

- 622.7 : Mucous polyp of cervix

In the rubric 623 : Noninflammatory disorders of vagina

- 623.7 : Polyp of vagina

In the rubric 624 : Noninflammatory disorders of vulva and perineum

- 624.6 : Polyp of labia and vulva
- 624.8 : Other specified noninflammatory disorders of vulva and perineum
- 624.9 : Unspecified noninflammatory disorder of vulva and perineum

In the rubric 626 : Disorders of menstruation and other abnormal bleeding from female genital tract

- 626.6 : Metrorrhagia

In the rubric 627 : Menopausal and postmenopausal disorders

- 627.1 : Postmenopausal bleeding

3.2.10 Chapter 12 : Diseases Of The Skin And Subcutaneous Tissue (680-709)

Group 40 : Diseases of skin and subcutaneous tissue

| Keywords |
|-------------------------|
| ABCES |
| CELLULITE |
| DECUBITUS |
| DERMATO |
| DRUKNECROSE |
| ESCARRE |
| HEMATOME |
| MAL PERFORANT |
| PLAIE |
| ULCERA |
| ULCERE DE JAMBE |
| ULCERE VARIQUEUX |
| ULCERES ARTESIQUES |
| ULCERES DE JAMBES |
| ULCUS THV LI SCHEENBEEN |
| WONDE |
| WONDJE |

For skin disorders, we selected, in the range 680 to 686 (infections of skin and subcutaneous tissue) the code 682 (Other cellulitis and abscess). In the range 700 to 709 (other diseases of skin and subcutaneous tissue) , we kept , in the rubric 707 (Chronic ulcer of skin) :

- 707.0 : Decubitus ulcer
- 707.1x : Ulcer of lower limb except decubitus
- 707.8 : Chronic ulcer of other specified sites
- 707.9 : Chronic ulcer of unspecified site

For keywords evoking wounds, we shall add, from the range 800 to 999 (injury and poisoning), the following codes :

- 891.0 : Open wound of knee leg (except thigh) and ankle without complication
- 891.1 : Open wound of knee leg (except thigh) and ankle complicated
- 891.2 : Open wound of knee leg (except thigh) and ankle with tendon involvement

3.2.11 Chapter 13 : Diseases Of The Musculoskeletal System And Connective Tissue (710-739)

Group 41 : Dorsopathies, Arthropathies and related disorders

| Keywords |
|------------------------|
| ARTHROPATHIE |
| ARTHROS |
| ARTROSCOPIE |
| ARTROSE |
| DIFFICULTE A LA MARCHE |
| EPAULE |
| GANGPROBLEMEN |
| GANGSTOORNISSEN |
| GEKNELDE ZENUW |
| GENOU |
| GONALGIE |
| GONARTHROSE |
| HANCHE |
| HEUP |
| HEUPPROTHESE |
| KNIE |
| MYODYSPLASIE |
| PIJN RE VOET |
| POLYMYALGIA |
| REUMA VOETEN |
| REUMATOIDE ARTRITIS |
| RHEUMA |
| RUG |
| RUGKLACHTEN |
| RUGLIJDEN |
| RUGPIJN |
| SCHOUDER |
| SCHOUDERPIJN |
| SCOLIOSE |
| SPINAAL KANAAL |
| SPINALE STENOSE |
| SPONDYLITIS |

In this group we wanted to group together all articular and musculoskeletal problems. In the thirteenth chapter of ICD-9, "Diseases of the Musculoskeletal System and Connective Tissue", we first select the range 710 to 719 (arthropathies and related disorders). In this heading, we retained the following codes :

714 : Rheumatoid arthritis and other inflammatory polyarthropathies

- 714.0 : Rheumatoid arthritis (95% of the 714's codes)
- 714.2 : Other rheumatoid arthritis with visceral or systemic involvement

716 : Other and unspecified arthropathies

- 716.0x : Kaschin-beck disease
- 716.1x : Traumatic arthropathy
- 716.2x : Allergic arthritis
- 716.3x : Climacteric arthritis
- 716.4x : Transient arthropathy
- 716.5x : Unspecified polyarthropathy or polyarthrititis
- 716.6x : Unspecified monoarthritis

- 716.8x : Other specified arthropathy
- 716.9x : Unspecified arthropathy

719 : Other and unspecified disorders of joint

- 719.4 : Pain in joint
- 719.7 : Difficulty in walking

In the range 720 to 724 (Dorsopathies), we also retained :

720 : Ankylosing spondylitis and other inflammatory spondylopathies

- 720.0 : Ankylosing spondylitis
- 720.81 : Inflammatory spondylopathies in diseases classified elsewhere
- 720.89 : Other inflammatory spondylopathies
- 720.9 : Unspecified inflammatory spondylopathy

721 : Spondylosis and allied disorders

- 721.0 : Cervical spondylosis without myelopathy
- 721.1 : Cervical spondylosis with myelopathy
- 721.2 : Thoracic spondylosis without myelopathy
- 721.3 : Lumbosacral spondylosis without myelopathy
- 721.4x : Thoracic or lumbar spondylosis with myelopathy
- 721.5 : Kissing spine
- 721.6 : Ankylosing vertebral hyperostosis
- 721.7 : Traumatic spondylopathy
- 721.8 : Other allied disorders of spine
- 721.90 : Spondylosis of unspecified site without myelopathy
- 721.91 : Spondylosis of unspecified site with myelopathy

723 : Other disorders of cervical region

- 723.0 : Spinal stenosis in cervical region

724 : Other and unspecified disorders of back

- 724.0x : Spinal stenosis other than cervical

In the range 725 to 729 (Rheumatism, excluding the back), we kept :

726 : Peripheral enthesopathies and allied syndromes

- 726.1x : Rotator cuff syndrome of shoulder and allied disorders
- 726.2 : Other affections of shoulder region not elsewhere classified
- 728.71 : Plantar fascial fibromatosis

728 : Disorders of muscle ligament and fascia

- 728.2 : Muscular wasting and disuse atrophy not elsewhere classified
- 728.3 : Other specific muscle disorders
- 728.71 : Plantar fascial fibromatosis

729 : Other disorders of soft tissues

- 729.0 : Rheumatism unspecified and fibrositis
- 729.1 : Myalgia and myositis unspecified
- 729.5 : Pain in limb
- 729.8x : Other musculoskeletal symptoms referable to limbs

In the range 730 to 739 (Osteopathies, chondropathies, and acquired musculoskeletal deformities), we also kept :

735 : Acquired deformities of toe

- 735.0 : Hallux valgus (acquired)
- 735.1 : Hallux varus (acquired)

737 : Curvature of spine

- 737.30 : Scoliosis (and kyphoscoliosis) idiopathic

754 : Certain congenital musculoskeletal deformities

- 754.69 : Other congenital valgus deformities of feet

Group 42 : Osteopathies, chondropathies, and acquired musculoskeletal deformities

| Keywords |
|---------------|
| AREDIA |
| BARST |
| BEKKEN |
| BOTBOOR |
| BOTONTKALKING |
| FRACTURE |
| FRACTUUR |
| KALKTEKORT |
| OSTEOLYTISCH |
| OSTEOPOR |
| PAGET |
| PAMIDRONAAT |
| ZOMETA |

In the range of ICD-9 codes 730 to 739, Osteopathies, chondropathies, and acquired musculoskeletal deformities, we selected, in the three-digit rubric 731 (Osteitis deformans and osteopathies associated with other disorders classified elsewhere), the code 731.0 (Osteitis deformans without bone tumor) also known as Paget's disease of bone and in the rubric 733 (Other disorders of bone and cartilage), the following codes:

- 733.00 : Osteoporosis unspecified
- 733.01 : Senile osteoporosis
- 733.02 : Idiopathic osteoporosis
- 733.03 : Disuse osteoporosis
- 733.09 : Other osteoporosis
- 733.10 : Pathological fracture unspecified site
- 733.11 : Pathological fracture of humerus
- 733.12 : Pathological fracture of distal radius and ulna
- 733.13 : Pathological fracture of vertebrae
- 733.14 : Pathological fracture of neck of femur
- 733.15 : Pathological fracture of other specified part of femur
- 733.16 : Pathological fracture of tibia or fibula
- 733.19 : Pathological fracture of other specified site

Considering the purposes of the GDH, we considered that keywords fractures evokes spontaneous fractures. We then excluded stress fracture (733.93-733.95) and traumatic fractures (800-829).

We added too

- V828.1 : Special screening for osteoporosis

3.2.12 Chapter 16 : Symptoms, Signs, And Ill-Defined Conditions (780-799)

Group 43 : Symptoms involving respiratory system and other chest symptoms

| Keywords |
|---------------------|
| DYSPNAE |
| DYSPNEE |
| DYSPNEU |
| DYSPNOE |
| EMBOLIE PULMONAIRE |
| EPANCHEMENT PLEURAL |
| HOEST |
| HOESTEN |
| LONG |
| LONGEMBOLEN |
| LONGEMBOLIE |
| LONGPROB |
| PLEURAVOCHT |
| PNEUMO |
| PNEUMOTHORAX |
| PULMONAIRE |
| RESPIRATOIRE |
| TOUX |

In the sixteenth chapter of the ICD-9, we classify rather systematic symptoms than diseases themselves. So the group 45 corresponds, for its major part, to the three-digit rubric 786. We retained the following codes :

786.0 : Dyspnea and respiratory abnormalities

- 786.00 : Respiratory abnormality unspecified
- 786.01 : Hyperventilation
- 786.02 : Orthopnea
- 786.03 : Apnea
- 786.04 : Cheyne-stokes respiration
- 786.05 : Shortness of breath
- 786.06 : Tachypnea
- 786.07 : Wheezing
- 786.09 : Respiratory abnormality other

786.1 : Stridor

786.2 : Cough

786.3 : Hemoptysis

786.4 : Abnormal sputum

786.5 : Chest pain

- 786.52 : Painful respiration

786.6 : Swelling mass or lump in chest

786.7 : Abnormal chest sounds

786.9 : Other symptoms involving respiratory system and chest

We also placed here some diseases not classified somewhere else. In the range 415 to 417, "Diseases of Pulmonary Circulation", we kept :

In the rubric 415 : Acute pulmonary heart disease

- 415.11 : Iatrogenic pulmonary embolism and infarction
- 415.19 : Other pulmonary embolism and infarction

In the rubric 416 : Chronic pulmonary heart disease

- 416.0 : Primary pulmonary hypertension
- 416.8 : Other chronic pulmonary heart diseases
- 416.9 : Chronic pulmonary heart disease unspecified

In the range 460 to 466, "Acute Respiratory Infections", we kept :

In the rubric 466 : Acute bronchitis and bronchiolitis

- 466.0 : Acute bronchitis

In the range 490 to 496, "Chronic Obstructive Pulmonary Disease And Allied Conditions", we kept the code 490 : Bronchitis not specified as acute or chronic

In the range 510 to 519, "Other Diseases Of Respiratory System", we kept :

In the rubric 511 : Pleurisy

- 511.8 : Other specified forms of pleural effusion except tuberculous
- 511.9 : Unspecified pleural effusion

In the rubric 519 : Other diseases of respiratory system

- 519.8 : Other diseases of respiratory system not elsewhere classified
- 519.9 : Unspecified disease of respiratory system

After all, in the range 996 to 999, "Complications of surgical and medical care, not elsewhere classified", the code 997.3 (Respiratory complications not elsewhere classified) will be add.

Group 44 : Symptoms involving abdomen and pelvis

| Keywords |
|---------------------|
| ABDOMINALE KLACHTEN |
| ABDOMINALE LAST |
| ABDOMINALE PIJN |
| COLOSCOPIE |
| CONSTIPATIE |
| CONSTIPATION |
| D ABDO INF |
| DARMEN |
| DARMKLACHTEN |
| DARMPOLIEPEN |
| DARMPROBL |
| DIARREE |
| DIARRHEE |
| DIVERTICULITIS |
| DOULEUR ABDOMINALE |
| FECALOMES |
| OBSTIPATIE |
| SLOKDARMVERNAUWING |
| SPASTISCH COLON |
| SUBOCCLUSION |
| TENESME |
| TRANSIT INTESTINAL |

In this group, we classified symptoms and signs involving abdomen and pelvis disorders. We found :

In the rubric 787 : Symptoms involving digestive system

- 787.0 : Nausea and vomiting
- 787.93 : Diarrhea

In the rubric 789 : Other symptoms involving abdomen and pelvis

- 789.0x : Abdominal pain
- 789.1 : Hepatomegaly
- 789.2 : Splenomegaly
- 789.3x : Abdominal or pelvic swelling mass or lump
- 789.4x : Abdominal rigidity
- 789.5 : Ascites
- 789.6x : Abdominal tenderness
- 789.9 : Other symptoms involving abdomen and pelvis

To meet other keywords, we retained to :

In the rubric 009 : Ill-defined intestinal infections

- 009.2 : Infectious diarrhea
- 009.3 : Diarrhea of presumed infectious origin

In the rubric 211 : Benign neoplasm of other parts of digestive system

- 211.2 : Benign neoplasm of duodenum jejunum and ileum
- 211.3 : Benign neoplasm of colon
- 211.4 : Benign neoplasm of rectum and anal canal
- 211.8 : Benign neoplasm of retroperitoneum and peritoneum
- 211.9 : Benign neoplasm of other and unspecified site in the digestive system

In the rubric 536 : Disorders of function of stomach

- 536.4x : Gastrostomy complications

In the rubric 560 : Intestinal obstruction without mention of hernia

- 560.3x : Impaction of intestine
- 560.8x : Other specified intestinal obstruction
- 560.9 : Unspecified intestinal obstruction

In the rubric 562 : Diverticula of intestine

- 562.01 : Diverticulitis of small intestine (without hemorrhage)
- 562.03 : Diverticulitis of small intestine with hemorrhage
- 562.11 : Diverticulitis of colon (without hemorrhage)
- 562.13 : Diverticulitis of colon with hemorrhage

In the rubric 564 : Functional digestive disorders not elsewhere classified

- 564.0x : Constipation
- 564.1 : Irritable bowel syndrome
- 564.5 : Functional diarrhea
- 564.8x : Other specified functional disorders of intestine
- 564.9 : Unspecified functional disorder of intestine

Group 45 : Asthenia, weakness, lack of energy and strength, loss of strength

| Keywords |
|---------------------------|
| ABOULIE |
| ALG ACHTERUITGANG |
| ALGEMENE ACHTERUITGANG |
| AMAIGRISSEMENT |
| ANOREXIE |
| APATHIE |
| APATHIQUE |
| ASTHENIE |
| DYSFAGIE |
| DYSPHAGIE |
| ETAT GENERAL |
| FATIGUE |
| INAPPETANCE |
| MANGE MAL |
| PERTE DE PDS |
| PERTE DE POIDS |
| SLECHT ETEN |
| SLECHTE EETLUST |
| SLIKFUNCTIE |
| SLIKPROBLEMEN |
| TROUBLE DE LA DEGLUTITION |
| VEEL SLIJMEN |
| VERMAGERING |
| VERMINDERDE EETLUST |
| VERMINDERING VAN EETLUST |
| VERMOEIDHEID |
| WEIGEREN VOEDING |

In this group, we put together miscallenous signs of frailty.

In the rubric 780 : General symptoms^b

- 780.9 : Other general symptoms

In the rubric 783 : Symptoms concerning nutrition metabolism and development

- 783.0 : Anorexia
- 783.21 : Loss of weight
- 783.22 : Underweight
- 783.3 : Feeding difficulties and mismanagement, also know as Feeding problem (elderly)
- 783.9 : Other symptoms concerning nutrition metabolism and development, also know as Hypometabolism

In the rubric 784 : Symptoms involving head and neck

- 784.69 : Other symbolic dysfunction, also know as Acalculia, Agnosia, Agraphia, Apraxia

^b Notes : The rubric 780, General symptoms, was divided into sub-codes from 01/01/2005. We find there : 780.0 (Alteration of consciousness), 780.1 (Hallucinations), 780.2 (Syncope and collapse), 780.3 (Convulsions), 780.4 (Dizziness and giddiness), 780.5 (Sleep disturbances), 780.6 (Fever), 780.7 (Malaise and fatigue), 780.8 (Generalized hyperhidrosis) and 780.9 (Other general symptoms). It is in this last four-digit rubric that we are interested by the code 780.94 (Early satiety). Regrettably, with FY2003 data, we cannot differentiate the sub-codes and we are thus forced to take them all.

In the rubric 787 : Symptoms involving digestive system

- 787.2 : Dysphagia

In the rubric V41 : Problems with special senses and other special functions

- V41.6 : Problems with swallowing and mastication

Group 46 : Headache

| Keywords |
|-------------|
| CEPHALEES |
| HOOFDPIJN |
| ZWAAR HOOFD |

The unique code in the ICD-9 classification which defined these keywords is 784.0, Headache.

Group 47 : Subdural hemorrhage

| Keywords |
|--------------------------------|
| HYGROME SOUS DURAL |
| SUIVI DE L'HEMATOME SOUS-DURAL |

In the three-digit ICD-9 rubric 852, Subarachnoid subdural and extradural hemorrhage following injury, we selected :

- 852.22 : Subdural hemorrhage following injury without open intracranial wound with brief (less than one hour) loss of consciousness
- 852.25 : Subdural hemorrhage following injury without open intracranial wound with prolonged (more than 24 hours) loss of consciousness without return to pre-existing conscious level
- 852.32 : Subdural hemorrhage following injury with open intracranial wound with brief (less than one hour) loss of consciousness
- 852.35 : Subdural hemorrhage following injury with open intracranial wound with prolonged (more than 24 hours) loss of consciousness without return to pre-existing conscious level

In the three-digit ICD-9 rubric 907, Late effects of injuries to the nervous system, we selected the code :

- 907.0 : Late effect of intracranial injury without skull fracture

Group 48 : Falls

| Keywords |
|--------------|
| CHUTE |
| GEVALLEN |
| VAL |
| VALEVALUATIE |

In the range E800-E999, Supplementary Classification of External Causes of Injury and Poisoning, and most particularly the range E880-E888, Accidental Falls

E880 : Accidental fall on or from stairs or steps

E883 : Accidental fall into hole or other opening in surface

- E883.9 : Accidental fall into other hole or other opening in surface

E884 : Other accidental falls from one level to another

- E884.2 : Accidental fall from chair
- E884.3 : Accidental fall from wheelchair
- E884.4 : Accidental fall from bed
- E884.5 : Accidental fall from other furniture
- E884.6 : Accidental fall from commode

- E884.9 : Other accidental fall from one level to another

E885 : Accidental fall on same level from slipping tripping or stumbling

- E885.9 : Accidental fall from other slipping tripping or stumbling

E886 : Accidental fall on same level from collision pushing or shoving by or with other person

E887 : Fracture cause unspecified

E888 : Other and unspecified fall

- E888.0 : Accidental fall resulting in striking against sharp object
- E888.1 : Accidental fall resulting in striking against other object
- E888.8 : Other accidental fall
- E888.9 : Unspecified accidental fall

Group 0 : Unclassified cases

We list here 39 cases which we were not able to classify in one of the categories. There is talk, for the majority of them, of evaluation or preoperative assessment without mention of diagnosis.

| Specific medical problem |
|---|
| ACUTE HEVIGE PIJN! |
| BIJKOMENDE ONDERZOEKEN |
| CONSULT ARTS |
| CONSULT GERIATER |
| CONTRÔLE POST HOSPIT PAR PS +ECG |
| CURE DE SOLUMEDROL |
| DIAGNOSTIEK - KLIERPUNCTIE |
| ENVOYEE PAR LE TRT POUR DES EXAMENS COMPLEMENTAIRES |
| FOUTIEF AANGEKRUIST |
| HALSLYMFEKLIEREN |
| HEREVALUATIE VAN DE ZORGSITUATIE EN DE ZORGLAST THUIS. |
| HEREVALUATIE ZORGSITUATIE THUIS. |
| IMMOPARESE |
| KLIERPUNCTIE |
| KLINISCHE EVALUATIE |
| LABO |
| LABO, CT SCHEDEL |
| LABO, EKG |
| LABO,ECG,CT,RX |
| MGUS |
| MIBI |
| NEANT MAIS CASE NE SE DECOCHE PAS... |
| OORSPRONG PIJN VERDER ONDERZOEKEN |
| PATIENTE TRISOMIQUE |
| PIJNKLINIEK |
| PRE-OPERATIEF |
| PRE-OPERATIEF |
| PRE-OPERATIEF |
| PRE-OPERATIEF |
| PRE-OPERATIEF |
| PROBLEEM GEZIEN OP BLOEDUITSLAGEN. NU VERDER ONDERZOEK. |
| RA |
| REEVALUATION NEURO |
| REEVALUATION NEUROLOGIQUE |
| SUIVI POST-HOSPI + VOIR ENCADREMENT DOMICILE |

TE LAGE PBO

TE ONDERZOEKEN

VOORSCHRIFT VOOR TERUGBETALING PLAVIX NODIG

WERVELINDEUKING + PIJNKLACHTEN+++

3.3 APPENDIX III: LIST OF SELECTED ICD-9 CODES BY SMP CATEGORY

| Bacterial and viral dermatologic diseases | | | |
|---|--|---|-------|
| ICD | Wording | Section | nDIAG |
| 035 | Erysipelas | OTHER BACTERIAL DISEASES | 633 |
| 0530 | Herpes zoster with meningitis | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 1 |
| 05310 | Herpes zoster with unspecified nervous system complication | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 7 |
| 05311 | Geniculate herpes zoster | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 1 |
| 05312 | Postherpetic trigeminal neuralgia | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 4 |
| 05313 | Postherpetic polyneuropathy | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 6 |
| 05319 | Herpes zoster with other nervous system complications | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 34 |
| 05320 | Herpes zoster dermatitis of eyelid | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 24 |
| 05321 | Herpes zoster keratoconjunctivitis | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 4 |
| 05322 | Herpes zoster iridocyclitis | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 1 |
| 05329 | Herpes zoster with other ophthalmic complications | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 21 |
| 05371 | Otitis externa due to herpes zoster | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 3 |
| 05379 | Herpes zoster with other specified complications | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 17 |
| 0538 | Herpes zoster with unspecified complication | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 3 |
| 0539 | Herpes zoster without mention of complication | VIRAL DISEASES ACCOMPANIED BY EXANTHEM | 213 |
| Malignant neoplasm of digestive organs and peritoneum | | | |
| ICD | Wording | Section | nDIAG |
| 1520 | Malignant neoplasm of duodenum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 36 |
| 1521 | Malignant neoplasm of jejunum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 0 |
| 1522 | Malignant neoplasm of ileum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 11 |
| 1523 | Malignant neoplasm of Meckel's diverticulum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 1 |
| 1528 | Malignant neoplasm of other specified sites of small intestine | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 5 |
| 1529 | Malignant neoplasm of small intestine, unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 15 |
| 1530 | Malignant neoplasm of hepatic flexure | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 84 |
| 1531 | Malignant neoplasm of transverse colon | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 130 |
| 1532 | Malignant neoplasm of descending colon | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 108 |
| 1533 | Malignant neoplasm of sigmoid colon | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 702 |
| 1534 | Malignant neoplasm of cecum | MALIGNANT NEOPLASM OF DIGESTIVE | 291 |

| ICD | Wording | Section | nDIA G |
|------|--|--|-----------|
| | | ORGANS AND PERITONEUM | |
| I535 | Malignant neoplasm of appendix vermiformis | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 12 |
| I536 | Malignant neoplasm of ascending colon | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 241 |
| I537 | Malignant neoplasm of splenic flexure | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 64 |
| I538 | Malignant neoplasm of other specified sites of large intestine | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 55 |
| I539 | Malignant neoplasm of colon, unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 612 |
| I540 | Malignant neoplasm of rectosigmoid junction | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 492 |
| I541 | Malignant neoplasm of rectum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 945 |
| I542 | Malignant neoplasm of anal canal | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 37 |
| I543 | Malignant neoplasm of anus, unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 18 |
| I548 | Malignant neoplasm of other sites of rectum, rectosigmoid junction, & anus | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 42 |
| I580 | Malignant neoplasm of retroperitoneum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 13 |
| I588 | Malignant neoplasm of specified parts of peritoneum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 81 |
| I589 | Malignant neoplasm of peritoneum, unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 21 |
| I590 | Malignant neoplasm of intestinal tract, part unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 11 |
| I591 | Malignant neoplasm of spleen, not elsewhere classified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 2 |
| I598 | Malignant neoplasm of other sites of digestive system & intra-abdominal organs | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 5 |
| I599 | Malignant neoplasm of ill-defined sites within the digestive organs & peritoneum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 20 |

Malignant neoplasm of respiratory and intrathoracic organs

| ICD | Wording | Section | nDIAG |
|------|---|--|-------|
| I622 | Malignant neoplasm of main bronchus | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 261 |
| I623 | Malignant neoplasm of upper lobe, bronchus or lung | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 1344 |
| I624 | Malignant neoplasm of middle lobe, bronchus or lung | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 127 |
| I625 | Malignant neoplasm of lower lobe, bronchus or lung | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 697 |
| I628 | Malignant neoplasm of other parts of bronchus or lung | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 210 |
| I629 | Malignant neoplasm of bronchus & lung, unspecified | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 1178 |

| Breast cancer | | | |
|----------------------|--|---|--------------|
| ICD | Wording | Section | nDIAG |
| 1740 | Malignant neoplasm of nipple & areola of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 23 |
| 1741 | Malignant neoplasm of central portion of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 24 |
| 1742 | Malignant neoplasm of upper-inner quadrant of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 48 |
| 1743 | Malignant neoplasm of lower-inner quadrant of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 18 |
| 1744 | Malignant neoplasm of upper-outer quadrant of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 128 |
| 1745 | Malignant neoplasm of lower-outer quadrant of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 28 |
| 1746 | Malignant neoplasm of axillary tail of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 8 |
| 1748 | Malignant neoplasm of other specified sites of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 156 |
| 1749 | Malignant neoplasm of breast (female), unspecified | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 851 |
| 1750 | Malignant neoplasm of nipple & areola of male breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 3 |
| 1759 | Malignant neoplasm of other & unspecified sites of male breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 12 |

| Prostate cancer | | | |
|------------------------|--------------------------------|--|--------------|
| ICD | Wording | Section | nDIAG |
| 185 | Malignant neoplasm of prostate | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 2132 |

| Malignant neoplasm and carcinoma | | | |
|---|--|---|--------------|
| ICD | Wording | Section | nDIAG |
| 1400 | Malignant neoplasm of upper lip, vermilion border | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| 1401 | Malignant neoplasm of lower lip, vermilion border | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| 1403 | Malignant neoplasm of upper lip, inner aspect | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| 1404 | Malignant neoplasm of lower lip, inner aspect | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 2 |
| 1405 | Malignant neoplasm of lip, unspecified, inner aspect | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| 1406 | Malignant neoplasm of commissure of lip | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 1 |
| 1408 | Malignant neoplasm of other sites of lip | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 1 |
| 1409 | Malignant neoplasm of lip, unspecified, vermilion border | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 4 |
| 1410 | Malignant neoplasm of base of tongue | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 42 |
| 1411 | Malignant neoplasm of dorsal surface of tongue | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 1 |
| 1412 | Malignant neoplasm of tip & lateral border of tongue | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 18 |

| ICD | Wording | Section | nDIAG |
|------|---|---|-------|
| | | CAVITY, AND PHARYNX | |
| I413 | Malignant neoplasm of ventral surface of tongue | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| I414 | Malignant neoplasm of anterior two-thirds of tongue, part unspecified | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 2 |
| I415 | Malignant neoplasm of junctional zone of tongue | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| I416 | Malignant neoplasm of lingual tonsil | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 2 |
| I418 | Malignant neoplasm of other sites of tongue | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 14 |
| I419 | Malignant neoplasm of tongue, unspecified | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 14 |
| I420 | Malignant neoplasm of parotid gland | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 35 |
| I421 | Malignant neoplasm of submandibular gland | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 3 |
| I422 | Malignant neoplasm of sublingual gland | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| I428 | Malignant neoplasm of other major salivary glands | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| I429 | Malignant neoplasm of salivary gland, unspecified | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| I430 | Malignant neoplasm of upper gum | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 3 |
| I431 | Malignant neoplasm of lower gum | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 8 |
| I438 | Malignant neoplasm of other sites of gum | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| I439 | Malignant neoplasm of gum, unspecified | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 1 |
| I440 | Malignant neoplasm of anterior portion of floor of mouth | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 11 |
| I441 | Malignant neoplasm of lateral portion of floor of mouth | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| I448 | Malignant neoplasm of other sites of floor of mouth | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 5 |
| I449 | Malignant neoplasm of floor of mouth, part unspecified | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 26 |
| I450 | Malignant neoplasm of cheek mucosa | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 10 |
| I451 | Malignant neoplasm of vestibule of mouth | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 5 |
| I452 | Malignant neoplasm of hard palate | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 3 |
| I453 | Malignant neoplasm of soft palate | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 5 |
| I454 | Malignant neoplasm of uvula | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 1 |
| I455 | Malignant neoplasm of palate, unspecified | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 4 |
| I456 | Malignant neoplasm of retromolar area | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 4 |
| I458 | Malignant neoplasm of other specified parts of mouth | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 5 |
| I459 | Malignant neoplasm of mouth, unspecified | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 3 |
| I460 | Malignant neoplasm of tonsil | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 34 |
| I461 | Malignant neoplasm of tonsillar fossa | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 2 |
| I462 | Malignant neoplasm of tonsillar pillars (anterior) (posterior) | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 7 |
| I463 | Malignant neoplasm of vallecula epiglottica | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 7 |

| ICD | Wording | Section | nDIAG |
|------|--|---|-------|
| I464 | Malignant neoplasm of anterior aspect of epiglottis | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 11 |
| I465 | Malignant neoplasm of junctional region of oropharynx | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 2 |
| I466 | Malignant neoplasm of lateral wall of oropharynx | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 1 |
| I467 | Malignant neoplasm of posterior wall of oropharynx | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 1 |
| I468 | Malignant neoplasm of other specified sites of oropharynx | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 14 |
| I469 | Malignant neoplasm of oropharynx, unspecified | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 13 |
| I470 | Malignant neoplasm of superior wall of nasopharynx | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| I471 | Malignant neoplasm of posterior wall of nasopharynx | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| I472 | Malignant neoplasm of lateral wall of nasopharynx | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 1 |
| I473 | Malignant neoplasm of anterior wall of nasopharynx | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 2 |
| I478 | Malignant neoplasm of other specified sites of nasopharynx | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 1 |
| I479 | Malignant neoplasm of nasopharynx, unspecified | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 11 |
| I480 | Malignant neoplasm of postcricoid region of hypopharynx | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 3 |
| I481 | Malignant neoplasm of pyriform sinus | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 28 |
| I482 | Malignant neoplasm of aryepiglottic fold, hypopharyngeal aspect | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 9 |
| I483 | Malignant neoplasm of posterior hypopharyngeal wall | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 5 |
| I488 | Malignant neoplasm of other specified sites of hypopharynx | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 3 |
| I489 | Malignant neoplasm of hypopharynx, unspecified | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 18 |
| I490 | Malignant neoplasm of pharynx, unspecified | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 17 |
| I491 | Malignant neoplasm of Waldeyer's ring | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 0 |
| I498 | Malignant neoplasm of other sites within the lip & oral cavity | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 3 |
| I499 | Malignant neoplasm of ill-defined sites within the lip & oral cavity | MALIGNANT NEOPLASM OF LIP, ORAL CAVITY, AND PHARYNX | 7 |
| I500 | Malignant neoplasm of cervical esophagus | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 8 |
| I501 | Malignant neoplasm of thoracic esophagus | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 7 |
| I502 | Malignant neoplasm of abdominal esophagus | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 0 |
| I503 | Malignant neoplasm of upper third of esophagus | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 27 |
| I504 | Malignant neoplasm of middle third of esophagus | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 66 |
| I505 | Malignant neoplasm of lower third of esophagus | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 161 |
| I508 | Malignant neoplasm of other specified part of esophagus | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 14 |
| I509 | Malignant neoplasm of esophagus, unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 154 |
| I510 | Malignant neoplasm of cardia | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 180 |
| I511 | Malignant neoplasm of pylorus | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 19 |
| I512 | Malignant neoplasm of pyloric antrum | MALIGNANT NEOPLASM OF DIGESTIVE | 95 |

| ICD | Wording | Section | nDIAG |
|------|---|--|-------|
| | | ORGANS AND PERITONEUM | |
| 1513 | Malignant neoplasm of fundus of stomach | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 13 |
| 1514 | Malignant neoplasm of body of stomach | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 50 |
| 1515 | Malignant neoplasm of lesser curvature of stomach, unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 39 |
| 1516 | Malignant neoplasm of greater curvature of stomach, unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 19 |
| 1518 | Malignant neoplasm of other specified sites of stomach | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 51 |
| 1519 | Malignant neoplasm of stomach, unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 214 |
| 1520 | Malignant neoplasm of duodenum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 36 |
| 1521 | Malignant neoplasm of jejunum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 0 |
| 1522 | Malignant neoplasm of ileum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 11 |
| 1523 | Malignant neoplasm of Meckel's diverticulum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 1 |
| 1528 | Malignant neoplasm of other specified sites of small intestine | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 5 |
| 1529 | Malignant neoplasm of small intestine, unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 15 |
| 1530 | Malignant neoplasm of hepatic flexure | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 84 |
| 1531 | Malignant neoplasm of transverse colon | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 130 |
| 1532 | Malignant neoplasm of descending colon | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 108 |
| 1533 | Malignant neoplasm of sigmoid colon | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 702 |
| 1534 | Malignant neoplasm of cecum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 291 |
| 1535 | Malignant neoplasm of appendix vermiformis | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 12 |
| 1536 | Malignant neoplasm of ascending colon | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 241 |
| 1537 | Malignant neoplasm of splenic flexure | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 64 |
| 1538 | Malignant neoplasm of other specified sites of large intestine | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 55 |
| 1539 | Malignant neoplasm of colon, unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 612 |
| 1540 | Malignant neoplasm of rectosigmoid junction | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 492 |
| 1541 | Malignant neoplasm of rectum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 945 |
| 1542 | Malignant neoplasm of anal canal | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 37 |
| 1543 | Malignant neoplasm of anus, unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 18 |
| 1548 | Malignant neoplasm of other sites of rectum, rectosigmoid junction, & anus | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 42 |
| 1550 | Malignant neoplasm of liver, primary | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 207 |
| 1551 | Malignant neoplasm of intrahepatic bile ducts | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 130 |
| 1552 | Malignant neoplasm of liver, not specified as primary or secondary | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 50 |
| 1560 | Malignant neoplasm of gallbladder | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 38 |
| 1561 | Malignant neoplasm of extrahepatic bile ducts | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 74 |

| ICD | Wording | Section | nDIAG |
|------|--|--|-------|
| 1562 | Malignant neoplasm of ampulla of Vater | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 59 |
| 1568 | Malignant neoplasm of other specified sites of gallbladder & extrahepatic bile ducts | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 6 |
| 1569 | Malignant neoplasm of biliary tract, part unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 21 |
| 1570 | Malignant neoplasm of head of pancreas | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 387 |
| 1571 | Malignant neoplasm of body of pancreas | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 48 |
| 1572 | Malignant neoplasm of tail of pancreas | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 61 |
| 1573 | Malignant neoplasm of pancreatic duct | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 1 |
| 1574 | Malignant neoplasm of islets of Langerhans | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 6 |
| 1578 | Malignant neoplasm of other specified sites of pancreas | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 44 |
| 1579 | Malignant neoplasm of pancreas, part unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 241 |
| 1580 | Malignant neoplasm of retroperitoneum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 13 |
| 1588 | Malignant neoplasm of specified parts of peritoneum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 81 |
| 1589 | Malignant neoplasm of peritoneum, unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 21 |
| 1590 | Malignant neoplasm of intestinal tract, part unspecified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 11 |
| 1591 | Malignant neoplasm of spleen, not elsewhere classified | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 2 |
| 1598 | Malignant neoplasm of other sites of digestive system & intra-abdominal organs | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 5 |
| 1599 | Malignant neoplasm of ill-defined sites within the digestive organs & peritoneum | MALIGNANT NEOPLASM OF DIGESTIVE ORGANS AND PERITONEUM | 20 |
| 1600 | Malignant neoplasm of nasal cavities | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 2 |
| 1601 | Malignant neoplasm of auditory tube, middle ear, & mastoid air cells | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 0 |
| 1602 | Malignant neoplasm of maxillary sinus | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 3 |
| 1603 | Malignant neoplasm of ethmoidal sinus | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 7 |
| 1604 | Malignant neoplasm of frontal sinus | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 0 |
| 1605 | Malignant neoplasm of sphenoidal sinus | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 0 |
| 1608 | Malignant neoplasm of other accessory sinuses | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 0 |
| 1609 | Malignant neoplasm of accessory sinus, unspecified | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 7 |
| 1610 | Malignant neoplasm of glottis | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 84 |
| 1611 | Malignant neoplasm of supraglottis | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 43 |
| 1612 | Malignant neoplasm of subglottis | MALIGNANT NEOPLASM OF | 10 |

| ICD | Wording | Section | nDIAG |
|------|---|--|-------|
| | | RESPIRATORY AND INTRATHORACIC ORGANS | |
| I613 | Malignant neoplasm of laryngeal cartilages | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 8 |
| I618 | Malignant neoplasm of other specified sites of larynx | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 19 |
| I619 | Malignant neoplasm of larynx, unspecified | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 65 |
| I620 | Malignant neoplasm of trachea | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 8 |
| I622 | Malignant neoplasm of main bronchus | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 261 |
| I623 | Malignant neoplasm of upper lobe, bronchus or lung | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 1344 |
| I624 | Malignant neoplasm of middle lobe, bronchus or lung | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 127 |
| I625 | Malignant neoplasm of lower lobe, bronchus or lung | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 697 |
| I628 | Malignant neoplasm of other parts of bronchus or lung | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 210 |
| I629 | Malignant neoplasm of bronchus & lung, unspecified | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 1178 |
| I630 | Malignant neoplasm of parietal pleura | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 19 |
| I631 | Malignant neoplasm of visceral pleura | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 17 |
| I638 | Malignant neoplasm of other specified sites of pleura | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 18 |
| I639 | Malignant neoplasm of pleura, unspecified | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 82 |
| I640 | Malignant neoplasm of thymus | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 7 |
| I641 | Malignant neoplasm of heart | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 2 |
| I642 | Malignant neoplasm of anterior mediastinum | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 1 |
| I643 | Malignant neoplasm of posterior mediastinum | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 1 |
| I648 | Malignant neoplasm of other parts of mediastinum | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 0 |
| I649 | Malignant neoplasm of mediastinum, part unspecified | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 12 |
| I650 | Malignant neoplasm of upper respiratory tract, part unspecified | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 2 |

| ICD | Wording | Section | nDIAG |
|------|--|---|-------|
| 1658 | Malignant neoplasm of other sites within the respiratory system & intrathoracic organs | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 2 |
| 1659 | Malignant neoplasm of ill-defined sites within the respiratory system | MALIGNANT NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS | 1 |
| 1700 | Malignant neoplasm of bones of skull & face, except mandible | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 6 |
| 1701 | Malignant neoplasm of mandible | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 10 |
| 1702 | Malignant neoplasm of vertebral column, excluding sacrum & coccyx | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 18 |
| 1703 | Malignant neoplasm of ribs, sternum, & clavicle | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 3 |
| 1704 | Malignant neoplasm of scapula & long bones of upper limb | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 6 |
| 1705 | Malignant neoplasm of short bones of upper limb | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 0 |
| 1706 | Malignant neoplasm of pelvic bones, sacrum, & coccyx | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 8 |
| 1707 | Malignant neoplasm of long bones of lower limb | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 7 |
| 1708 | Malignant neoplasm of short bones of lower limb | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 0 |
| 1709 | Malignant neoplasm of bone & articular cartilage, site unspecified | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 8 |
| 1710 | Malignant neoplasm of connective & other soft tissue of head, face, & neck | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 13 |
| 1712 | Malignant neoplasm of connective & other soft tissue of upper limb, including shoulder | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 11 |
| 1713 | Malignant neoplasm of connective & other soft tissue of lower limb, including hip | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 23 |
| 1714 | Malignant neoplasm of connective & other soft tissue of thorax | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 19 |
| 1715 | Malignant neoplasm of connective & other soft tissue of abdomen | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 10 |
| 1716 | Malignant neoplasm of connective & other soft tissue of pelvis | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 8 |
| 1717 | Malignant neoplasm of connective & other soft tissue of trunk, unspecified | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 0 |
| 1718 | Malignant neoplasm of other specified sites of connective & other soft tissue | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 6 |
| 1719 | Malignant neoplasm of connective & other soft tissue, site unspecified | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 21 |
| 1720 | Malignant melanoma of skin of lip | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND | 0 |

| ICD | Wording | Section | nDIAG |
|------|---|---|-------|
| | | BREAST | |
| 1721 | Malignant melanoma of skin of eyelid, including canthus | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 3 |
| 1722 | Malignant melanoma of skin of ear & external auditory canal | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 4 |
| 1723 | Malignant melanoma of skin of other & unspecified parts of face | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 14 |
| 1724 | Malignant melanoma of skin of scalp & neck | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 6 |
| 1725 | Malignant melanoma of skin of trunk, except scrotum | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 19 |
| 1726 | Malignant melanoma of skin of upper limb, including shoulder | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 9 |
| 1727 | Malignant melanoma of skin of lower limb, including hip | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 36 |
| 1728 | Malignant melanoma of other specified sites of skin | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 8 |
| 1729 | Melanoma of skin, site unspecified | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 38 |
| 1730 | Other malignant neoplasm of skin of lip | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 9 |
| 1731 | Other malignant neoplasm of skin of eyelid, including canthus | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 13 |
| 1732 | Other malignant neoplasm of skin of ear & external auditory canal | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 29 |
| 1733 | Other malignant neoplasm of skin of other & unspecified parts of face | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 125 |
| 1734 | Other malignant neoplasm of scalp & skin of neck | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 37 |
| 1735 | Other malignant neoplasm of skin of trunk, except scrotum | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 31 |
| 1736 | Other malignant neoplasm of skin of upper limb, including shoulder | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 14 |
| 1737 | Other malignant neoplasm of skin of lower limb, including hip | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 37 |
| 1738 | Other malignant neoplasm of other specified sites of skin | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 10 |
| 1739 | Other malignant neoplasm of skin, site unspecified | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 23 |
| 1740 | Malignant neoplasm of nipple & areola of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 23 |
| 1741 | Malignant neoplasm of central portion of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 24 |
| 1742 | Malignant neoplasm of upper-inner quadrant of female | MALIGNANT NEOPLASM OF BONE, | 48 |

