KCE REPORT 196 S3

Federaal Kenniscentrum voor de Gezondheidszorg
Centre Fédéral d'Expertise des Soins de Santé
Belgian Health Care Knowledge Centre

PERFORMANCE OF THE BELGIAN HEALTH SYSTEM. REPORT 2012

SUPPLEMENT S3 DETAILS ON LITERATURE SEARCHES AND SELECTION OF INDICATORS

Belgian Health Care Knowledge Centre

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HEALTH SERVICES RESEARCH

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Acknowledgements: Greet Haelterman (FOD Volksgezondheid - SPF Santé publique), Willem Alvoet (FOD Volksgezondheid - SPF Santé publique), Marie-Noëlle Verhaegen (FOD Volksgezondheid - SPF Santé publique), Hans Verrept (FOD Volksgezondheid - SPF Santé publique), Isabelle Coune (SPF Santé publique - FOD Volksgezondheid), Luc Nicolas (SPF Santé publique – FOD Volksgezondheid), Dirk Moens (FOD Sociale Zekerheid – SPF Sécurité Sociale), Elke Van Hoof (