| ICD | Wording | Section | nDIAG |
|------|--|---|-------|
| | breast | CONNECTIVE TISSUE, SKIN, AND BREAST | |
| 1743 | Malignant neoplasm of lower-inner quadrant of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 18 |
| 1744 | Malignant neoplasm of upper-outer quadrant of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 128 |
| 1745 | Malignant neoplasm of lower-outer quadrant of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 28 |
| 1746 | Malignant neoplasm of axillary tail of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 8 |
| 1748 | Malignant neoplasm of other specified sites of female breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 156 |
| 1749 | Malignant neoplasm of breast (female), unspecified | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 851 |
| 1750 | Malignant neoplasm of nipple & areola of male breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 3 |
| 1759 | Malignant neoplasm of other & unspecified sites of male breast | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 12 |
| 1760 | Kaposi's sarcoma skin | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 1 |
| 1761 | Kaposi's sarcoma soft tissue | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 0 |
| 1762 | Kaposi's sarcoma palate | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 0 |
| 1763 | Kaposi's sarcoma gastrointestinal sites | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 0 |
| 1764 | Kaposi's sarcoma lung | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 0 |
| 1765 | Kaposi's sarcoma lymph nodes | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 0 |
| 1768 | Kaposi's sarcoma other specified sites | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 0 |
| 1769 | Kaposi's sarcoma unspecified site | MALIGNANT NEOPLASM OF BONE, CONNECTIVE TISSUE, SKIN, AND BREAST | 3 |
| 179 | Malignant neoplasm of uterus, part unspecified | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 41 |
| 1800 | Malignant neoplasm of endocervix | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 11 |
| 1801 | Malignant neoplasm of exocervix | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 10 |
| 1808 | Malignant neoplasm of other specified sites of cervix | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 15 |
| 1809 | Malignant neoplasm of cervix uteri, unspecified | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 100 |
| 1820 | Malignant neoplasm of corpus uteri, except isthmus | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 217 |
| 1821 | Malignant neoplasm of isthmus | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 0 |
| 1828 | Malignant neoplasm of other specified sites of body of | MALIGNANT NEOPLASM OF | 14 |

| ICD | Wording | Section | nDIAG |
|------|--|--|-------|
| | uterus | GENITOURINARY ORGANS | |
| 1830 | Malignant neoplasm of ovary | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 490 |
| 1832 | Malignant neoplasm of fallopian tube | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 5 |
| 1833 | Malignant neoplasm of broad ligament of uterus | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 0 |
| 1834 | Malignant neoplasm of parametrium | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 3 |
| 1835 | Malignant neoplasm of round ligament of uterus | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 0 |
| 1838 | Malignant neoplasm of other specified sites of uterine adnexa | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 9 |
| 1839 | Malignant neoplasm of uterine adnexa, unspecified | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 5 |
| 1840 | Malignant neoplasm of vagina | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 25 |
| 1841 | Malignant neoplasm of labia majora | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 2 |
| 1842 | Malignant neoplasm of labia minora | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 0 |
| 1843 | Malignant neoplasm of clitoris | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 0 |
| 1844 | Malignant neoplasm of vulva, unspecified | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 41 |
| 1848 | Malignant neoplasm of other specified sites of female genital organs | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 2 |
| 1849 | Malignant neoplasm of female genital organ, site unspecified | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 3 |
| 1860 | Malignant neoplasm of undescended testis | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 0 |
| 1869 | Malignant neoplasm of other & unspecified testis | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 4 |
| 1871 | Malignant neoplasm of prepuce | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 0 |
| 1872 | Malignant neoplasm of glans penis | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 1 |
| 1873 | Malignant neoplasm of body of penis | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 0 |
| 1874 | Malignant neoplasm of penis, part unspecified | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 5 |
| 1875 | Malignant neoplasm of epididymis | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 0 |
| 1876 | Malignant neoplasm of spermatic cord | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 0 |
| 1877 | Malignant neoplasm of scrotum | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 4 |
| 1878 | Malignant neoplasm of other specified sites of male genital organs | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 3 |
| 1879 | Malignant neoplasm of male genital organ, site unspecified | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 0 |
| 1880 | Malignant neoplasm of trigone of urinary bladder | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 47 |
| 1881 | Malignant neoplasm of dome of urinary bladder | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 41 |
| 1882 | Malignant neoplasm of lateral wall of urinary bladder | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 87 |
| 1883 | Malignant neoplasm of anterior wall of urinary bladder | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 9 |
| 1884 | Malignant neoplasm of posterior wall of urinary bladder | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 22 |
| 1885 | Malignant neoplasm of bladder neck | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 22 |
| 1886 | Malignant neoplasm of ureteric orifice | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 26 |

| ICD | Wording | Section | nDIAG |
|------|--|---|-------|
| 1887 | Malignant neoplasm of urachus | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 1 |
| 1888 | Malignant neoplasm of other specified sites of bladder | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 182 |
| 1889 | Malignant neoplasm of bladder, part unspecified | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 600 |
| 1890 | Malignant neoplasm of kidney, except pelvis | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 417 |
| 1891 | Malignant neoplasm of renal pelvis | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 38 |
| 1892 | Malignant neoplasm of ureter | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 46 |
| 1893 | Malignant neoplasm of urethra | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 15 |
| 1894 | Malignant neoplasm of paraurethral glands | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 0 |
| 1898 | Malignant neoplasm of other specified sites of urinary organs | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 3 |
| 1899 | Malignant neoplasm of urinary organ, site unspecified | MALIGNANT NEOPLASM OF GENITOURINARY ORGANS | 9 |
| 1900 | Malignant neoplasm of eyeball, except conjunctiva, cornea, retina, & choroid | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 2 |
| 1901 | Malignant neoplasm of orbit | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 3 |
| 1902 | Malignant neoplasm of lacrimal gland | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 1 |
| 1903 | Malignant neoplasm of conjunctiva | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 0 |
| 1904 | Malignant neoplasm of cornea | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 0 |
| 1905 | Malignant neoplasm of retina | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 3 |
| 1906 | Malignant neoplasm of choroid | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 7 |
| 1907 | Malignant neoplasm of lacrimal duct | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 0 |
| 1908 | Malignant neoplasm of other specified sites of eye | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 2 |
| 1909 | Malignant neoplasm of eye, part unspecified | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 3 |
| 1910 | Malignant neoplasm of cerebrum, except lobes & ventricles | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 22 |
| 1911 | Malignant neoplasm of frontal lobe | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 55 |
| 1912 | Malignant neoplasm of temporal lobe | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 56 |
| 1913 | Malignant neoplasm of parietal lobe | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 41 |
| 1914 | Malignant neoplasm of occipital lobe | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 15 |
| 1915 | Malignant neoplasm of ventricles | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 1 |
| 1916 | Malignant neoplasm of cerebellum NOS | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 6 |
| 1917 | Malignant neoplasm of brain stem | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 2 |
| 1918 | Malignant neoplasm of other parts of brain | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 23 |
| 1919 | Malignant neoplasm of brain, unspecified | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 100 |
| 1920 | Malignant neoplasm of cranial nerves | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 0 |
| 1921 | Malignant neoplasm of cerebral meninges | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 25 |
| 1922 | Malignant neoplasm of spinal cord | MALIGNANT NEOPLASM OF OTHER | 5 |

| ICD | Wording | Section | nDIAG |
|------|---|---|-------|
| | | AND UNSPECIFIED SITES | |
| 1923 | Malignant neoplasm of spinal meninges | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 3 |
| 1928 | Malignant neoplasm of other specified sites of nervous system | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 3 |
| 1929 | Malignant neoplasm of nervous system, part unspecified | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 6 |
| 193 | Malignant neoplasm of thyroid gland | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 78 |
| 1940 | Malignant neoplasm of adrenal gland | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 25 |
| 1941 | Malignant neoplasm of parathyroid gland | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 2 |
| 1943 | Malignant neoplasm of pituitary gland & craniopharyngeal duct | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 3 |
| 1944 | Malignant neoplasm of pineal gland | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 1 |
| 1945 | Malignant neoplasm of carotid body | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 0 |
| 1946 | Malignant neoplasm of aortic body & other paraganglia | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 0 |
| 1948 | Malignant neoplasm of other endocrine glands & related structures | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 3 |
| 1949 | Malignant neoplasm of endocrine gland, site unspecified | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 10 |
| 1950 | Malignant neoplasm of head, face, & neck | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 12 |
| 1951 | Malignant neoplasm of thorax | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 8 |
| 1952 | Malignant neoplasm of abdomen | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 14 |
| 1953 | Malignant neoplasm of pelvis | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 13 |
| 1954 | Malignant neoplasm of upper limb | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 1 |
| 1955 | Malignant neoplasm of lower limb | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 0 |
| 1958 | Malignant neoplasm of other specified sites | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 6 |
| 1960 | Secondary & unspecified malignant neoplasm of lymph nodes of head, face, & neck | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 326 |
| 1961 | Secondary & unspecified malignant neoplasm of intrathoracic lymph nodes | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 899 |
| 1962 | Secondary & unspecified malignant neoplasm of intra-abdominal lymph nodes | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 1138 |
| 1963 | Secondary & unspecified malignant neoplasm of lymph nodes of axilla & upper limb | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 243 |
| 1965 | Secondary & unspecified malignant neoplasm of lymph nodes of inguinal region & lower limb | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 96 |
| 1966 | Secondary & unspecified malignant neoplasm of intrapelvic lymph nodes | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 185 |
| 1968 | Secondary & unspecified malignant neoplasm of lymph nodes of multiple sites | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 46 |
| 1969 | Secondary & unspecified malignant neoplasm of lymph nodes, site unspecified | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 190 |
| 1970 | Secondary malignant neoplasm of lung | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 1802 |
| 1971 | Secondary malignant neoplasm of mediastinum | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 279 |
| 1972 | Secondary malignant neoplasm of pleura | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 586 |
| 1973 | Secondary malignant neoplasm of other respiratory organs | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 55 |
| 1974 | Secondary malignant neoplasm of small intestine including duodenum | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 144 |

| ICD | Wording | Section | nDIAG |
|-------|---|---|-------|
| 1975 | Secondary malignant neoplasm of large intestine & rectum | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 219 |
| 1976 | Secondary malignant neoplasm of retroperitoneum & peritoneum | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 1268 |
| 1977 | Malignant neoplasm of liver, specified as secondary | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 3311 |
| 1978 | Secondary malignant neoplasm of other digestive organs & spleen | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 292 |
| 1980 | Secondary malignant neoplasm of kidney | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 66 |
| 1981 | Secondary malignant neoplasm of other urinary organs | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 210 |
| 1982 | Secondary malignant neoplasm of skin | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 275 |
| 1983 | Secondary malignant neoplasm of brain & spinal cord | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 872 |
| 1984 | Secondary malignant neoplasm of other parts of nervous system | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 102 |
| 1985 | Secondary malignant neoplasm of bone & bone marrow | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 2880 |
| 1986 | Secondary malignant neoplasm of ovary | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 50 |
| 1987 | Secondary malignant neoplasm of adrenal gland | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 346 |
| 1988I | Secondary malignant neoplasm of breast | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 23 |
| 19882 | Secondary malignant neoplasm of breast | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 177 |
| 19889 | Secondary malignant neoplasm of breast | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 828 |
| 1990 | Disseminated malignant neoplasm | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 219 |
| 1991 | Other malignant neoplasm of unspecified site | MALIGNANT NEOPLASM OF OTHER AND UNSPECIFIED SITES | 382 |
| V662 | Convalescence following chemotherapy | PERSONS ENCOUNTERING HEALTH SERVICES IN OTHER CIRCUMSTANCES | 47 |

Malignant neoplasm of lymphatic and hematopoietic tissue

| ICD | Wording | Section | nDIAG |
|-------|---|--|-------|
| 20300 | Multiple myeloma without remission | MALIGNANT NEOPLASM OF LYMPHATIC AND HEMATOPOIETIC TISSUE | 490 |
| 20301 | Multiple myeloma in remission | MALIGNANT NEOPLASM OF LYMPHATIC AND HEMATOPOIETIC TISSUE | 27 |
| 20410 | Lymphoid leukemia chronic without remission | MALIGNANT NEOPLASM OF LYMPHATIC AND HEMATOPOIETIC TISSUE | 368 |
| 20411 | Lymphoid leukemia chronic in remission | MALIGNANT NEOPLASM OF LYMPHATIC AND HEMATOPOIETIC TISSUE | 33 |
| 20510 | Myeloid leukemia chronic without remission | MALIGNANT NEOPLASM OF LYMPHATIC AND HEMATOPOIETIC TISSUE | 99 |
| 20511 | Myeloid leukemia chronic in remission | MALIGNANT NEOPLASM OF LYMPHATIC AND HEMATOPOIETIC TISSUE | 8 |
| 20810 | Leukemia of unspecified cell type chronic without remission | MALIGNANT NEOPLASM OF LYMPHATIC AND HEMATOPOIETIC TISSUE | 8 |
| 20811 | Leukemia of unspecified cell type chronic in remission | MALIGNANT NEOPLASM OF LYMPHATIC AND HEMATOPOIETIC TISSUE | 2 |
| 23871 | Essential thrombocythemia | NEOPLASMS OF UNCERTAIN BEHAVIOR | 0 |

| ICD | Wording | Section | nDIAG |
|-------|---|--|-------|
| 23872 | Low grade myelodysplastic syndrome lesions | NEOPLASMS OF UNCERTAIN BEHAVIOR | 0 |
| 23873 | High grade myelodysplastic syndrome lesions | NEOPLASMS OF UNCERTAIN BEHAVIOR | 0 |
| 23874 | Myelodysplastic syndrome with 5q deletion | NEOPLASMS OF UNCERTAIN BEHAVIOR | 0 |
| 23875 | Myelodysplastic syndrome, unspecified | NEOPLASMS OF UNCERTAIN BEHAVIOR | 0 |
| 23876 | Myelofibrosis with myeloid metaplasia | NEOPLASMS OF UNCERTAIN BEHAVIOR | 0 |
| 23879 | Other lymphatic and hematopoietic tissues | NEOPLASMS OF UNCERTAIN BEHAVIOR | 0 |
| 2733 | Macroglobulinemia | OTHER METABOLIC AND IMMUNITY DISORDERS | 62 |

Endocrine, nutritional and metabolic diseases

| ICD | Wording | Section | nDIAG |
|-------|---|--|-------|
| 2409 | Goiter, unspecified | DISORDERS OF THYROID GLAND | 371 |
| 2410 | Nontoxic uninodular goiter | DISORDERS OF THYROID GLAND | 144 |
| 2411 | Nontoxic multinodular goiter | DISORDERS OF THYROID GLAND | 515 |
| 2419 | Unspecified nontoxic nodular goiter | DISORDERS OF THYROID GLAND | 69 |
| 24200 | Toxic diffuse goiter without thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 167 |
| 24201 | Toxic diffuse goiter with thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 7 |
| 24210 | Toxic uninodular goiter without thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 46 |
| 24211 | Toxic uninodular goiter with thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 3 |
| 24220 | Toxic multinodular goiter without thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 260 |
| 24221 | Toxic multinodular goiter with thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 15 |
| 24230 | Toxic nodular goiter unspecified type without thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 45 |
| 24231 | Toxic nodular goiter unspecified type with thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 2 |
| 24240 | Thyrotoxicosis from ectopic thyroid nodule without thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 5 |
| 24241 | Thyrotoxicosis from ectopic thyroid nodule with thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 0 |
| 24280 | Thyrotoxicosis of other specified origin without thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 181 |
| 24281 | Thyrotoxicosis of other specified origin with thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 10 |
| 24290 | Thyrotoxicosis without goiter or other cause and without thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 1143 |
| 24291 | Thyrotoxicosis without goiter or other cause with thyrotoxic crisis or storm | DISORDERS OF THYROID GLAND | 20 |
| 2449 | Unspecified acquired hypothyroidism | DISORDERS OF THYROID GLAND | 3811 |
| 2468 | Other specified disorders of thyroid | DISORDERS OF THYROID GLAND | 52 |
| 2469 | Unspecified disorder of thyroid | DISORDERS OF THYROID GLAND | 216 |
| 2520 | Hyperparathyroidism | DISEASES OF OTHER ENDOCRINE GLANDS | 210 |
| 27800 | Obesity, unspecified | OTHER METABOLIC AND IMMUNITY DISORDERS | 6841 |

Diabetes mellitus

| ICD | Wording | Section | nDIAG |
|-------|---|------------------------------------|-------|
| 25000 | Diabetes mellitus without complication type ii or unspecified type not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 12923 |
| 25001 | Diabetes mellitus without complication type i not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 684 |
| 25002 | Diabetes mellitus without complication type ii or unspecified type uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 2451 |
| 25003 | Diabetes mellitus without complication type i | DISEASES OF OTHER ENDOCRINE GLANDS | 225 |

| ICD | Wording | Section | nDIAG |
|-------|--|------------------------------------|-------|
| | uncontrolled | GLANDS | |
| 25040 | Diabetes mellitus with renal manifestations type ii or unspecified type not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 1036 |
| 25041 | Diabetes mellitus with renal manifestations type i not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 127 |
| 25042 | Diabetes mellitus with renal manifestations type ii or unspecified type uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 715 |
| 25043 | Diabetes mellitus with renal manifestations type i uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 74 |
| 25050 | Diabetes mellitus with ophthalmic manifestations type ii or unspecified type not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 814 |
| 25051 | Diabetes mellitus with ophthalmic manifestations type i not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 104 |
| 25052 | Diabetes mellitus with ophthalmic manifestations type ii or unspecified type uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 666 |
| 25053 | Diabetes mellitus with ophthalmic manifestations type i uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 99 |
| 25060 | Diabetes mellitus with neurological manifestations type ii or unspecified type not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 1184 |
| 25061 | Diabetes mellitus with neurological manifestations type i not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 128 |
| 25062 | Diabetes mellitus with neurological manifestations type ii or unspecified type uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 929 |
| 25063 | Diabetes mellitus with neurological manifestations type i uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 116 |
| 25070 | Diabetes mellitus with peripheral circulatory disorders type ii or unspecified type not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 1066 |
| 25071 | Diabetes mellitus with peripheral circulatory disorders type i not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 145 |
| 25072 | Diabetes mellitus with peripheral circulatory disorders type ii or unspecified type uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 561 |
| 25073 | Diabetes mellitus with peripheral circulatory disorders type i uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 69 |
| 25080 | Diabetes mellitus with other specified manifestations type ii or unspecified type not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 548 |
| 25081 | Diabetes mellitus with other specified manifestations type i not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 65 |
| 25082 | Diabetes mellitus with other specified manifestations type ii or unspecified type uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 447 |
| 25083 | Diabetes mellitus with other specified manifestations type i uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 48 |
| 25090 | Diabetes mellitus with unspecified complication type ii or unspecified type not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 106 |
| 25091 | Diabetes mellitus with unspecified complication type i not stated as uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 11 |
| 25092 | Diabetes mellitus with unspecified complication type ii or unspecified type uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 232 |
| 25093 | Diabetes mellitus with unspecified complication type i uncontrolled | DISEASES OF OTHER ENDOCRINE GLANDS | 19 |
| 2511 | Other hyperinsulinism | DISEASES OF OTHER ENDOCRINE GLANDS | 33 |
| 2512 | Hypoglycemia, unspecified | DISEASES OF OTHER ENDOCRINE GLANDS | 111 |

Anemias

| ICD | Wording | Section | nDIAG |
|------|--|--------------------------|-------|
| 2800 | Iron deficiency anemia secondary to blood loss (chronic) | IRON DEFICIENCY ANEMIAS | 670 |
| 2801 | Iron deficiency anemia secondary to inadequate dietary iron intake | IRON DEFICIENCY ANEMIAS | 45 |
| 2808 | Other specified iron deficiency anemias | IRON DEFICIENCY ANEMIAS | 113 |
| 2809 | Iron deficiency anemia, unspecified | IRON DEFICIENCY ANEMIAS | 1949 |
| 2810 | Pernicious anemia | OTHER DEFICIENCY ANEMIAS | 110 |
| 2811 | Other vitamin B12 deficiency anemia | OTHER DEFICIENCY ANEMIAS | 141 |

| ICD | Wording | Section | nDIAG |
|-------|--|-------------------------------|-------|
| 2812 | Folate-deficiency anemia | OTHER DEFICIENCY ANEMIAS | 235 |
| 2813 | Other specified megaloblastic anemias not elsewhere classified | OTHER DEFICIENCY ANEMIAS | 30 |
| 2814 | Protein-deficiency anemia | OTHER DEFICIENCY ANEMIAS | 10 |
| 2818 | Anemia associated with other specified nutritional deficiency | OTHER DEFICIENCY ANEMIAS | 7 |
| 2819 | Unspecified deficiency anemia | OTHER DEFICIENCY ANEMIAS | 456 |
| 2830 | Autoimmune hemolytic anemias | ACQUIRED HEMOLYTIC ANEMIAS | 35 |
| 28310 | Non-autoimmune hemolytic anemia, unspecified | ACQUIRED HEMOLYTIC ANEMIAS | 0 |
| 28311 | Hemolytic-uremic syndrome | ACQUIRED HEMOLYTIC ANEMIAS | 5 |
| 28319 | Other non-autoimmune hemolytic anemias | ACQUIRED HEMOLYTIC ANEMIAS | 48 |
| 2832 | Hemoglobinuria due to hemolysis from external causes | ACQUIRED HEMOLYTIC ANEMIAS | 8 |
| 2839 | Acquired hemolytic anemia, unspecified | ACQUIRED HEMOLYTIC ANEMIAS | 35 |
| 2840 | Constitutional aplastic anemia | APLASTIC ANEMIA | 3 |
| 2848 | Other specified aplastic anemias | APLASTIC ANEMIA | 527 |
| 2849 | Aplastic anemia, unspecified | APLASTIC ANEMIA | 107 |
| 2850 | Sideroblastic anemia | OTHER AND UNSPECIFIED ANEMIAS | 108 |
| 2851 | Acute posthemorrhagic anemia | OTHER AND UNSPECIFIED ANEMIAS | 1785 |
| 28522 | Anemia in neoplastic disease | OTHER AND UNSPECIFIED ANEMIAS | 661 |
| 2858 | Other specified anemias | OTHER AND UNSPECIFIED ANEMIAS | 418 |
| 2859 | Anemia, unspecified | OTHER AND UNSPECIFIED ANEMIAS | 5900 |

| Diseases of blood | | | |
|-------------------|--|--|-------|
| ICD | Wording | Section | nDIAG |
| 2384 | Polycythemia vera | NEOPLASMS OF UNCERTAIN BEHAVIOR | 101 |
| 2870 | Allergic purpura | PURPURA AND OTHER HEMORRHAGIC CONDITIONS | 41 |
| 2871 | Qualitative platelet defects | PURPURA AND OTHER HEMORRHAGIC CONDITIONS | 8 |
| 2872 | Other nonthrombocytopenic purpuras | PURPURA AND OTHER HEMORRHAGIC CONDITIONS | 32 |
| 2873 | Primary thrombocytopenia | PURPURA AND OTHER HEMORRHAGIC CONDITIONS | 96 |
| 2874 | Secondary thrombocytopenia | PURPURA AND OTHER HEMORRHAGIC CONDITIONS | 322 |
| 2875 | Thrombocytopenia, unspecified | PURPURA AND OTHER HEMORRHAGIC CONDITIONS | 939 |
| 2878 | Other specified hemorrhagic conditions | PURPURA AND OTHER HEMORRHAGIC CONDITIONS | 4 |
| 2879 | Unspecified hemorrhagic conditions | PURPURA AND OTHER HEMORRHAGIC CONDITIONS | 9 |
| 2890 | Polycythemia, secondary | OTHER DISEASES OF BLOOD AND BLOOD-FORMING ORGANS | 47 |
| 2898 | Other specified diseases of blood & blood-forming organs | OTHER DISEASES OF BLOOD AND BLOOD-FORMING ORGANS | 340 |
| 2899 | Unspecified diseases of blood & blood-forming organs | OTHER DISEASES OF BLOOD AND BLOOD-FORMING ORGANS | 141 |
| 4590 | Hemorrhage, unspecified | PURPURA AND OTHER HEMORRHAGIC CONDITIONS | 108 |

Senile, presenile, hereditary and degenerative diseases of the central nervous system and personality disorders

| ICD | Wording | Section | nDIAG |
|-------|----------------------------------|---|-------|
| 2900 | Senile dementia, uncomplicated | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 3275 |
| 29010 | Presenile dementia uncomplicated | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 218 |
| 29011 | Presenile dementia with delirium | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 50 |

| ICD | Wording | Section | nDIAG |
|-------|---|---|-------|
| 29012 | Presenile dementia with delusional features | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 21 |
| 29013 | Presenile dementia with depressive features | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 17 |
| 29020 | Senile dementia with delusional features | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 174 |
| 29021 | Senile dementia with depressive features | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 280 |
| 2903 | Senile dementia with delirium | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 797 |
| 29040 | Arteriosclerotic dementia,uncomplicated | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 1953 |
| 29041 | Arteriosclerotic dementia with delirium | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 534 |
| 29042 | Arteriosclerotic dementia with delusional features | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 88 |
| 29043 | Vascular dementia with depressed mood | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 187 |
| 2908 | Other specified senile psychotic conditions | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 18 |
| 2909 | Unspecified senile psychotic condition | SENILE AND PRESENILE ORGANIC PSYCHOTIC CONDITIONS | 141 |
| 2930 | Acute delirium | TRANSIENT ORGANIC PSYCHOTIC CONDITIONS | 1644 |
| 2931 | Subacute delirium | TRANSIENT ORGANIC PSYCHOTIC CONDITIONS | 245 |
| 29382 | Organic hallucinosis syndrome | TRANSIENT ORGANIC PSYCHOTIC CONDITIONS | 11 |
| 29384 | Organic anxiety syndrome | TRANSIENT ORGANIC PSYCHOTIC CONDITIONS | 31 |
| 2940 | Amnesic syndrome | OTHER ORGANIC PSYCHOTIC CONDITIONS (CHRONIC) | 62 |
| 29410 | Dementia in conditions classified elsewhere without behavioral disturbance | OTHER ORGANIC PSYCHOTIC CONDITIONS (CHRONIC) | 1475 |
| 29411 | Dementia in conditions classified elsewhere without behavioral disturbance | OTHER ORGANIC PSYCHOTIC CONDITIONS (CHRONIC) | 1156 |
| 2948 | Other specified organic brain syndromes (chronic) | OTHER ORGANIC PSYCHOTIC CONDITIONS (CHRONIC) | 514 |
| 2949 | Unspecified organic brain syndrome (chronic) | OTHER ORGANIC PSYCHOTIC CONDITIONS (CHRONIC) | 441 |
| 29610 | Manic affective disorder recurrent episode unspecified degree | OTHER PSYCHOSES | 5 |
| 29611 | Manic affective disorder recurrent episode mild degree | OTHER PSYCHOSES | 0 |
| 29612 | Manic affective disorder recurrent episode moderate degree | OTHER PSYCHOSES | 2 |
| 29613 | Manic affective disorder recurrent episode severe degree without psychotic behavior | OTHER PSYCHOSES | 0 |
| 29620 | Major depressive affective disorder single episode unspecified degree | OTHER PSYCHOSES | 328 |
| 29621 | Major depressive affective disorder single episode mild degree | OTHER PSYCHOSES | 43 |
| 29622 | Major depressive affective disorder single episode moderate degree | OTHER PSYCHOSES | 63 |
| 29623 | Major depressive affective disorder single episode severe degree without psychotic behavior | OTHER PSYCHOSES | 112 |
| 29624 | Major depressive affective disorder single episode severe degree specified as with psychotic behavior | OTHER PSYCHOSES | 83 |
| 29625 | Major depressive affective disorder single episode in partial or unspecified remission | OTHER PSYCHOSES | 8 |
| 29626 | Major depressive affective disorder single episode in full remission | OTHER PSYCHOSES | 3 |
| 29630 | Major depressive affective disorder recurrent episode unspecified degree | OTHER PSYCHOSES | 175 |
| 29631 | Major depressive affective disorder recurrent episode mild degree | OTHER PSYCHOSES | 23 |

| ICD | Wording | Section | nDIAG |
|-------|---|-----------------|-------|
| 29632 | Major depressive affective disorder recurrent episode moderate degree | OTHER PSYCHOSES | 74 |
| 29633 | Major depressive affective disorder recurrent episode severe degree without psychotic behavior | OTHER PSYCHOSES | 185 |
| 29634 | Major depressive affective disorder recurrent episode severe degree specified as with psychotic behavior | OTHER PSYCHOSES | 65 |
| 29635 | Major depressive affective disorder recurrent episode in partial or unspecified remission | OTHER PSYCHOSES | 6 |
| 29636 | Major depressive affective disorder recurrent episode in full remission | OTHER PSYCHOSES | 1 |
| 29640 | Bipolar i disorder, most recent episode (or current) manic unspecified degree | OTHER PSYCHOSES | 12 |
| 29641 | Bipolar i disorder, most recent episode (or current) manic mild degree | OTHER PSYCHOSES | 1 |
| 29642 | Bipolar i disorder, most recent episode (or current) manic moderate degree | OTHER PSYCHOSES | 1 |
| 29643 | Bipolar i disorder, most recent episode (or current) manic severe degree without psychotic behavior | OTHER PSYCHOSES | 3 |
| 29644 | Bipolar i disorder, most recent episode (or current) manic severe degree specified as with psychotic behavior | OTHER PSYCHOSES | 6 |
| 29645 | Bipolar i disorder, most recent episode (or current) manic in partial or unspecified remission | OTHER PSYCHOSES | 0 |
| 29646 | Bipolar i disorder, most recent episode (or current) manic in full remission | OTHER PSYCHOSES | 0 |
| 29650 | Bipolar i disorder, most recent episode (or current) depressed unspecified degree | OTHER PSYCHOSES | 19 |
| 29651 | Bipolar i disorder, most recent episode (or current) depressed mild degree | OTHER PSYCHOSES | 1 |
| 29652 | Bipolar i disorder, most recent episode (or current) depressed moderate degree | OTHER PSYCHOSES | 3 |
| 29653 | Bipolar i disorder, most recent episode (or current) depressed severe degree without psychotic behavior | OTHER PSYCHOSES | 17 |
| 29654 | Bipolar i disorder, most recent episode (or current) depressed severe degree specified as with psychotic behavior | OTHER PSYCHOSES | 5 |
| 29655 | Bipolar i disorder, most recent episode (or current) depressed in partial or unspecified remission | OTHER PSYCHOSES | 4 |
| 29656 | Bipolar i disorder, most recent episode (or current) depressed in remission | OTHER PSYCHOSES | 0 |
| 29660 | Bipolar i disorder, most recent episode (or current) mixed unspecified degree | OTHER PSYCHOSES | 4 |
| 29661 | Bipolar i disorder, most recent episode (or current) mixed mild degree | OTHER PSYCHOSES | 0 |
| 29662 | Bipolar i disorder, most recent episode (or current) mixed moderate degree | OTHER PSYCHOSES | 5 |
| 29663 | Bipolar i disorder, most recent episode (or current) mixed severe degree without psychotic behavior | OTHER PSYCHOSES | 0 |
| 29664 | Bipolar i disorder, most recent episode (or current) mixed severe degree specified as with psychotic behavior | OTHER PSYCHOSES | 4 |
| 29665 | Bipolar i disorder, most recent episode (or current) mixed in partial or unspecified remission | OTHER PSYCHOSES | 1 |
| 29666 | Bipolar i disorder, most recent episode (or current) mixed in full remission | OTHER PSYCHOSES | 1 |
| 2967 | Bipolar affective disorder, unspecified | OTHER PSYCHOSES | 28 |
| 29680 | Manic-depressive psychosis, unspecified | OTHER PSYCHOSES | 166 |
| 29682 | Atypical depressive disorder | OTHER PSYCHOSES | 33 |
| 29689 | Bipolar disorder, other | OTHER PSYCHOSES | 9 |
| 2970 | Paranoid state, simple | OTHER PSYCHOSES | 10 |
| 2971 | Paranoia | OTHER PSYCHOSES | 97 |
| 2972 | Paraphrenia | OTHER PSYCHOSES | 2 |
| 2973 | Shared paranoid disorder | OTHER PSYCHOSES | 2 |

| ICD | Wording | Section | nDIAG |
|-------|--|--|-------|
| 2978 | Other specified paranoid states | OTHER PSYCHOSES | 7 |
| 2979 | Unspecified paranoid state | OTHER PSYCHOSES | 81 |
| 2982 | Reactive confusion | OTHER PSYCHOSES | 598 |
| 30000 | Anxiety state unspecified | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 1021 |
| 30001 | Panic disorder without agoraphobia | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 58 |
| 30002 | Generalized anxiety disorder | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 53 |
| 30009 | Other anxiety states | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 7 |
| 3010 | Paranoid personality disorder | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 28 |
| 30500 | Nondependent alcohol abuse unspecified drinking behavior | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 270 |
| 30501 | Nondependent alcohol abuse continuous drinking behavior | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 144 |
| 30502 | Nondependent alcohol abuse episodic drinking behavior | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 44 |
| 30503 | Nondependent alcohol abuse in remission | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 26 |
| 30740 | Nonorganic sleep disorder unspecified | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 9 |
| 30741 | Transient disorder of initiating or maintaining sleep | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 6 |
| 30742 | Persistent disorder of initiating or maintaining sleep | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 41 |
| 30743 | Transient disorder of initiating or maintaining wakefulness | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 1 |
| 30744 | Persistent disorder of initiating or maintaining wakefulness | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 2 |
| 30745 | Circadian rhythm sleep disorder of nonorganic | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 5 |
| 30746 | Sleep arousal disorder | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 2 |
| 30747 | Other dysfunctions of sleep stages or arousal from sleep | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 12 |
| 30748 | Repetitive intrusions of sleep | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 0 |
| 30749 | Other specific disorders of sleep of nonorganic origin | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 4 |
| 3101 | Organic personality syndrome | NEUROTIC DISORDERS, PERSONALITY DISORDERS, AND OTHER NONPSYCHOTIC MENTAL DIS | 504 |
| 3310 | Alzheimer"s disease | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS | 3749 |

| ICD | Wording | Section | nDIAG |
|-------|--|--|-------|
| | | SYSTEM | |
| 33111 | Pick's disease | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 0 |
| 33119 | Other frontotemporal dementia | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 0 |
| 3312 | Senile degeneration of brain | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 524 |
| 3313 | Communicating hydrocephalus | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 287 |
| 3314 | Obstructive hydrocephalus | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 262 |
| 3315 | Idiopathic normal pressure hydrocephalus (inph) | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 0 |
| 3317 | Cerebral degeneration in diseases classified elsewhere | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 162 |
| 33182 | Dementia with lewy bodies | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 0 |
| 33183 | Mild cognitive impairment, so stated | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 0 |
| 33189 | Other cerebral degeneration | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 209 |
| 3319 | Cerebral degeneration, unspecified | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 2460 |
| 4377 | Transient global amnesia | CEREBROVASCULAR DISEASE | 31 |
| 7845 | Other speech disturbance | SYMPTOMS | 561 |
| V702 | General psychiatric examination, other & unspecified | PERSONS WITHOUT REPORTED DIAGNOSIS ENCOUNTERED DURING EXAMINATION AND INVEST | 10 |

Parkinson's disease

| ICD | Wording | Section | nDIAG |
|------|---|--|-------|
| 3320 | Paralysis agitans | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 4145 |
| 3321 | Secondary Parkinsonism | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 143 |
| 3331 | Essential & other specified forms of tremor | HEREDITARY AND DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM | 295 |
| 7810 | Abnormal involuntary movements | SYMPTOMS | 199 |

| Epilepsy | | | |
|-----------------|---|---|--------------|
| ICD | Wording | Section | nDIAG |
| 34500 | Generalized nonconvulsive epilepsy without intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 40 |
| 34501 | Generalized nonconvulsive epilepsy with intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 8 |
| 34510 | Generalized convulsive epilepsy without intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 376 |
| 34511 | Generalized convulsive epilepsy with intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 17 |
| 3452 | Petit mal status, epileptic | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 10 |
| 3453 | Grand mal status, epileptic | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 135 |
| 34540 | Partial epilepsy without intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 51 |
| 34541 | Partial epilepsy with intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 4 |
| 34550 | Partial epilepsy without impairment of consciousness without intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 107 |
| 34551 | Partial epilepsy without impairment of consciousness with intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 2 |
| 34570 | Epilepsia partialis continua without intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 9 |
| 34571 | Epilepsia partialis continua with intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 0 |
| 34580 | Other forms of epilepsy without intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 142 |
| 34581 | Other forms of epilepsy with intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 4 |
| 34590 | Epilepsy unspecified without intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 1257 |
| 34591 | Epilepsy unspecified with intractable epilepsy | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 9 |

| Disorders Of The Peripheral Nervous System | | | |
|---|---|--|--------------|
| ICD | Wording | Section | nDIAG |
| 3532 | Cervical root lesions, not elsewhere classified | DISORDERS OF THE PERIPHERAL NERVOUS SYSTEM | 16 |
| 3533 | Thoracic root lesions, not elsewhere classified | DISORDERS OF THE PERIPHERAL NERVOUS SYSTEM | 4 |
| 3534 | Lumbosacral root lesions, not elsewhere classified | DISORDERS OF THE PERIPHERAL NERVOUS SYSTEM | 36 |
| 35579 | Other mononeuritis of lower limb | DISORDERS OF THE PERIPHERAL NERVOUS SYSTEM | 21 |
| 3558 | Mononeuritis of lower limb, unspecified | DISORDERS OF THE PERIPHERAL NERVOUS SYSTEM | 71 |
| 3559 | Mononeuritis of unspecified site | DISORDERS OF THE PERIPHERAL NERVOUS SYSTEM | 60 |
| 3572 | Polyneuropathy in diabetes | DISORDERS OF THE PERIPHERAL NERVOUS SYSTEM | 2113 |
| 3574 | Polyneuropathy in other diseases classified elsewhere | DISORDERS OF THE PERIPHERAL NERVOUS SYSTEM | 83 |
| 3578 | Other inflammatory & toxic neuropathies | DISORDERS OF THE PERIPHERAL NERVOUS SYSTEM | 163 |

Glaucoma

| ICD | Wording | Section | nDIAG |
|-------|---|---------------------------------|-------|
| 36500 | Preglaucoma, unspecified | DISORDERS OF THE EYE AND ADNEXA | 7 |
| 36501 | Open angle with borderline glaucoma findings | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36502 | Anatomical narrow angle borderline glaucoma | DISORDERS OF THE EYE AND ADNEXA | 3 |
| 36503 | Steroid responders borderline glaucoma | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36504 | Ocular hypertension | DISORDERS OF THE EYE AND ADNEXA | 9 |
| 36510 | Open-angle glaucoma unspecified | DISORDERS OF THE EYE AND ADNEXA | 29 |
| 36511 | Primary open angle glaucoma | DISORDERS OF THE EYE AND ADNEXA | 27 |
| 36512 | Low tension open-angle glaucoma | DISORDERS OF THE EYE AND ADNEXA | 1 |
| 36513 | Pigmentary open-angle glaucoma | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36515 | Residual stage of open angle glaucoma | DISORDERS OF THE EYE AND ADNEXA | 1 |
| 36520 | Primary angle-closure glaucoma unspecified | DISORDERS OF THE EYE AND ADNEXA | 18 |
| 36521 | Intermittent angle-closure glaucoma | DISORDERS OF THE EYE AND ADNEXA | 1 |
| 36522 | Acute angle-closure glaucoma | DISORDERS OF THE EYE AND ADNEXA | 29 |
| 36523 | Chronic angle-closure glaucoma | DISORDERS OF THE EYE AND ADNEXA | 4 |
| 36524 | Residual stage of angle-closure glaucoma | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36531 | Corticosteroid-induced glaucoma glaucomatous stage | DISORDERS OF THE EYE AND ADNEXA | 1 |
| 36532 | Corticosteroid-induced glaucoma residual stage | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36541 | Glaucoma associated with chamber angle anomalies | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36542 | Glaucoma associated with anomalies of iris | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36543 | Glaucoma associated with other anterior segment anomalies | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36544 | Glaucoma associated with systemic syndromes | DISORDERS OF THE EYE AND ADNEXA | 7 |
| 36551 | Phacolytic glaucoma | DISORDERS OF THE EYE AND ADNEXA | 1 |
| 36552 | Pseudoexfoliation glaucoma | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36559 | Glaucoma associated with other lens disorders | DISORDERS OF THE EYE AND ADNEXA | 6 |
| 36560 | Glaucoma associated with unspecified ocular disorder | DISORDERS OF THE EYE AND ADNEXA | 2 |
| 36561 | Glaucoma associated with pupillary block | DISORDERS OF THE EYE AND ADNEXA | 1 |
| 36562 | Glaucoma associated with ocular inflammations | DISORDERS OF THE EYE AND ADNEXA | 3 |
| 36563 | Glaucoma associated with vascular disorders | DISORDERS OF THE EYE AND ADNEXA | 15 |
| 36564 | Glaucoma associated with tumors or cysts | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36565 | Glaucoma associated with ocular trauma | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36581 | Hypersecretion glaucoma | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36582 | Glaucoma with increased episcleral venous pressure | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36583 | Aqueous misdirection | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36589 | Other specified glaucoma | DISORDERS OF THE EYE AND ADNEXA | 27 |
| 3659 | Unspecified glaucoma | DISORDERS OF THE EYE AND ADNEXA | 660 |

Cataract

| ICD | Wording | Section | nDIAG |
|-------|--|---------------------------------|-------|
| 36600 | Nonsenile cataract, unspecified | DISORDERS OF THE EYE AND ADNEXA | 9 |
| 36601 | Anterior subcapsular polar cataract | DISORDERS OF THE EYE AND ADNEXA | 3 |
| 36602 | Posterior subcapsular polar cataract | DISORDERS OF THE EYE AND ADNEXA | 1 |
| 36603 | Cortical, lamellar, or zonular cataract | DISORDERS OF THE EYE AND ADNEXA | 2 |
| 36604 | Nuclear cataract | DISORDERS OF THE EYE AND ADNEXA | 13 |
| 36609 | Other and combined forms of nonsenile cataract | DISORDERS OF THE EYE AND ADNEXA | 5 |
| 36610 | Senile cataract, unspecified | DISORDERS OF THE EYE AND ADNEXA | 580 |
| 36611 | Pseudoexfoliation of lens capsule | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36612 | Incipient cataract | DISORDERS OF THE EYE AND ADNEXA | 1 |
| 36613 | Anterior subcapsular polar senile cataract | DISORDERS OF THE EYE AND ADNEXA | 2 |
| 36614 | Posterior subcapsular polar senile cataract | DISORDERS OF THE EYE AND ADNEXA | 9 |
| 36615 | Cortical senile cataract | DISORDERS OF THE EYE AND ADNEXA | 13 |
| 36616 | Senile nuclear sclerosis | DISORDERS OF THE EYE AND ADNEXA | 122 |

| ICD | Wording | Section | nDIAG |
|-------|--|---------------------------------|-------|
| 36617 | Total or mature cataract | DISORDERS OF THE EYE AND ADNEXA | 19 |
| 36618 | Hypermaturation cataract | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36619 | Other and combined forms of senile cataract | DISORDERS OF THE EYE AND ADNEXA | 20 |
| 36620 | Traumatic cataract, unspecified | DISORDERS OF THE EYE AND ADNEXA | 2 |
| 36621 | Localized traumatic opacities | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36622 | Total traumatic cataract | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36623 | Partially resolved traumatic cataract | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36630 | Cataract complication unspecified | DISORDERS OF THE EYE AND ADNEXA | 3 |
| 36631 | Cataract secondary to glaucomatous flecks (subcapsular) | DISORDERS OF THE EYE AND ADNEXA | 5 |
| 36632 | Cataract in inflammatory ocular disorders | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36633 | Cataract with ocular neovascularization | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36634 | Cataract in degenerative ocular disorders | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36641 | Diabetic cataract | DISORDERS OF THE EYE AND ADNEXA | 79 |
| 36642 | Tetanic cataract | DISORDERS OF THE EYE AND ADNEXA | 1 |
| 36643 | Myotonic cataract | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36644 | Cataract associated with other syndromes | DISORDERS OF THE EYE AND ADNEXA | 1 |
| 36645 | Toxic cataract | DISORDERS OF THE EYE AND ADNEXA | 14 |
| 36646 | Cataract associated with radiation and other physical influences | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36650 | After-cataract, unspecified | DISORDERS OF THE EYE AND ADNEXA | 28 |
| 36651 | Soemmering's ring | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36652 | Other after-cataract, not obscuring vision | DISORDERS OF THE EYE AND ADNEXA | 0 |
| 36653 | After-cataract, obscuring vision | DISORDERS OF THE EYE AND ADNEXA | 8 |
| 3668 | Other cataract | DISORDERS OF THE EYE AND ADNEXA | 17 |
| 3669 | Unspecified cataract | DISORDERS OF THE EYE AND ADNEXA | 581 |
| 3688 | Other specified visual disturbances | DISORDERS OF THE EYE AND ADNEXA | 22 |
| 3689 | Unspecified visual disturbance | DISORDERS OF THE EYE AND ADNEXA | 54 |

Diseases Of The Ear

| ICD | Wording | Section | nDIAG |
|-------|--|---|-------|
| 38600 | Ménière's disease, unspecified | DISEASES OF THE EAR AND MASTOID PROCESS | 338 |
| 38601 | Active Ménière's disease, cochleovestibular | DISEASES OF THE EAR AND MASTOID PROCESS | 10 |
| 38602 | Active Ménière's disease, cochlear | DISEASES OF THE EAR AND MASTOID PROCESS | 0 |
| 38603 | Active Ménière's disease, vestibular | DISEASES OF THE EAR AND MASTOID PROCESS | 3 |
| 38604 | Inactive Ménière's disease | DISEASES OF THE EAR AND MASTOID PROCESS | 13 |
| 38610 | Peripheral vertigo, unspecified | DISEASES OF THE EAR AND MASTOID PROCESS | 40 |
| 38611 | Benign paroxysmal positional vertigo | DISEASES OF THE EAR AND MASTOID PROCESS | 245 |
| 38612 | Vestibular neuronitis | DISEASES OF THE EAR AND MASTOID PROCESS | 69 |
| 38619 | Other peripheral vertigo | DISEASES OF THE EAR AND MASTOID PROCESS | 24 |
| 3862 | Vertigo of central origin | DISEASES OF THE EAR AND MASTOID PROCESS | 123 |
| 3869 | Unspecified vertiginous syndromes & labyrinthine disorders | DISEASES OF THE EAR AND MASTOID PROCESS | 82 |
| 38801 | Presbycusis | DISEASES OF THE EAR AND MASTOID PROCESS | 649 |
| 38801 | Presbycusis | DISEASES OF THE EAR AND MASTOID PROCESS | 649 |
| 38840 | Abnormal auditory perception, unspecified | DISEASES OF THE EAR AND MASTOID PROCESS | 28 |

| ICD | Wording | Section | nDIAG |
|------|-----------------------|---|-------|
| 7804 | Dizziness & giddiness | SYMPTOMS | 961 |
| V412 | Problems with hearing | PERSONS WITH A CONDITION INFLUENCING THEIR HEALTH STATUS | 26 |

Diseases of mitral and aortic valves

| ICD | Wording | Section | nDIAG |
|------|---|---------------------------------|-------|
| 3960 | Mitral valve stenosis & aortic valve stenosis | CHRONIC RHEUMATIC HEART DISEASE | 64 |
| 3961 | Mitral valve stenosis & aortic valve insufficiency | CHRONIC RHEUMATIC HEART DISEASE | 33 |
| 3962 | Mitral valve insufficiency & aortic valve stenosis | CHRONIC RHEUMATIC HEART DISEASE | 320 |
| 3963 | Mitral valve insufficiency & aortic valve insufficiency | CHRONIC RHEUMATIC HEART DISEASE | 1037 |
| 3968 | Multiple involvement of mitral & aortic valves | CHRONIC RHEUMATIC HEART DISEASE | 277 |
| 3969 | Mitral & aortic valve diseases, unspecified | CHRONIC RHEUMATIC HEART DISEASE | 86 |

Hypertensive Diseases

| ICD | Wording | Section | nDIAG |
|-------|---|----------------------|-------|
| 4010 | Malignant essential hypertension | HYPERTENSIVE DISEASE | 298 |
| 4011 | Benign essential hypertension | HYPERTENSIVE DISEASE | 14087 |
| 4019 | Unspecified essential hypertension | HYPERTENSIVE DISEASE | 22859 |
| 40200 | Malignant hypertensive heart disease without heart failure | HYPERTENSIVE DISEASE | 50 |
| 40201 | Malignant hypertensive heart disease with heart failure | HYPERTENSIVE DISEASE | 39 |
| 40210 | Benign hypertensive heart disease without heart failure | HYPERTENSIVE DISEASE | 769 |
| 40211 | Benign hypertensive heart disease with heart failure | HYPERTENSIVE DISEASE | 238 |
| 40290 | Unspecified hypertensive heart disease without heart failure | HYPERTENSIVE DISEASE | 1058 |
| 40291 | Unspecified hypertensive heart disease with heart failure | HYPERTENSIVE DISEASE | 342 |
| 40400 | Malignant hypertensive heart and renal disease without heart failure or renal failure | HYPERTENSIVE DISEASE | 2 |
| 40401 | Malignant hypertensive heart and renal disease with heart failure | HYPERTENSIVE DISEASE | 5 |
| 40402 | Malignant hypertensive heart and renal disease with renal failure | HYPERTENSIVE DISEASE | 4 |
| 40403 | Malignant hypertensive heart and renal disease with heart failure and renal failure | HYPERTENSIVE DISEASE | 9 |
| 40410 | Benign hypertensive heart and renal disease without heart failure or renal failure | HYPERTENSIVE DISEASE | 25 |
| 40411 | Benign hypertensive heart and renal disease with heart failure | HYPERTENSIVE DISEASE | 41 |
| 40412 | Benign hypertensive heart and renal disease with renal failure | HYPERTENSIVE DISEASE | 79 |
| 40413 | Benign hypertensive heart and renal disease with heart failure and renal failure | HYPERTENSIVE DISEASE | 58 |
| 40490 | Unspecified hypertensive heart and renal disease without heart failure or renal failure | HYPERTENSIVE DISEASE | 32 |
| 40491 | Unspecified hypertensive heart and renal disease with heart failure | HYPERTENSIVE DISEASE | 20 |
| 40492 | Unspecified hypertensive heart and renal disease with renal failure | HYPERTENSIVE DISEASE | 91 |
| 40493 | Unspecified hypertensive heart and renal disease with heart failure and renal failure | HYPERTENSIVE DISEASE | 69 |
| 40501 | Malignant renovascular hypertension | HYPERTENSIVE DISEASE | 16 |
| 40509 | Other malignant secondary hypertension | HYPERTENSIVE DISEASE | 0 |
| 40511 | Benign renovascular hypertension | HYPERTENSIVE DISEASE | 49 |
| 40519 | Other benign secondary hypertension | HYPERTENSIVE DISEASE | 8 |
| 40591 | Unspecified renovascular hypertension | HYPERTENSIVE DISEASE | 123 |
| 40599 | Other unspecified secondary hypertension | HYPERTENSIVE DISEASE | 26 |

Ischemic heart disease

| ICD | Wording | Section | nDIAG |
|-------|--|------------------------------|-------|
| 4110 | Postmyocardial infarction syndrome | ISCHEMIC HEART DISEASE | 122 |
| 4111 | Intermediate coronary syndrome | ISCHEMIC HEART DISEASE | 2158 |
| 41181 | Acute coronary occlusion without myocardial infarction | ISCHEMIC HEART DISEASE | 192 |
| 41189 | Other acute and subacute forms of ischemic heart disease other | ISCHEMIC HEART DISEASE | 512 |
| 412 | Old myocardial infarction | ISCHEMIC HEART DISEASE | 6488 |
| 4139 | Other and unspecified angina pectoris | ISCHEMIC HEART DISEASE | 5020 |
| 41400 | Coronary atherosclerosis of unspecified type of vessel native or graft | ISCHEMIC HEART DISEASE | 1642 |
| 41401 | Coronary atherosclerosis of native coronary artery | ISCHEMIC HEART DISEASE | 11464 |
| 41402 | Coronary atherosclerosis of autologous vein bypass graft | ISCHEMIC HEART DISEASE | 428 |
| 41403 | Coronary atherosclerosis of nonautologous biological bypass graft | ISCHEMIC HEART DISEASE | 9 |
| 41404 | Coronary atherosclerosis of artery bypass graft | ISCHEMIC HEART DISEASE | 67 |
| 41405 | Coronary atherosclerosis of unspecified bypass graft | ISCHEMIC HEART DISEASE | 129 |
| 41406 | Coronary atherosclerosis of native coronary artery of transplanted heart | ISCHEMIC HEART DISEASE | 0 |
| 41407 | Coronary atherosclerosis of bypass graft (artery) (vein) of transplanted heart | ISCHEMIC HEART DISEASE | 0 |
| 41410 | Aneurysm of heart (wall) | ISCHEMIC HEART DISEASE | 197 |
| 41411 | Aneurysm of coronary vessels | ISCHEMIC HEART DISEASE | 27 |
| 41419 | Other aneurysm of heart | ISCHEMIC HEART DISEASE | 15 |
| 4148 | Other specified forms of chronic ischemic heart disease | ISCHEMIC HEART DISEASE | 9489 |
| 4149 | Chronic ischemic heart disease, unspecified | ISCHEMIC HEART DISEASE | 1652 |
| 42979 | Certain sequelae of myocardial infarction not elsewhere classified other | OTHER FORMS OF HEART DISEASE | 813 |
| 78650 | Chest pain, unspecified | SYMPTOMS | 491 |
| 78651 | Precordial pain | SYMPTOMS | 953 |
| 78659 | Other chest pain | SYMPTOMS | 299 |

Cardiac dysrhythmias

| ICD | Wording | Section | nDIAG |
|-------|---|------------------------------|-------|
| 42612 | Mobitz (type) ii atrioventricular block | OTHER FORMS OF HEART DISEASE | 165 |
| 42731 | Atrial fibrillation | OTHER FORMS OF HEART DISEASE | 14249 |
| 42789 | Other specified cardiac dysrhythmias | OTHER FORMS OF HEART DISEASE | 2667 |
| 4279 | Cardiac dysrhythmia, unspecified | OTHER FORMS OF HEART DISEASE | 750 |

Heart failure

| ICD | Wording | Section | nDIAG |
|-------|---|------------------------------|-------|
| 4280 | Congestive heart failure | OTHER FORMS OF HEART DISEASE | 3780 |
| 4281 | Left heart failure | OTHER FORMS OF HEART DISEASE | 2641 |
| 42820 | Unspecified systolic heart failure | OTHER FORMS OF HEART DISEASE | 0 |
| 42821 | Acute systolic heart failure | OTHER FORMS OF HEART DISEASE | 0 |
| 42822 | Chronic systolic heart failure | OTHER FORMS OF HEART DISEASE | 0 |
| 42823 | Acute on chronic systolic heart failure | OTHER FORMS OF HEART DISEASE | 0 |
| 42830 | Unspecified diastolic heart failure | OTHER FORMS OF HEART DISEASE | 0 |
| 42831 | Acute diastolic heart failure | OTHER FORMS OF HEART DISEASE | 0 |
| 42832 | Chronic diastolic heart failure | OTHER FORMS OF HEART DISEASE | 0 |
| 42833 | Acute on chronic diastolic heart failure | OTHER FORMS OF HEART DISEASE | 0 |
| 42840 | Unspecified combined systolic and diastolic heart failure | OTHER FORMS OF HEART DISEASE | 0 |
| 42841 | Acute combined systolic and diastolic heart failure | OTHER FORMS OF HEART DISEASE | 0 |

| ICD | Wording | Section | nDIAG |
|-------|--|------------------------------|-------|
| 42842 | Chronic combined systolic and diastolic heart failure | OTHER FORMS OF HEART DISEASE | 0 |
| 42843 | Acute on chronic combined systolic and diastolic heart failure | OTHER FORMS OF HEART DISEASE | 0 |
| 4289 | Heart failure, unspecified | OTHER FORMS OF HEART DISEASE | 3185 |

Cerebrovascular Disease

| ICD | Wording | Section | nDIAG |
|-------|---|---|-------|
| 34200 | Flaccid hemiplegia and hemiparesis affecting unspecified side | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 26 |
| 34201 | Flaccid hemiplegia and hemiparesis affecting dominant side | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 57 |
| 34202 | Flaccid hemiplegia and hemiparesis affecting nondominant side | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 42 |
| 34210 | Spastic hemiplegia and hemiparesis affecting unspecified side | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 18 |
| 34211 | Spastic hemiplegia and hemiparesis affecting dominant side | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 14 |
| 34212 | Spastic hemiplegia and hemiparesis affecting nondominant side | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 18 |
| 34280 | Other specified hemiplegia and hemiparesis affecting unspecified side | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 25 |
| 34281 | Other specified hemiplegia and hemiparesis affecting dominant side | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 20 |
| 34290 | Unspecified hemiplegia and hemiparesis affecting unspecified side | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 657 |
| 34291 | Unspecified hemiplegia and hemiparesis affecting dominant side | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 207 |
| 34292 | Unspecified hemiplegia and hemiparesis affecting nondominant side | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 167 |
| 3483 | Encephalopathy, unspecified | OTHER DISORDERS OF THE CENTRAL NERVOUS SYSTEM | 227 |
| 43300 | Occlusion and stenosis of basilar artery without cerebral infarction | CEREBROVASCULAR DISEASE | 35 |
| 43301 | Occlusion and stenosis of basilar artery with cerebral infarction | CEREBROVASCULAR DISEASE | 9 |
| 43310 | Occlusion and stenosis of carotid artery without cerebral infarction | CEREBROVASCULAR DISEASE | 3635 |
| 43311 | Occlusion and stenosis of carotid artery with cerebral infarction | CEREBROVASCULAR DISEASE | 258 |
| 43320 | Occlusion and stenosis of vertebral artery without cerebral infarction | CEREBROVASCULAR DISEASE | 99 |
| 43321 | Occlusion and stenosis of vertebral artery with cerebral infarction | CEREBROVASCULAR DISEASE | 17 |
| 43330 | Occlusion and stenosis of multiple and bilateral precerebral arteries without cerebral infarction | CEREBROVASCULAR DISEASE | 752 |
| 43331 | Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction | CEREBROVASCULAR DISEASE | 48 |
| 43380 | Occlusion and stenosis of other specified precerebral artery without cerebral infarction | CEREBROVASCULAR DISEASE | 54 |
| 43381 | Occlusion and stenosis of other specified precerebral artery with cerebral infarction | CEREBROVASCULAR DISEASE | 2 |
| 43390 | Occlusion and stenosis of unspecified precerebral artery without cerebral infarction | CEREBROVASCULAR DISEASE | 13 |
| 43391 | Occlusion and stenosis of unspecified precerebral artery with cerebral infarction | CEREBROVASCULAR DISEASE | 2 |
| 43400 | Cerebral thrombosis without cerebral infarction | CEREBROVASCULAR DISEASE | 108 |
| 43401 | Cerebral thrombosis with cerebral infarction | CEREBROVASCULAR DISEASE | 369 |
| 43410 | Cerebral embolism without cerebral infarction | CEREBROVASCULAR DISEASE | 68 |
| 43411 | Cerebral embolism with cerebral infarction | CEREBROVASCULAR DISEASE | 127 |
| 43490 | Cerebral artery occlusion unspecified without cerebral infarction | CEREBROVASCULAR DISEASE | 180 |
| 43491 | Cerebral artery occlusion unspecified with cerebral infarction | CEREBROVASCULAR DISEASE | 628 |

| ICD | Wording | Section | nDIAG |
|-------|---|-------------------------|-------|
| 4359 | Unspecified transient cerebral ischemia | CEREBROVASCULAR DISEASE | 1053 |
| 436 | Acute, but ill-defined, cerebrovascular disease | CEREBROVASCULAR DISEASE | 883 |
| 4380 | Cognitive deficits | CEREBROVASCULAR DISEASE | 482 |
| 43810 | Speech and language deficit unspecified | CEREBROVASCULAR DISEASE | 114 |
| 43811 | Aphasia | CEREBROVASCULAR DISEASE | 776 |
| 43812 | Dysphasia | CEREBROVASCULAR DISEASE | 209 |
| 43819 | Other speech and language deficits | CEREBROVASCULAR DISEASE | 149 |
| 43820 | Hemiplegia affecting unspecified side | CEREBROVASCULAR DISEASE | 1448 |
| 43821 | Hemiplegia affecting dominant side | CEREBROVASCULAR DISEASE | 961 |
| 43822 | Hemiplegia affecting nondominant side | CEREBROVASCULAR DISEASE | 924 |

Phlebitis and Varicose veins

| ICD | Wording | Section | nDIAG |
|-------|--|--|-------|
| 4510 | Phlebitis & thrombophlebitis of superficial vessels of lower extremities | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 74 |
| 45111 | Phlebitis and thrombophlebitis of femoral vein (deep) (superficial) | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 111 |
| 45119 | Phlebitis and thrombophlebitis of other | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 390 |
| 4512 | Phlebitis & thrombophlebitis of lower extremities, unspecified | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 119 |
| 4540 | Varicose veins of lower extremities with ulcer | DISEASES OF ARTERIES, ARTERIOLES, AND CAPILLARIES | 218 |
| 4541 | Varicose veins of lower extremities with inflammation | DISEASES OF ARTERIES, ARTERIOLES, AND CAPILLARIES | 137 |
| 4542 | Varicose veins of lower extremities with ulcer & inflammation | DISEASES OF ARTERIES, ARTERIOLES, AND CAPILLARIES | 144 |
| 4548 | Varicose veins of lower extremities with other complications | DISEASES OF ARTERIES, ARTERIOLES, AND CAPILLARIES | 0 |
| 4549 | Varicose veins of lower extremities without mention of ulcer or inflammation | DISEASES OF ARTERIES, ARTERIOLES, AND CAPILLARIES | 1191 |
| 7295 | Pain in limb | RHEUMATISM, EXCLUDING THE BACK | 251 |
| 7823 | Edema | SYMPTOMS | 2219 |

Vascular Diseases

| ICD | Wording | Section | nDIAG |
|-------|---|---|-------|
| 44021 | Atherosclerosis of the extremities with intermittent claudication | DISEASES OF ARTERIES, ARTERIOLES, AND CAPILLARIES | 1895 |
| 4409 | Generalized & unspecified atherosclerosis | DISEASES OF ARTERIES, ARTERIOLES, AND CAPILLARIES | 1256 |
| 4414 | Abdominal aneurysm without mention of rupture | DISEASES OF ARTERIES, ARTERIOLES, AND CAPILLARIES | 1740 |
| 44381 | Peripheral angiopathy in diseases classified elsewhere | DISEASES OF ARTERIES, ARTERIOLES, AND CAPILLARIES | 1061 |
| 4465 | Giant cell arteritis | DISEASES OF ARTERIES, ARTERIOLES, AND CAPILLARIES | 214 |
| 4476 | Arteritis, unspecified | DISEASES OF ARTERIES, ARTERIOLES, AND CAPILLARIES | 298 |
| 7854 | Gangrene | SYMPTOMS | 329 |

Diseases of upper respiratory tract

| ICD | Wording | Section | nDIAG |
|-------|--|---|-------|
| 4780 | Hypertrophy of nasal turbinates | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 2 |
| 4781 | Other diseases of nasal cavity & sinuses | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 51 |
| 47820 | Unspecified disease of pharynx | OTHER DISEASES OF THE UPPER | 0 |

| ICD | Wording | Section | nDIAG |
|-------|---|--|-------|
| | | RESPIRATORY TRACT | |
| 47821 | Cellulitis of pharynx or nasopharynx | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 0 |
| 47822 | Parapharyngeal abscess | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 1 |
| 47824 | Parapharyngeal abscess | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 0 |
| 47825 | Edema of pharynx or nasopharynx | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 5 |
| 47826 | Cyst of pharynx or nasopharynx | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 1 |
| 47829 | Other diseases of pharynx or nasopharynx | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 56 |
| 47830 | Unspecified paralysis of vocal cords | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 72 |
| 47831 | Partial unilateral paralysis of vocal cords | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 46 |
| 47832 | Complete unilateral paralysis of vocal cords | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 25 |
| 47833 | Partial bilateral paralysis of vocal cords | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 11 |
| 47834 | Complete bilateral paralysis of vocal cords | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 5 |
| 4784 | Polyp of vocal cord or larynx | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 20 |
| 4785 | Other diseases of vocal cords | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 47 |
| 4786 | Edema of larynx | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 47 |
| 47870 | Unspecified disease of larynx | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 2 |
| 47871 | Cellulitis and perichondritis of larynx | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 0 |
| 47874 | Stenosis of larynx | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 9 |
| 47875 | Laryngeal spasm | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 7 |
| 47879 | Other diseases of larynx | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 23 |
| 4788 | Upper respiratory tract hypersensitivity reaction, site unspecified | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 17 |
| 4789 | Other and unspecified diseases of upper respiratory tract | OTHER DISEASES OF THE UPPER RESPIRATORY TRACT | 5 |

Pneumonia, influenza and tuberculosis

| ICD | Wording | Section | nDIAG |
|-------|---|--------------|-------|
| 01190 | Unspecified pulmonary tuberculosis confirmation unspecified | TUBERCULOSIS | 51 |
| 01191 | Unspecified pulmonary tuberculosis bacteriological or histological examination not done | TUBERCULOSIS | 0 |
| 01192 | Unspecified pulmonary tuberculosis bacteriological or histological examination results unknown (at present) | TUBERCULOSIS | 3 |
| 01193 | Unspecified pulmonary tuberculosis tubercle bacilli found (in sputum) by microscopy | TUBERCULOSIS | 4 |
| 01194 | Unspecified pulmonary tuberculosis tubercle bacilli not found (in sputum) by microscopy but found by bacterial culture | TUBERCULOSIS | 5 |
| 01195 | Unspecified pulmonary tuberculosis tubercle bacilli not found by bacteriological examination but tuberculosis confirmed histologically | TUBERCULOSIS | 0 |
| 01196 | Unspecified pulmonary tuberculosis tubercle bacilli not found by bacteriological or histological examination but tuberculosis confirmed by other methods (inoculation of animals) | TUBERCULOSIS | 6 |

| ICD | Wording | Section | nDIAG |
|-------|---|-------------------------|-------|
| 4800 | Pneumonia due to adenovirus | PNEUMONIA AND INFLUENZA | 0 |
| 4801 | Pneumonia due to respiratory syncytial virus | PNEUMONIA AND INFLUENZA | 0 |
| 4802 | Pneumonia due to parainfluenza virus | PNEUMONIA AND INFLUENZA | 1 |
| 4803 | Pneumonia due to sars-associated coronavirus | PNEUMONIA AND INFLUENZA | 0 |
| 4808 | Pneumonia due to other virus not elsewhere classified | PNEUMONIA AND INFLUENZA | 1 |
| 4809 | Viral pneumonia, unspecified | PNEUMONIA AND INFLUENZA | 28 |
| 481 | Pneumococcal pneumonia | PNEUMONIA AND INFLUENZA | 273 |
| 4820 | Pneumonia due to Klebsiella pneumoniae | PNEUMONIA AND INFLUENZA | 87 |
| 4821 | Pneumonia due to Pseudomonas | PNEUMONIA AND INFLUENZA | 224 |
| 4822 | Pneumonia due to Hemophilus influenzae [H. influenzae] | PNEUMONIA AND INFLUENZA | 87 |
| 4823 | Pneumonia due to Streptococcus | PNEUMONIA AND INFLUENZA | 0 |
| 48230 | Pneumonia due to streptococcus unspecified | PNEUMONIA AND INFLUENZA | 33 |
| 48231 | Pneumonia due to streptococcus group a | PNEUMONIA AND INFLUENZA | 1 |
| 48232 | Pneumonia due to streptococcus group b | PNEUMONIA AND INFLUENZA | 4 |
| 48239 | Pneumonia due to other streptococcus | PNEUMONIA AND INFLUENZA | 32 |
| 48240 | Pneumonia due to Staphylococcus, unspecified | PNEUMONIA AND INFLUENZA | 11 |
| 48241 | Pneumonia due to Staphylococcus aureus | PNEUMONIA AND INFLUENZA | 234 |
| 48249 | Other Staphylococcus pneumonia | PNEUMONIA AND INFLUENZA | 25 |
| 48281 | Pneumonia due to anaerobes | PNEUMONIA AND INFLUENZA | 8 |
| 48282 | Pneumonia due to escherichia coli | PNEUMONIA AND INFLUENZA | 121 |
| 48283 | Pneumonia due to other gram-negative bacteria | PNEUMONIA AND INFLUENZA | 250 |
| 48284 | Pneumonia due to legionnaires' disease | PNEUMONIA AND INFLUENZA | 10 |
| 48289 | Pneumonia due to other specified bacteria | PNEUMONIA AND INFLUENZA | 38 |
| 4829 | Bacterial pneumonia, unspecified | PNEUMONIA AND INFLUENZA | 752 |
| 4830 | Pneumonia due to mycoplasma pneumoniae | PNEUMONIA AND INFLUENZA | 20 |
| 4831 | Pneumonia due to chlamydia | PNEUMONIA AND INFLUENZA | 29 |
| 4838 | Pneumonia due to other specified organism | PNEUMONIA AND INFLUENZA | 24 |
| 4841 | Pneumonia in cytomegalic inclusion disease | PNEUMONIA AND INFLUENZA | 3 |
| 4843 | Pneumonia in whooping cough | PNEUMONIA AND INFLUENZA | 0 |
| 4845 | Pneumonia in anthrax | PNEUMONIA AND INFLUENZA | 1 |
| 4846 | Pneumonia in aspergillosis | PNEUMONIA AND INFLUENZA | 39 |
| 4847 | Pneumonia in other systemic mycoses | PNEUMONIA AND INFLUENZA | 3 |
| 4848 | Pneumonia in other infectious diseases classified elsewhere | PNEUMONIA AND INFLUENZA | 5 |
| 485 | Bronchopneumonia, organism unspecified | PNEUMONIA AND INFLUENZA | 1724 |
| 486 | Pneumonia, organism unspecified | PNEUMONIA AND INFLUENZA | 2423 |
| 4870 | Influenza with pneumonia | PNEUMONIA AND INFLUENZA | 23 |
| 4871 | Influenza with other respiratory manifestations | PNEUMONIA AND INFLUENZA | 172 |
| 4878 | Influenza with other manifestations | PNEUMONIA AND INFLUENZA | 30 |

Chronic bronchitis and respiratory failures

| ICD | Wording | Section | nDIAG |
|-------|--|---|-------|
| 4910 | Simple chronic bronchitis | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 165 |
| 4911 | Mucopurulent chronic bronchitis | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 45 |
| 49120 | Obstructive chronic bronchitis without exacerbation | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 10485 |
| 49121 | Obstructive chronic bronchitis with (acute) exacerbation | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 5007 |
| 49122 | Chronic bronchitis with acute bronchitis | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 0 |
| 4918 | Other chronic bronchitis | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 38 |
| 4919 | Unspecified chronic bronchitis | CHRONIC OBSTRUCTIVE PULMONARY | 375 |

| ICD | Wording | Section | nDIAG |
|-------|---|--------------------------------------|-------|
| | | DISEASE AND ALLIED CONDITIONS | |
| 51881 | Acute respiratory failure | OTHER DISEASES OF RESPIRATORY SYSTEM | 1230 |
| 51882 | Other pulmonary insufficiency, not elsewhere classified | OTHER DISEASES OF RESPIRATORY SYSTEM | 841 |
| 51883 | Chronic respiratory failure | OTHER DISEASES OF RESPIRATORY SYSTEM | 683 |
| 51884 | Acute and chronic respiratory failure | OTHER DISEASES OF RESPIRATORY SYSTEM | 285 |

| Asthma | | | |
|--------|--|---|-------|
| ICD | Wording | Section | nDIAG |
| 49300 | Extrinsic asthma unspecified | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 142 |
| 49301 | Extrinsic asthma with status asthmaticus | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 5 |
| 49302 | Extrinsic asthma with (acute) exacerbation | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 15 |
| 49310 | Intrinsic asthma unspecified | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 76 |
| 49311 | Intrinsic asthma with status asthmaticus | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 14 |
| 49312 | Intrinsic asthma with (acute) exacerbation | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 20 |
| 49320 | Chronic obstructive asthma unspecified | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 283 |
| 49321 | Chronic obstructive asthma with status asthmaticus | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 42 |
| 49322 | Chronic obstructive asthma with (acute) exacerbation | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 54 |
| 49381 | Exercise-induced bronchospasm | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 0 |
| 49382 | Cough variant asthma | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 0 |
| 49390 | Asthma unspecified | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 988 |
| 49391 | Asthma unspecified type with status asthmaticus | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 59 |
| 49392 | Asthma unspecified with (acute) exacerbation | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 134 |

| Diseases of the salivary glands and oral soft tissues | | | |
|---|---|--|-------|
| ICD | Wording | Section | nDIAG |
| 5278 | Other specified diseases of the salivary glands | DISEASES OF ORAL CAVITY, SALIVARY GLANDS, AND JAWS | 7 |
| 5279 | Unspecified disease of the salivary glands | DISEASES OF ORAL CAVITY, SALIVARY GLANDS, AND JAWS | 2 |
| 5280 | Stomatitis | DISEASES OF ORAL CAVITY, SALIVARY GLANDS, AND JAWS | 115 |
| 5282 | Oral aphthae | DISEASES OF ORAL CAVITY, SALIVARY GLANDS, AND JAWS | 40 |
| 5287 | Other disturbances of oral epithelium, including tongue | DISEASES OF ORAL CAVITY, SALIVARY GLANDS, AND JAWS | 2 |
| 5288 | Oral submucosal fibrosis, including of tongue | DISEASES OF ORAL CAVITY, SALIVARY GLANDS, AND JAWS | 1 |
| 5289 | Other & unspecified diseases of the oral soft tissues | DISEASES OF ORAL CAVITY, SALIVARY GLANDS, AND JAWS | 37 |
| 7841 | Throat pain | SYMPTOMS | 22 |

Diseases of esophagus, stomach, and duodenum

| ICD | Wording | Section | nDIAG |
|-------|---|--|-------|
| 4560 | Esophageal varices with bleeding | DISEASES OF OTHER ENDOCRINE GLANDS | 8 |
| 4561 | Esophageal varices without mention of bleeding | SYMPTOMS | 127 |
| 53010 | Esophagitis, unspecified | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 2507 |
| 53011 | Reflux esophagitis | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 3222 |
| 53012 | Acute esophagitis | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 233 |
| 53019 | Other esophagitis | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1141 |
| 5302 | Ulcer of esophagus | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1106 |
| 53100 | Acute gastric ulcer with hemorrhage without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 179 |
| 53101 | Acute gastric ulcer with hemorrhage with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53110 | Acute gastric ulcer with perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 14 |
| 53111 | Acute gastric ulcer with perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53120 | Acute gastric ulcer with hemorrhage and perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 3 |
| 53121 | Acute gastric ulcer with hemorrhage and perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53130 | Acute gastric ulcer without hemorrhage or perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 486 |
| 53131 | Acute gastric ulcer without hemorrhage or perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 9 |
| 53140 | Chronic or unspecified gastric ulcer with hemorrhage without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 118 |
| 53141 | Chronic or unspecified gastric ulcer with hemorrhage with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53150 | Chronic or unspecified gastric ulcer with perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 13 |
| 53151 | Chronic or unspecified gastric ulcer with perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53160 | Chronic or unspecified gastric ulcer with hemorrhage and perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 2 |
| 53161 | Chronic or unspecified gastric ulcer with hemorrhage and perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53170 | Chronic gastric ulcer without hemorrhage or perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 203 |
| 53171 | Chronic gastric ulcer without hemorrhage or perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 2 |
| 53190 | Gastric ulcer unspecified as acute or chronic without hemorrhage or perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1257 |
| 53191 | Gastric ulcer unspecified as acute or chronic without hemorrhage or perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 8 |
| 53200 | Acute duodenal ulcer with hemorrhage without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 117 |
| 53201 | Acute duodenal ulcer with hemorrhage with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53210 | Acute duodenal ulcer with perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 10 |
| 53211 | Acute duodenal ulcer with perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53220 | Acute duodenal ulcer with hemorrhage and perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 8 |
| 53221 | Acute duodenal ulcer with hemorrhage and perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53230 | Acute duodenal ulcer without hemorrhage or perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 234 |

| ICD | Wording | Section | nDIAG |
|-------|--|--|-------|
| 53231 | Acute duodenal ulcer without hemorrhage or perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 3 |
| 53240 | Chronic or unspecified duodenal ulcer with hemorrhage without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 64 |
| 53241 | Chronic or unspecified duodenal ulcer with hemorrhage with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53250 | Chronic or unspecified duodenal ulcer with perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 4 |
| 53251 | Chronic or unspecified duodenal ulcer with perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53260 | Chronic or unspecified duodenal ulcer with hemorrhage and perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53261 | Chronic or unspecified duodenal ulcer with hemorrhage and perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53270 | Chronic duodenal ulcer without hemorrhage or perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 40 |
| 53271 | Chronic duodenal ulcer without hemorrhage or perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 3 |
| 53290 | Duodenal ulcer unspecified as acute or chronic without hemorrhage or perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 457 |
| 53291 | Duodenal ulcer unspecified as acute or chronic without hemorrhage or perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 4 |
| 53300 | Acute peptic ulcer of unspecified site with hemorrhage without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 3 |
| 53301 | Acute peptic ulcer of unspecified site with hemorrhage with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53310 | Acute peptic ulcer of unspecified site with perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53311 | Acute peptic ulcer of unspecified site with perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53320 | Acute peptic ulcer of unspecified site with hemorrhage and perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53321 | Acute peptic ulcer of unspecified site with hemorrhage and perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53330 | Acute peptic ulcer of unspecified site without hemorrhage and perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 11 |
| 53331 | Acute peptic ulcer of unspecified site without hemorrhage and perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53340 | Chronic or unspecified peptic ulcer of unspecified site with hemorrhage without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 5 |
| 53341 | Chronic or unspecified peptic ulcer of unspecified site with hemorrhage with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53350 | Chronic or unspecified peptic ulcer of unspecified site with perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53351 | Chronic or unspecified peptic ulcer of unspecified site with perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53360 | Chronic or unspecified peptic ulcer of unspecified site with hemorrhage and perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53361 | Chronic or unspecified peptic ulcer of unspecified site with hemorrhage and perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53370 | Chronic peptic ulcer of unspecified site without hemorrhage or perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 3 |
| 53371 | Chronic peptic ulcer of unspecified site without hemorrhage or perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53390 | Peptic ulcer of unspecified site unspecified as acute or chronic without hemorrhage or perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 44 |
| 53391 | Peptic ulcer of unspecified site unspecified as acute or chronic without hemorrhage or perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53400 | Acute gastrojejunal ulcer with hemorrhage without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 6 |

| ICD | Wording | Section | nDIAG |
|-------|---|--|-------|
| 53401 | Acute gastrojejunal ulcer with hemorrhage with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53410 | Acute gastrojejunal ulcer with perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53411 | Acute gastrojejunal ulcer with perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53420 | Acute gastrojejunal ulcer with hemorrhage and perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53421 | Acute gastrojejunal ulcer with hemorrhage and perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53430 | Acute gastrojejunal ulcer without hemorrhage or perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 16 |
| 53431 | Acute gastrojejunal ulcer without hemorrhage or perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53440 | Chronic or unspecified gastrojejunal ulcer with hemorrhage without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 7 |
| 53441 | Chronic or unspecified gastrojejunal ulcer with hemorrhage with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53450 | Chronic or unspecified gastrojejunal ulcer with perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53451 | Chronic or unspecified gastrojejunal ulcer with perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53460 | Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53461 | Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53470 | Chronic gastrojejunal ulcer without hemorrhage or perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 13 |
| 53471 | Chronic gastrojejunal ulcer without hemorrhage or perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 0 |
| 53490 | Gastrojejunal ulcer unspecified as acute or chronic without hemorrhage or perforation without obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 32 |
| 53491 | Gastrojejunal ulcer unspecified as acute or chronic without hemorrhage or perforation with obstruction | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53500 | Acute gastritis (without hemorrhage) | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 295 |
| 53501 | Acute gastritis with hemorrhage | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 55 |
| 53510 | Atrophic gastritis (without hemorrhage) | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1325 |
| 53511 | Atrophic gastritis with hemorrhage | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 29 |
| 53520 | Gastric mucosal hypertrophy (without hemorrhage) | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 5 |
| 53521 | Gastric mucosal hypertrophy with hemorrhage | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53530 | Alcoholic gastritis (without hemorrhage) | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 11 |
| 53531 | Alcoholic gastritis with hemorrhage | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1 |
| 53540 | Other specified gastritis (without hemorrhage) | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 1209 |
| 53541 | Other specified gastritis with hemorrhage | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 55 |
| 53550 | Unspecified gastritis and gastroduodenitis (without hemorrhage) | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 788 |
| 53551 | Unspecified gastritis and gastroduodenitis with hemorrhage | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 73 |
| 53560 | Duodenitis (without hemorrhage) | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 286 |
| 53561 | Duodenitis with hemorrhage | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 5 |
| 5362 | Persistent vomiting | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 58 |

| ICD | Wording | Section | nDIAG |
|-------|--|--|-------|
| 5368 | Dyspepsia & other specified disorders of function of stomach | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 340 |
| 5369 | Unspecified functional disorder of stomach | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 88 |
| 53789 | Other specified disorders of stomach and duodenum | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 462 |
| 5379 | Unspecified disorder of stomach and duodenum | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 52 |
| 5559 | Regional enteritis of unspecified site | NONINFECTIOUS ENTERITIS AND COLITIS | 182 |
| 5589 | Other & unspecified noninfectious gastroenteritis & colitis | NONINFECTIOUS ENTERITIS AND COLITIS | 1095 |
| 7868 | Hiccough | SYMPTOMS | 50 |
| V551 | Attention to gastrostomy | PERSONS ENCOUNTERING HEALTH SERVICES FOR SPECIFIC PROCEDURES AND AFTERCARE | 123 |

Hernia Of Abdominal Cavity

| ICD | Wording | Section | nDIAG |
|-------|---|----------------------------|-------|
| 55000 | Unilateral or unspecified inguinal hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 5 |
| 55001 | Recurrent unilateral or unspecified inguinal hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 55002 | Bilateral inguinal hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 1 |
| 55003 | Recurrent bilateral inguinal hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 55010 | Unilateral or unspecified inguinal hernia with obstruction without gangrene | HERNIA OF ABDOMINAL CAVITY | 36 |
| 55011 | Recurrent unilateral or unspecified inguinal hernia with obstruction without gangrene | HERNIA OF ABDOMINAL CAVITY | 3 |
| 55012 | Bilateral inguinal hernia with obstruction without gangrene | HERNIA OF ABDOMINAL CAVITY | 7 |
| 55013 | Recurrent bilateral inguinal hernia with obstruction without gangrene | HERNIA OF ABDOMINAL CAVITY | 2 |
| 55090 | Unilateral or unspecified inguinal hernia without obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 480 |
| 55091 | Recurrent unilateral or unspecified inguinal hernia without obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 25 |
| 55092 | Bilateral inguinal hernia without obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 119 |
| 55093 | Recurrent bilateral inguinal hernia without obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 8 |
| 55100 | Unilateral or unspecified femoral hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 2 |
| 55101 | Recurrent unilateral or unspecified femoral hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 55102 | Bilateral femoral hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 55103 | Recurrent bilateral femoral hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 5511 | Umbilical hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 55120 | Unspecified ventral hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 55121 | Incisional ventral hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 55129 | Other ventral hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 5513 | Diaphragmatic hernia with gangrene | HERNIA OF ABDOMINAL CAVITY | 2 |
| 5518 | Hernia of other specified sites, with gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 5519 | Hernia of unspecified site, with gangrene | HERNIA OF ABDOMINAL CAVITY | 2 |
| 55200 | Unilateral or unspecified femoral hernia with obstruction | HERNIA OF ABDOMINAL CAVITY | 10 |
| 55201 | Recurrent unilateral or unspecified femoral hernia with obstruction | HERNIA OF ABDOMINAL CAVITY | 1 |
| 55202 | Bilateral femoral hernia with obstruction | HERNIA OF ABDOMINAL CAVITY | 0 |
| 55203 | Recurrent bilateral femoral hernia with obstruction | HERNIA OF ABDOMINAL CAVITY | 0 |
| 5521 | Umbilical hernia with obstruction | HERNIA OF ABDOMINAL CAVITY | 15 |
| 55220 | Unspecified ventral hernia with obstruction | HERNIA OF ABDOMINAL CAVITY | 3 |
| 55221 | Incisional hernia with obstruction | HERNIA OF ABDOMINAL CAVITY | 18 |

| ICD | Wording | Section | nDIAG |
|-------|--|----------------------------|-------|
| 55229 | Other ventral hernia with obstruction | HERNIA OF ABDOMINAL CAVITY | 2 |
| 5523 | Diaphragmatic hernia with obstruction | HERNIA OF ABDOMINAL CAVITY | 16 |
| 5528 | Hernia of other specified sites, with obstruction | HERNIA OF ABDOMINAL CAVITY | 1 |
| 5529 | Hernia of unspecified site, with obstruction | HERNIA OF ABDOMINAL CAVITY | 7 |
| 55300 | Unilateral or unspecified femoral hernia without obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 12 |
| 55301 | Recurrent unilateral or unspecified femoral hernia without obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 55302 | Bilateral femoral hernia without obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 55303 | Recurrent bilateral femoral hernia without obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 0 |
| 5531 | Umbilical hernia without mention of obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 243 |
| 55320 | Unspecified ventral hernia without obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 71 |
| 55321 | Incisional hernia without obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 273 |
| 55329 | Other ventral hernia without obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 50 |
| 5533 | Diaphragmatic hernia without mention of obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 5174 |
| 5538 | Hernia of other specified sites without mention of obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 17 |
| 5539 | Hernia of unspecified site without mention of obstruction or gangrene | HERNIA OF ABDOMINAL CAVITY | 34 |

Anal and rectal disorders

| ICD | Wording | Section | nDIAG |
|-------|--|---|-------|
| 5650 | Anal fissure | OTHER DISEASES OF INTESTINES AND PERITONEUM | 74 |
| 5651 | Anal fistula | OTHER DISEASES OF INTESTINES AND PERITONEUM | 61 |
| 5690 | Anal & rectal polyp | OTHER DISEASES OF INTESTINES AND PERITONEUM | 167 |
| 5692 | Stenosis of rectum & anus | OTHER DISEASES OF INTESTINES AND PERITONEUM | 67 |
| 5693 | Hemorrhage of rectum & anus | OTHER DISEASES OF INTESTINES AND PERITONEUM | 408 |
| 56941 | Ulcer of anus and rectum | OTHER DISEASES OF INTESTINES AND PERITONEUM | 70 |
| 56942 | Anal or rectal pain | OTHER DISEASES OF INTESTINES AND PERITONEUM | 34 |
| 56949 | Other specified disorders of rectum and anus | OTHER DISEASES OF INTESTINES AND PERITONEUM | 188 |

Gastrointestinal bleeding

| ICD | Wording | Section | nDIAG |
|------|---|------------------------------------|-------|
| 5780 | Hematemesis | OTHER DISEASES OF DIGESTIVE SYSTEM | 142 |
| 5781 | Melena | OTHER DISEASES OF DIGESTIVE SYSTEM | 413 |
| 5789 | Hemorrhage of gastrointestinal tract, unspecified | OTHER DISEASES OF DIGESTIVE SYSTEM | 294 |

Other diseases of digestive system

| ICD | Wording | Section | nDIAG |
|-------|--|------------------------------------|-------|
| 5739 | Unspecified disorder of liver | OTHER DISEASES OF DIGESTIVE SYSTEM | 127 |
| 57400 | Calculus of gallbladder with acute cholecystitis without obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 253 |
| 57401 | Calculus of gallbladder with acute cholecystitis with obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 35 |
| 57410 | Calculus of gallbladder with other cholecystitis without obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 322 |
| 57411 | Calculus of gallbladder with other cholecystitis with obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 24 |

| ICD | Wording | Section | nDIAG |
|-------|--|------------------------------------|-------|
| 57420 | Calculus of gallbladder without cholecystitis without obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 3268 |
| 57421 | Calculus of gallbladder without cholecystitis with obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 34 |
| 57430 | Calculus of bile duct with acute cholecystitis without obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 33 |
| 57431 | Calculus of bile duct with acute cholecystitis with obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 15 |
| 57440 | Calculus of bile duct with other cholecystitis without obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 30 |
| 57441 | Calculus of bile duct with other cholecystitis with obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 15 |
| 57450 | Calculus of bile duct without cholecystitis without obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 316 |
| 57451 | Calculus of bile duct without cholecystitis with obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 106 |
| 57460 | Calculus of gallbladder and bile duct with acute cholecystitis without obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 28 |
| 57461 | Calculus of gallbladder and bile duct with acute cholecystitis with obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 20 |
| 57470 | Calculus of gallbladder and bile duct with other cholecystitis without obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 41 |
| 57471 | Calculus of gallbladder and bile duct with other cholecystitis with obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 18 |
| 57480 | Calculus of gallbladder and bile duct with acute and chronic cholecystitis without obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 7 |
| 57481 | Calculus of gallbladder and bile duct with acute and chronic cholecystitis with obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 4 |
| 57490 | Calculus of gallbladder and bile duct without cholecystitis without obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 228 |
| 57491 | Calculus of gallbladder and bile duct without cholecystitis with obstruction | OTHER DISEASES OF DIGESTIVE SYSTEM | 48 |
| 5750 | Acute cholecystitis | OTHER DISEASES OF DIGESTIVE SYSTEM | 129 |
| 57510 | Cholecystitis, unspecified | OTHER DISEASES OF DIGESTIVE SYSTEM | 60 |
| 57511 | Chronic cholecystitis | OTHER DISEASES OF DIGESTIVE SYSTEM | 58 |
| 57512 | Acute and chronic cholecystitis | OTHER DISEASES OF DIGESTIVE SYSTEM | 19 |
| 5752 | Obstruction of gallbladder | OTHER DISEASES OF DIGESTIVE SYSTEM | 10 |
| 5753 | Hydrops of gallbladder | OTHER DISEASES OF DIGESTIVE SYSTEM | 114 |
| 5754 | Perforation of gallbladder | OTHER DISEASES OF DIGESTIVE SYSTEM | 9 |
| 5755 | Fistula of gallbladder | OTHER DISEASES OF DIGESTIVE SYSTEM | 6 |
| 5756 | Cholesterolosis of gallbladder | OTHER DISEASES OF DIGESTIVE SYSTEM | 47 |
| 5758 | Other specified disorders of gallbladder | OTHER DISEASES OF DIGESTIVE SYSTEM | 225 |
| 5759 | Unspecified disorder of gallbladder | OTHER DISEASES OF DIGESTIVE SYSTEM | 9 |
| 5760 | Postcholecystectomy syndrome | OTHER DISEASES OF DIGESTIVE SYSTEM | 31 |
| 5761 | Cholangitis | OTHER DISEASES OF DIGESTIVE SYSTEM | 369 |
| 5762 | Obstruction of bile duct | OTHER DISEASES OF DIGESTIVE SYSTEM | 286 |
| 5763 | Perforation of bile duct | OTHER DISEASES OF DIGESTIVE SYSTEM | 2 |
| 5764 | Fistula of bile duct | OTHER DISEASES OF DIGESTIVE SYSTEM | 10 |
| 5765 | Spasm of sphincter of Oddi | OTHER DISEASES OF DIGESTIVE SYSTEM | 15 |
| 5768 | Other specified disorders of biliary tract | OTHER DISEASES OF DIGESTIVE SYSTEM | 589 |
| 5769 | Unspecified disorder of biliary tract | OTHER DISEASES OF DIGESTIVE SYSTEM | 33 |

Hypotension, syncope and collapse

| ICD | Wording | Section | nDIAG |
|-------|------------------------------|------------------------------------|-------|
| 4580 | Orthostatic hypotension | OTHER DISEASES OF DIGESTIVE SYSTEM | 762 |
| 4581 | Chronic hypotension | OTHER DISEASES OF DIGESTIVE SYSTEM | 51 |
| 4582 | Iatrogenic hypotension | OTHER DISEASES OF DIGESTIVE SYSTEM | 399 |
| 45829 | Other iatrogenic hypotension | OTHER DISEASES OF DIGESTIVE SYSTEM | 0 |
| 4588 | Other specified hypotension | OTHER DISEASES OF DIGESTIVE SYSTEM | 139 |

| ICD | Wording | Section | nDIAG |
|------|--|------------------------------------|-------|
| 4589 | Hypotension, unspecified | OTHER DISEASES OF DIGESTIVE SYSTEM | 790 |
| 7802 | Syncope & collapse | SYMPTOMS | 2033 |
| 7963 | Nonspecific low blood pressure reading | NONSPECIFIC ABNORMAL FINDINGS | 30 |

Diseases Of The Genitourinary System

| ICD | Wording | Section | nDIAG |
|-------|---|--|-------|
| 2222 | Benign neoplasm of prostate | BENIGN NEOPLASMS | 35 |
| 2233 | Benign neoplasm of bladder | BENIGN NEOPLASMS | 24 |
| 2367 | Neoplasm of uncertain behavior of bladder | NEOPLASMS OF UNCERTAIN BEHAVIOR | 152 |
| 40300 | Malignant hypertensive renal disease without renal failure | HYPERTENSIVE DISEASE | 7 |
| 40301 | Malignant hypertensive renal disease with renal failure | HYPERTENSIVE DISEASE | 110 |
| 40310 | Benign hypertensive renal disease without renal failure | HYPERTENSIVE DISEASE | 40 |
| 40311 | Benign hypertensive renal disease with renal failure | HYPERTENSIVE DISEASE | 520 |
| 40390 | Unspecified hypertensive renal disease without renal failure | HYPERTENSIVE DISEASE | 153 |
| 40391 | Unspecified hypertensive renal disease with renal failure | HYPERTENSIVE DISEASE | 1102 |
| 5800 | Acute glomerulonephritis with lesion of proliferative glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 1 |
| 5804 | Acute glomerulonephritis with lesion of rapidly progressive glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 2 |
| 58081 | Acute glomerulonephritis in diseases classified elsewhere | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 1 |
| 58089 | Acute glomerulonephritis with other specified pathological lesion in kidney | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 10 |
| 5809 | Acute glomerulonephritis with unspecified pathological lesion in kidney | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 19 |
| 5810 | Nephrotic syndrome with lesion of proliferative glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 1 |
| 5811 | Nephrotic syndrome with lesion of membranous glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 23 |
| 5812 | Nephrotic syndrome with lesion of membranoproliferative glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 0 |
| 5813 | Nephrotic syndrome with lesion of minimal change glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 4 |
| 5820 | Chronic glomerulonephritis with lesion of proliferative glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 3 |
| 5821 | Chronic glomerulonephritis with lesion of membranous glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 5 |
| 5822 | Chronic glomerulonephritis with lesion of membranoproliferative glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 9 |
| 5824 | Chronic glomerulonephritis with lesion of rapidly progressive glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 3 |
| 58281 | Chronic glomerulonephritis in diseases classified elsewhere | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 6 |
| 58289 | Other chronic glomerulonephritis with specified pathological lesion in kidney | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 34 |
| 5829 | Chronic glomerulonephritis with unspecified pathological lesion in kidney | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 82 |
| 5830 | Nephritis & nephropathy, not specified as acute or chronic, with lesion of proliferative glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 5 |
| 5831 | Nephritis & nephropathy, not specified as acute or chronic, with lesion of membranous glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 7 |
| 5834 | Nephritis & nephropathy, not specified as acute or chronic, with lesion of rapidly progressive glomerulonephritis | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 2 |
| 585 | Chronic renal failure | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 5643 |

| ICD | Wording | Section | nDIAG |
|-------|---|--|-------|
| 586 | Renal failure, unspecified | NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS | 1822 |
| 59389 | Other specified disorders of kidney and ureter | OTHER DISEASES OF URINARY SYSTEM | 144 |
| 5939 | Unspecified disorder of kidney & ureter | OTHER DISEASES OF URINARY SYSTEM | 927 |
| 5959 | Cystitis, unspecified | OTHER DISEASES OF URINARY SYSTEM | 261 |
| 5964 | Atony of bladder | OTHER DISEASES OF URINARY SYSTEM | 178 |
| 59659 | Other functional disorder of bladder | OTHER DISEASES OF URINARY SYSTEM | 98 |
| 5968 | Other specified disorders of bladder | OTHER DISEASES OF URINARY SYSTEM | 267 |
| 5969 | Unspecified disorder of bladder | OTHER DISEASES OF URINARY SYSTEM | 18 |
| 59780 | Urethritis, unspecified | OTHER DISEASES OF URINARY SYSTEM | 18 |
| 59781 | Urethral syndrome NOS | OTHER DISEASES OF URINARY SYSTEM | 0 |
| 59789 | Other urethritis | OTHER DISEASES OF URINARY SYSTEM | 7 |
| 5990 | Urinary tract infection, site not specified | OTHER DISEASES OF URINARY SYSTEM | 8928 |
| 5997 | Hematuria | OTHER DISEASES OF URINARY SYSTEM | 1092 |
| 5999 | Unspecified disorder of urethra & urinary tract | OTHER DISEASES OF URINARY SYSTEM | 6 |
| 6000 | Hypertrophy (benign) of prostate | DISEASES OF MALE GENITAL ORGANS | 1992 |
| 6001 | Nodular prostate | DISEASES OF MALE GENITAL ORGANS | 82 |
| 6002 | Benign localized hyperplasia of prostate | DISEASES OF MALE GENITAL ORGANS | 465 |
| 6003 | Cyst of prostate | DISEASES OF MALE GENITAL ORGANS | 4 |
| 6009 | Hyperplasia of prostate, unspecified | DISEASES OF MALE GENITAL ORGANS | 980 |
| 6022 | Atrophy of prostate | DISEASES OF MALE GENITAL ORGANS | 3 |
| 6023 | Dysplasia of prostate | DISEASES OF MALE GENITAL ORGANS | 17 |
| 6028 | Other specified disorders of prostate | DISEASES OF MALE GENITAL ORGANS | 28 |
| 6029 | Unspecified disorder of prostate | DISEASES OF MALE GENITAL ORGANS | 19 |
| 78830 | Urinary incontinence, unspecified | SYMPTOMS | 3010 |
| 78839 | Other urinary incontinence | SYMPTOMS | 438 |
| 78841 | Urinary frequency | SYMPTOMS | 163 |
| 78861 | Splitting of urinary stream | SYMPTOMS | 1 |
| 78862 | Slowing of urinary stream | SYMPTOMS | 1 |
| 78863 | Urgency of urination | SYMPTOMS | 0 |
| 78869 | Other abnormality of urinary stream | SYMPTOMS | 37 |

Disorders of female genital tract

| ICD | Wording | Section | nDIAG |
|-------|--|--|-------|
| 61610 | Vaginitis and vulvovaginitis, unspecified | INFLAMMATORY DISEASE OF FEMALE PELVIC ORGANS | 104 |
| 61611 | Vaginitis and vulvovaginitis in diseases classified elsewhere | INFLAMMATORY DISEASE OF FEMALE PELVIC ORGANS | 2 |
| 6168 | Other specified inflammatory diseases of cervix, vagina, & vulva | INFLAMMATORY DISEASE OF FEMALE PELVIC ORGANS | 4 |
| 6169 | Unspecified inflammatory disease of cervix, vagina, & vulva | INFLAMMATORY DISEASE OF FEMALE PELVIC ORGANS | 4 |
| 6210 | Polyp of corpus uteri | OTHER DISORDERS OF FEMALE GENITAL TRACT | 64 |
| 6218 | Other specified disorders of uterus, not elsewhere classified | OTHER DISORDERS OF FEMALE GENITAL TRACT | 85 |
| 6219 | Unspecified disorder of uterus | OTHER DISORDERS OF FEMALE GENITAL TRACT | 3 |
| 6227 | Mucous polyp of cervix | OTHER DISORDERS OF FEMALE GENITAL TRACT | 3 |
| 6237 | Polyp of vagina | OTHER DISORDERS OF FEMALE GENITAL TRACT | 0 |
| 6246 | Polyp of labia & vulva | OTHER DISORDERS OF FEMALE GENITAL TRACT | 1 |
| 6248 | Other specified noninflammatory disorders of vulva & perineum | OTHER DISORDERS OF FEMALE GENITAL TRACT | 8 |
| 6249 | Unspecified noninflammatory disorder of vulva & perineum | OTHER DISORDERS OF FEMALE GENITAL TRACT | 3 |

| ICD | Wording | Section | nDIAG |
|------|-------------------------|---|-------|
| 6266 | Metrorrhagia | OTHER DISORDERS OF FEMALE GENITAL TRACT | 38 |
| 6271 | Postmenopausal bleeding | OTHER DISORDERS OF FEMALE GENITAL TRACT | 81 |

Diseases of skin and subcutaneous tissue

| ICD | Wording | Section | nDIAG |
|-------|--|--|-------|
| 6820 | Cellulitis & abscess of face | INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE | 12 |
| 6821 | Cellulitis & abscess of neck | INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE | 9 |
| 6822 | Cellulitis & abscess of trunk | INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE | 105 |
| 6823 | Cellulitis & abscess of upper arm & forearm | INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE | 51 |
| 6824 | Cellulitis & abscess of hand, except fingers & thumb | INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE | 12 |
| 6825 | Cellulitis & abscess of buttock | INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE | 24 |
| 6826 | Cellulitis & abscess of leg, except foot | INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE | 200 |
| 6827 | Cellulitis & abscess of foot, except toes | INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE | 55 |
| 6828 | Cellulitis & abscess of other specified sites | INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE | 25 |
| 6829 | Cellulitis & abscess of unspecified sites | INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE | 55 |
| 7070 | Decubitus ulcer | OTHER DISEASES OF SKIN AND SUBCUTANEOUS TISSUE | 3040 |
| 70710 | Ulcer of lower limb, unspecified | OTHER DISEASES OF SKIN AND SUBCUTANEOUS TISSUE | 418 |
| 70711 | Ulcer of thigh | OTHER DISEASES OF SKIN AND SUBCUTANEOUS TISSUE | 25 |
| 70712 | Ulcer of calf | OTHER DISEASES OF SKIN AND SUBCUTANEOUS TISSUE | 94 |
| 70713 | Ulcer of ankle | OTHER DISEASES OF SKIN AND SUBCUTANEOUS TISSUE | 190 |
| 70714 | Ulcer of heel and midfoot | OTHER DISEASES OF SKIN AND SUBCUTANEOUS TISSUE | 274 |
| 70715 | Ulcer of other part of foot | OTHER DISEASES OF SKIN AND SUBCUTANEOUS TISSUE | 517 |
| 70719 | Ulcer of other part of lower limb | OTHER DISEASES OF SKIN AND SUBCUTANEOUS TISSUE | 249 |
| 7078 | Chronic ulcer of other specified sites | OTHER DISEASES OF SKIN AND SUBCUTANEOUS TISSUE | 67 |
| 7079 | Chronic ulcer of unspecified site | OTHER DISEASES OF SKIN AND SUBCUTANEOUS TISSUE | 75 |
| 8910 | Open wound of knee, leg [except thigh], & ankle, without mention of complication | OPEN WOUND OF LOWER LIMB | 183 |
| 8911 | Open wound of knee, leg [except thigh], & ankle, complicated | OPEN WOUND OF LOWER LIMB | 81 |
| 8912 | Open wound of knee, leg [except thigh], & ankle, with tendon involvement | OPEN WOUND OF LOWER LIMB | 1 |

Dorsopathies, Arthropathies and related disorders

| ICD | Wording | Section | nDIAG |
|-------|--|-------------------------------------|-------|
| 7140 | Rheumatoid arthritis | ARTHROPATHIES AND RELATED DISORDERS | 1438 |
| 7142 | Other rheumatoid arthritis with visceral or systemic involvement | ARTHROPATHIES AND RELATED DISORDERS | 6 |
| 71600 | Kaschin-beck disease site unspecified | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71601 | Kaschin-beck disease involving shoulder region | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71602 | Kaschin-beck disease involving upper arm | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71603 | Kaschin-beck disease involving forearm | ARTHROPATHIES AND RELATED DISORDERS | 0 |

| ICD | Wording | Section | nDIAG |
|-------|--|-------------------------------------|-------|
| 71604 | Kaschin-beck disease involving hand | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71605 | Kaschin-beck disease involving pelvic region and thigh | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71606 | Kaschin-beck disease involving lower leg | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71607 | Kaschin-beck disease involving ankle and foot | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71608 | Kaschin-beck disease involving other specified sites | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71609 | Kaschin-beck disease involving multiple sites | ARTHROPATHIES AND RELATED DISORDERS | 3 |
| 71610 | Traumatic arthropathy site unspecified | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71611 | Traumatic arthropathy involving shoulder region | ARTHROPATHIES AND RELATED DISORDERS | 3 |
| 71612 | Traumatic arthropathy involving upper arm | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71613 | Traumatic arthropathy involving forearm | ARTHROPATHIES AND RELATED DISORDERS | 1 |
| 71614 | Traumatic arthropathy involving hand | ARTHROPATHIES AND RELATED DISORDERS | 1 |
| 71615 | Traumatic arthropathy involving pelvic region and thigh | ARTHROPATHIES AND RELATED DISORDERS | 1 |
| 71616 | Traumatic arthropathy involving lower leg | ARTHROPATHIES AND RELATED DISORDERS | 1 |
| 71617 | Traumatic arthropathy involving ankle and foot | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71618 | Traumatic arthropathy involving other specified sites | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71619 | Traumatic arthropathy involving multiple sites | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71620 | Allergic arthritis site unspecified | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71621 | Allergic arthritis involving shoulder region | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71622 | Allergic arthritis involving upper arm | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71623 | Allergic arthritis involving forearm | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71624 | Allergic arthritis involving hand | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71625 | Allergic arthritis involving pelvic region and thigh | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71626 | Allergic arthritis involving lower leg | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71627 | Allergic arthritis involving ankle and foot | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71628 | Allergic arthritis involving other specified sites | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71629 | Allergic arthritis involving multiple sites | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71630 | Climacteric arthritis site unspecified | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71631 | Climacteric arthritis involving shoulder region | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71632 | Climacteric arthritis involving upper arm | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71633 | Climacteric arthritis involving forearm | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71634 | Climacteric arthritis involving hand | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71635 | Climacteric arthritis involving pelvic region and thigh | ARTHROPATHIES AND RELATED DISORDERS | 1 |
| 71636 | Climacteric arthritis involving lower leg | ARTHROPATHIES AND RELATED DISORDERS | 2 |
| 71637 | Climacteric arthritis involving ankle and foot | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71638 | Climacteric arthritis involving other specified sites | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71639 | Climacteric arthritis involving multiple sites | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71640 | Transient arthropathy site unspecified | ARTHROPATHIES AND RELATED DISORDERS | 1 |
| 71641 | Transient arthropathy involving shoulder region | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71642 | Transient arthropathy involving upper arm | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71643 | Transient arthropathy involving forearm | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71644 | Transient arthropathy involving hand | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71645 | Transient arthropathy involving pelvic region and thigh | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71646 | Transient arthropathy involving lower leg | ARTHROPATHIES AND RELATED DISORDERS | 1 |
| 71647 | Transient arthropathy involving ankle and foot | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71648 | Transient arthropathy involving other specified sites | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71649 | Transient arthropathy involving multiple sites | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71650 | Unspecified polyarthropathy or polyarthritis site unspecified | ARTHROPATHIES AND RELATED DISORDERS | 94 |
| 71651 | Unspecified polyarthropathy or polyarthritis involving shoulder region | ARTHROPATHIES AND RELATED DISORDERS | 7 |
| 71652 | Unspecified polyarthropathy or polyarthritis involving upper arm | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71653 | Unspecified polyarthropathy or polyarthritis involving forearm | ARTHROPATHIES AND RELATED DISORDERS | 1 |

| ICD | Wording | Section | nDIAG |
|-------|--|-------------------------------------|-------|
| 71654 | Unspecified polyarthropathy or polyarthritis involving hand | ARTHROPATHIES AND RELATED DISORDERS | 4 |
| 71655 | Unspecified polyarthropathy or polyarthritis involving pelvic region and thigh | ARTHROPATHIES AND RELATED DISORDERS | 1 |
| 71656 | Unspecified polyarthropathy or polyarthritis involving lower leg | ARTHROPATHIES AND RELATED DISORDERS | 3 |
| 71657 | Unspecified polyarthropathy or polyarthritis involving ankle and foot | ARTHROPATHIES AND RELATED DISORDERS | 1 |
| 71658 | Unspecified polyarthropathy or polyarthritis involving other specified sites | ARTHROPATHIES AND RELATED DISORDERS | 7 |
| 71659 | Unspecified polyarthropathy or polyarthritis involving multiple sites | ARTHROPATHIES AND RELATED DISORDERS | 228 |
| 71660 | Unspecified monoarthritis site unspecified | ARTHROPATHIES AND RELATED DISORDERS | 3 |
| 71661 | Unspecified monoarthritis involving shoulder region | ARTHROPATHIES AND RELATED DISORDERS | 5 |
| 71662 | Unspecified monoarthritis involving upper arm | ARTHROPATHIES AND RELATED DISORDERS | 0 |
| 71663 | Unspecified monoarthritis involving forearm | ARTHROPATHIES AND RELATED DISORDERS | 6 |
| 71664 | Unspecified monoarthritis involving hand | ARTHROPATHIES AND RELATED DISORDERS | 6 |
| 71665 | Unspecified monoarthritis involving pelvic region and thigh | ARTHROPATHIES AND RELATED DISORDERS | 11 |
| 71666 | Unspecified monoarthritis involving lower leg | ARTHROPATHIES AND RELATED DISORDERS | 10 |
| 71667 | Unspecified monoarthritis involving ankle and foot | ARTHROPATHIES AND RELATED DISORDERS | 1 |
| 71668 | Unspecified monoarthritis involving other specified sites | ARTHROPATHIES AND RELATED DISORDERS | 1 |
| 71680 | Other specified arthropathy no site specified | ARTHROPATHIES AND RELATED DISORDERS | 1 |
| 71681 | Other specified arthropathy involving shoulder region | ARTHROPATHIES AND RELATED DISORDERS | 6 |
| 71682 | Other specified arthropathy involving upper arm | ARTHROPATHIES AND RELATED DISORDERS | 2 |
| 71683 | Other specified arthropathy involving forearm | ARTHROPATHIES AND RELATED DISORDERS | 4 |
| 71684 | Other specified arthropathy involving hand | ARTHROPATHIES AND RELATED DISORDERS | 4 |
| 71685 | Other specified arthropathy involving pelvic region and thigh | ARTHROPATHIES AND RELATED DISORDERS | 2 |
| 71686 | Other specified arthropathy involving lower leg | ARTHROPATHIES AND RELATED DISORDERS | 2 |
| 71687 | Other specified arthropathy involving ankle and foot | ARTHROPATHIES AND RELATED DISORDERS | 2 |
| 71688 | Other specified arthropathy involving other specified sites | ARTHROPATHIES AND RELATED DISORDERS | 2 |
| 71689 | Other specified arthropathy involving multiple sites | ARTHROPATHIES AND RELATED DISORDERS | 4 |
| 71690 | Unspecified arthropathy site unspecified | ARTHROPATHIES AND RELATED DISORDERS | 45 |
| 71691 | Unspecified arthropathy involving shoulder region | ARTHROPATHIES AND RELATED DISORDERS | 37 |
| 71692 | Unspecified arthropathy involving upper arm | ARTHROPATHIES AND RELATED DISORDERS | 3 |
| 71693 | Unspecified arthropathy involving forearm | ARTHROPATHIES AND RELATED DISORDERS | 30 |
| 71694 | Unspecified arthropathy involving hand | ARTHROPATHIES AND RELATED DISORDERS | 17 |
| 71695 | Unspecified arthropathy involving pelvic region and thigh | ARTHROPATHIES AND RELATED DISORDERS | 14 |
| 71696 | Unspecified arthropathy involving lower leg | ARTHROPATHIES AND RELATED DISORDERS | 46 |
| 71697 | Unspecified arthropathy involving ankle and foot | ARTHROPATHIES AND RELATED DISORDERS | 20 |
| 71698 | Unspecified arthropathy involving other specified sites | ARTHROPATHIES AND RELATED DISORDERS | 16 |
| 71699 | Unspecified arthropathy involving multiple sites | ARTHROPATHIES AND RELATED DISORDERS | 40 |
| 71940 | Pain in joint site unspecified | ARTHROPATHIES AND RELATED DISORDERS | 15 |
| 71941 | Pain in joint involving shoulder region | ARTHROPATHIES AND RELATED DISORDERS | 182 |
| 71942 | Pain in joint involving upper arm | ARTHROPATHIES AND RELATED DISORDERS | 35 |
| 71943 | Pain in joint involving forearm | ARTHROPATHIES AND RELATED DISORDERS | 49 |
| 71944 | Pain in joint involving hand | ARTHROPATHIES AND RELATED DISORDERS | 13 |
| 71945 | Pain in joint involving pelvic region and thigh | ARTHROPATHIES AND RELATED DISORDERS | 292 |
| 71946 | Pain in joint involving lower leg | ARTHROPATHIES AND RELATED DISORDERS | 136 |
| 71947 | Pain in joint involving ankle and foot | ARTHROPATHIES AND RELATED DISORDERS | 42 |
| 71948 | Pain in joint involving other specified sites | ARTHROPATHIES AND RELATED DISORDERS | 36 |
| 71949 | Pain in joint involving multiple sites | ARTHROPATHIES AND RELATED DISORDERS | 124 |

| ICD | Wording | Section | nDIAG |
|-------|--|--|-------|
| 71970 | Difficulty in walking involving joint site unspecified | ARTHROPATHIES AND RELATED DISORDERS | 1058 |
| 71975 | Difficulty in walking involving joint of pelvic region and thigh | ARTHROPATHIES AND RELATED DISORDERS | 1849 |
| 71976 | Difficulty in walking involving lower leg joint | ARTHROPATHIES AND RELATED DISORDERS | 775 |
| 71977 | Difficulty in walking involving ankle and foot joint | ARTHROPATHIES AND RELATED DISORDERS | 157 |
| 71978 | Difficulty in walking involving joint of other specified sites | ARTHROPATHIES AND RELATED DISORDERS | 144 |
| 71979 | Difficulty in walking involving joint of multiple sites | ARTHROPATHIES AND RELATED DISORDERS | 544 |
| 7200 | Ankylosing spondylitis | DORSOPATHIES | 95 |
| 72081 | Inflammatory spondylopathies in diseases classified elsewhere | DORSOPATHIES | 4 |
| 72089 | Other inflammatory spondylopathies | DORSOPATHIES | 17 |
| 7209 | Unspecified inflammatory spondylopathy | DORSOPATHIES | 11 |
| 7210 | Cervical spondylosis without myelopathy | DORSOPATHIES | 1325 |
| 7211 | Cervical spondylosis with myelopathy | DORSOPATHIES | 114 |
| 7212 | Thoracic spondylosis without myelopathy | DORSOPATHIES | 902 |
| 7213 | Lumbosacral spondylosis without myelopathy | DORSOPATHIES | 2771 |
| 72141 | Spondylosis with myelopathy thoracic region | DORSOPATHIES | 10 |
| 72142 | Spondylosis with myelopathy lumbar region | DORSOPATHIES | 129 |
| 7215 | Kissing spine | DORSOPATHIES | 37 |
| 7216 | Ankylosing vertebral hyperostosis | DORSOPATHIES | 7 |
| 7217 | Traumatic spondylopathy | DORSOPATHIES | 1 |
| 7218 | Other allied disorders of spine | DORSOPATHIES | 73 |
| 72190 | Spondylosis of unspecified site without myelopathy | DORSOPATHIES | 787 |
| 72191 | Spondylosis of unspecified site with myelopathy | DORSOPATHIES | 10 |
| 7230 | Spinal stenosis in cervical region | DORSOPATHIES | 138 |
| 72400 | Spinal stenosis, unspecified region | DORSOPATHIES | 160 |
| 72401 | Spinal stenosis of thoracic region | DORSOPATHIES | 15 |
| 72402 | Spinal stenosis of lumbar region | DORSOPATHIES | 1424 |
| 72409 | Spinal stenosis of other region | DORSOPATHIES | 25 |
| 72610 | Disorders of bursae and tendons in shoulder region, unspecified | RHEUMATISM, EXCLUDING THE BACK | 227 |
| 72611 | Calcifying tendinitis of shoulder | RHEUMATISM, EXCLUDING THE BACK | 65 |
| 72612 | Bicipital tenosynovitis | RHEUMATISM, EXCLUDING THE BACK | 6 |
| 72619 | Other specified disorders of bursae and tendons in shoulder region | RHEUMATISM, EXCLUDING THE BACK | 18 |
| 7262 | Other affections of shoulder region, not elsewhere classified | RHEUMATISM, EXCLUDING THE BACK | 366 |
| 7282 | Muscular wasting & disuse atrophy, not elsewhere classified | RHEUMATISM, EXCLUDING THE BACK | 827 |
| 7283 | Other specific muscle disorders | RHEUMATISM, EXCLUDING THE BACK | 68 |
| 72871 | Plantar fascial fibromatosis | RHEUMATISM, EXCLUDING THE BACK | 5 |
| 7290 | Rheumatism, unspecified & fibrositis | RHEUMATISM, EXCLUDING THE BACK | 102 |
| 7291 | Myalgia & myositis, unspecified | RHEUMATISM, EXCLUDING THE BACK | 176 |
| 7295 | Pain in limb | RHEUMATISM, EXCLUDING THE BACK | 251 |
| 72981 | Swelling of limb | RHEUMATISM, EXCLUDING THE BACK | 114 |
| 72982 | Cramp of limb | RHEUMATISM, EXCLUDING THE BACK | 24 |
| 72989 | Other musculoskeletal symptoms referable to limbs | RHEUMATISM, EXCLUDING THE BACK | 46 |
| 7350 | Hallux valgus (acquired) | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 156 |
| 7351 | Hallux varus (acquired) | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 1 |
| 73730 | Scoliosis [and kyphoscoliosis], idiopathic | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 808 |
| 75469 | Other congenital valgus deformities of feet | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 1 |

Osteopathies, chondropathies, and acquired musculoskeletal deformities

| ICD | Wording | Section | nDIAG |
|-------|--|--|-------|
| 7310 | Osteitis deformans without mention of bone tumor | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 385 |
| 73300 | Osteoporosis, unspecified | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 5890 |
| 73301 | Senile osteoporosis | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 3093 |
| 73302 | Idiopathic osteoporosis | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 28 |
| 73303 | Disuse osteoporosis | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 6 |
| 73309 | Other osteoporosis | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 626 |
| 73310 | Pathologic fracture, unspecified site | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 52 |
| 73311 | Pathologic fracture of humerus | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 36 |
| 73312 | Pathologic fracture of distal radius and ulna | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 5 |
| 73313 | Pathologic fracture of vertebrae | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 2957 |
| 73314 | Pathologic fracture of neck of femur | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 63 |
| 73315 | Pathologic fracture of other specified part of femur | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 18 |
| 73316 | Pathologic fracture of tibia and fibula | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 23 |
| 73319 | Pathologic fracture of other specified site | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 285 |
| V8281 | Osteoporosis | OSTEOPATHIES, CHONDROPATHIES, AND ACQUIRED MUSCULOSKELETAL DEFORMITIES | 0 |

Symptoms involving respiratory system and other chest symptoms

| ICD | Wording | Section | nDIAG |
|-------|--|---|-------|
| 41511 | Iatrogenic pulmonary embolism and infarction | DISEASES OF PULMONARY CIRCULATION | 105 |
| 41519 | Other pulmonary embolism and infarction | DISEASES OF PULMONARY CIRCULATION | 1058 |
| 4160 | Primary pulmonary hypertension | DISEASES OF PULMONARY CIRCULATION | 576 |
| 4168 | Other chronic pulmonary heart diseases | DISEASES OF PULMONARY CIRCULATION | 2887 |
| 4169 | Chronic pulmonary heart disease, unspecified | DISEASES OF PULMONARY CIRCULATION | 315 |
| 4660 | Acute bronchitis | ACUTE RESPIRATORY INFECTIONS | 2054 |
| 490 | Bronchitis, not specified as acute or chronic | CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS | 485 |
| 5118 | Other specified forms of pleural effusion, except tuberculous | OTHER DISEASES OF RESPIRATORY SYSTEM | 970 |
| 5119 | Unspecified pleural effusion | OTHER DISEASES OF RESPIRATORY SYSTEM | 2529 |
| 5198 | Other diseases of respiratory system, not elsewhere classified | OTHER DISEASES OF RESPIRATORY SYSTEM | 397 |
| 5199 | Unspecified disease of respiratory system | OTHER DISEASES OF RESPIRATORY SYSTEM | 32 |
| 78600 | Respiratory abnormality, unspecified | SYMPTOMS | 263 |
| 78601 | Hyperventilation | SYMPTOMS | 127 |
| 78602 | Orthopnea | SYMPTOMS | 68 |
| 78603 | Apnea | SYMPTOMS | 25 |
| 78604 | Cheyne-Stokes respiration | SYMPTOMS | 38 |
| 78605 | Shortness of breath | SYMPTOMS | 25 |
| 78606 | Tachypnea | SYMPTOMS | 21 |
| 78607 | Wheezing | SYMPTOMS | 25 |
| 78609 | Respiratory abnormality other | SYMPTOMS | 2173 |
| 7861 | Stridor | SYMPTOMS | 46 |
| 7862 | Cough | SYMPTOMS | 296 |
| 7863 | Hemoptysis | SYMPTOMS | 279 |

| ICD | Wording | Section | nDIAG |
|-------|---|--|-------|
| 7864 | Abnormal sputum | SYMPTOMS | 71 |
| 78652 | Painful respiration | SYMPTOMS | 56 |
| 7866 | Swelling, mass, or lump in chest | SYMPTOMS | 30 |
| 7867 | Abnormal chest sounds | SYMPTOMS | 8 |
| 7869 | Other symptoms involving respiratory system & chest | SYMPTOMS | 9 |
| 9973 | Respiratory complications, not elsewhere classified | COMPLICATIONS OF SURGICAL AND MEDICAL CARE, NOT ELSEWHERE CLASSIFIED | 855 |

Symptoms involving abdomen and pelvis

| ICD | Wording | Section | nDIAG |
|-------|---|--|-------|
| 0092 | Infectious diarrhea | INTESTINAL INFECTIOUS DISEASES | 31 |
| 0093 | Diarrhea of presumed infectious origin | INTESTINAL INFECTIOUS DISEASES | 24 |
| 2112 | Benign neoplasm of duodenum, jejunum, & ileum | BENIGN NEOPLASMS | 71 |
| 2113 | Benign neoplasm of colon | BENIGN NEOPLASMS | 2680 |
| 2114 | Benign neoplasm of rectum & anal canal | BENIGN NEOPLASMS | 246 |
| 2118 | Benign neoplasm of retroperitoneum & peritoneum | BENIGN NEOPLASMS | 3 |
| 2119 | Benign neoplasm of other & unspecified site in the digestive system | BENIGN NEOPLASMS | 4 |
| 53640 | Gastrostomy complication, unspecified | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 5 |
| 53642 | Mechanical complication of gastrostomy | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 8 |
| 53649 | Other gastrostomy complications | DISEASES OF ESOPHAGUS, STOMACH, AND DUODENUM | 10 |
| 56030 | Impaction of intestine unspecified | OTHER DISEASES OF INTESTINES AND PERITONEUM | 22 |
| 56031 | Gallstone ileus | OTHER DISEASES OF INTESTINES AND PERITONEUM | 3 |
| 56039 | Other impaction of intestine | OTHER DISEASES OF INTESTINES AND PERITONEUM | 1750 |
| 56081 | Intestinal or peritoneal adhesions with obstruction (postoperative) (postinfection) | OTHER DISEASES OF INTESTINES AND PERITONEUM | 196 |
| 56089 | Other specified intestinal obstruction | OTHER DISEASES OF INTESTINES AND PERITONEUM | 423 |
| 5609 | Unspecified intestinal obstruction | OTHER DISEASES OF INTESTINES AND PERITONEUM | 518 |
| 56201 | Diverticulitis of small intestine (without mention of hemorrhage) | OTHER DISEASES OF INTESTINES AND PERITONEUM | 10 |
| 56203 | Diverticulitis of small intestine with hemorrhage | OTHER DISEASES OF INTESTINES AND PERITONEUM | 2 |
| 56211 | Diverticulitis of colon without mention of hemorrhage | OTHER DISEASES OF INTESTINES AND PERITONEUM | 897 |
| 56213 | Diverticulitis of colon with hemorrhage | OTHER DISEASES OF INTESTINES AND PERITONEUM | 52 |
| 56400 | Constipation, unspecified | OTHER DISEASES OF INTESTINES AND PERITONEUM | 3123 |
| 56401 | Slow transit constipation | OTHER DISEASES OF INTESTINES AND PERITONEUM | 124 |
| 56402 | Outlet dysfunction constipation | OTHER DISEASES OF INTESTINES AND PERITONEUM | 13 |
| 56409 | Other constipation | OTHER DISEASES OF INTESTINES AND PERITONEUM | 561 |
| 5641 | Irritable colon | OTHER DISEASES OF INTESTINES AND PERITONEUM | 626 |
| 5645 | Functional diarrhea | OTHER DISEASES OF INTESTINES AND PERITONEUM | 88 |
| 56481 | Neurogenic bowel | OTHER DISEASES OF INTESTINES AND PERITONEUM | 9 |
| 56489 | Other functional disorders of intestine | OTHER DISEASES OF INTESTINES AND PERITONEUM | 354 |
| 5649 | Unspecified functional disorder of intestine | OTHER DISEASES OF INTESTINES AND PERITONEUM | 280 |

| ICD | Wording | Section | nDIAG |
|-------|--|----------|-------|
| 78701 | Nausea with vomiting | SYMPTOMS | 479 |
| 78703 | Vomiting alone | SYMPTOMS | 567 |
| 78791 | Diarrhea | SYMPTOMS | 1544 |
| 78900 | Abdominal pain unspecified site | SYMPTOMS | 404 |
| 78901 | Abdominal pain right upper quadrant | SYMPTOMS | 39 |
| 78902 | Abdominal pain left upper quadrant | SYMPTOMS | 22 |
| 78903 | Abdominal pain right lower quadrant | SYMPTOMS | 61 |
| 78904 | Abdominal pain left lower quadrant | SYMPTOMS | 39 |
| 78905 | Abdominal pain periumbilic | SYMPTOMS | 26 |
| 78906 | Abdominal pain epigastric | SYMPTOMS | 278 |
| 78907 | Abdominal pain generalized | SYMPTOMS | 109 |
| 78909 | Abdominal pain other specified site | SYMPTOMS | 201 |
| 7891 | Hepatomegaly | SYMPTOMS | 250 |
| 7892 | Splenomegaly | SYMPTOMS | 209 |
| 78930 | Abdominal or pelvic swelling mass or lump unspecified site | SYMPTOMS | 9 |
| 78931 | Abdominal or pelvic swelling mass or lump right upper quadrant | SYMPTOMS | 2 |
| 78932 | Abdominal or pelvic swelling mass or lump left upper quadrant | SYMPTOMS | 1 |
| 78933 | Abdominal or pelvic swelling mass or lump right lower quadrant | SYMPTOMS | 1 |
| 78934 | Abdominal or pelvic swelling mass or lump left lower quadrant | SYMPTOMS | 0 |
| 78935 | Abdominal or pelvic swelling mass or lump periumbilic | SYMPTOMS | 0 |
| 78936 | Abdominal or pelvic swelling mass or lump epigastric | SYMPTOMS | 0 |
| 78937 | Abdominal or pelvic swelling mass or lump generalized | SYMPTOMS | 1 |
| 78939 | Abdominal or pelvic swelling mass or lump other specified site | SYMPTOMS | 6 |
| 7894 | Abdominal rigidity | SYMPTOMS | 0 |
| 78940 | Abdominal rigidity unspecified site | SYMPTOMS | 0 |
| 78941 | Abdominal rigidity right upper quadrant | SYMPTOMS | 0 |
| 78942 | Abdominal rigidity left upper quadrant | SYMPTOMS | 0 |
| 78943 | Abdominal rigidity right lower quadrant | SYMPTOMS | 0 |
| 78944 | Abdominal rigidity left lower quadrant | SYMPTOMS | 0 |
| 78945 | Abdominal rigidity periumbilic | SYMPTOMS | 0 |
| 78946 | Abdominal rigidity epigastric | SYMPTOMS | 0 |
| 78947 | Abdominal rigidity generalized | SYMPTOMS | 0 |
| 78949 | Abdominal rigidity other specified site | SYMPTOMS | 0 |
| 7895 | Ascites | SYMPTOMS | 787 |
| 78960 | Abdominal tenderness unspecified site | SYMPTOMS | 1 |
| 78961 | Abdominal tenderness right upper quadrant | SYMPTOMS | 2 |
| 78962 | Abdominal tenderness left upper quadrant | SYMPTOMS | 0 |
| 78963 | Abdominal tenderness right lower quadrant | SYMPTOMS | 1 |
| 78964 | Abdominal tenderness left lower quadrant | SYMPTOMS | 2 |
| 78965 | Abdominal tenderness periumbilic | SYMPTOMS | 0 |
| 78966 | Abdominal tenderness epigastric | SYMPTOMS | 8 |
| 78967 | Abdominal tenderness generalized | SYMPTOMS | 0 |
| 78969 | Abdominal tenderness other specified site | SYMPTOMS | 0 |
| 7899 | Other symptoms involving abdomen & pelvis | SYMPTOMS | 5 |

Asthenia, weakness, lack of energy and strength, loss of strength

| ICD | Wording | Section | nDIAG |
|-------|---|--|-------|
| 78050 | Sleep disturbance, unspecified | SYMPTOMS | 126 |
| 78051 | Insomnia with sleep apnea | SYMPTOMS | 42 |
| 78052 | Other insomnia | SYMPTOMS | 257 |
| 78053 | Hypersomnia with sleep apnea | SYMPTOMS | 205 |
| 78054 | Other hypersomnia | SYMPTOMS | 23 |
| 78055 | Disruptions of 24-hour sleep-wake cycle | SYMPTOMS | 16 |
| 78056 | Dysfunctions associated with sleep stages or arousal from sleep | SYMPTOMS | 13 |
| 78057 | Other and unspecified sleep apnea | SYMPTOMS | 485 |
| 78059 | Other sleep disturbances | SYMPTOMS | 33 |
| 7809 | Other general symptoms | SYMPTOMS | 708 |
| 78094 | Early satiety | SYMPTOMS | 0 |
| 7830 | Anorexia | SYMPTOMS | 2351 |
| 78321 | Loss of weight | SYMPTOMS | 1012 |
| 78322 | Underweight | SYMPTOMS | 24 |
| 7833 | Feeding difficulties & mismanagement | SYMPTOMS | 197 |
| 7839 | Other symptoms concerning nutrition, metabolism, & development | SYMPTOMS | 4 |
| 78469 | Other symbolic dysfunction | SYMPTOMS | 189 |
| 7872 | Dysphagia | SYMPTOMS | 1099 |
| V416 | Problems with swallowing & mastication | PERSONS WITH A CONDITION INFLUENCING THEIR HEALTH STATUS | 62 |

Headache

| ICD | Wording | Section | nDIAG |
|------|----------|----------|-------|
| 7840 | Headache | SYMPTOMS | 406 |

Subdural hemorrhage

| ICD | Wording | Section | nDIAG |
|-------|---|--|-------|
| 85222 | Subdural hemorrhage following injury without open intracranial wound with brief (less than one hour) loss of consciousness | INTRACRANIAL INJURY, EXCLUDING THOSE WITH SKULL FRACTURE | 2 |
| 85225 | Subdural hemorrhage following injury without open intracranial wound with prolonged (more than 24 hours) loss of consciousness without return to pre-existing conscious level | INTRACRANIAL INJURY, EXCLUDING THOSE WITH SKULL FRACTURE | 3 |
| 85232 | Subdural hemorrhage following injury with open intracranial wound with brief (less than one hour) loss of consciousness | INTRACRANIAL INJURY, EXCLUDING THOSE WITH SKULL FRACTURE | 0 |
| 85235 | Subdural hemorrhage following injury with open intracranial wound with prolonged (more than 24 hours) loss of consciousness without return to pre-existing conscious level | INTRACRANIAL INJURY, EXCLUDING THOSE WITH SKULL FRACTURE | 0 |
| 9070 | Late effect of intracranial injury without mention of skull fracture | LATE EFFECTS OF INJURIES, POISONINGS, TOXIC EFFECTS, AND OTHER EXTERNAL CAUS | 85 |

| ICD | Falls Wording | Section | nDIAG |
|-------|--|------------------|-------|
| E8800 | Accidental fall on or from escalator | ACCIDENTAL FALLS | 4 |
| E8801 | Accidental fall on or from sidewalk curb | ACCIDENTAL FALLS | 1 |
| E8809 | Accidental fall on or from other stairs or steps | ACCIDENTAL FALLS | 149 |
| E8839 | Accidental fall into other hole or other opening in surface | ACCIDENTAL FALLS | 0 |
| E8842 | Accidental fall from chair | ACCIDENTAL FALLS | 55 |
| E8843 | Accidental fall from wheelchair | ACCIDENTAL FALLS | 13 |
| E8844 | Fall from bed | ACCIDENTAL FALLS | 157 |
| E8845 | Fall from other furniture | ACCIDENTAL FALLS | 10 |
| E8846 | Fall from commode | ACCIDENTAL FALLS | 6 |
| E8849 | Other fall from one level to another | ACCIDENTAL FALLS | 42 |
| E8859 | Fall from other slipping, tripping, or stumbling | ACCIDENTAL FALLS | 728 |
| E8860 | Accidental fall on same level from collision pushing or shoving by or with other person in sports | ACCIDENTAL FALLS | 3 |
| E8869 | Other and unspecified accidental falls on same level from collision pushing or shoving by or with other person | ACCIDENTAL FALLS | 4 |
| E887 | Fracture, cause unspecified | ACCIDENTAL FALLS | 42 |
| E8880 | Fall resulting in striking against sharp object | ACCIDENTAL FALLS | 2 |
| E8881 | Fall resulting in striking against other object | ACCIDENTAL FALLS | 22 |
| E8888 | Other fall | ACCIDENTAL FALLS | 317 |
| E8889 | Unspecified fall | ACCIDENTAL FALLS | 3417 |

3.4 APPENDIX IV: VALIDATION OF THE IDENTIFICATION OF GERIATRIC SYNDROME VIA THE ICD-9 CODES - QUESTIONNAIRE TO EXPERTS

1) According with our financing system, do you think that ICD-9 codes by themselves give a good idea on geriatric patients' profile? Yes/ No

Please, make a comment:

2) There are some limits, disadvantages and advantages to use ICD-9 to define geriatric patient profile. Do you agree with these?

What are the other limits, disadvantages and advantages that could complete the list?

| <i>Advantages</i> | <i>OK?</i> | <i>Disadvantages/Limits</i> | <i>OK?</i> |
|--------------------------------|------------|---|------------|
| <i>Used all over the world</i> | | <i>Not very precise</i> | |
| <i>validated</i> | | <i>Over-coded if used for financing</i> | |
| | | <i>Low interrater reliability</i> | |

3) Here under, you will find 7 tables, corresponding to the 7 geriatric syndromes.

For each tables, ICD codes that we think that can be related to the syndrome are listed.

Could you please indicate for each code if, in your opinion, the code could be useful to identify the geriatric syndrome proposed. If it is not, why?

Do you identify other codes that should be used to complete the lists?

Do you agree with the grouping? If not, could you please comment in the table (in front of the title of the syndrome?)

| | | pertinent | not pertinent | if not pertinent, please comment |
|----------------------------|--------------|------------------|----------------------|---|
| GERIATRIC SYNDROM 1 | | | | |
| ICD-9 | denomination | | | |
| GERIATRIC SYNDROM 2 | | | | |
| ICD-9 | denomination | | | |

3.5 APPENDIX V : VALIDATION OF THE IDENTIFICATION OF GERIATRIC SYNDROME VIA THE ICD-9 CODES – RESULTS

| SMP groups | Names | Refined matched patients | | Matched patients | | Unmatched patients | |
|------------|---|--------------------------|------|------------------|-------|--------------------|-------|
| | | N | Mean | N | Mean | N | Mean |
| 1 | Bacterial and viral dermatologic diseases | 78 | 0.08 | 32 | 0.34 | 883 | 3.07 |
| 2 | Malignant neoplasm of digestive organs and peritoneum | 227 | 6.75 | 412 | 8.32 | 3645 | 8.79 |
| 3 | Malignant neoplasm of respiratory and intrathoracic organs | 241 | 7.80 | 371 | 10.52 | 3457 | 10.45 |
| 4 | Breast cancer | 71 | 9.66 | 174 | 8.74 | 1207 | 9.59 |
| 5 | Prostate cancer | 63 | 5.56 | 195 | 5.47 | 2069 | 6.99 |
| 6 | Malignant neoplasm and carcinoma | 622 | 7.35 | 777 | 8.00 | 7325 | 8.85 |
| 7 | Malignant neoplasm of lymphatic and hematopoietic tissue | 22 | 2.23 | 75 | 3.01 | 1059 | 4.62 |
| 8 | Endocrine, nutritional and metabolic diseases | 18 | 0.11 | 257 | 0.36 | 13402 | 3.04 |
| 9 | Diabetes mellitus | 173 | 2.24 | 587 | 2.70 | 21954 | 4.84 |
| 10 | Anemias | 57 | 0.02 | 253 | 0.57 | 12896 | 4.15 |
| 11 | Diseases of blood | 8 | 0.13 | 42 | 0.60 | 2103 | 4.49 |
| 12 | Senile, presenile, hereditary and degenerative diseases of the central nervous system and personality disorders | 652 | 0.73 | 613 | 0.91 | 19220 | 3.14 |
| 13 | Parkinson's disease | 142 | 0.03 | 165 | 0.16 | 4587 | 2.16 |
| 14 | Epilepsy | 40 | 0.13 | 60 | 0.62 | 2085 | 3.33 |
| 15 | Disorders Of The Peripheral Nervous System | 3 | 0.00 | 33 | 0.67 | 2542 | 6.14 |
| 16 | Glaucoma | 19 | 0.05 | 21 | 0.24 | 828 | 3.14 |
| 17 | Cataract | 20 | 0.00 | 55 | 0.09 | 1573 | 3.31 |
| 18 | Diseases Of The Ear | 50 | 0.10 | 66 | 0.35 | 2475 | 2.54 |
| 19 | Diseases of mitral and aortic valves | 6 | 0.00 | 16 | 0.25 | 1802 | 3.24 |
| 20 | Hypertensive Diseases | 67 | 0.24 | 1594 | 0.50 | 39803 | 2.90 |
| 21 | Ischemic heart disease | 2256 | 0.13 | 1590 | 0.54 | 28469 | 2.90 |
| 22 | Cardiac dysrhythmias | 110 | 0.10 | 585 | 0.29 | 17037 | 2.96 |
| 23 | Heart failure | 52 | 1.10 | 168 | 1.60 | 9198 | 4.16 |
| 24 | Cerebrovascular Disease | 186 | 1.53 | 369 | 1.76 | 11547 | 3.99 |
| 25 | Phlebitis and Varicose veins | 49 | 0.08 | 72 | 0.32 | 4601 | 3.58 |
| 26 | Vascular Diseases | 43 | 1.23 | 481 | 1.42 | 6411 | 4.65 |
| 27 | Diseases of upper respiratory tract | 23 | 0.00 | 6 | 0.50 | 400 | 4.60 |
| 28 | Pneumonia, influenza and tuberculosis | 67 | 0.06 | 96 | 0.83 | 6335 | 3.63 |
| 29 | Chronic bronchitis and respiratory failures | 239 | 1.07 | 523 | 1.43 | 17158 | 4.14 |
| 30 | Asthma | 24 | 1.13 | 64 | 1.34 | 1778 | 3.39 |
| 31 | Diseases of the salivary glands and oral soft tissues | 0 | | 1 | 0.00 | 223 | 6.47 |
| 32 | Diseases of esophagus, stomach, and duodenum | 200 | 0.34 | 303 | 0.59 | 13989 | 3.36 |
| 33 | Hernia Of Abdominal Cavity | 15 | 0.27 | 157 | 0.22 | 6454 | 3.07 |
| 34 | Anal and rectal disorders | 45 | 0.00 | 42 | 0.19 | 953 | 3.08 |
| 35 | Gastrointestinal bleeding | 16 | 0.00 | 14 | 0.29 | 794 | 4.04 |
| 36 | Other diseases of digestive system | 200 | 0.03 | 220 | 0.31 | 5980 | 3.73 |
| 37 | Hypotension, syncope and collapse | 71 | 0.07 | 143 | 0.29 | 3905 | 2.67 |
| 38 | Diseases Of The Genitourinary System | 171 | 0.37 | 859 | 1.00 | 24253 | 4.03 |
| 39 | Disorders of female genital tract | 17 | 0.00 | 17 | 0.12 | 357 | 3.55 |
| 40 | Diseases of skin and subcutaneous tissue | 62 | 0.02 | 160 | 0.54 | 5282 | 3.95 |
| 41 | Dorsopathies, Arthropathies and related disorders | 267 | 0.13 | 1015 | 0.28 | 15390 | 2.53 |
| 42 | Osteopathies, chondropathies, and acquired musculoskeletal deformities | 161 | 0.03 | 284 | 0.34 | 10936 | 2.84 |

| | | | | | | | |
|-------|---|------|------|-------|------|-------|------|
| 43 | Symptoms involving respiratory system and other chest symptoms | 93 | 0.09 | 263 | 0.74 | 13554 | 3.86 |
| 44 | Symptoms involving abdomen and pelvis | 916 | 0.04 | 543 | 0.31 | 13814 | 3.50 |
| 45 | Asthenia, weakness, lack of energy and strength, loss of strength | 170 | 0.01 | 129 | 0.27 | 6116 | 4.04 |
| 46 | Headache | 9 | 0.00 | 23 | 0.26 | 397 | 2.88 |
| 47 | Subdural hemorrhage | 0 | | 5 | 0.20 | 90 | 1.34 |
| 48 | Falls | 151 | 0.04 | 219 | 0.10 | 4775 | 2.29 |
| Total | | 8192 | 1.37 | 14149 | 1.79 | | |

3.6 APPENDIX VI: RESULTS OF REFINED MATCHING PROCEDURE IN MONOPATHOLOGY

nPatGDH is the number of patient in GDH study ;

nMatch is the total number of matched patients in RCM/MKG database ;

-ORP is the number of remaining matched patients after elimination of patients who have sudden an ORP procedure during their stay ;

-DRG SURG is the number of remaining matched patients classified in a medical DRG ;

-ICU is the number of remaining matched patients whose hospital stay was held without intensive care ;

-SOI 3&4 is the number of remaining matched patients who presented severity of illness lower than 3 ;

-CC is the number of remaining matched patients whose comorbidity does not present a particular risk of complication ;

-Odx is the number of remaining matched patients whose membership in a SMP category depends on a main diagnosis.

| ISMP groups | SMP Names | nPatGDH | nMatch | - ORP | - DRG SURG | - ICU | - SOI 3 & 4 | - CC | - ODX |
|-------------|---|---------|--------|-------|------------|-------|-------------|------|-------|
| 1 | Bacterial and viral dermatologic diseases | 1 | 110 | 109 | 109 | 109 | 107 | 89 | 78 |
| 2 | Malignant neoplasm of digestive organs and peritoneum | 6 | 639 | 469 | 469 | 468 | 429 | 359 | 227 |
| 3 | Malignant neoplasm of respiratory and intrathoracic organs | 11 | 612 | 579 | 579 | 572 | 492 | 414 | 241 |
| 4 | Breast cancer | 9 | 245 | 185 | 178 | 178 | 156 | 125 | 71 |
| 5 | Prostate cancer | 9 | 258 | 194 | 190 | 189 | 174 | 125 | 63 |
| 6 | Malignant neoplasm and carcinoma | 45 | 1399 | 1195 | 1155 | 1152 | 1036 | 867 | 622 |
| 7 | Malignant neoplasm of lymphatic and hematopoietic tissue | 19 | 97 | 92 | 92 | 92 | 72 | 52 | 22 |
| 8 | Endocrine, nutritional and metabolic diseases | 14 | 275 | 227 | 210 | 205 | 197 | 115 | 18 |
| 9 | Diabetes mellitus | 74 | 760 | 636 | 615 | 614 | 580 | 407 | 173 |
| 10 | Anemias | 69 | 310 | 252 | 252 | 249 | 203 | 130 | 57 |
| 11 | Diseases of blood | 8 | 50 | 42 | 42 | 41 | 34 | 16 | 8 |
| 12 | Senile, presenile, hereditary and degenerative diseases of the central nervous system and personality disorders | 142 | 1265 | 1224 | 1219 | 1205 | 1140 | 881 | 652 |
| 13 | Parkinson's disease | 14 | 307 | 273 | 268 | 267 | 259 | 210 | 142 |
| 14 | Epilepsy | 2 | 100 | 93 | 91 | 86 | 79 | 58 | 40 |
| 15 | Disorders Of The Peripheral Nervous System | 3 | 36 | 31 | 31 | 30 | 11 | 8 | 3 |

| ISMP groups | SMP Names | nPatGDH | nMatch | - ORP | - DRG SURG | - ICU | - SOI 3 & 4 | - CC | - ODx |
|-------------|--|------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| 16 | Glaucoma | 0 | 40 | 29 | 29 | 29 | 29 | 24 | 19 |
| 17 | Cataract | 11 | 75 | 33 | 33 | 33 | 33 | 26 | 20 |
| 18 | Diseases Of The Ear | 10 | 116 | 114 | 110 | 110 | 110 | 87 | 50 |
| 19 | Diseases of mitral and aortic valves | 0 | 22 | 17 | 16 | 15 | 14 | 8 | 6 |
| 20 | Hypertensive Diseases | 4 | 1661 | 1230 | 1139 | 1121 | 1073 | 652 | 67 |
| 21 | Ischemic heart disease | 4 | 3846 | 3409 | 3335 | 3286 | 3225 | 2508 | 2256 |
| 22 | Cardiac dysrhythmias | 11 | 695 | 548 | 384 | 368 | 344 | 210 | 110 |
| 23 | Heart failure | 24 | 220 | 211 | 196 | 187 | 141 | 81 | 52 |
| 24 | Cerebrovascular Disease | 30 | 555 | 494 | 492 | 489 | 443 | 373 | 186 |
| 25 | Phlebitis and Varicose veins | 12 | 121 | 96 | 95 | 95 | 90 | 69 | 49 |
| 26 | Vascular Diseases | 6 | 524 | 124 | 122 | 121 | 106 | 70 | 43 |
| 27 | Diseases of upper respiratory tract | 4 | 29 | 27 | 26 | 26 | 25 | 23 | 23 |
| 28 | Pneumonia, influenza and tuberculosis | 4 | 163 | 153 | 153 | 149 | 112 | 75 | 67 |
| 29 | Chronic bronchitis and respiratory failures | 3 | 762 | 706 | 699 | 678 | 539 | 369 | 239 |
| 30 | Asthma | 4 | 88 | 80 | 80 | 80 | 76 | 49 | 24 |
| 31 | Diseases of the salivary glands and oral soft tissues | 3 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 32 | Diseases of esophagus, stomach, and duodenum | 24 | 503 | 482 | 478 | 470 | 437 | 328 | 200 |
| 33 | Hernia Of Abdominal Cavity | 7 | 172 | 87 | 84 | 83 | 79 | 53 | 15 |
| 34 | Anal and rectal disorders | 6 | 87 | 77 | 77 | 76 | 75 | 68 | 45 |
| 35 | Gastrointestinal bleeding | 11 | 30 | 28 | 28 | 26 | 24 | 21 | 16 |
| 36 | Other diseases of digestive system | 4 | 420 | 319 | 318 | 315 | 300 | 229 | 200 |
| 37 | Hypotension, syncope and collapse | 7 | 214 | 204 | 155 | 152 | 147 | 103 | 71 |
| 38 | Diseases Of The Genitourinary System | 46 | 1030 | 762 | 758 | 753 | 655 | 334 | 171 |
| 39 | Disorders of female genital tract | 5 | 34 | 22 | 22 | 21 | 21 | 19 | 17 |
| 40 | Diseases of skin and subcutaneous tissue | 45 | 222 | 161 | 154 | 152 | 127 | 93 | 62 |
| 41 | Dorsopathies, Arthropathies and related disorders | 47 | 1282 | 1098 | 1096 | 1093 | 1061 | 877 | 267 |
| 42 | Osteopathies, chondropathies, and acquired musculoskeletal deformities | 46 | 445 | 412 | 409 | 408 | 392 | 291 | 161 |
| 43 | Symptoms involving respiratory system and other chest symptoms | 37 | 356 | 323 | 318 | 313 | 258 | 135 | 93 |
| 44 | Symptoms involving abdomen and pelvis | 101 | 1459 | 1369 | 1367 | 1352 | 1314 | 1152 | 916 |
| 45 | Asthenia, weakness, lack of energy and strength, loss of strength | 28 | 299 | 295 | 295 | 295 | 283 | 237 | 170 |
| 46 | Headache | 5 | 32 | 29 | 29 | 28 | 27 | 18 | 9 |
| 47 | Subdural hemorrhage | 2 | 5 | 5 | 5 | 5 | 4 | 1 | 0 |
| 48 | Falls | 7 | 370 | 295 | 293 | 291 | 288 | 151 | 151 |
| | Total | 984 | 22341 | 18841 | 18296 | 18078 | 16822 | 12590 | 8192 |

3.7 APPENDIX VII : CHARLSON COMORBIDITY INDEX OF MONOPATHOLOGIC INPATIENTS

| SMP groups | Names | Refined matched patients | | Matched patients | | Unmatched patients | |
|------------|---|--------------------------|------|------------------|------|--------------------|-------|
| | | N | Mean | N | Mean | N | Mean |
| 1 | Bacterial and viral dermatologic diseases | 78 | 0.08 | 110 | 0.15 | 883 | 3.07 |
| 2 | Malignant neoplasm of digestive organs and peritoneum | 227 | 6.75 | 639 | 7.76 | 3645 | 8.79 |
| 3 | Malignant neoplasm of respiratory and intrathoracic organs | 241 | 7.80 | 612 | 9.45 | 3457 | 10.45 |
| 4 | Breast cancer | 71 | 9.66 | 245 | 9.00 | 1207 | 9.59 |
| 5 | Prostate cancer | 63 | 5.56 | 258 | 5.49 | 2069 | 6.99 |
| 6 | Malignant neoplasm and carcinoma | 622 | 7.35 | 1399 | 7.71 | 7325 | 8.85 |
| 7 | Malignant neoplasm of lymphatic and hematopoietic tissue | 22 | 2.23 | 97 | 2.84 | 1059 | 4.62 |
| 8 | Endocrine, nutritional and metabolic diseases | 18 | 0.11 | 275 | 0.34 | 13402 | 3.04 |
| 9 | Diabetes mellitus | 173 | 2.24 | 760 | 2.59 | 21954 | 4.84 |
| 10 | Anemias | 57 | 0.02 | 310 | 0.46 | 12896 | 4.15 |
| 11 | Diseases of blood | 8 | 0.13 | 50 | 0.52 | 2103 | 4.49 |
| 12 | Senile, presenile, hereditary and degenerative diseases of the central nervous system and personality disorders | 652 | 0.73 | 1265 | 0.82 | 19220 | 3.14 |
| 13 | Parkinson's disease | 142 | 0.03 | 307 | 0.10 | 4587 | 2.16 |
| 14 | Epilepsy | 40 | 0.13 | 100 | 0.42 | 2085 | 3.33 |
| 15 | Disorders Of The Peripheral Nervous System | 3 | 0.00 | 36 | 0.61 | 2542 | 6.14 |
| 16 | Glaucoma | 19 | 0.05 | 40 | 0.15 | 828 | 3.14 |
| 17 | Cataract | 20 | 0.00 | 75 | 0.07 | 1573 | 3.31 |
| 18 | Diseases Of The Ear | 50 | 0.10 | 116 | 0.24 | 2475 | 2.54 |
| 19 | Diseases of mitral and aortic valves | 6 | 0.00 | 22 | 0.18 | 1802 | 3.24 |
| 20 | Hypertensive Diseases | 67 | 0.24 | 1661 | 0.49 | 39803 | 2.90 |
| 21 | Ischemic heart disease | 2256 | 0.13 | 3846 | 0.30 | 28469 | 2.90 |
| 22 | Cardiac dysrhythmias | 110 | 0.10 | 695 | 0.26 | 17037 | 2.96 |
| 23 | Heart failure | 52 | 1.10 | 220 | 1.48 | 9198 | 4.16 |
| 24 | Cerebrovascular Disease | 186 | 1.53 | 555 | 1.68 | 11547 | 3.99 |
| 25 | Phlebitis and Varicose veins | 49 | 0.08 | 121 | 0.22 | 4601 | 3.58 |
| 26 | Vascular Diseases | 43 | 1.23 | 524 | 1.40 | 6411 | 4.65 |
| 27 | Diseases of upper respiratory tract | 23 | 0.00 | 29 | 0.10 | 400 | 4.60 |
| 28 | Pneumonia, influenza and tuberculosis | 67 | 0.06 | 163 | 0.52 | 6335 | 3.63 |
| 29 | Chronic bronchitis and respiratory failures | 239 | 1.07 | 762 | 1.32 | 17158 | 4.14 |
| 30 | Asthma | 24 | 1.13 | 88 | 1.28 | 1778 | 3.39 |
| 31 | Diseases of the salivary glands and oral soft tissues | 0 | | 1 | 0.00 | 223 | 6.47 |
| 32 | Diseases of esophagus, stomach, and duodenum | 200 | 0.34 | 503 | 0.49 | 13989 | 3.36 |
| 33 | Hernia Of Abdominal Cavity | 15 | 0.27 | 172 | 0.23 | 6454 | 3.07 |
| 34 | Anal and rectal disorders | 45 | 0.00 | 87 | 0.09 | 953 | 3.08 |
| 35 | Gastrointestinal bleeding | 16 | 0.00 | 30 | 0.13 | 794 | 4.04 |
| 36 | Other diseases of digestive system | 200 | 0.03 | 420 | 0.17 | 5980 | 3.73 |
| 37 | Hypotension, syncope and collapse | 71 | 0.07 | 214 | 0.22 | 3905 | 2.67 |
| 38 | Diseases Of The Genitourinary System | 171 | 0.37 | 1030 | 0.90 | 24253 | 4.03 |
| 39 | Disorders of female genital tract | 17 | 0.00 | 34 | 0.06 | 357 | 3.55 |
| 40 | Diseases of skin and subcutaneous tissue | 62 | 0.02 | 222 | 0.40 | 5282 | 3.95 |
| 41 | Dorsopathies, Arthropathies and related disorders | 267 | 0.13 | 1282 | 0.25 | 15390 | 2.53 |
| 42 | Osteopathies, chondropathies, and acquired musculoskeletal deformities | 161 | 0.03 | 445 | 0.23 | 10936 | 2.84 |

| | | | | | | | |
|-------|---|------|------|-------|------|-------|------|
| 43 | Symptoms involving respiratory system and other chest symptoms | 93 | 0.09 | 356 | 0.57 | 13554 | 3.86 |
| 44 | Symptoms involving abdomen and pelvis | 916 | 0.04 | 1459 | 0.14 | 13814 | 3.50 |
| 45 | Asthenia, weakness, lack of energy and strength, loss of strength | 170 | 0.01 | 299 | 0.12 | 6116 | 4.04 |
| 46 | Headache | 9 | 0.00 | 32 | 0.19 | 397 | 2.88 |
| 47 | Subdural hemorrhage | 0 | | 5 | 0.20 | 90 | 1.34 |
| 48 | Falls | 151 | 0.04 | 370 | 0.07 | 4775 | 2.29 |
| Total | | 8192 | 1.37 | 22341 | 1.64 | | |

3.8 APPENDIX VIII : CORRESPONDANCE BETWEEN SPECIFIC MEDICAL PROBLEMS (SMP) AND DRG

| idset | DRG | DRG_names | Freq | % | Cum % | CCI |
|----------|---|---|------------|---------------|--------|-------------|
| 1 | Bacterial and viral dermatologic diseases | | | | | |
| | 383 | CELLULITIS | 52 | 66.7% | 66.7% | 0.04 |
| | 381 | MAJOR SKIN DISORDERS | 11 | 14.1% | 80.8% | 0.00 |
| | 082 | OTHER DISORDERS OF THE EYE | 9 | 11.5% | 92.3% | 0.00 |
| | 050 | NON-BACTERIAL INFECTIONS OF NERVOUS SYSTEM EXC VIRAL MENINGITIS | 5 | 6.4% | 98.7% | 0.80 |
| | 723 | VIRAL ILLNESS | 1 | 1.3% | 100% | 0.00 |
| | Total | | 78 | 100% | | 0.08 |
| 2 | Malignant neoplasm of digestive organs and peritoneum | | | | | |
| | 240 | DIGESTIVE MALIGNANCY | 227 | 100% | 100% | 6.75 |
| 3 | Malignant neoplasm of respiratory and intrathoracic organs | | | | | |
| | 136 | RESPIRATORY MALIGNANCY | 241 | 100% | 100% | 7.80 |
| 4 | Breast cancer | | | | | |
| | 382 | MALIGNANT BREAST DISORDERS | 70 | 98.6% | 98.6% | 9.43 |
| | 041 | NERVOUS SYSTEM NEOPLASMS | 1 | 1.4% | 100% | 26.00 |
| | Total | | 71 | 100.0% | | 9.66 |
| 5 | Prostate cancer | | | | | |
| | 500 | MALIGNANCY, MALE REPRODUCTIVE SYSTEM | 63 | 100% | 100% | 5.56 |
| 6 | Malignant neoplasm and carcinoma | | | | | |
| | 240 | DIGESTIVE MALIGNANCY | 120 | 19.3% | 19.3% | 6.71 |
| | 281 | MALIGNANCY OF HEPATOBILIARY SYSTEM & PANCREAS | 116 | 18.6% | 37.9% | 7.83 |
| | 110 | EAR, NOSE, MOUTH & THROAT MALIGNANCY | 76 | 12.2% | 50.2% | 4.58 |
| | 461 | KIDNEY & URINARY TRACT MALIGNANCY | 61 | 9.8% | 60.0% | 6.30 |
| | 343 | MUSCULOSKELETAL & CONN TISS MALIGNANCY & PATHOLOGICAL FRACTURES | 53 | 8.5% | 68.5% | 8.55 |
| | 530 | FEMALE REPRODUCTIVE SYSTEM MALIGNANCY | 42 | 6.8% | 75.2% | 8.19 |
| | 041 | NERVOUS SYSTEM NEOPLASMS | 41 | 6.6% | 81.8% | 7.22 |
| | 136 | RESPIRATORY MALIGNANCY | 38 | 6.1% | 87.9% | 9.34 |
| | 694 | OTHER MYELOPROLIF DISORDERS & POORLY DIFF NEOPLASM DIAGNOSIS | 33 | 5.3% | 93.2% | 11.79 |
| | 424 | OTHER ENDOCRINE DISORDERS | 20 | 3.2% | 96.5% | 5.40 |
| | 385 | OTHER SKIN & BREAST DISORDERS | 9 | 1.4% | 97.9% | 6.67 |
| | 381 | MAJOR SKIN DISORDERS | 5 | 0.8% | 98.7% | 12.80 |
| | 500 | MALIGNANCY, MALE REPRODUCTIVE SYSTEM | 3 | 0.5% | 99.2% | 5.33 |
| | 082 | OTHER DISORDERS OF THE EYE | 2 | 0.3% | 99.5% | 5.00 |
| | 382 | MALIGNANT BREAST DISORDERS | 2 | 0.3% | 99.8% | 15.00 |
| | 862 | OTHER FACTORS INFLUENCING HEALTH STATUS | 1 | 0.2% | 100.0% | 0.00 |
| | Total | | 622 | 100.0% | | 7.35 |
| 7 | Malignant neoplasm of lymphatic and hematopoietic tissue | | | | | |
| | 691 | LYMPHOMA & NON-ACUTE LEUKEMIA | 22 | 100% | 100% | 2.23 |

| idset | DRG | DRG_names | Freq | % | Cum % | CCI |
|-----------|--|--|------------|-------|--------|------|
| 8 | Endocrine, nutritional and metabolic diseases | | | | | |
| | 424 | OTHER ENDOCRINE DISORDERS | 12 | 66.7% | 66.7% | 0.00 |
| | 421 | NUTRITIONAL & MISC METABOLIC DISORDERS | 6 | 33.3% | 100.0% | 0.33 |
| | Total | | 18 | 100% | | 0.11 |
| 9 | Diabetes mellitus | | | | | |
| | 420 | DIABETES | 150 | 86.7% | 86.7% | 2.23 |
| | 082 | OTHER DISORDERS OF THE EYE | 12 | 6.9% | 93.6% | 2.08 |
| | 048 | CRANIAL & PERIPHERAL NERVE DISORDERS | 4 | 2.3% | 96.0% | 2.25 |
| | 468 | OTHER KIDNEY & URINARY TRACT DIAGNOSES | 4 | 2.3% | 98.3% | 3.50 |
| | 421 | NUTRITIONAL & MISC METABOLIC DISORDERS | 3 | 1.7% | 100% | 2.00 |
| | Total | | 173 | 100% | | 2.24 |
| 10 | Anemias | | | | | |
| | 663 | RED BLOOD CELL DISORDERS EXCEPT SICKLE CELL ANEMIA CRISIS | 57 | 100% | 100% | 0.02 |
| 11 | Diseases of blood | | | | | |
| | 661 | COAGULATION DISORDERS | 6 | 75.0% | 75.0% | 0.17 |
| | 207 | OTHER CIRCULATORY SYSTEM DIAGNOSES | 1 | 12.5% | 87.5% | 0.00 |
| | 664 | OTHER DISORDERS OF BLOOD & BLOOD FORMING ORGANS | 1 | 12.5% | 100% | 0.00 |
| | Total | | 8 | 100% | | 0.13 |
| 12 | Senile, presenile, hereditary and degenerative diseases of the central nervous system and personality disorders | | | | | |
| | 042 | DEGENERATIVE NERVOUS SYSTEM DISORDERS | 259 | 39.7% | 39.7% | 0.71 |
| | 757 | ORGANIC DISTURBANCES & MENTAL RETARDATION | 209 | 32.1% | 71.8% | 1.22 |
| | 751 | PSYCHOSES | 89 | 13.7% | 85.4% | 0.16 |
| | 756 | ACUTE ADJUST REACT & DISTURBANCE OF PSYCHOSOCIAL DYSFUNCTION | 23 | 3.5% | 89.0% | 0.26 |
| | 753 | BIPOLAR DISORDERS | 22 | 3.4% | 92.3% | 0.14 |
| | 760 | OTHER MENTAL DISORDERS | 17 | 2.6% | 94.9% | 0.41 |
| | 775 | ALCOHOL ABUSE & DEPENDENCE | 17 | 2.6% | 97.5% | 0.00 |
| | AAA | | 8 | 1.2% | 98.8% | 0.00 |
| | 052 | NONTRAUMATIC STUPOR & COMA | 5 | 0.8% | 99.5% | 1.00 |
| | 201 | CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS | 1 | 0.2% | 99.7% | 2.00 |
| | 812 | POISONING & TOXIC EFFECTS OF DRUGS | 1 | 0.2% | 99.8% | 0.00 |
| | 862 | OTHER FACTORS INFLUENCING HEALTH STATUS | 1 | 0.2% | 100% | 0.00 |
| | Total | | 652 | 100% | | 0.73 |
| 13 | Parkinson's disease | | | | | |
| | 042 | DEGENERATIVE NERVOUS SYSTEM DISORDERS | 140 | 98.6% | 98.6% | 0.03 |
| | 058 | OTHER DISORDERS OF NERVOUS SYSTEM | 2 | 1.4% | 100% | 0.00 |
| | Total | | 142 | 100% | | 0.03 |
| 14 | Epilepsy | | | | | |
| | 053 | SEIZURE | 40 | 100% | 100% | 0.13 |
| 15 | Disorders Of The Peripheral Nervous System | | | | | |
| | 048 | CRANIAL & PERIPHERAL NERVE DISORDERS | 3 | 100% | 100% | 0.00 |
| 16 | Glaucoma | | | | | |
| | 082 | OTHER DISORDERS OF THE EYE | 19 | 100% | 100% | 0.05 |
| 17 | Cataract | | | | | |
| | 082 | OTHER DISORDERS OF THE EYE | 20 | 100% | 100% | 0.00 |
| 18 | Diseases Of The Ear | | | | | |
| | 111 | DYSEQUILIBRIUM | 49 | 98.0% | 98.0% | 0.10 |
| | 201 | CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS | 1 | 2.0% | 100% | 0.00 |
| | Total | | 50 | 100% | | 0.10 |
| 19 | Diseases of mitral and aortic valves | | | | | |

| idset | DRG | DRG_names | Freq | % | Cum % | CCI |
|-----------|--|--|-------------|--------|--------|------|
| | 191 | CARDIAC CATHETERIZATION W CIRC DISORD EXC ISCHEMIC HEART DISEASE | 5 | 83.3% | 83.3% | 0.00 |
| | 200 | CARDIAC CONGENITAL & VALVULAR DISORDERS | 1 | 16.7% | 100% | 0.00 |
| | Total | | 6 | 100.0% | | 0.00 |
| 20 | Hypertensive Diseases | | | | | |
| | 199 | HYPERTENSION | 51 | 76.1% | 76.1% | 0.27 |
| | 191 | CARDIAC CATHETERIZATION W CIRC DISORD EXC ISCHEMIC HEART DISEASE | 14 | 20.9% | 97.0% | 0.07 |
| | 112 | EPISTAXIS | 1 | 1.5% | 98.5% | 0.00 |
| | 194 | HEART FAILURE | 1 | 1.5% | 100% | 1.00 |
| | Total | | 67 | 100% | | 0.24 |
| 21 | Ischemic heart disease | | | | | |
| | 192 | CARDIAC CATHETERIZATION FOR ISCHEMIC HEART DISEASE | 1882 | 83.4% | 83.42% | 0.12 |
| | 198 | ATHEROSCLEROSIS | 202 | 9.0% | 92.38% | 0.18 |
| | 202 | ANGINA PECTORIS | 119 | 5.3% | 97.65% | 0.21 |
| | 203 | CHEST PAIN | 48 | 2.1% | 99.78% | 0.10 |
| | 207 | OTHER CIRCULATORY SYSTEM DIAGNOSES | 3 | 0.1% | 99.91% | 1.00 |
| | 191 | CARDIAC CATHETERIZATION W CIRC DISORD EXC ISCHEMIC HEART DISEASE | 1 | 0.0% | 99.96% | 0.00 |
| | 197 | PERIPHERAL & OTHER VASCULAR DISORDERS | 1 | 0.0% | 100% | 2.00 |
| | Total | | 2256 | 100% | | 0.13 |
| 22 | Cardiac dysrhythmias | | | | | |
| | 201 | CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS | 100 | 90.9% | 90.9% | 0.11 |
| | 191 | CARDIAC CATHETERIZATION W CIRC DISORD EXC ISCHEMIC HEART DISEASE | 9 | 8.2% | 99.1% | 0.00 |
| | 862 | OTHER FACTORS INFLUENCING HEALTH STATUS | 1 | 0.9% | 100% | 0.00 |
| | Total | | 110 | 100% | | 0.10 |
| 23 | Heart failure | | | | | |
| | 194 | HEART FAILURE | 42 | 80.8% | 80.8% | 1.12 |
| | 191 | CARDIAC CATHETERIZATION W CIRC DISORD EXC ISCHEMIC HEART DISEASE | 10 | 19.2% | 100% | 1.00 |
| | Total | | 52 | 100% | | 1.10 |
| 24 | Cerebrovascular Disease | | | | | |
| | 046 | NONSPECIFIC CVA & PRECEREBRAL OCCLUSION W/O INFARCT | 77 | 41.4% | 41.4% | 1.39 |
| | 045 | CVA W INFARCT | 42 | 22.6% | 64.0% | 1.79 |
| | 047 | TRANSIENT ISCHEMIA | 39 | 21.0% | 84.9% | 1.56 |
| | 058 | OTHER DISORDERS OF NERVOUS SYSTEM | 28 | 15.1% | 100% | 1.46 |
| | Total | | 186 | 100% | | 1.53 |
| 25 | Phlebitis and Varicose veins | | | | | |
| | 195 | DEEP VEIN THROMBOPHLEBITIS | 31 | 63.3% | 63.3% | 0.03 |
| | 197 | PERIPHERAL & OTHER VASCULAR DISORDERS | 13 | 26.5% | 89.8% | 0.08 |
| | 861 | SIGNS & SYMPTOMS | 5 | 10.2% | 100% | 0.40 |
| | Total | | 49 | 100% | | 0.08 |
| 26 | Vascular Diseases | | | | | |
| | 197 | PERIPHERAL & OTHER VASCULAR DISORDERS | 39 | 90.7% | 90.7% | 1.31 |
| | 346 | CONNECTIVE TISSUE DISORDERS | 3 | 7.0% | 97.7% | 0.33 |
| | 191 | CARDIAC CATHETERIZATION W CIRC DISORD EXC ISCHEMIC HEART DISEASE | 1 | 2.3% | 100% | 1.00 |
| | Total | | 43 | 100% | | 1.23 |
| 27 | Diseases of upper respiratory tract | | | | | |
| | 115 | OTHER EAR, NOSE, MOUTH & THROAT DIAGNOSES | 22 | 95.7% | 95.7% | 0.00 |
| | 113 | EPIGLOTTITIS, OTITIS MEDIA, URI & LARYNGOTRACHEITIS | 1 | 4.3% | 100% | 0.00 |
| | Total | | 23 | 100% | | 0.00 |

| idset | DRG | DRG_names | Freq | % | Cum % | CCI |
|-----------|---|---|------------|-------|-------|------|
| 28 | Pneumonia, influenza and tuberculosis | | | | | |
| | 139 | SIMPLE PNEUMONIA | 53 | 79.1% | 79.1% | 0.08 |
| | 137 | RESPIRATORY INFECTIONS & INFLAMMATIONS | 7 | 10.4% | 89.6% | 0.00 |
| | 113 | EPIGLOTTITIS,OTITIS MEDIA,URI & LARYNGOTRACHEITIS | 5 | 7.5% | 97.0% | 0.00 |
| | 723 | VIRAL ILLNESS | 2 | 3.0% | 100% | 0.00 |
| | Total | | 67 | 100% | | 0.06 |
| 29 | Chronic bronchitis and respiratory failures | | | | | |
| | 140 | CHRONIC OBSTRUCTIVE PULMONARY DISEASE | 226 | 94.6% | 94.6% | 1.09 |
| | 133 | PULMONARY EDEMA & RESPIRATORY FAILURE | 11 | 4.6% | 99.2% | 0.64 |
| | 141 | ASTHMA & BRONCHIOLITIS | 1 | 0.4% | 99.6% | 1.00 |
| | 144 | RESPIRATORY SYSTEM SIGNS, SYMPTOMS & OTHER DIAGNOSES | 1 | 0.4% | 100% | 0.00 |
| | Total | | 239 | 100% | | 1.07 |
| 30 | Asthma | | | | | |
| | 141 | ASTHMA & BRONCHIOLITIS | 21 | 87.5% | 87.5% | 1.14 |
| | 140 | CHRONIC OBSTRUCTIVE PULMONARY DISEASE | 3 | 12.5% | 100% | 1.00 |
| | Total | | 24 | 100% | | 1.13 |
| 32 | Diseases of esophagus, stomach, and duodenum | | | | | |
| | 241 | PEPTIC ULCER & GASTRITIS | 72 | 36.0% | 36.0% | 0.71 |
| | 243 | OTHER ESOPHAGEAL DISORDERS | 57 | 28.5% | 64.5% | 0.12 |
| | 249 | NONBACTERIAL GASTROENTERITIS & ABDOMINAL PAIN | 54 | 27.0% | 91.5% | 0.17 |
| | 250 | OTHER DIGESTIVE SYSTEM DIAGNOSES | 10 | 5.0% | 96.5% | 0.10 |
| | 245 | INFLAMMATORY BOWEL DISEASE | 7 | 3.5% | 100% | 0.00 |
| | Total | | 200 | 100% | | 0.34 |
| 33 | Hernia Of Abdominal Cavity | | | | | |
| | 250 | OTHER DIGESTIVE SYSTEM DIAGNOSES | 15 | 100% | 100% | 0.27 |
| 34 | Anal and rectal disorders | | | | | |
| | 250 | OTHER DIGESTIVE SYSTEM DIAGNOSES | 45 | 100% | 100% | 0.00 |
| 35 | Gastrointestinal bleeding | | | | | |
| | 250 | OTHER DIGESTIVE SYSTEM DIAGNOSES | 16 | 100% | 100% | 0.00 |
| 36 | Other diseases of digestive system | | | | | |
| | 284 | DISORDERS OF THE BILIARY TRACT | 198 | 99.0% | 99.0% | 0.02 |
| | 283 | DISORDERS OF LIVER EXCEPT MALIG, CIRRHOSIS OR ALCOHOLIC HEPATITIS | 1 | 0.5% | 99.5% | 1.00 |
| | 754 | DEPRESSION | 1 | 0.5% | 100% | 0.00 |
| | Total | | 200 | 100% | | 0.03 |
| 37 | Hypotension, syncope and collapse | | | | | |
| | 204 | SYNCOPE & COLLAPSE | 64 | 90.1% | 90.1% | 0.08 |
| | 207 | OTHER CIRCULATORY SYSTEM DIAGNOSES | 5 | 7.0% | 97.2% | 0.00 |
| | 191 | CARDIAC CATHETERIZATION W CIRC DISORD EXC ISCHEMIC HEART DISEASE | 2 | 2.8% | 100% | 0.00 |
| | Total | | 71 | 100% | | 0.07 |
| 38 | Diseases Of The Genitourinary System | | | | | |
| | 463 | KIDNEY & URINARY TRACT INFECTIONS | 49 | 28.7% | 28.7% | 0.04 |
| | 467 | KIDNEY & URINARY TRACT SIGNS & SYMPTOMS | 43 | 25.1% | 53.8% | 0.14 |
| | 468 | OTHER KIDNEY & URINARY TRACT DIAGNOSES | 31 | 18.1% | 71.9% | 0.10 |
| | 501 | MALE REPRODUCTIVE SYSTEM DIAGNOSES EXCEPT MALIGNANCY | 27 | 15.8% | 87.7% | 0.11 |
| | 460 | RENAL FAILURE | 19 | 11.1% | 98.8% | 2.16 |
| | 462 | NEPHRITIS | 2 | 1.2% | 100% | 4.00 |
| | Total | | 171 | 100% | | 0.37 |
| 39 | Disorders of female genital tract | | | | | |
| | 532 | MENSTRUAL & OTHER FEMALE REPRODUCTIVE SYSTEM | 17 | 100% | 100% | 0.00 |

| idset | DRG | DRG_names | Freq | % | Cum % | CCI |
|-----------|---|--|------------|-------------|-------|-------------|
| | | DISORDERS | | | | |
| 40 | Diseases of skin and subcutaneous tissue | | | | | |
| | 380 | SKIN ULCERS | 31 | 50.0% | 50.0% | 0.00 |
| | 383 | CELLULITIS | 21 | 33.9% | 83.9% | 0.00 |
| | 384 | TRAUMA TO THE SKIN, SUBCUTANEOUS TISSUE & BREAST | 6 | 9.7% | 93.5% | 0.17 |
| | 810 | INJURIES TO UNSPECIFIED OR MULTIPLE SITES | 4 | 6.5% | 100% | 0.00 |
| | Total | | 62 | 100% | | 0.02 |
| 41 | Dorsopathies, Arthropathies and related disorders | | | | | |
| | 347 | MEDICAL BACK PROBLEMS | 177 | 66.3% | 66.3% | 0.08 |
| | 350 | MUSCULOSKELETAL SIGNS,SYMPTOMS,SPRAINS & MINOR INFLAMMATORY DIS | 40 | 15.0% | 81.3% | 0.00 |
| | 346 | CONNECTIVE TISSUE DISORDERS | 20 | 7.5% | 88.8% | 1.00 |
| | 348 | OTHER BONE DISEASES | 16 | 6.0% | 94.8% | 0.00 |
| | 351 | OTHER MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE DIAGNOSES | 14 | 5.2% | 100% | 0.07 |
| | Total | | 267 | 100% | | 0.13 |
| 42 | Osteopathies, chondropathies, and acquired musculoskeletal deformities | | | | | |
| | 343 | MUSCULOSKELETAL & CONN TISS MALIGNANCY & PATHOLOGICAL FRACTURES | 97 | 60.2% | 60.2% | 0.04 |
| | 348 | OTHER BONE DISEASES | 64 | 39.8% | 100% | 0.02 |
| | Total | | 161 | 100% | | 0.03 |
| 43 | Symptoms involving respiratory system and other chest symptoms | | | | | |
| | 144 | RESPIRATORY SYSTEM SIGNS, SYMPTOMS & OTHER DIAGNOSES | 56 | 60.2% | 60.2% | 0.07 |
| | 134 | PULMONARY EMBOLISM | 23 | 24.7% | 84.9% | 0.09 |
| | 143 | PNEUMOTHORAX & PLEURAL EFFUSION | 9 | 9.7% | 94.6% | 0.11 |
| | 207 | OTHER CIRCULATORY SYSTEM DIAGNOSES | 3 | 3.2% | 97.8% | 0.33 |
| | 191 | CARDIAC CATHETERIZATION W CIRC DISORD EXC ISCHEMIC HEART DISEASE | 2 | 2.2% | 100% | 0.00 |
| | Total | | 93 | 100% | | 0.09 |
| 44 | Symptoms involving abdomen and pelvis | | | | | |
| | 250 | OTHER DIGESTIVE SYSTEM DIAGNOSES | 681 | 74.3% | 74.3% | 0.04 |
| | 247 | G.I. OBSTRUCTION | 88 | 9.6% | 84.0% | 0.03 |
| | 249 | NONBACTERIAL GASTROENTERITIS & ABDOMINAL PAIN | 74 | 8.1% | 92.0% | 0.01 |
| | 244 | DIVERTICULITIS & DIVERTICULOSIS | 73 | 8.0% | 100% | 0.08 |
| | Total | | 916 | 100% | | 0.04 |
| 45 | Asthenia, weakness, lack of energy and strength, loss of strength | | | | | |
| | 058 | OTHER DISORDERS OF NERVOUS SYSTEM | 145 | 85.3% | 85.3% | 0.01 |
| | 421 | NUTRITIONAL & MISC METABOLIC DISORDERS | 12 | 7.1% | 92.4% | 0.08 |
| | 760 | OTHER MENTAL DISORDERS | 6 | 3.5% | 95.9% | 0.00 |
| | 250 | OTHER DIGESTIVE SYSTEM DIAGNOSES | 5 | 2.9% | 98.8% | 0.00 |
| | 861 | SIGNS & SYMPTOMS | 2 | 1.2% | 100% | 0.00 |
| | Total | | 170 | 100% | | 0.01 |
| 46 | Headache | | | | | |
| | 054 | MIGRAINE & OTHER HEADACHES | 9 | 100% | 100% | 0.00 |
| 48 | Falls | | | | | |
| | 342 | FRACTURE OR DISLOCATION EXCEPT FEMUR & PELVIS | 56 | 37.1% | 37.1% | 0.05 |
| | 384 | TRAUMA TO THE SKIN, SUBCUTANEOUS TISSUE & BREAST | 36 | 23.8% | 60.9% | 0.03 |
| | 347 | MEDICAL BACK PROBLEMS | 7 | 4.6% | 65.6% | 0.14 |
| | 341 | FRACTURE OF PELVIS OR DISLOCATION OF HIP | 6 | 4.0% | 69.5% | 0.00 |
| | 350 | MUSCULOSKELETAL SIGNS,SYMPTOMS,SPRAINS & MINOR INFLAMMATORY DIS | 6 | 4.0% | 73.5% | 0.00 |
| | 144 | RESPIRATORY SYSTEM SIGNS, SYMPTOMS & OTHER DIAGNOSES | 4 | 2.6% | 76.2% | 0.00 |

| idset | DRG | DRG_names | Freq | % | Cum % | CCI |
|-------|--------------|---|------------|-------------|-------|-------------|
| | 810 | INJURIES TO UNSPECIFIED OR MULTIPLE SITES | 4 | 2.6% | 78.8% | 0.00 |
| | 860 | REHABILITATION | 4 | 2.6% | 81.5% | 0.00 |
| | 082 | OTHER DISORDERS OF THE EYE | 3 | 2.0% | 83.4% | 0.00 |
| | 115 | OTHER EAR, NOSE, MOUTH & THROAT DIAGNOSES | 3 | 2.0% | 85.4% | 0.00 |
| | 815 | OTHER INJURY, POISONING & TOXIC EFFECT DIAGNOSES | 3 | 2.0% | 87.4% | 0.00 |
| | 135 | MAJOR CHEST TRAUMA | 2 | 1.3% | 88.7% | 0.00 |
| | 348 | OTHER BONE DISEASES | 2 | 1.3% | 90.1% | 0.00 |
| | 723 | VIRAL ILLNESS | 2 | 1.3% | 91.4% | 0.00 |
| | 862 | OTHER FACTORS INFLUENCING HEALTH STATUS | 2 | 1.3% | 92.7% | 0.00 |
| | 042 | DEGENERATIVE NERVOUS SYSTEM DISORDERS | 1 | 0.7% | 93.4% | 0.00 |
| | 058 | OTHER DISORDERS OF NERVOUS SYSTEM | 1 | 0.7% | 94.0% | 1.00 |
| | 196 | CARDIAC ARREST, UNEXPLAINED | 1 | 0.7% | 94.7% | 0.00 |
| | 250 | OTHER DIGESTIVE SYSTEM DIAGNOSES | 1 | 0.7% | 95.4% | 0.00 |
| | 340 | FRACTURES OF FEMUR | 1 | 0.7% | 96.0% | 0.00 |
| | 343 | MUSCULOSKELETAL & CONN TISS MALIGNANCY & PATHOLOGICAL FRACTURES | 1 | 0.7% | 96.7% | 0.00 |
| | 385 | OTHER SKIN & BREAST DISORDERS | 1 | 0.7% | 97.4% | 0.00 |
| | 754 | DEPRESSION | 1 | 0.7% | 98.0% | 0.00 |
| | 758 | CHILDHOOD MENTAL DISORDERS | 1 | 0.7% | 98.7% | 0.00 |
| | 812 | POISONING & TOXIC EFFECTS OF DRUGS | 1 | 0.7% | 99.3% | 0.00 |
| | 861 | SIGNS & SYMPTOMS | 1 | 0.7% | 100% | 0.00 |
| | Total | | 151 | 100% | | 0.04 |

3.9

APPENDIX IX : RESULTS OF REFINED MATCHING PROCEDURE IN POLYPATHOLOGY

nPatGDH is the number of patient in GDH study ;

nMatch is the total number of matched patients in RCM/MKG database ;

-ORP is the number of remaining matched patients after elimination of patients who have sudden an ORP procedure during their stay ;

-DRG SURG is the number of remaining matched patients classified in a medical DRG ;

-ICU is the number of remaining matched patients whose hospital stay was held without intensive care;

-SOI 3&4 is the number of remaining matched patients who presented severity of illness lower than 3;

-CC is the number of remaining matched patients whose comorbidity does not present a particular risk of complication;

| SMP Combinations | nPatGDH | nMatch | - ORP | - DRG SURG | - ICU | - SOI 3 & 4 | - CC |
|------------------|---------|--------|-------|------------|-------|-------------|------|
| 1-26 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1-44 | 1 | 4 | 4 | 4 | 4 | 3 | 3 |
| 2-10 | 1 | 64 | 34 | 34 | 34 | 26 | 20 |
| 2-26 | 1 | 6 | 3 | 3 | 3 | 3 | 2 |
| 2-42 | 1 | 19 | 13 | 13 | 13 | 11 | 10 |
| 3-22 | 1 | 21 | 18 | 17 | 16 | 15 | 15 |
| 4-12 | 1 | 15 | 11 | 11 | 11 | 9 | 7 |
| 4-42 | 1 | 15 | 13 | 13 | 13 | 10 | 10 |
| 5-24 | 1 | 6 | 5 | 5 | 5 | 4 | 3 |
| 5-29 | 2 | 23 | 19 | 19 | 19 | 14 | 10 |
| 5-38 | 1 | 69 | 55 | 55 | 54 | 48 | 25 |
| 5-46 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

| SMP Combinations | nPatGDH | nMatch | - ORP | - DRG SURG | - ICU | - SOI 3 & 4 | - CC |
|------------------|---------|--------|-------|---------------|-------|----------------|------|
| 6-12 | 1 | 85 | 75 | 74 | 73 | 52 | 35 |
| 6-21 | 1 | 59 | 50 | 49 | 48 | 43 | 31 |
| 6-23 | 1 | 14 | 14 | 14 | 14 | 10 | 9 |
| 6-28 | 1 | 27 | 27 | 27 | 27 | 12 | 10 |
| 6-39 | 1 | 11 | 5 | 5 | 5 | 5 | 4 |
| 6-40 | 1 | 23 | 17 | 17 | 16 | 10 | 9 |
| 6-43 | 1 | 67 | 57 | 57 | 56 | 38 | 29 |
| 6-46 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 7-10 | 2 | 23 | 21 | 21 | 21 | 14 | 10 |
| 7-30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7-38 | 2 | 12 | 11 | 11 | 11 | 10 | 9 |
| 7-42 | 1 | 12 | 8 | 8 | 8 | 5 | 3 |
| 8-10 | 1 | 14 | 10 | 10 | 10 | 9 | 7 |
| 8-20 | 1 | 237 | 191 | 180 | 177 | 170 | 108 |
| 8-42 | 1 | 32 | 30 | 29 | 28 | 25 | 15 |
| 8-43 | 1 | 28 | 25 | 24 | 22 | 18 | 11 |
| 8-48 | 1 | 13 | 10 | 10 | 10 | 9 | 6 |
| 9-12 | 2 | 129 | 122 | 122 | 121 | 113 | 85 |
| 9-15 | 1 | 68 | 62 | 62 | 62 | 53 | 41 |
| 9-20 | 1 | 536 | 429 | 405 | 398 | 377 | 264 |
| 9-22 | 2 | 52 | 46 | 40 | 39 | 35 | 23 |
| 9-23 | 1 | 33 | 29 | 29 | 28 | 24 | 17 |
| 9-24 | 1 | 83 | 75 | 75 | 75 | 60 | 46 |
| 9-36 | 1 | 49 | 44 | 44 | 43 | 39 | 22 |
| 9-38 | 1 | 188 | 154 | 150 | 150 | 121 | 84 |
| 9-41 | 2 | 135 | 121 | 119 | 119 | 109 | 86 |
| 9-45 | 1 | 15 | 15 | 15 | 14 | 12 | 11 |
| 10-12 | 2 | 53 | 45 | 45 | 45 | 33 | 23 |
| 10-32 | 2 | 78 | 63 | 63 | 61 | 57 | 41 |
| 10-33 | 1 | 13 | 12 | 12 | 12 | 9 | 6 |
| 10-35 | 2 | 11 | 10 | 10 | 10 | 8 | 5 |
| 10-38 | 3 | 81 | 58 | 57 | 56 | 38 | 21 |
| 10-41 | 1 | 71 | 64 | 64 | 64 | 61 | 48 |
| 10-42 | 3 | 22 | 17 | 16 | 16 | 14 | 6 |
| 10-43 | 1 | 32 | 24 | 24 | 20 | 12 | 8 |
| 10-44 | 2 | 59 | 51 | 51 | 51 | 43 | 30 |
| 10-45 | 4 | 10 | 10 | 10 | 9 | 7 | 4 |
| 11-23 | 1 | 2 | 2 | 2 | 2 | 1 | 0 |
| 11-42 | 1 | 3 | 1 | 1 | 1 | 0 | 0 |
| 12-13 | 3 | 168 | 161 | 161 | 159 | 149 | 121 |
| 12-14 | 1 | 39 | 39 | 39 | 37 | 34 | 24 |
| 12-18 | 2 | 31 | 31 | 31 | 31 | 31 | 25 |
| 12-20 | 2 | 267 | 247 | 244 | 240 | 230 | 160 |
| 12-22 | 1 | 88 | 84 | 80 | 77 | 71 | 38 |
| 12-23 | 1 | 31 | 30 | 30 | 29 | 23 | 10 |
| 12-24 | 2 | 142 | 139 | 139 | 136 | 95 | 71 |
| 12-29 | 1 | 95 | 93 | 91 | 86 | 73 | 58 |
| 12-32 | 1 | 73 | 72 | 72 | 70 | 62 | 48 |
| 12-36 | 1 | 30 | 26 | 26 | 26 | 22 | 18 |

| SMP Combinations | nPatGDH | nMatch | - ORP | - DRG SURG | - ICU | - SOI 3 & 4 | - CC |
|------------------|---------|--------|-------|---------------|-------|----------------|------|
| 12-38 | 6 | 274 | 250 | 250 | 244 | 173 | 128 |
| 12-39 | 1 | 2 | 1 | 1 | 1 | 1 | 1 |
| 12-41 | 4 | 152 | 148 | 148 | 148 | 138 | 115 |
| 12-43 | 2 | 56 | 55 | 55 | 53 | 41 | 27 |
| 12-44 | 1 | 131 | 127 | 127 | 125 | 114 | 91 |
| 12-45 | 5 | 94 | 93 | 93 | 93 | 82 | 57 |
| 12-48 | 8 | 108 | 95 | 95 | 92 | 85 | 47 |
| 13-42 | 1 | 23 | 22 | 22 | 22 | 20 | 14 |
| 15-26 | 1 | 2 | 1 | 1 | 1 | 0 | 0 |
| 18-22 | 1 | 11 | 11 | 9 | 7 | 6 | 5 |
| 18-33 | 2 | 2 | 2 | 2 | 2 | 2 | 0 |
| 18-38 | 3 | 9 | 8 | 8 | 8 | 8 | 3 |
| 18-40 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18-41 | 2 | 20 | 20 | 20 | 20 | 20 | 19 |
| 18-45 | 1 | 3 | 3 | 3 | 3 | 3 | 3 |
| 18-46 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 18-48 | 6 | 6 | 6 | 6 | 6 | 6 | 5 |
| 20-22 | 3 | 377 | 317 | 236 | 219 | 209 | 115 |
| 20-26 | 1 | 220 | 56 | 55 | 55 | 46 | 22 |
| 20-41 | 1 | 436 | 379 | 375 | 373 | 360 | 290 |
| 20-42 | 2 | 135 | 113 | 109 | 107 | 102 | 66 |
| 20-43 | 1 | 136 | 130 | 123 | 121 | 100 | 58 |
| 21-24 | 1 | 167 | 147 | 147 | 143 | 121 | 91 |
| 21-41 | 1 | 121 | 102 | 102 | 100 | 94 | 75 |
| 22-29 | 1 | 96 | 86 | 80 | 78 | 57 | 35 |
| 22-38 | 1 | 76 | 58 | 54 | 53 | 34 | 18 |
| 23-24 | 1 | 7 | 6 | 6 | 6 | 5 | 5 |
| 23-38 | 1 | 60 | 51 | 50 | 49 | 26 | 13 |
| 23-39 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23-43 | 2 | 62 | 55 | 55 | 54 | 27 | 7 |
| 24-45 | 1 | 12 | 11 | 11 | 11 | 5 | 4 |
| 25-29 | 1 | 18 | 16 | 16 | 16 | 14 | 11 |
| 25-32 | 1 | 6 | 5 | 5 | 5 | 5 | 3 |
| 25-36 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 25-40 | 1 | 14 | 12 | 12 | 12 | 12 | 10 |
| 26-40 | 1 | 15 | 9 | 8 | 8 | 5 | 4 |
| 29-43 | 1 | 156 | 149 | 148 | 141 | 85 | 50 |
| 30-41 | 1 | 22 | 18 | 18 | 18 | 18 | 17 |
| 30-42 | 1 | 10 | 10 | 10 | 10 | 10 | 9 |
| 30-45 | 1 | 4 | 3 | 3 | 3 | 2 | 2 |
| 31-45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32-38 | 2 | 63 | 56 | 56 | 55 | 38 | 21 |
| 32-42 | 1 | 29 | 29 | 29 | 28 | 24 | 13 |
| 32-44 | 9 | 223 | 218 | 218 | 211 | 196 | 166 |
| 32-45 | 3 | 30 | 30 | 30 | 30 | 26 | 17 |
| 32-48 | 1 | 8 | 7 | 7 | 7 | 6 | 3 |
| 34-40 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 35-44 | 1 | 9 | 9 | 9 | 9 | 8 | 7 |
| 36-45 | 1 | 8 | 7 | 7 | 7 | 6 | 4 |

| SMP Combinations | nPatGDH | nMatch | - ORP | - DRG SURG | - ICU | - SOI 3 & 4 | - CC |
|------------------|---------|--------|-------|---------------|-------|----------------|------|
| 38-40 | 1 | 33 | 25 | 24 | 24 | 7 | 3 |
| 38-44 | 5 | 103 | 84 | 84 | 84 | 68 | 38 |
| 38-45 | 1 | 25 | 24 | 24 | 23 | 15 | 7 |
| 38-48 | 1 | 34 | 23 | 23 | 23 | 18 | 9 |
| 40-42 | 1 | 3 | 2 | 2 | 2 | 1 | 0 |
| 40-44 | 2 | 10 | 9 | 9 | 9 | 6 | 3 |
| 41-46 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41-48 | 2 | 46 | 30 | 30 | 30 | 29 | 18 |
| 42-43 | 1 | 17 | 15 | 15 | 14 | 13 | 6 |
| 42-44 | 1 | 56 | 52 | 52 | 52 | 47 | 33 |
| 42-48 | 1 | 71 | 64 | 64 | 64 | 63 | 35 |
| 43-45 | 1 | 15 | 14 | 14 | 13 | 12 | 7 |
| 1-26-42 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2-10-35 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2-38-45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3-23-24 | 1 | 2 | 2 | 2 | 2 | 1 | 1 |
| 6-10-25 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6-43-44 | 1 | 9 | 6 | 6 | 5 | 2 | 2 |
| 7-25-45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8-12-41 | 1 | 18 | 18 | 18 | 18 | 16 | 14 |
| 8-12-42 | 1 | 6 | 6 | 6 | 6 | 5 | 4 |
| 9-10-23 | 1 | 4 | 3 | 3 | 3 | 2 | 0 |
| 9-10-38 | 1 | 15 | 13 | 12 | 12 | 7 | 4 |
| 9-12-43 | 1 | 5 | 5 | 5 | 5 | 5 | 4 |
| 9-20-32 | 1 | 48 | 42 | 42 | 41 | 38 | 29 |
| 9-22-38 | 1 | 20 | 15 | 15 | 14 | 9 | 7 |
| 9-24-26 | 1 | 3 | 2 | 2 | 2 | 2 | 2 |
| 10-11-43 | 1 | 2 | 2 | 2 | 2 | 2 | 1 |
| 10-12-41 | 1 | 23 | 23 | 23 | 23 | 21 | 11 |
| 10-20-41 | 1 | 33 | 28 | 28 | 28 | 26 | 20 |
| 10-23-38 | 2 | 11 | 11 | 10 | 10 | 5 | 5 |
| 10-23-43 | 1 | 7 | 7 | 7 | 7 | 5 | 4 |
| 10-38-44 | 1 | 13 | 10 | 10 | 10 | 2 | 1 |
| 11-33-39 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12-13-22 | 1 | 9 | 9 | 9 | 9 | 9 | 8 |
| 12-13-45 | 1 | 19 | 19 | 19 | 19 | 14 | 10 |
| 12-18-22 | 1 | 6 | 6 | 6 | 6 | 4 | 3 |
| 12-18-48 | 1 | 2 | 2 | 2 | 2 | 2 | 1 |
| 12-20-22 | 1 | 36 | 33 | 32 | 31 | 25 | 14 |
| 12-22-45 | 1 | 6 | 6 | 6 | 6 | 6 | 4 |
| 12-23-38 | 1 | 11 | 11 | 11 | 11 | 3 | 2 |
| 12-24-48 | 1 | 7 | 7 | 7 | 7 | 7 | 3 |
| 12-29-45 | 1 | 5 | 5 | 5 | 5 | 3 | 2 |
| 12-32-38 | 1 | 21 | 18 | 18 | 18 | 8 | 4 |
| 12-32-45 | 1 | 12 | 12 | 11 | 11 | 9 | 6 |
| 12-32-48 | 1 | 4 | 3 | 3 | 3 | 3 | 1 |
| 12-37-41 | 1 | 4 | 4 | 4 | 4 | 4 | 4 |
| 12-37-44 | 1 | 4 | 4 | 4 | 4 | 3 | 3 |
| 12-38-45 | 1 | 19 | 18 | 18 | 18 | 11 | 4 |

| SMP Combinations | nPatGDH | nMatch | - ORP | - DRG SURG | - ICU | - SOI 3 & 4 | - CC |
|-------------------------|---------|--------|-------|------------|-------|-------------|------|
| 12-41-42 | 1 | 34 | 32 | 31 | 31 | 28 | 24 |
| 12-42-45 | 1 | 6 | 6 | 6 | 6 | 6 | 5 |
| 13-14-45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18-30-45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19-20-32 | 1 | 2 | 1 | 1 | 1 | 1 | 1 |
| 22-35-43 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23-24-41 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 23-29-38 | 1 | 22 | 22 | 22 | 22 | 5 | 2 |
| 23-38-48 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24-42-48 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 27-38-40 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29-42-44 | 1 | 3 | 3 | 3 | 3 | 3 | 2 |
| 32-36-38 | 1 | 4 | 2 | 2 | 2 | 1 | 1 |
| 32-41-43 | 1 | 3 | 3 | 3 | 3 | 2 | 1 |
| 38-44-45 | 1 | 9 | 9 | 9 | 8 | 7 | 4 |
| 1-5-7-12 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8-9-20-25 | 1 | 4 | 4 | 4 | 4 | 4 | 3 |
| 8-9-23-38 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 8-23-38-41 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 9-10-18-24 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9-12-13-40 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 9-20-21-38 | 1 | 60 | 45 | 44 | 43 | 40 | 30 |
| 9-23-25-43 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10-22-23-35 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10-22-41-48 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 10-23-32-38 | 1 | 2 | 1 | 1 | 1 | 0 | 0 |
| 10-25-32-40 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11-12-33-44 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12-15-29-32 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14-15-29-43 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8-9-23-41-43 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8-12-24-37-44 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9-12-36-38-40 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10-23-24-34-38 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12-18-41-45-46 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25-40-41-43-44 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10-22-32-38-41-45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5-7-9-12-16-17-21-38-41 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 271 | 7959 | 6866 | 6684 | 6556 | 5574 | 3916 |

3.10 APPENDIX IX : RESULTS OF REFINED MATCHING PROCEDURE – ASSOCIATED GERIATRIC SYNDROMES

| Number of geriatric syndromes | nPatGDH | nMatch | - ORP | - DRG SURG | - ICU | - SOI 3 & 4 | - CC | - Pdx |
|-------------------------------|---------|--------|-------|------------|-------|-------------|------|-------|
| 1 | 656 | 950 | 806 | 803 | 794 | 747 | 523 | 323 |
| 2 | 198 | 311 | 277 | 276 | 273 | 252 | 130 | 86 |
| 3+ | 120 | 45 | 44 | 44 | 44 | 38 | 29 | 21 |
| Total | 974 | 1306 | 1127 | 1123 | 1111 | 1037 | 682 | 430 |

nPatGDH is the number of patient in GDH study ;

- nMatch** is the total number of matched patients in RCM/MKG database ;
- ORP** is the number of remaining matched patients after elimination of patients who have sudden an ORP procedure during their stay ;
 - DRG SURG** is the number of remaining matched patients classified in a medical DRG ;
 - ICU** is the number of remaining matched patients whose hospital stay was held without intensive care ;
 - SOI 3&4** is the number of remaining matched patients who presented severity of illness lower than 3 ;
 - CC** is the number of remaining matched patients whose comorbidity does not present a particular risk of complication ;
 - Pdx** is the number of remaining matched patients whose membership in the geriatric syndromes category depends on a secondary diagnosis.

3.11 APPENDIX X : ESTIMATION OF CENTRAL TENDENCY PARAMETER OF A SAMPLE

For a given variable, determining the best way to describe what average depends upon:

1. The scale of measurement of the variable
2. The shape of the distribution
3. Presence of outliers

While the mean and the sample variance represent the best estimates when the sample comes from a normal population, they can be greatly affected by the presence of unusual or extreme values and is pulled in the direction of the skew of the distribution. These *outliers* are sample values that cause surprise in relation to the majority of the sample. This is not a pejorative term; outliers may be correct, but to regard as extreme, atypical values. These extreme values can play havoc with standard statistical methods, and many *robust* and *resistant* methods have been developed since 1960 to be less sensitive to outliers.

On the other hand, the median is insensitive to outliers, addition or removal of extreme values has little effect on it. The median is called a resistant measure. Although the median is an intuitive, simple measure of location, there are better estimators of location if we are willing to make some assumptions about the population from which our data originate. Estimators that depend on simple, fairly non-restrictive assumption about the underlying distribution and are not sensitive to the assumptions are called robust estimators.

Robust methods resist outlier influence by down weighting values the further they are from the centre of the sample. Simultaneously, a good robust method is also quite efficient, though not optimal, in the ideal case of data coming from a Gaussian population. They are also efficient in other cases as well, e.g., those in which the underlying distribution is heavy-tailed.

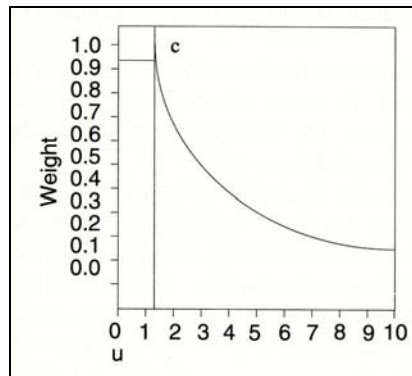
Truncation methods make an ad hoc assumption about the percent of outliers in the data set. A simple example would truncate, or trim, the 5% smallest and 5% largest data values. In this case, the lower and upper 5% of the data would get weight zero, the middle 90% would then be used. If N is large, the resulting trimmed mean will be a more stable estimate of central tendency than the arithmetic mean. On the other hand, if N is small, this may not be wise since it might jeopardize the external validity of the sample.

Huber's (1964) M-estimators represent a very flexible and general class of estimators which played an important role in the development of robust statistics and in the construction of robust procedures and represents also an interesting alternative at truncation methods. M-estimators are based on the approach used in maximum likelihood estimators.

The Huber influence function decreases in an asymptotic way the influence of outliers. This function is given by :

$$\psi(u) = \begin{cases} u, & \text{si } |u| \leq a \\ a \frac{u}{|u|}, & \text{si } |u| > a \end{cases}$$

The next figure shows for different values of a standardized distance from the estimate of location, the evolution of weight value.

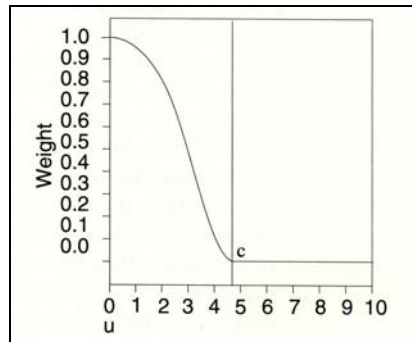


Huber's M-estimator

The Tukey influence function rejects completely outliers and gives them a null weight. This function is given by :

$$\psi(u) = \begin{cases} u(C^2 - u^2)^2, & \text{si } |u| \leq C \\ 0, & \text{sinon} \end{cases}$$

The next figure shows for different values of a standardized distance from the estimate of location, the evolution of weight value.



Tukey's M-estimator

3.12 APPENDIX XI: PROCEDURES FOR MONOPATHOLOGIC INPATIENTS

3.12.1 Chapters of the INAMI's medical benefits nomenclature

Legend of columns

Chapitre / Hoofdstuk : chapters of the INAMI's medical procedures nomenclature

Freq : number of procedures

% : percentage from the total procedures

Cum% : cumulative percentage

nPat : number of patients

| Chapitre / Hoofdstuk | freq | % | Cum % | nPat |
|---|--------|-------|-------|-------|
| Honoraires forfaitaires de biologie clinique par jour d'hospitalisation | 45,422 | 25.55 | 25.55 | 7,813 |
| Forfaitair honorarium voor klinische biologie per verpleegdag | | | | |
| Surveillance des hospitalisés | 43,846 | 24.67 | 50.22 | 7,276 |
| Toezicht op de opgenomen | | | | |
| Imagerie médicale | 18,679 | 10.51 | 60.73 | 7,628 |
| Medische beeldvorming | | | | |
| Biologie clinique | 15,823 | 8.90 | 69.63 | 7,562 |
| Klinische biologie | | | | |
| Cardiologie | 9,478 | 5.33 | 74.96 | 4,345 |
| Cardiologie | | | | |
| Honoraire forfaitaire d'imagerie médicale par admission | 7,770 | 4.37 | 79.34 | 7,770 |
| Forfaitair honorarium inzake medische beeldvorming per opneming | | | | |
| Honoraires pour la permanence médicale intra-hospitalière | 7,657 | 4.31 | 83.64 | 7,470 |
| Honorarium voor de medische wachtdienst in het ziekenhuis | | | | |
| Kinésithérapie | 5,907 | 3.32 | 86.97 | 701 |
| Kinesithérapie | | | | |
| Physiothérapie | 3,865 | 2.17 | 89.14 | 519 |
| Fysiotherapie | | | | |
| Pneumologie | 2,697 | 1.52 | 90.66 | 751 |
| Pneumologie | | | | |
| Echographie | 2,605 | 1.47 | 92.12 | 1,977 |
| Echografie | | | | |
| Gastro-entérologie | 1,708 | 0.96 | 93.08 | 1,407 |
| Gastro-enterologie | | | | |
| Anesthésiologie | 1,600 | 0.90 | 93.98 | 1,218 |
| Anesthesiologie | | | | |
| Anatomo-pathologie et examens génétiques | 2,404 | 1.35 | 95.34 | 1,027 |
| Pathologische anatomie en genetische onderzoeken | | | | |
| Réanimation | 1,369 | 0.77 | 96.11 | 873 |
| Reanimatie | | | | |
| Neuropsychiatrie | 1,254 | 0.71 | 96.81 | 732 |
| Neuropsychiatrie | | | | |
| Radiothérapie et radiumthérapie - Médecine nucléaire | 1,243 | 0.70 | 97.51 | 646 |
| Radiotherapie en radiumtherapie - Nucleaire geneeskunde | | | | |

| Chapitre / Hoofdstuk | freq | % | Cum % | nPat |
|--|---------|--------|--------|------|
| Prestations techniques urgentes | 1,156 | 0.65 | 98.16 | 823 |
| Verrichte dringende technische verstrekkingen | | | | |
| Ophthalmologie | 874 | 0.49 | 98.65 | 200 |
| Ophthalmologie | | | | |
| Prestations techniques médicales spéciales | 786 | 0.44 | 99.10 | 511 |
| Speciale technische geneeskundige verstrekkingen | | | | |
| Tissus d'origine humaine, culture de kératinocytes | 410 | 0.23 | 99.33 | 2 |
| Weefsels van menselijke oorsprong, keratinocyten-cultuur | | | | |
| Oto-rhino-laryngologie | 405 | 0.23 | 99.55 | 194 |
| Otorhinolaryngologie | | | | |
| Prestations techniques médicales | 247 | 0.14 | 99.69 | 81 |
| Technische geneeskundige verstrekkingen | | | | |
| Urologie | 152 | 0.09 | 99.78 | 116 |
| Urologie | | | | |
| Prestations interventionnelles percutanées | 122 | 0.07 | 99.85 | 67 |
| Percutane interventionele verstrekkingen | | | | |
| Orthopédie | 112 | 0.06 | 99.91 | 90 |
| Orthopedie | | | | |
| chirurgie abdominale | 25 | 0.01 | 99.93 | 23 |
| Abdominaal heekunde | | | | |
| Médecine interne | 24 | 0.01 | 99.94 | 11 |
| Inwendige geneeskunde | | | | |
| Soins dentaires | 24 | 0.01 | 99.95 | 19 |
| Tandverzorging | | | | |
| Chirurgie | 23 | 0.01 | 99.97 | 20 |
| Heekunde | | | | |
| chirurgie thoracique | 23 | 0.01 | 99.98 | 23 |
| Thoracaal heekunde | | | | |
| Gynécologie-obstétrique | 19 | 0.01 | 99.99 | 19 |
| Gynecologie en verloskunde | | | | |
| Dermato-vénéréologie | 9 | 0.01 | 99.99 | 7 |
| Dermato-venereologie | | | | |
| Chirurgie des vaisseaux | 4 | 0.00 | 100.00 | 4 |
| Bloedvatenheekunde | | | | |
| Stomatologie | 4 | 0.00 | 100.00 | 4 |
| Stomatologie | | | | |
| Neurochirurgie | 3 | 0.00 | 100.00 | 3 |
| Neurochirurgie | | | | |
| Total | 177,749 | 100.00 | | |
| Totaal | | | | |

3.12.2 Detailed medical benefits

Legend of columns

Nomenclature: number and wording of the INAMI's medical procedures nomenclature

Freq : number of procedures

% : percentage from the total procedures

Cum% : cumulative percentage

| Nomenclature / Nomenclatuur | | freq | % | Cum % |
|-----------------------------|--|--------|------|-------|
| CARDIOLOGY | | | | |
| 475086 | Examens électrocardiographiques | 45,422 | 91.1 | 91.1 |
| | Elektrocardiografische onderzoeken | | | |
| 476066 | Cathétérismes cardiaques par voie artérielle | 1,878 | 3.8 | 94.9 |
| | Hartcatheterismen langs de slagaders | | | |
| 476184 | Analyse quantitative de la fraction d'éjection | 1,718 | 3.4 | 98.3 |
| | Kwantitatieve analyse van de uitstotingsfractie | | | |
| 475823 | Epreuve d'effort ou d'hypoxie | 148 | 0.3 | 98.6 |
| | Inspannings- of hypoxieproef | | | |
| 476221 | Monitoring de Holter | 148 | 0.3 | 98.9 |
| | Monitoring Holter | | | |
| 476206 | Cathétérismes cardiaques en vue d'angiocardigraphies et/ou angiopneumographies | 101 | 0.2 | 99.1 |
| | Hartcatheterismen met het oog op angiocardigrafieën en/of angiopneumografieën | | | |
| PNEUMOLOGY | | | | |
| 471321 | Détermination du volume résiduel | 642 | 23.8 | 23.8 |
| | Bepalen van het residuair volume | | | |
| 471365 | Mesure de la capacité de diffusion | 570 | 21.1 | 44.9 |
| | Metten van diffusiecapaciteit | | | |
| 471380 | Etude de la mécanique ventilatoire | 542 | 20.1 | 65.0 |
| | Studie van de ventilatiemechaniek | | | |
| 471262 | Spirographie globale | 410 | 15.2 | 80.2 |
| | Volledige spirografie | | | |
| 471284 | Spirographie avec épreuve de bronchodilatation | 351 | 13.0 | 93.3 |
| | Spirografie met bronchodilatatieproef | | | |
| 471726 | Bronchoscopie sans prélèvement biopsique | 64 | 2.4 | 95.6 |
| | Bronchoscopie zonder afname voor biopsie | | | |
| 471741 | Bronchoscopie avec prélèvement biopsique | 63 | 2.3 | 98.0 |
| | Bronchoscopie met afname voor biopsie | | | |
| GASTROENTEROLOGY | | | | |
| 473185 | Colonoscopie totale | 397 | 23.2 | 23.2 |
| | Volledige colonoscopie | | | |
| 473222 | Ablation de polypes du côlon à l'occasion d'une colonoscopie | 390 | 22.8 | 46.1 |
| | Wegnemen van poliepen van het colon naar aanleiding van een colonoscopie | | | |
| 473060 | Fibro-duodénoscopie | 356 | 20.8 | 66.9 |
| | Fibroduodenoscopie | | | |
| 473443 | Iléoscopie | 126 | 7.4 | 74.3 |
| | Ileoscopie | | | |
| 473701 | Fibroduodénoscopie avec papillotomie | 73 | 4.3 | 78.6 |
| | Fibroduodenoscopie met papillotomie | | | |
| 473141 | Colonoscopie gauche | 62 | 3.6 | 82.2 |
| | Colonoscopie links | | | |

| Nomenclature / Nomenclatuur | | freq | % | Cum % |
|-----------------------------|--|------|-----|-------|
| 472463 | Rectosigmoïdoscopie | 51 | 3.0 | 85.2 |
| | Rectosigmoidoscopie | | | |
| 473745 | Fibro-duodénoscopie avec manipulation en vue d'une cholangiowirsungographie | 49 | 2.9 | 88.1 |
| | Fibroduodenoscopie met manipulatie met het oog op een cholangiowirsungografie | | | |
| 472426 | Fibro-gastroscoopie et/ou fibro-bulboscopie | 47 | 2.8 | 90.8 |
| | Fibrogastroscoopie en/of fibrobulboscopie | | | |
| 473723 | Placement d'une prothèse de dilatation des voies bilaires par fibroduodénoscopie | 44 | 2.6 | 93.4 |
| | Plaatsen van een dilatatieprothese van de galwegen door fibroduodenoscopie | | | |
| 472360 | Oesophagoscopie | 22 | 1.3 | 94.7 |
| | Oesofagoscopie | | | |
| 472522 | Rectoscopie | 17 | 1.0 | 95.7 |
| | Rectoscopie | | | |

3.13 APPENDIX XII: PROCEDURES FOR POLYPATHOLOGIC PATIENTS

3.13.1 Chapters of the INAMI's medical benefits nomenclature

Legend of columns

Chapitre / Hoofdstuk : chapters of the INAMI's medical procedures nomenclature

Freq : number of procedures

% : percentage from the total procedures

Cum% : cumulative percentage

nPat : number of patients

| Chapitre / Hoofdstuk | freq | % | Cum % | nPat |
|---|--------|-------|-------|------|
| Surveillance des hospitalisés | 62,097 | 33.11 | 33.11 | 3623 |
| Toezicht op de opgenomen | | | | |
| Honoraires forfaitaires de biologie clinique par jour d'hospitalisation | 61,554 | 32.82 | 65.93 | 3745 |
| Forfaitair honorarium voor klinische biologie per verpleegdag | | | | |
| Kinésithérapie | 14,129 | 7.53 | 73.46 | 973 |
| Kinesitherapie | | | | |
| Physiothérapie | 14,108 | 7.52 | 80.98 | 869 |
| Fysiotherapie | | | | |
| Biologie clinique | 6,573 | 3.50 | 84.49 | 3309 |
| Klinische biologie | | | | |
| Imagerie médicale | 9,467 | 5.05 | 89.54 | 3369 |
| Medische beeldvorming | | | | |
| Cardiologie | 3,601 | 1.92 | 91.46 | 2192 |
| Cardiologie | | | | |
| Honoraire forfaitaire d'imagerie médicale par admission | 3,451 | 1.84 | 93.30 | 3414 |
| Forfaitair honorarium inzake medische beeldvorming per opneming | | | | |
| Honoraires pour la permanence médicale intra-hospitalière | 2,951 | 1.57 | 94.87 | 2933 |
| Honorarium voor de medische wachtdienst in het ziekenhuis | | | | |
| Echographie | 1,791 | 0.95 | 95.83 | 1247 |
| Echografie | | | | |

| Chapitre / Hoofdstuk | freq | % | Cum % | nPat |
|---|-------|------|--------|------|
| Neuropsychiatrie | 1,129 | 0.60 | 96.43 | 631 |
| Neuropsychiatrie | | | | |
| Pneumologie | 1,002 | 0.53 | 96.96 | 272 |
| Pneumologie | | | | |
| Ophtalmologie | 809 | 0.43 | 97.39 | 227 |
| Ophtalmologie | | | | |
| Gastro-entérologie | 741 | 0.40 | 97.79 | 553 |
| Gastro-enterologie | | | | |
| Radiothérapie et radiumthérapie - Médecine nucléaire | 687 | 0.37 | 98.15 | 384 |
| Radiotherapie en radiumtherapie - Nucleaire geneeskunde | | | | |
| Prestations techniques urgentes | 546 | 0.29 | 98.45 | 373 |
| Verrichte dringende technische verstrekkingen | | | | |
| Anatomo-pathologie et examens génétiques | 834 | 0.44 | 98.89 | 367 |
| Pathologische anatomie en genetische onderzoeken | | | | |
| Anesthésiologie | 532 | 0.28 | 99.17 | 377 |
| Anesthesiologie | | | | |
| Réanimation | 396 | 0.21 | 99.39 | 214 |
| Reanimatie | | | | |
| Prestations techniques médicales spéciales | 304 | 0.16 | 99.55 | 226 |
| Speciale technische geneeskundige verstrekkingen | | | | |
| Oto-rhino-laryngologie | 297 | 0.16 | 99.71 | 115 |
| Otorhinolaryngologie | | | | |
| Prestations techniques médicales | 263 | 0.14 | 99.85 | 58 |
| Technische geneeskundige verstrekkingen | | | | |
| Urologie | 86 | 0.05 | 99.89 | 61 |
| Urologie | | | | |
| Médecine interne | 86 | 0.05 | 99.94 | 9 |
| Inwendige geneeskunde | | | | |
| Orthopédie | 52 | 0.03 | 99.97 | 41 |
| Orthopedie | | | | |
| Soins dentaires | 21 | 0.01 | 99.98 | 14 |
| Tandverzorging | | | | |
| Prestations interventionnelles percutanées | 15 | 0.01 | 99.98 | 10 |
| Percutane interventionele verstrekkingen | | | | |
| Chirurgie thoracique | 10 | 0.01 | 99.99 | 10 |
| Thoracaal heelkunde | | | | |
| Chirurgie | 9 | 0.00 | 99.99 | 9 |
| Heelkunde | | | | |
| Stomatologie | 3 | 0.00 | 100.00 | 1 |
| Stomatologie | | | | |
| Gynécologie-obstétrique | 3 | 0.00 | 100.00 | 3 |
| Gynecologie en verloskunde | | | | |
| Dermato-vénéréologie | 3 | 0.00 | 100.00 | 3 |

| Chapitre / Hoofdstuk | freq | % | Cum % | nPat |
|----------------------|---------|--------|--------|------|
| Dermato-venereologie | | | | |
| Neurochirurgie | 1 | 0.00 | 100.00 | 1 |
| Neurochirurgie | | | | |
| Total | 187,551 | 100.00 | | |
| Totaal | | | | |

3.13.2 Detailed medical benefits

Legend of columns

Nomenclature: number and wording of the INAMI's medical procedures nomenclature

Freq : number of procedures

% : percentage from the total procedures

Cum% : cumulative percentage

| Nomenclature / Nomenclatuur | | freq | % | Cum % |
|-----------------------------|---|-------|-------|-------|
| CARDIOLOGY | | | | |
| 475086 | Examens électrocardiographiques | 2,113 | 75.49 | 75.49 |
| | Elektrocardiografische onderzoeken | | | |
| 476221 | Monitoring de Holter | 165 | 5.89 | 81.39 |
| | Monitoring Holter | | | |
| 476066 | Cathétérismes cardiaques par voie artérielle | 145 | 5.18 | 86.57 |
| | Hartcatheterismen langs de slagaders | | | |
| 476184 | Analyse quantitative de la fraction d'éjection | 125 | 4.47 | 91.03 |
| | Kwantitatieve analyse van de uitstotingsfractie | | | |
| 475823 | Epreuve d'effort ou d'hypoxie | 74 | 2.64 | 93.68 |
| | Inspannings- of hypoxieproef | | | |
| 475661 | Dopplerogrammes standardisés | 48 | 1.71 | 95.39 |
| | Gestandaardiseerde Dopplerogrammen | | | |
| NEUROPSYCHIATRY | | | | |
| 477142 | Examen électro-encéphalographique | 524 | 52.09 | 52.09 |
| | Elektro-encephalografisch onderzoek | | | |
| 477326 | Potentiels cérébraux évoqués (un examen) | 130 | 12.92 | 65.01 |
| | Opgewekte hersenpotentialen (een onderzoek) | | | |
| 477120 | Electromyographie | 88 | 8.75 | 73.76 |
| | Elektromyografie | | | |
| 477341 | Potentiels cérébraux évoqués (deux examens) | 71 | 7.06 | 80.82 |
| | Opgewekte hersenpotentialen (twee onderzoeken) | | | |
| 477481 | Mesure de la vitesse de conduction nerveuse | 70 | 6.96 | 87.77 |
| | Meten van de zenuwgeleidingssnelheid | | | |
| 477245 | Polygraphie | 34 | 3.38 | 91.15 |
| | Polygrafie | | | |
| 477363 | Potentiels cérébraux évoqués (trois examens) | 33 | 3.28 | 94.43 |
| | Opgewekte hersenpotentialen (drie onderzoeken) | | | |
| 477525 | Mesure de la vitesse de conduction motrice | 20 | 1.99 | 96.42 |
| | Meten van de motorische geleidingssnelheid | | | |

3.14 APPENDIX XIII: PROCEDURES FOR INPATIENTS WITH GERIATRIC SYNDROMES

3.14.1 Chapters of the INAMI's medical benefits nomenclature

Legend of columns

Chapitre / Hoofdstuk : chapters of the INAMI's medical procedures nomenclature

Freq : number of procedures

% : percentage from the total procedures

Cum% : cumulative percentage

nPat : number of patients

| Chapitre / Hoofdstuk | freq | % | Cum % | nPat |
|---|-------|-------|-------|------|
| Honoraire forfaitaire de biologie clinique par jour d'hospitalisation | 6,347 | 33.38 | 33.38 | 405 |
| Forfaitair honorarium voor klinische biologie per verpleegdag | | | | |
| Surveillance des hospitalisés | 6,339 | 33.34 | 66.72 | 389 |
| Toezicht op de opgenomen | | | | |
| Physiothérapie | 2,293 | 12.06 | 78.78 | 129 |
| Fysiotherapie | | | | |
| Kinésithérapie | 1,024 | 5.39 | 84.17 | 99 |
| Kinesitherapie | | | | |
| Biologie clinique | 768 | 4.04 | 88.21 | 382 |
| Klinische biologie | | | | |
| Imagerie médicale | 839 | 4.41 | 92.62 | 389 |
| Medische beeldvorming | | | | |
| Honoraire forfaitaire d'imagerie médicale par admission | 395 | 2.08 | 94.70 | 383 |
| Forfaitair honorarium inzake medische beeldvorming per opneming | | | | |
| Honoraire pour la permanence médicale intra-hospitalière | 305 | 1.60 | 96.30 | 299 |
| Honorarium voor de medische wachtdienst in het ziekenhuis | | | | |
| Cardiologie | 214 | 1.13 | 97.43 | 150 |
| Cardiologie | | | | |
| Ophthalmologie | 100 | 0.53 | 97.95 | 13 |
| Ophthalmologie | | | | |
| Echographie | 75 | 0.39 | 98.35 | 63 |
| Echografie | | | | |
| Neuropsychiatrie | 68 | 0.36 | 98.71 | 36 |
| Neuropsychiatrie | | | | |
| Anesthésiologie | 39 | 0.21 | 98.91 | 26 |
| Anesthesiologie | | | | |
| Prestations techniques urgentes | 37 | 0.19 | 99.11 | 27 |
| Verrichte dringende technische verstrekkingen | | | | |
| Radiothérapie et radiumthérapie - Médecine nucléaire | 28 | 0.15 | 99.25 | 18 |
| Radiotherapie en radiumtherapie - Nucleaire geneeskunde | | | | |
| Gastro-entérologie | 27 | 0.14 | 99.40 | 23 |
| Gastro-enterologie | | | | |
| Pneumologie | 19 | 0.10 | 99.50 | 5 |
| Pneumologie | | | | |
| Prestations techniques médicales | 17 | 0.09 | 99.58 | 4 |

| Chapitre / Hoofdstuk | freq | % | Cum % | nPat |
|--|--------|--------|--------|------|
| Technische geneeskundige verstrekkingen | | | | |
| Réanimation | 17 | 0.09 | 99.67 | 9 |
| Reanimatie | | | | |
| Oto-rhino-laryngologie | 15 | 0.08 | 99.75 | 6 |
| Otorhinolaryngologie | | | | |
| Urologie | 14 | 0.07 | 99.83 | 8 |
| Urologie | | | | |
| Orthopédie | 10 | 0.05 | 99.88 | 8 |
| Orthopedie | | | | |
| Anatomo-pathologie et examens génétiques | 14 | 0.07 | 99.95 | 8 |
| Pathologische anatomie en genetische onderzoeken | | | | |
| Prestations techniques médicales spéciales | 5 | 0.03 | 99.98 | 5 |
| Speciale technische geneeskundige verstrekkingen | | | | |
| Prestations interventionnelles percutanées | 2 | 0.01 | 99.99 | 2 |
| Percutane interventionele verstrekkingen | | | | |
| Chirurgie | 1 | 0.01 | 99.99 | 1 |
| Heelkunde | | | | |
| Stomatologie | 1 | 0.01 | 100.00 | 1 |
| Stomatologie | | | | |
| | 19,013 | 100.00 | | |
| | | | | |

4 APPENDICES TO CHAPTER 6

4.1 APPENDIX I: RCM/MKG-FY2003 ADMISSION FEE BY HOSPITAL

Legend of columns

No : hospital sequential number

IdHosp : hospital anonymous identification number

N : number of patients

Mean : mean admission fees

SD : standard deviation of admission fees

CV : coefficient of variation

Min : admission fee minimal value

Max : admission fee maximal value

| No | IdHosp | N | Mean | SD | CV | Min | Max |
|----|--------|------|--------|-------|--------|--------|---------|
| 1 | 212642 | 416 | 100.43 | 1.46 | 1.45% | 76.99 | 101.51 |
| 2 | 213549 | 260 | 143.93 | 0.84 | 0.58% | 140.64 | 144.61 |
| 3 | 213900 | 445 | 141.65 | 1.59 | 1.13% | 108.40 | 141.98 |
| 4 | 215056 | 1083 | 118.30 | 7.94 | 6.71% | 111.13 | 241.52 |
| 5 | 215578 | 210 | 735.96 | 42.56 | 5.78% | 126.13 | 742.67 |
| 6 | 215752 | 779 | 408.04 | 18.12 | 4.44% | 322.50 | 423.43 |
| 7 | 217348 | 234 | 120.29 | 5.96 | 4.95% | 87.58 | 125.77 |
| 8 | 219214 | 1694 | 219.03 | 5.71 | 2.61% | 166.71 | 437.93 |
| 9 | 220379 | 915 | 135.53 | 2.28 | 1.69% | 104.94 | 138.22 |
| 10 | 221122 | 904 | 118.95 | 0.37 | 0.31% | 118.09 | 119.53 |
| 11 | 221409 | 279 | 140.67 | 22.56 | 16.04% | 119.74 | 165.28 |
| 12 | 221831 | 1765 | 128.70 | 5.87 | 4.56% | 95.94 | 260.08 |
| 13 | 222459 | 111 | 97.32 | 1.66 | 1.71% | 94.76 | 99.23 |
| 14 | 223625 | 1206 | 176.65 | 13.19 | 7.46% | 169.45 | 375.10 |
| 15 | 224449 | 4593 | 192.90 | 5.92 | 3.07% | 141.82 | 390.26 |
| 16 | 225974 | 486 | 181.85 | 8.53 | 4.69% | 179.22 | 366.40 |
| 17 | 226066 | 299 | 111.81 | 6.46 | 5.77% | 110.70 | 221.40 |
| 18 | 226184 | 139 | 137.69 | 1.99 | 1.45% | 136.20 | 140.34 |
| 19 | 227536 | 1881 | 129.75 | 5.27 | 4.06% | 98.51 | 259.76 |
| 20 | 229953 | 885 | 109.81 | 1.54 | 1.40% | 106.52 | 112.41 |
| 21 | 231834 | 637 | 141.40 | 3.27 | 2.31% | 107.30 | 144.75 |
| 22 | 233537 | 601 | 151.34 | 6.17 | 4.08% | 149.45 | 302.34 |
| 23 | 234386 | 303 | 578.61 | 64.48 | 11.14% | 396.29 | 1243.54 |
| 24 | 234574 | 38 | 125.61 | 6.03 | 4.80% | 98.04 | 128.41 |
| 25 | 235839 | 1258 | 183.91 | 13.13 | 7.14% | 175.64 | 555.66 |
| 26 | 236508 | 352 | 116.78 | 1.99 | 1.70% | 112.91 | 119.59 |
| 27 | 236550 | 219 | 127.62 | 3.51 | 2.75% | 124.08 | 132.39 |
| 28 | 237572 | 61 | 392.89 | 22.88 | 5.82% | 341.68 | 403.76 |
| 29 | 239016 | 1111 | 128.64 | 0.52 | 0.40% | 126.75 | 129.26 |
| 30 | 239024 | 1 | 137.83 | | | 137.83 | 137.83 |
| 31 | 239177 | 2111 | 209.41 | 11.13 | 5.31% | 151.20 | 435.20 |
| 32 | 240878 | 1810 | 134.23 | 3.53 | 2.63% | 104.25 | 136.54 |
| 33 | 241530 | 90 | 102.15 | 2.80 | 2.74% | 99.49 | 105.10 |
| 34 | 243705 | 206 | 142.76 | 0.35 | 0.25% | 140.39 | 142.94 |
| 35 | 243789 | 176 | 111.99 | 2.49 | 2.22% | 108.34 | 114.73 |
| 36 | 243905 | 8 | 117.75 | 0.00 | 0.00% | 117.75 | 117.75 |
| 37 | 244588 | 2054 | 113.68 | 4.97 | 4.37% | 112.30 | 227.78 |
| 38 | 244669 | 3532 | 151.23 | 9.29 | 6.14% | 107.32 | 159.28 |

| | | | | | | | |
|----|--------|------|--------|-------|--------|--------|--------|
| 39 | 245664 | 1 | 732.22 | | | 732.22 | 732.22 |
| 40 | 247661 | 1867 | 174.15 | 5.90 | 3.39% | 132.12 | 346.10 |
| 41 | 248698 | 356 | 141.35 | 0.09 | 0.06% | 139.64 | 141.38 |
| 42 | 249162 | 439 | 129.65 | 1.23 | 0.94% | 125.95 | 130.65 |
| 43 | 249299 | 97 | 128.39 | 0.87 | 0.68% | 127.68 | 129.44 |
| 44 | 249434 | 356 | 414.49 | 96.34 | 23.24% | 299.34 | 970.46 |
| 45 | 249948 | 357 | 228.19 | 12.33 | 5.41% | 226.30 | 458.82 |
| 46 | 250371 | 204 | 588.84 | 20.48 | 3.48% | 563.93 | 605.84 |
| 47 | 250403 | 269 | 187.13 | 9.03 | 4.83% | 175.98 | 196.80 |
| 48 | 251128 | 1279 | 129.17 | 5.38 | 4.16% | 97.41 | 255.16 |
| 49 | 251228 | 793 | 142.25 | 0.41 | 0.29% | 139.90 | 142.50 |
| 50 | 251380 | 598 | 118.67 | 5.51 | 4.64% | 87.63 | 126.03 |
| 51 | 251478 | 1002 | 122.58 | 6.16 | 5.02% | 92.90 | 246.40 |
| 52 | 251559 | 94 | 120.31 | 1.79 | 1.49% | 118.50 | 122.08 |
| 53 | 251893 | 871 | 159.03 | 0.90 | 0.56% | 154.41 | 159.64 |
| 54 | 252454 | 2066 | 183.65 | 7.18 | 3.91% | 143.47 | 375.82 |
| 55 | 253992 | 110 | 169.62 | 4.75 | 2.80% | 164.97 | 175.70 |
| 56 | 254696 | 982 | 111.80 | 7.05 | 6.31% | 107.87 | 234.62 |
| 57 | 254881 | 163 | 146.12 | 1.10 | 0.75% | 144.79 | 147.06 |
| 58 | 255350 | 571 | 157.60 | 6.76 | 4.29% | 119.85 | 313.96 |
| 59 | 255664 | 362 | 135.19 | 7.62 | 5.64% | 128.90 | 260.56 |
| 60 | 257274 | 1840 | 142.02 | 5.86 | 4.13% | 111.33 | 291.64 |
| 61 | 257413 | 171 | 116.98 | 9.30 | 7.95% | 114.90 | 236.18 |
| 62 | 257924 | 2926 | 186.19 | 26.50 | 14.24% | 125.24 | 217.90 |
| 63 | 258580 | 122 | 156.85 | 7.01 | 4.47% | 118.32 | 162.51 |
| 64 | 259064 | 519 | 106.07 | 5.44 | 5.13% | 101.39 | 143.01 |
| 65 | 259725 | 3322 | 155.79 | 5.56 | 3.57% | 116.04 | 303.96 |
| 66 | 259738 | 666 | 155.41 | 9.31 | 5.99% | 140.11 | 161.59 |
| 67 | 260198 | 736 | 152.13 | 2.11 | 1.39% | 147.56 | 153.90 |
| 68 | 261007 | 466 | 123.22 | 0.38 | 0.31% | 121.47 | 123.54 |
| 69 | 262626 | 953 | 147.19 | 3.25 | 2.21% | 110.18 | 147.97 |
| 70 | 263044 | 369 | 126.22 | 9.62 | 7.62% | 95.01 | 252.38 |
| 71 | 264008 | 1344 | 125.13 | 2.92 | 2.33% | 93.89 | 129.32 |
| 72 | 264863 | 783 | 141.97 | 2.04 | 1.44% | 137.83 | 143.68 |
| 73 | 264980 | 143 | 129.90 | 2.80 | 2.15% | 124.53 | 132.31 |
| 74 | 265418 | 664 | 135.54 | 6.31 | 4.65% | 127.11 | 141.19 |
| 75 | 266845 | 84 | 129.34 | 0.45 | 0.35% | 129.00 | 129.94 |
| 76 | 268628 | 315 | 109.95 | 9.07 | 8.25% | 106.06 | 131.10 |
| 77 | 268680 | 254 | 113.91 | 0.45 | 0.40% | 113.11 | 114.51 |
| 78 | 269180 | 553 | 175.58 | 11.02 | 6.28% | 134.83 | 353.18 |
| 79 | 270632 | 823 | 131.32 | 1.49 | 1.14% | 100.94 | 132.21 |
| 80 | 271126 | 647 | 113.25 | 8.95 | 7.90% | 101.24 | 120.48 |
| 81 | 272968 | 1218 | 161.45 | 4.80 | 2.97% | 123.24 | 319.48 |
| 82 | 273445 | 1084 | 116.40 | 1.70 | 1.46% | 88.74 | 122.61 |
| 83 | 273872 | 1822 | 138.64 | 4.51 | 3.25% | 103.70 | 239.25 |
| 84 | 275132 | 395 | 135.65 | 0.68 | 0.50% | 132.97 | 136.06 |
| 85 | 275388 | 1043 | 204.23 | 14.70 | 7.20% | 198.18 | 504.65 |
| 86 | 275725 | 273 | 114.59 | 1.04 | 0.91% | 113.91 | 116.23 |
| 87 | 275796 | 2245 | 138.56 | 3.54 | 2.55% | 133.45 | 279.82 |
| 88 | 275897 | 360 | 134.75 | 7.05 | 5.23% | 126.20 | 141.23 |
| 89 | 275985 | 331 | 112.00 | 2.23 | 1.99% | 85.08 | 112.81 |
| 90 | 276508 | 1966 | 136.42 | 4.02 | 2.95% | 101.29 | 138.85 |

| | | | | | | | |
|-----|--------------|----------------|---------------|--------------|---------------|--------------|-----------------|
| 91 | 277576 | 255 | 137.66 | 9.01 | 6.55% | 133.76 | 277.92 |
| 92 | 278901 | 1176 | 122.74 | 4.42 | 3.60% | 92.77 | 243.00 |
| 93 | 280053 | 572 | 119.05 | 2.80 | 2.35% | 114.03 | 121.26 |
| 94 | 280819 | 2441 | 154.99 | 11.09 | 7.16% | 119.39 | 560.13 |
| 95 | 281561 | 347 | 120.55 | 4.26 | 3.53% | 112.53 | 123.24 |
| 96 | 281815 | 345 | 117.57 | 3.49 | 2.97% | 92.38 | 120.99 |
| 97 | 283966 | 730 | 156.45 | 7.83 | 5.01% | 112.29 | 160.97 |
| 98 | 284773 | 1131 | 112.06 | 5.52 | 4.93% | 83.64 | 227.06 |
| 99 | 285011 | 998 | 123.23 | 3.25 | 2.64% | 91.98 | 126.79 |
| 100 | 287363 | 535 | 137.45 | 5.93 | 4.32% | 136.42 | 273.70 |
| 101 | 288773 | 937 | 127.03 | 3.34 | 2.63% | 96.70 | 141.25 |
| 102 | 290951 | 913 | 120.15 | 6.79 | 5.65% | 113.78 | 245.12 |
| 103 | 291938 | 484 | 163.04 | 1.88 | 1.16% | 156.71 | 165.79 |
| 104 | 293592 | 3175 | 169.26 | 5.03 | 2.97% | 126.57 | 344.10 |
| 105 | 293882 | 1835 | 158.77 | 3.00 | 1.89% | 123.04 | 161.15 |
| 106 | 295007 | 302 | 119.68 | 0.19 | 0.15% | 119.60 | 120.11 |
| 107 | 296011 | 448 | 134.25 | 0.22 | 0.16% | 132.66 | 134.32 |
| 108 | 296061 | 1736 | 151.77 | 5.52 | 3.64% | 114.38 | 305.22 |
| 109 | 298015 | 666 | 142.79 | 5.52 | 3.87% | 140.04 | 282.98 |
| 110 | 299425 | 75 | 144.22 | 2.05 | 1.42% | 142.05 | 146.16 |
| 111 | 300513 | 1135 | 126.85 | 7.98 | 6.29% | 94.75 | 255.76 |
| 112 | 301255 | 1059 | 114.52 | 3.44 | 3.00% | 84.00 | 116.80 |
| 113 | 301542 | 502 | 113.32 | 5.73 | 5.05% | 108.25 | 229.48 |
| 114 | 303318 | 1685 | 193.44 | 7.04 | 3.64% | 148.78 | 389.72 |
| 115 | 303565 | 234 | 111.43 | 0.93 | 0.84% | 108.67 | 112.10 |
| 116 | 303993 | 1613 | 147.21 | 4.72 | 3.21% | 144.59 | 284.50 |
| 117 | 304812 | 343 | 112.76 | 3.94 | 3.49% | 105.74 | 115.72 |
| 118 | 306592 | 1503 | 131.08 | 5.28 | 4.02% | 124.69 | 239.28 |
| 119 | 307800 | 1720 | 218.87 | 3.53 | 1.61% | 210.44 | 235.38 |
| 120 | 308549 | 1052 | 338.95 | 21.55 | 6.36% | 157.73 | 349.42 |
| 121 | 308955 | 557 | 152.67 | 6.58 | 4.31% | 150.40 | 306.52 |
| 122 | 310549 | 978 | 106.91 | 2.75 | 2.58% | 80.20 | 108.42 |
| 123 | 311447 | 2125 | 155.03 | 4.43 | 2.86% | 116.64 | 315.46 |
| 124 | 313183 | 156 | 477.87 | 36.22 | 7.58% | 430.95 | 505.88 |
| 125 | 313893 | 221 | 117.14 | 9.12 | 7.78% | 87.40 | 240.00 |
| | Total | 108,410 | 157.86 | 60.52 | 38.33% | 76.99 | 1,243.54 |

4.2

APPENDIX II : RCM/MKG-FY2003 PER DIEM FEES BY HOSPITAL**Legend of columns**

No : hospital sequential number

IdHosp : hospital anonymous identification number

N : number of patients

Mean : mean admission fees

SD : standard deviation of admission fees

CV : coefficient of variation

Min : admission fee minimal value

Max : admission fee maximal value

| No | IdHosp | N | Mean | SD | CV | Min | Max |
|----|--------|-----|-------|------|-------|-------|-------|
| 1 | 212642 | 416 | 18.42 | 0.48 | 2.58% | 14.55 | 18.83 |
| 2 | 213369 | 1 | 16.37 | | | 16.37 | 16.37 |
| 3 | 213549 | 260 | 19.73 | 0.32 | 1.61% | 19.10 | 20.01 |
| 4 | 213900 | 446 | 22.28 | 0.11 | 0.49% | 21.99 | 22.37 |

| | | | | | | | |
|----|--------|-------|-------|-------|--------|-------|-------|
| 5 | 215056 | 1,098 | 21.32 | 0.62 | 2.91% | 20.16 | 21.81 |
| 6 | 215578 | 229 | 12.36 | 0.19 | 1.57% | 12.17 | 12.61 |
| 7 | 215752 | 826 | 10.02 | 0.07 | 0.68% | 9.94 | 10.10 |
| 8 | 217348 | 235 | 16.52 | 0.75 | 4.52% | 12.04 | 17.17 |
| 9 | 219214 | 1,700 | 24.87 | 0.96 | 3.86% | 18.73 | 55.56 |
| 10 | 220379 | 913 | 18.74 | 0.49 | 2.60% | 14.63 | 22.57 |
| 11 | 221122 | 904 | 16.97 | 0.25 | 1.47% | 16.43 | 17.13 |
| 12 | 221409 | 278 | 17.75 | 3.14 | 17.67% | 14.80 | 21.24 |
| 13 | 221831 | 1,771 | 18.54 | 0.32 | 1.72% | 13.89 | 18.73 |
| 14 | 222459 | 111 | 16.62 | 0.37 | 2.23% | 16.08 | 17.04 |
| 15 | 223625 | 1,208 | 18.39 | 0.19 | 1.02% | 17.86 | 20.51 |
| 16 | 224449 | 4,623 | 26.08 | 0.91 | 3.48% | 11.65 | 39.71 |
| 17 | 225974 | 486 | 25.41 | 0.12 | 0.48% | 24.83 | 25.51 |
| 18 | 226066 | 297 | 15.93 | 0.26 | 1.60% | 15.76 | 16.33 |
| 19 | 226184 | 139 | 19.29 | 0.52 | 2.68% | 18.91 | 20.00 |
| 20 | 227536 | 1,886 | 17.12 | 0.20 | 1.15% | 12.93 | 17.23 |
| 21 | 229953 | 886 | 18.53 | 0.06 | 0.32% | 17.81 | 18.59 |
| 22 | 231834 | 639 | 17.08 | 0.52 | 3.06% | 12.88 | 17.82 |
| 23 | 233537 | 601 | 16.62 | 0.36 | 2.16% | 11.73 | 16.98 |
| 24 | 234386 | 315 | 17.90 | 0.86 | 4.82% | 13.48 | 18.34 |
| 25 | 234574 | 38 | 18.18 | 0.76 | 4.16% | 14.11 | 18.48 |
| 26 | 235839 | 1,262 | 15.46 | 0.05 | 0.35% | 15.24 | 17.07 |
| 27 | 236508 | 351 | 18.28 | 0.50 | 2.74% | 17.93 | 19.02 |
| 28 | 236550 | 216 | 17.02 | 0.15 | 0.91% | 16.86 | 18.38 |
| 29 | 237572 | 65 | 12.36 | 0.40 | 3.25% | 10.79 | 12.69 |
| 30 | 239016 | 1,123 | 18.81 | 0.15 | 0.80% | 18.27 | 18.93 |
| 31 | 239024 | 1 | 16.90 | | | 16.90 | 16.90 |
| 32 | 239177 | 2,127 | 28.00 | 1.27 | 4.53% | 20.38 | 46.69 |
| 33 | 240878 | 1,808 | 18.47 | 0.27 | 1.47% | 14.22 | 18.63 |
| 34 | 241530 | 90 | 21.18 | 0.36 | 1.72% | 20.52 | 21.52 |
| 35 | 243705 | 206 | 20.19 | 0.37 | 1.83% | 19.44 | 20.45 |
| 36 | 243789 | 176 | 18.04 | 0.19 | 1.07% | 17.69 | 18.25 |
| 37 | 243905 | 8 | 18.51 | 0.00 | 0.00% | 18.51 | 18.51 |
| 38 | 244588 | 2,060 | 17.21 | 0.34 | 1.95% | 16.52 | 25.18 |
| 39 | 244669 | 3,573 | 20.85 | 1.15 | 5.53% | 14.89 | 21.84 |
| 40 | 245664 | 1 | 12.61 | . | | 12.61 | 12.61 |
| 41 | 247661 | 1,866 | 19.69 | 0.17 | 0.86% | 15.03 | 20.88 |
| 42 | 248698 | 357 | 18.16 | 0.09 | 0.51% | 17.84 | 18.21 |
| 43 | 249162 | 440 | 17.24 | 0.48 | 2.80% | 16.34 | 17.65 |
| 44 | 249299 | 97 | 17.34 | 0.07 | 0.39% | 17.28 | 17.42 |
| 45 | 249434 | 376 | 8.23 | 2.28 | 27.75% | 5.55 | 10.35 |
| 46 | 249792 | 2 | 18.85 | 11.52 | 61.12% | 10.70 | 26.99 |
| 47 | 249948 | 356 | 29.24 | 0.77 | 2.63% | 28.04 | 29.87 |

| | | | | | | | |
|----|--------|-------|-------|------|--------|-------|-------|
| 48 | 250371 | 208 | 11.18 | 0.41 | 3.66% | 10.77 | 11.65 |
| 49 | 250403 | 270 | 23.60 | 1.48 | 6.28% | 21.89 | 25.15 |
| 50 | 251128 | 1,279 | 17.65 | 0.28 | 1.59% | 13.63 | 17.85 |
| 51 | 251228 | 800 | 20.40 | 0.54 | 2.65% | 19.50 | 20.88 |
| 52 | 251380 | 594 | 15.85 | 0.48 | 3.06% | 11.86 | 16.51 |
| 53 | 251478 | 998 | 15.86 | 0.36 | 2.25% | 12.11 | 15.95 |
| 54 | 251559 | 94 | 15.91 | 0.15 | 0.91% | 15.71 | 16.04 |
| 55 | 251893 | 873 | 22.07 | 0.12 | 0.55% | 21.44 | 22.16 |
| 56 | 252454 | 2,068 | 26.55 | 0.48 | 1.81% | 20.57 | 32.21 |
| 57 | 253992 | 110 | 18.65 | 0.17 | 0.92% | 18.49 | 18.90 |
| 58 | 254696 | 985 | 18.41 | 0.33 | 1.79% | 18.15 | 18.83 |
| 59 | 254881 | 163 | 17.37 | 1.06 | 6.12% | 16.13 | 18.31 |
| 60 | 255350 | 572 | 19.19 | 0.41 | 2.14% | 14.88 | 19.49 |
| 61 | 255664 | 364 | 18.72 | 0.47 | 2.50% | 17.97 | 19.09 |
| 62 | 256337 | 1 | 16.93 | ! | | 16.93 | 16.93 |
| 63 | 257274 | 1,854 | 16.59 | 0.38 | 2.31% | 12.90 | 16.89 |
| 64 | 257413 | 171 | 17.96 | 0.27 | 1.48% | 17.52 | 18.20 |
| 65 | 257924 | 2,924 | 25.99 | 3.28 | 12.63% | 17.79 | 30.04 |
| 66 | 258580 | 122 | 17.41 | 0.58 | 3.35% | 13.97 | 17.69 |
| 67 | 259064 | 519 | 15.32 | 2.64 | 17.24% | 10.72 | 16.89 |
| 68 | 259725 | 3,322 | 21.89 | 0.81 | 3.70% | 16.27 | 38.57 |
| 69 | 259738 | 668 | 15.49 | 0.05 | 0.30% | 15.29 | 15.52 |
| 70 | 260198 | 738 | 17.34 | 0.36 | 2.09% | 16.67 | 17.65 |
| 71 | 261007 | 464 | 17.62 | 0.22 | 1.25% | 17.18 | 17.84 |
| 72 | 262626 | 955 | 17.07 | 0.38 | 2.20% | 12.97 | 17.16 |
| 73 | 263044 | 371 | 19.82 | 0.48 | 2.40% | 14.75 | 20.04 |
| 74 | 264008 | 1,346 | 17.12 | 0.36 | 2.12% | 12.87 | 18.58 |
| 75 | 264863 | 784 | 18.03 | 0.77 | 4.25% | 16.90 | 18.68 |
| 76 | 264980 | 144 | 18.63 | 0.50 | 2.67% | 17.74 | 19.05 |
| 77 | 265418 | 666 | 17.52 | 0.66 | 3.74% | 16.58 | 18.10 |
| 78 | 266845 | 84 | 19.38 | 0.08 | 0.41% | 19.27 | 19.44 |
| 79 | 268628 | 315 | 15.38 | 0.23 | 1.47% | 15.28 | 15.92 |
| 80 | 268680 | 254 | 16.52 | 0.09 | 0.56% | 16.24 | 16.59 |
| 81 | 269180 | 555 | 24.54 | 0.46 | 1.89% | 19.00 | 25.10 |
| 82 | 270632 | 824 | 17.77 | 0.27 | 1.50% | 13.71 | 17.96 |
| 83 | 271126 | 649 | 14.76 | 0.26 | 1.78% | 14.28 | 14.97 |
| 84 | 272968 | 1,220 | 21.96 | 0.28 | 1.26% | 16.67 | 22.21 |
| 85 | 273445 | 1,087 | 16.50 | 0.20 | 1.21% | 12.60 | 17.85 |
| 86 | 273872 | 1,826 | 20.80 | 0.40 | 1.92% | 15.69 | 23.10 |
| 87 | 275132 | 400 | 18.56 | 0.46 | 2.50% | 17.67 | 18.84 |
| 88 | 275388 | 1,046 | 17.91 | 0.42 | 2.36% | 15.05 | 19.66 |
| 89 | 275725 | 273 | 19.86 | 0.33 | 1.67% | 18.93 | 20.06 |
| 90 | 275796 | 2,247 | 20.81 | 0.55 | 2.65% | 11.18 | 21.19 |

| | | | | | | | |
|-----|--------------|----------------|--------------|-------------|---------------|-------------|--------------|
| 91 | 275897 | 360 | 14.32 | 0.89 | 6.22% | 13.52 | 15.33 |
| 92 | 275985 | 331 | 16.91 | 0.44 | 2.61% | 12.68 | 17.20 |
| 93 | 276508 | 1,927 | 16.46 | 0.41 | 2.50% | 12.35 | 17.01 |
| 94 | 277576 | 255 | 17.21 | 0.25 | 1.48% | 16.79 | 17.46 |
| 95 | 278901 | 1,171 | 17.54 | 0.76 | 4.36% | 13.03 | 18.54 |
| 96 | 280053 | 571 | 16.40 | 0.47 | 2.89% | 15.58 | 16.77 |
| 97 | 280819 | 2,450 | 17.24 | 0.38 | 2.21% | 13.38 | 17.52 |
| 98 | 281561 | 347 | 19.44 | 0.97 | 4.99% | 17.68 | 20.04 |
| 99 | 281815 | 366 | 15.41 | 0.36 | 2.34% | 11.86 | 17.81 |
| 100 | 283966 | 734 | 18.25 | 0.92 | 5.06% | 13.09 | 18.79 |
| 101 | 284773 | 1,132 | 18.06 | 0.54 | 2.98% | 13.41 | 18.40 |
| 102 | 285011 | 1,004 | 15.98 | 0.38 | 2.35% | 11.96 | 16.40 |
| 103 | 287363 | 535 | 17.26 | 0.03 | 0.18% | 17.13 | 17.31 |
| 104 | 288773 | 938 | 14.54 | 0.49 | 3.34% | 10.72 | 15.65 |
| 105 | 290951 | 916 | 19.70 | 0.86 | 4.39% | 18.30 | 20.36 |
| 106 | 291938 | 483 | 24.37 | 0.58 | 2.38% | 23.17 | 28.78 |
| 107 | 293592 | 3,177 | 20.68 | 0.69 | 3.32% | 15.23 | 21.22 |
| 108 | 293882 | 1,833 | 19.58 | 0.23 | 1.20% | 15.08 | 19.75 |
| 109 | 295007 | 298 | 17.16 | 0.05 | 0.30% | 17.14 | 17.28 |
| 110 | 296011 | 449 | 16.76 | 0.29 | 1.75% | 16.28 | 17.02 |
| 111 | 296061 | 1,731 | 19.19 | 0.25 | 1.28% | 14.45 | 19.33 |
| 112 | 298015 | 665 | 19.07 | 0.08 | 0.43% | 18.80 | 19.13 |
| 113 | 299425 | 75 | 16.68 | 0.23 | 1.36% | 16.44 | 16.90 |
| 114 | 300513 | 1,161 | 17.41 | 0.56 | 3.20% | 12.82 | 17.77 |
| 115 | 301255 | 1,061 | 17.08 | 0.25 | 1.46% | 12.86 | 17.21 |
| 116 | 301542 | 505 | 18.11 | 0.71 | 3.89% | 16.86 | 18.59 |
| 117 | 303318 | 1,698 | 21.31 | 0.47 | 2.20% | 16.57 | 23.17 |
| 118 | 303565 | 235 | 18.32 | 0.06 | 0.30% | 18.08 | 18.36 |
| 119 | 303993 | 1,615 | 17.48 | 0.34 | 1.92% | 16.86 | 17.74 |
| 120 | 304812 | 345 | 18.15 | 1.91 | 10.50% | 15.33 | 19.58 |
| 121 | 306592 | 1,512 | 20.32 | 0.93 | 4.59% | 19.03 | 21.14 |
| 122 | 307800 | 1,713 | 24.75 | 0.96 | 3.88% | 20.07 | 44.18 |
| 123 | 308549 | 1,069 | 16.82 | 0.84 | 4.97% | 13.79 | 17.77 |
| 124 | 308955 | 559 | 20.03 | 0.09 | 0.46% | 19.75 | 20.13 |
| 125 | 310549 | 974 | 17.71 | 0.75 | 4.23% | 12.89 | 18.25 |
| 126 | 311447 | 2,131 | 22.78 | 0.46 | 2.03% | 17.65 | 26.43 |
| 127 | 313183 | 174 | 11.13 | 0.78 | 7.05% | 10.85 | 20.88 |
| 128 | 313893 | 222 | 16.75 | 0.51 | 3.07% | 12.58 | 17.25 |
| | Total | 108,796 | 19.61 | 3.62 | 18.48% | 5.55 | 55.56 |

4.3

APPENDIX III : LENGTH OF STAY USED FOR THE MONOPATHOLOGIC COMPONENT.Legend of columns

IdSet : specific medical problem (SMP) category

Names : wording of SMP category

Age : age category

Ssg_grp : severity group : 0 = no associated geriatric syndrome

1 = one associated geriatric syndrome

2+ = more than one associated geriatric syndrome

N : number of patients

nifac : length of stay (number of hospitalization days billed)

| IdSet | Names | age | srg_grp | nPatGDH | N | nifac |
|-------|--|---------|---------|---------|-----|-------|
| 1 | Bacterial and viral dermatologic diseases | <75 | 0 | 0 | 24 | 6.17 |
| | | | 1 | 0 | 3 | 9.00 |
| | | | 2+ | 0 | 2 | 5.00 |
| | | 75 - 84 | 0 | 0 | 38 | 8.61 |
| | | | 1 | 0 | 2 | 6.00 |
| | | | 2+ | 0 | 1 | 12.00 |
| | | 85+ | 0 | 1 | 6 | 6.33 |
| | | | 1 | 0 | 2 | 25.50 |
| 2 | Malignant neoplasm of digestive organs and peritoneum | <75 | 0 | 2 | 102 | 3.83 |
| | | | 1 | 0 | 10 | 17.30 |
| | | | 2+ | 0 | 1 | 2.00 |
| | | 75 - 84 | 0 | 3 | 81 | 5.22 |
| | | | 1 | 0 | 4 | 3.25 |
| | | | 2+ | 1 | 2 | 3.50 |
| | | 85+ | 0 | 0 | 25 | 8.96 |
| | | | 1 | 0 | 2 | 4.00 |
| 3 | Malignant neoplasm of respiratory and intrathoracic organs | <75 | 0 | 5 | 113 | 6.35 |
| | | | 1 | 1 | 29 | 8.24 |
| | | | 2+ | 0 | 2 | 4.50 |
| | | 75 - 84 | 0 | 2 | 68 | 6.38 |
| | | | 1 | 2 | 18 | 21.78 |
| | | | 2+ | 1 | 0 | 21.80 |
| | | 85+ | 0 | 0 | 10 | 8.20 |
| | | | 1 | 0 | 1 | 28.00 |
| 4 | Breast cancer | <75 | 0 | 2 | 15 | 8.33 |
| | | | 1 | 0 | 20 | 12.45 |
| | | | 2+ | 0 | 1 | 2.00 |
| | | 75 - 84 | 0 | 2 | 14 | 6.43 |
| | | | 1 | 2 | 13 | 16.38 |
| | | | 2+ | 2 | 1 | 2.00 |
| | | 85+ | 0 | 1 | 3 | 13.00 |
| | | | 1 | 0 | 4 | 18.50 |
| 5 | Prostate cancer | <75 | 0 | 2 | 19 | 2.84 |
| | | | 1 | 0 | 12 | 22.17 |
| | | 75 - 84 | 0 | 3 | 16 | 5.38 |
| | | | 1 | 0 | 9 | 10.11 |
| | | | 2+ | 0 | 1 | 8.00 |
| | | 85+ | 0 | 4 | 5 | 3.20 |
| 6 | Malignant neoplasm and carcinoma | <75 | 0 | 15 | 265 | 6.59 |
| | | | 1 | 1 | 50 | 9.76 |

| IdSet | Names | age | ssg_grp | nPatGDH | N | nfac |
|-------|---|---------|---------|---------|-----|--------|
| | | | 2+ | 4 | 4 | 12.50 |
| | | 75 - 84 | 0 | 14 | 198 | 7.33 |
| | | | 1 | 4 | 47 | 8.30 |
| | | | 2+ | 0 | 5 | 31.80 |
| | | 85+ | 0 | 6 | 42 | 9.79 |
| | | | 1 | 0 | 10 | 12.10 |
| | | | 2+ | 0 | 1 | 20.00 |
| 7 | Malignant neoplasm of lymphatic and hematopoietic tissue | <75 | 0 | 7 | 10 | 6.90 |
| | | | 1 | 0 | 1 | 7.00 |
| | | 75 - 84 | 0 | 8 | 8 | 9.75 |
| | | | 1 | 0 | 1 | 104.00 |
| | | | 2+ | 1 | 0 | 20.22 |
| | | 85+ | 0 | 2 | 2 | 5.00 |
| | | | 2+ | 1 | 0 | 5.00 |
| 8 | Endocrine, nutritional and metabolic diseases | <75 | 0 | 2 | 13 | 4.54 |
| | | | 1 | 1 | 2 | 11.00 |
| | | 75 - 84 | 0 | 1 | 2 | 10.00 |
| | | | 1 | 3 | 0 | 10.00 |
| | | | 2+ | 3 | 0 | 10.00 |
| | | 85+ | 0 | 1 | 1 | 3.00 |
| | | | 1 | 2 | 0 | 3.00 |
| | | | 2+ | 1 | 0 | 3.00 |
| 9 | Diabetes mellitus | <75 | 0 | 17 | 103 | 4.74 |
| | | | 1 | 6 | 16 | 9.13 |
| | | | 2+ | 4 | 1 | 10.00 |
| | | 75 - 84 | 0 | 22 | 37 | 5.62 |
| | | | 1 | 7 | 10 | 9.20 |
| | | | 2+ | 7 | 2 | 12.50 |
| | | 85+ | 0 | 9 | 4 | 7.00 |
| | | | 2+ | 1 | 2 | 9.00 |
| 10 | Anemias | <75 | 0 | 2 | 16 | 2.50 |
| | | | 1 | 0 | 2 | 2.00 |
| | | | 2+ | 1 | 0 | 2.44 |
| | | 75 - 84 | 0 | 27 | 27 | 3.22 |
| | | | 1 | 6 | 3 | 2.33 |
| | | | 2+ | 3 | 0 | 3.13 |
| | | 85+ | 0 | 27 | 8 | 4.75 |
| | | | 1 | 2 | 1 | 2.00 |
| 11 | Diseases of blood | <75 | 0 | 2 | 4 | 2.50 |
| | | | 1 | 0 | 1 | 7.00 |
| | | 75 - 84 | 0 | 5 | 2 | 1.00 |
| | | 85+ | 0 | 1 | 1 | 5.00 |
| 12 | Senile, presenile, hereditary and degenerative diseases of the central nervous system and personality disorders | <75 | 0 | 9 | 62 | 14.74 |
| | | | 1 | 10 | 115 | 19.48 |
| | | | 2+ | 8 | 48 | 27.71 |
| | | 75 - 84 | 0 | 9 | 93 | 19.23 |
| | | | 1 | 29 | 161 | 19.50 |

| IdSet | Names | age | ssg_grp | nPatGDH | N | nfac |
|-------|--|---------|---------|---------|----|-------|
| | | | 2+ | 36 | 60 | 20.20 |
| | | 85+ | 0 | 1 | 28 | 21.89 |
| | | | 1 | 16 | 62 | 19.47 |
| | | | 2+ | 23 | 23 | 24.96 |
| 13 | Parkinson's disease | <75 | 0 | 1 | 1 | 3.00 |
| | | | 1 | 2 | 0 | 7.49 |
| | | | 2+ | 0 | 88 | 7.55 |
| | | 75 - 84 | 0 | 4 | 0 | 9.35 |
| | | | 1 | 1 | 0 | 9.35 |
| | | | 2+ | 2 | 48 | 9.35 |
| | | 85+ | 0 | 1 | 0 | 17.00 |
| | | | 1 | 1 | 0 | 17.00 |
| | | | 2+ | 2 | 5 | 17.00 |
| 14 | Epilepsy | <75 | 0 | 1 | 24 | 3.46 |
| | | | 1 | 0 | 1 | 6.00 |
| | | | 2+ | 0 | 1 | 3.00 |
| | | 75 - 84 | 0 | 1 | 14 | 4.00 |
| 15 | Disorders Of The Peripheral Nervous System | <75 | 0 | 0 | 1 | 2.00 |
| | | 75 - 84 | 0 | 1 | 0 | 3.50 |
| | | | 1 | 0 | 2 | 3.50 |
| | | | 2+ | 1 | 0 | 3.50 |
| | | 85+ | 0 | 1 | 0 | 3.50 |
| 16 | Glaucoma | <75 | 0 | 0 | 7 | 2.71 |
| | | | 1 | 0 | 3 | 1.33 |
| | | 75 - 84 | 0 | 0 | 4 | 2.75 |
| | | | 1 | 0 | 2 | 2.00 |
| | | 85+ | 0 | 0 | 2 | 2.00 |
| | | | 1 | 0 | 1 | 4.00 |
| 17 | Cataract | <75 | 0 | 2 | 2 | 2.00 |
| | | | 1 | 0 | 2 | 2.00 |
| | | 75 - 84 | 0 | 6 | 5 | 1.80 |
| | | | 1 | 2 | 7 | 2.00 |
| | | 85+ | 0 | 0 | 3 | 4.00 |
| | | | 1 | 0 | 1 | 1.00 |
| | | | 2+ | 1 | 0 | 3.25 |
| 18 | Diseases Of The Ear | <75 | 0 | 0 | 11 | 3.64 |
| | | | 1 | 2 | 18 | 5.83 |
| | | 75 - 84 | 0 | 2 | 8 | 4.75 |
| | | | 1 | 3 | 10 | 5.40 |
| | | 85+ | 0 | 2 | 2 | 6.50 |
| | | | 2+ | 1 | 1 | 8.00 |
| 19 | Diseases of mitral and aortic valves | <75 | 0 | 0 | 1 | 2.00 |
| | | 75 - 84 | 0 | 0 | 4 | 2.75 |
| | | 85+ | 0 | 0 | 1 | 2.00 |
| 20 | Hypertensive Diseases | <75 | 0 | 1 | 32 | 3.59 |
| | | | 1 | 0 | 6 | 5.83 |
| | | | 2+ | 0 | 1 | 1.00 |

| IdSet | Names | age | ssg_grp | nPatGDH | N | nfac |
|-------|------------------------------|---------|---------|---------|------|-------|
| | | 75 - 84 | 0 | 1 | 23 | 5.78 |
| | | | 1 | 2 | 1 | 9.00 |
| | | | 2+ | 0 | 1 | 6.00 |
| | | 85+ | 0 | 0 | 2 | 5.00 |
| | | | 1 | 0 | 1 | 1.00 |
| 21 | Ischemic heart disease | <75 | 0 | 2 | 1270 | 1.94 |
| | | | 1 | 0 | 181 | 2.01 |
| | | | 2+ | 0 | 2 | 4.00 |
| | | 75 - 84 | 0 | 1 | 697 | 2.08 |
| | | | 1 | 0 | 68 | 2.53 |
| | | | 2+ | 0 | 1 | 2.00 |
| | | 85+ | 0 | 1 | 31 | 4.00 |
| | | | 1 | 0 | 5 | 4.40 |
| | | | 2+ | 0 | 1 | 6.00 |
| 22 | Cardiac dysrhythmias | <75 | 0 | 4 | 57 | 2.77 |
| | | | 1 | 0 | 2 | 1.50 |
| | | | 2+ | 0 | 2 | 22.50 |
| | | 75 - 84 | 0 | 3 | 33 | 3.27 |
| | | | 1 | 2 | 3 | 4.67 |
| | | | 2+ | 2 | 1 | 29.00 |
| | | 85+ | 0 | 0 | 10 | 2.90 |
| | | | 1 | 0 | 2 | 4.50 |
| 23 | Heart failure | <75 | 0 | 4 | 10 | 3.90 |
| | | | 1 | 1 | 0 | 5.00 |
| | | | 2+ | 1 | 1 | 16.00 |
| | | 75 - 84 | 0 | 7 | 23 | 4.70 |
| | | | 1 | 3 | 2 | 12.00 |
| | | | 2+ | 2 | 0 | 5.28 |
| | | 85+ | 0 | 3 | 15 | 5.40 |
| | | | 1 | 1 | 1 | 6.00 |
| | | | 2+ | 1 | 0 | 5.44 |
| 24 | Cerebrovascular Disease | <75 | 0 | 6 | 85 | 7.29 |
| | | | 1 | 1 | 6 | 12.83 |
| | | | 2+ | 0 | 3 | 19.00 |
| | | 75 - 84 | 0 | 7 | 65 | 10.03 |
| | | | 1 | 2 | 8 | 12.63 |
| | | | 2+ | 8 | 4 | 13.00 |
| | | 85+ | 0 | 3 | 13 | 7.15 |
| | | | 1 | 1 | 0 | 8.20 |
| | | | 2+ | 1 | 2 | 15.00 |
| 25 | Phlebitis and Varicose veins | <75 | 0 | 2 | 19 | 6.68 |
| | | | 1 | 0 | 4 | 15.75 |
| | | | 2+ | 1 | 1 | 9.00 |
| | | 75 - 84 | 0 | 2 | 20 | 15.45 |
| | | | 1 | 1 | 1 | 6.00 |
| | | | 2+ | 2 | 0 | 15.00 |
| | | 85+ | 0 | 1 | 3 | 3.33 |

| IdSet | Names | age | ssg_grp | nPatGDH | N | nfac |
|-------|---|---------|---------|---------|-----|-------|
| | | | I | I | I | 4.00 |
| | | | 2+ | 2 | 0 | 3.50 |
| 26 | Vascular Diseases | <75 | 0 | 0 | 23 | 3.22 |
| | | | I | 0 | I | 2.00 |
| | | | 2+ | I | 0 | 3.17 |
| | | 75 - 84 | 0 | I | 18 | 3.72 |
| | | | I | 2 | 0 | 3.63 |
| | | | 2+ | 0 | I | 2.00 |
| | | 85+ | 0 | I | 0 | 3.63 |
| | | | 2+ | I | 0 | 3.63 |
| 27 | Diseases of upper respiratory tract | <75 | 0 | 3 | 18 | 1.78 |
| | | 75 - 84 | 0 | 0 | 4 | 2.00 |
| | | 85+ | 0 | I | I | 1.00 |
| 28 | Pneumonia, influenza and tuberculosis | <75 | 0 | I | 35 | 7.46 |
| | | | I | 0 | 3 | 10.67 |
| | | 75 - 84 | 0 | 2 | 15 | 6.73 |
| | | | I | 0 | 3 | 8.00 |
| | | | 2+ | 0 | I | 7.00 |
| | | 85+ | 0 | 0 | 10 | 7.60 |
| | | | 2+ | I | 0 | 7.60 |
| 29 | Chronic bronchitis and respiratory failures | <75 | 0 | I | 116 | 6.34 |
| | | | I | 0 | 5 | 12.20 |
| | | | 2+ | 0 | 4 | 10.75 |
| | | 75 - 84 | 0 | 0 | 82 | 5.79 |
| | | | I | I | 9 | 15.44 |
| | | | 2+ | 0 | I | 11.00 |
| | | 85+ | 0 | 0 | 17 | 9.41 |
| | | | I | 0 | 5 | 12.40 |
| | | | 2+ | I | 0 | 10.09 |
| 30 | Asthma | <75 | 0 | 0 | 14 | 7.36 |
| | | | I | 0 | I | 5.00 |
| | | 75 - 84 | 0 | 2 | 7 | 6.14 |
| | | | I | I | I | 1.00 |
| | | | 2+ | 0 | I | 21.00 |
| | | 85+ | 0 | I | 0 | 5.00 |
| 31 | Diseases of the salivary glands and oral soft tissues | <75 | 0 | 3 | 0 | 1.00 |
| 32 | Diseases of esophagus, stomach, and duodenum | <75 | 0 | 3 | 91 | 3.32 |
| | | | I | I | 5 | 4.20 |
| | | | 2+ | 0 | 3 | 5.67 |
| | | 75 - 84 | 0 | 12 | 81 | 3.62 |
| | | | I | 2 | 6 | 7.83 |
| | | | 2+ | 2 | I | 17.00 |
| | | 85+ | 0 | 2 | 13 | 5.00 |
| | | | I | 2 | 0 | 5.00 |
| | | | 2+ | 0 | 0 | 5.00 |
| 33 | Hernia Of Abdominal Cavity | <75 | 0 | 3 | 7 | 11.57 |
| | | | 2+ | 0 | I | 23.00 |

| IdSet | Names | age | ssg_grp | nPatGDH | N | nfac |
|-------|--|---------|---------|---------|-----|-------|
| | | 75 - 84 | 0 | 2 | 5 | 3.00 |
| | | | I | I | 0 | 3.00 |
| | | 85+ | 0 | I | 2 | 3.00 |
| 34 | Anal and rectal disorders | <75 | 0 | 0 | 20 | 1.80 |
| | | | I | 0 | I | 1.00 |
| | | 75 - 84 | 0 | I | 17 | 2.59 |
| | | | I | I | I | 1.00 |
| | | 85+ | 0 | 2 | 5 | 4.40 |
| | | | 2+ | I | I | 6.00 |
| 35 | Gastrointestinal bleeding | <75 | 0 | 6 | 4 | 4.00 |
| | | | 2+ | 0 | I | 3.00 |
| | | 75 - 84 | 0 | 2 | 8 | 3.63 |
| | | | I | 2 | 0 | 3.63 |
| | | 85+ | 0 | I | 2 | 2.00 |
| | | | I | 0 | I | 4.00 |
| 36 | Other diseases of digestive system | <75 | 0 | I | 76 | 4.26 |
| | | | I | 0 | I | 8.00 |
| | | | 2+ | 0 | I | 11.00 |
| | | 75 - 84 | 0 | 3 | 100 | 3.60 |
| | | | 2+ | 0 | 2 | 19.50 |
| | | 85+ | 0 | 0 | 20 | 4.20 |
| 37 | Hypotension, syncope and collapse | <75 | 0 | I | 24 | 2.58 |
| | | | I | 0 | 2 | 2.50 |
| | | | 2+ | I | I | 19.00 |
| | | 75 - 84 | 0 | I | 27 | 2.52 |
| | | | I | I | 3 | 1.33 |
| | | | 2+ | I | 2 | 7.50 |
| | | 85+ | 0 | I | 11 | 3.27 |
| | | | I | I | I | 11.00 |
| 38 | Diseases Of The Genitourinary System | <75 | 0 | 10 | 53 | 3.91 |
| | | | I | 0 | 15 | 4.47 |
| | | | 2+ | 3 | 4 | 3.50 |
| | | 75 - 84 | 0 | 15 | 59 | 4.32 |
| | | | I | 2 | 22 | 7.18 |
| | | | 2+ | 3 | 6 | 7.67 |
| | | 85+ | 0 | 6 | 8 | 3.38 |
| | | | I | 3 | I | 6.00 |
| | | | 2+ | 3 | 3 | 3.33 |
| 39 | Disorders of female genital tract | <75 | 0 | I | 11 | 2.00 |
| | | 75 - 84 | 0 | 2 | 5 | 2.80 |
| | | | 2+ | I | 0 | 2.80 |
| | | 85+ | 0 | I | I | 1.00 |
| 40 | Diseases of skin and subcutaneous tissue | <75 | 0 | I | 22 | 12.91 |
| | | | I | 0 | I | 17.00 |
| | | | 2+ | 2 | 0 | 13.09 |
| | | 75 - 84 | 0 | 23 | 24 | 9.50 |
| | | | I | 3 | 6 | 13.67 |

| IdSet | Names | age | ssg_grp | nPatGDH | N | nfac |
|-------|--|---------|---------|---------|-----|-------|
| | | | 2+ | 1 | 0 | 10.33 |
| | | 85+ | 0 | 11 | 6 | 6.00 |
| | | | 1 | 1 | 3 | 3.33 |
| | | | 2+ | 3 | 0 | 5.11 |
| 41 | Dorsopathies, Arthropathies and related disorders | <75 | 0 | 8 | 40 | 4.50 |
| | | | 1 | 3 | 83 | 4.82 |
| | | | 2+ | 3 | 18 | 11.50 |
| | | 75 - 84 | 0 | 7 | 17 | 12.71 |
| | | | 1 | 8 | 72 | 5.57 |
| | | | 2+ | 9 | 11 | 12.82 |
| | | 85+ | 0 | 2 | 4 | 4.75 |
| | | | 1 | 2 | 14 | 5.93 |
| | | | 2+ | 5 | 8 | 10.75 |
| 42 | Osteopathies, chondropathies, and acquired musculoskeletal deformities | <75 | 0 | 9 | 49 | 5.43 |
| | | | 1 | 2 | 6 | 5.33 |
| | | 75 - 84 | 0 | 9 | 72 | 6.46 |
| | | | 1 | 3 | 10 | 10.70 |
| | | | 2+ | 5 | 3 | 8.00 |
| | | 85+ | 0 | 4 | 15 | 10.00 |
| | | | 1 | 4 | 5 | 12.20 |
| | | | 2+ | 2 | 1 | 19.00 |
| 43 | Symptoms involving respiratory system and other chest symptoms | <75 | 0 | 11 | 41 | 4.29 |
| | | | 1 | 0 | 2 | 9.00 |
| | | | 2+ | 2 | 0 | 9.00 |
| | | 75 - 84 | 0 | 13 | 33 | 5.36 |
| | | | 1 | 0 | 4 | 4.00 |
| | | | 2+ | 1 | 1 | 19.00 |
| | | 85+ | 0 | 5 | 8 | 6.38 |
| | | | 1 | 3 | 4 | 9.25 |
| | | | 2+ | 1 | 0 | 9.25 |
| 44 | Symptoms involving abdomen and pelvis | <75 | 0 | 45 | 373 | 2.17 |
| | | | 1 | 1 | 105 | 2.77 |
| | | | 2+ | 1 | 16 | 4.50 |
| | | 75 - 84 | 0 | 38 | 249 | 2.15 |
| | | | 1 | 2 | 91 | 2.71 |
| | | | 2+ | 7 | 9 | 7.22 |
| | | 85+ | 0 | 7 | 42 | 2.21 |
| | | | 1 | 0 | 29 | 3.62 |
| | | | 2+ | 0 | 2 | 3.00 |
| 45 | Asthenia, weakness, lack of energy and strength, loss of strength | <75 | 0 | 1 | 126 | 1.29 |
| | | | 1 | 1 | 7 | 11.71 |
| | | 75 - 84 | 0 | 7 | 27 | 2.19 |
| | | | 1 | 3 | 5 | 4.60 |
| | | | 2+ | 10 | 3 | 9.67 |
| | | 85+ | 0 | 1 | 1 | 1.00 |
| | | | 1 | 1 | 1 | 15.00 |
| | | | 2+ | 2 | 0 | 8.00 |

| IdSet | Names | age | ssg_grp | nPatGDH | N | n/fac |
|-------|---------------------|---------|---------|---------|------|-------|
| 46 | Headache | <75 | 0 | 0 | 5 | 4.40 |
| | | | 1 | 0 | 1 | 9.00 |
| | | 75 - 84 | 0 | 0 | 2 | 7.00 |
| | | | 1 | 3 | 0 | 7.00 |
| | | 85+ | 0 | 1 | 1 | 4.00 |
| | | | 1 | 1 | 0 | 4.00 |
| | | | | | | |
| 47 | Subdural hemorrhage | 75 - 84 | 0 | 1 | 0 | 1.00 |
| | | 85+ | 2+ | 1 | 0 | 1.00 |
| 48 | Falls | <75 | 0 | 1 | 2 | 4.00 |
| | | | 1 | 1 | 6 | 6.67 |
| | | | 2+ | 1 | 22 | 7.32 |
| | | 75 - 84 | 0 | 0 | 1 | 8.00 |
| | | | 1 | 1 | 18 | 7.22 |
| | | | 2+ | 1 | 62 | 8.68 |
| | | 85+ | 0 | 1 | 2 | 4.50 |
| | | | 1 | 3 | 6 | 2.83 |
| | | | 2+ | 3 | 32 | 7.06 |
| | | | | | | |
| | Total | | | 970 | 8194 | |

4.4 APPENDIX IV : LENGTH OF STAY USED FOR THE POLYPATHOLOGIC COMPONENT.

Legend of columns

IdSet : specific medical problem (SMP) category

ListVar : combination of SMP category

nPatGDH : number of patients in GDH

nMatch : number of matched patients in classical hospitalization

LOS : length of stay (number of hospitalization days billed)

| Idset | ListVar | nPatGDH | nMatch | LOS |
|-------|---------|---------|--------|-------|
| 49 | 1-26 | 1 | 1 | 14.00 |
| 50 | 1-44 | 1 | 3 | 4.67 |
| 51 | 2-10 | 1 | 20 | 5.45 |
| 52 | 2-26 | 1 | 2 | 5.00 |
| 53 | 2-42 | 1 | 10 | 3.30 |
| 54 | 3-22 | 1 | 15 | 8.33 |
| 55 | 4-12 | 1 | 7 | 13.71 |
| 56 | 4-42 | 1 | 10 | 6.40 |
| 57 | 5-24 | 1 | 3 | 27.33 |
| 58 | 5-29 | 2 | 10 | 9.60 |
| 59 | 5-38 | 1 | 25 | 10.84 |
| 60 | 5-46 | 1 | 1 | 7.00 |
| 61 | 6-12 | 1 | 35 | 12.74 |
| 62 | 6-21 | 1 | 31 | 5.94 |
| 63 | 6-23 | 1 | 9 | 7.33 |
| 64 | 6-28 | 1 | 10 | 31.90 |
| 65 | 6-39 | 1 | 4 | 4.75 |
| 66 | 6-40 | 1 | 9 | 12.44 |
| 67 | 6-43 | 1 | 29 | 9.34 |
| 68 | 6-46 | 1 | 0 | 7.78 |
| 69 | 7-10 | 2 | 10 | 10.40 |
| 70 | 7-30 | 1 | 0 | 12.18 |
| 71 | 7-38 | 2 | 9 | 13.56 |
| 72 | 7-42 | 1 | 3 | 13.00 |
| 73 | 8-10 | 1 | 7 | 11.71 |
| 74 | 8-20 | 1 | 108 | 10.44 |
| 75 | 8-42 | 1 | 15 | 16.53 |
| 76 | 8-43 | 1 | 11 | 4.91 |
| 77 | 8-48 | 1 | 6 | 11.33 |
| 78 | 9-12 | 2 | 85 | 24.53 |
| 79 | 9-15 | 1 | 41 | 10.10 |
| 80 | 9-20 | 1 | 264 | 8.14 |
| 81 | 9-22 | 2 | 23 | 14.87 |
| 82 | 9-23 | 1 | 17 | 4.47 |
| 83 | 9-24 | 1 | 46 | 18.98 |
| 84 | 9-36 | 1 | 22 | 5.14 |
| 85 | 9-38 | 1 | 84 | 15.08 |
| 86 | 9-41 | 2 | 86 | 26.70 |
| 87 | 9-45 | 1 | 11 | 6.73 |
| 88 | 10-12 | 2 | 23 | 35.57 |

| Idset | ListVar | nPatGDH | nMatch | LOS |
|-------|---------|---------|--------|-------|
| 89 | 10-32 | 2 | 41 | 6.63 |
| 90 | 10-33 | 1 | 6 | 5.83 |
| 91 | 10-35 | 2 | 5 | 3.00 |
| 92 | 10-38 | 3 | 21 | 14.48 |
| 93 | 10-41 | 1 | 48 | 21.25 |
| 94 | 10-42 | 3 | 6 | 36.00 |
| 95 | 10-43 | 1 | 8 | 9.50 |
| 96 | 10-44 | 2 | 30 | 12.73 |
| 97 | 10-45 | 4 | 4 | 9.25 |
| 98 | 11-23 | 1 | 0 | 5.27 |
| 99 | 11-42 | 1 | 0 | 6.98 |
| 100 | 12-13 | 3 | 121 | 18.47 |
| 101 | 12-14 | 1 | 24 | 15.88 |
| 102 | 12-18 | 2 | 25 | 31.84 |
| 103 | 12-20 | 2 | 160 | 21.66 |
| 104 | 12-22 | 1 | 38 | 31.66 |
| 105 | 12-23 | 1 | 10 | 21.50 |
| 106 | 12-24 | 2 | 71 | 20.01 |
| 107 | 12-29 | 1 | 58 | 20.24 |
| 108 | 12-32 | 1 | 48 | 18.15 |
| 109 | 12-36 | 1 | 18 | 22.17 |
| 110 | 12-38 | 6 | 128 | 22.13 |
| 111 | 12-39 | 1 | 1 | 1.00 |
| 112 | 12-41 | 4 | 115 | 32.43 |
| 113 | 12-43 | 2 | 27 | 66.04 |
| 114 | 12-44 | 1 | 91 | 20.77 |
| 115 | 12-45 | 5 | 57 | 19.65 |
| 116 | 12-48 | 8 | 47 | 21.28 |
| 117 | 13-42 | 1 | 14 | 17.29 |
| 118 | 15-26 | 1 | 0 | 3.37 |
| 119 | 18-22 | 1 | 5 | 6.80 |
| 120 | 18-33 | 2 | 0 | 8.33 |
| 121 | 18-38 | 3 | 3 | 10.67 |
| 122 | 18-40 | 1 | 0 | 10.60 |
| 123 | 18-41 | 2 | 19 | 24.16 |
| 124 | 18-45 | 1 | 3 | 18.67 |
| 125 | 18-46 | 2 | 2 | 8.50 |
| 126 | 18-48 | 6 | 5 | 11.00 |
| 127 | 20-22 | 3 | 115 | 8.10 |
| 128 | 20-26 | 1 | 22 | 5.23 |
| 129 | 20-41 | 1 | 290 | 26.24 |
| 130 | 20-42 | 2 | 66 | 14.85 |
| 131 | 20-43 | 1 | 58 | 8.52 |
| 132 | 21-24 | 1 | 91 | 8.42 |
| 133 | 21-41 | 1 | 75 | 13.45 |
| 134 | 22-29 | 1 | 35 | 7.83 |
| 135 | 22-38 | 1 | 18 | 17.78 |
| 136 | 23-24 | 1 | 5 | 48.40 |

| Idset | ListVar | nPatGDH | nMatch | LOS |
|-------|---------|---------|--------|-------|
| 137 | 23-38 | 1 | 13 | 20.77 |
| 138 | 23-39 | 1 | 0 | 5.27 |
| 139 | 23-43 | 2 | 7 | 7.43 |
| 140 | 24-45 | 1 | 4 | 43.25 |
| 141 | 25-29 | 1 | 11 | 5.64 |
| 142 | 25-32 | 1 | 3 | 18.67 |
| 143 | 25-36 | 1 | 1 | 6.00 |
| 144 | 25-40 | 1 | 10 | 11.50 |
| 145 | 26-40 | 1 | 4 | 14.00 |
| 146 | 29-43 | 1 | 50 | 9.00 |
| 147 | 30-41 | 1 | 17 | 26.47 |
| 148 | 30-42 | 1 | 9 | 25.11 |
| 149 | 30-45 | 1 | 2 | 2.00 |
| 150 | 31-45 | 1 | 0 | 2.18 |
| 151 | 32-38 | 2 | 21 | 10.10 |
| 152 | 32-42 | 1 | 13 | 9.46 |
| 153 | 32-44 | 9 | 166 | 3.72 |
| 154 | 32-45 | 3 | 17 | 7.00 |
| 155 | 32-48 | 1 | 3 | 10.67 |
| 156 | 34-40 | 1 | 1 | 58.00 |
| 157 | 35-44 | 1 | 7 | 2.14 |
| 158 | 36-45 | 1 | 4 | 6.75 |
| 159 | 38-40 | 1 | 3 | 15.00 |
| 160 | 38-44 | 5 | 38 | 13.34 |
| 161 | 38-45 | 1 | 7 | 13.86 |
| 162 | 38-48 | 1 | 9 | 13.11 |
| 163 | 40-42 | 1 | 0 | 10.60 |
| 164 | 40-44 | 2 | 3 | 13.00 |
| 165 | 41-46 | 1 | 0 | 6.49 |
| 166 | 41-48 | 2 | 18 | 19.94 |
| 167 | 42-43 | 1 | 6 | 13.17 |
| 168 | 42-44 | 1 | 33 | 9.39 |
| 169 | 42-48 | 1 | 35 | 14.66 |
| 170 | 43-45 | 1 | 7 | 5.71 |
| 171 | 1-26-42 | 1 | 0 | 8.01 |
| 172 | 2-10-35 | 1 | 0 | 5.47 |
| 173 | 2-38-45 | 1 | 0 | 5.47 |
| 174 | 3-23-24 | 1 | 1 | 15.00 |
| 175 | 6-10-25 | 1 | 0 | 10.78 |
| 176 | 6-43-44 | 1 | 2 | 16.50 |
| 177 | 7-25-45 | 1 | 0 | 12.18 |
| 178 | 8-12-41 | 1 | 14 | 43.57 |
| 179 | 8-12-42 | 1 | 4 | 29.75 |
| 180 | 9-10-23 | 1 | 0 | 5.76 |
| 181 | 9-10-38 | 1 | 4 | 27.25 |
| 182 | 9-12-43 | 1 | 4 | 60.50 |
| 183 | 9-20-32 | 1 | 29 | 7.14 |
| 184 | 9-22-38 | 1 | 7 | 9.57 |

| Idset | ListVar | nPatGDH | nMatch | LOS |
|-------|-------------|---------|--------|-------|
| 185 | 9-24-26 | 1 | 2 | 6.50 |
| 186 | 10-11-43 | 1 | 1 | 8.00 |
| 187 | 10-12-41 | 1 | 11 | 39.27 |
| 188 | 10-20-41 | 1 | 20 | 19.10 |
| 189 | 10-23-38 | 2 | 5 | 18.20 |
| 190 | 10-23-43 | 1 | 4 | 4.00 |
| 191 | 10-38-44 | 1 | 1 | 24.00 |
| 192 | 11-33-39 | 1 | 0 | 8.33 |
| 193 | 12-13-22 | 1 | 8 | 15.50 |
| 194 | 12-13-45 | 1 | 10 | 19.10 |
| 195 | 12-18-22 | 1 | 3 | 30.33 |
| 196 | 12-18-48 | 1 | 1 | 84.00 |
| 197 | 12-20-22 | 1 | 14 | 27.29 |
| 198 | 12-22-45 | 1 | 4 | 23.00 |
| 199 | 12-23-38 | 1 | 2 | 17.00 |
| 200 | 12-24-48 | 1 | 3 | 7.00 |
| 201 | 12-29-45 | 1 | 2 | 17.00 |
| 202 | 12-32-38 | 1 | 4 | 22.25 |
| 203 | 12-32-45 | 1 | 6 | 7.67 |
| 204 | 12-32-48 | 1 | 1 | 8.00 |
| 205 | 12-37-41 | 1 | 4 | 28.25 |
| 206 | 12-37-44 | 1 | 3 | 9.00 |
| 207 | 12-38-45 | 1 | 4 | 12.75 |
| 208 | 12-41-42 | 1 | 24 | 24.63 |
| 209 | 12-42-45 | 1 | 5 | 16.60 |
| 210 | 13-14-45 | 1 | 0 | 8.46 |
| 211 | 18-30-45 | 1 | 0 | 7.21 |
| 212 | 19-20-32 | 1 | 1 | 14.00 |
| 213 | 22-35-43 | 1 | 0 | 5.31 |
| 214 | 23-24-41 | 1 | 0 | 9.04 |
| 215 | 23-29-38 | 1 | 2 | 11.00 |
| 216 | 23-38-48 | 1 | 0 | 7.53 |
| 217 | 24-42-48 | 1 | 1 | 13.00 |
| 218 | 27-38-40 | 1 | 0 | 10.60 |
| 219 | 29-42-44 | 1 | 2 | 7.00 |
| 220 | 32-36-38 | 1 | 1 | 11.00 |
| 221 | 32-41-43 | 1 | 1 | 25.00 |
| 222 | 38-44-45 | 1 | 4 | 6.25 |
| 223 | 1-5-7-12 | 1 | 0 | 19.97 |
| 224 | 8-9-20-25 | 1 | 3 | 12.33 |
| 225 | 8-9-23-38 | 1 | 1 | 30.00 |
| 226 | 8-23-38-41 | 1 | 0 | 6.49 |
| 227 | 9-10-18-24 | 1 | 0 | 9.04 |
| 228 | 9-12-13-40 | 1 | 1 | 6.00 |
| 229 | 9-20-21-38 | 1 | 30 | 4.33 |
| 230 | 9-23-25-43 | 1 | 0 | 10.78 |
| 231 | 10-22-23-35 | 1 | 0 | 5.27 |
| 232 | 10-22-41-48 | 1 | 1 | 9.00 |

| Idset | ListVar | nPatGDH | nMatch | LOS |
|-------|-------------------------|---------|--------|-------|
| 233 | 10-23-32-38 | 1 | 0 | 5.27 |
| 234 | 10-25-32-40 | 1 | 0 | 10.78 |
| 235 | 11-12-33-44 | 1 | 0 | 19.97 |
| 236 | 12-15-29-32 | 1 | 0 | 19.97 |
| 237 | 14-15-29-43 | 1 | 0 | 7.05 |
| 238 | 8-9-23-41-43 | 1 | 0 | 6.49 |
| 239 | 8-12-24-37-44 | 1 | 0 | 19.97 |
| 240 | 9-12-36-38-40 | 1 | 0 | 19.97 |
| 241 | 10-23-24-34-38 | 1 | 0 | 9.04 |
| 242 | 12-18-41-45-46 | 1 | 0 | 19.97 |
| 243 | 25-40-41-43-44 | 1 | 0 | 10.78 |
| 244 | 10-22-32-38-41-45 | 1 | 0 | 6.49 |
| 245 | 5-7-9-12-16-17-21-38-41 | 1 | 0 | 19.97 |
| Total | | 271 | 3916 | |

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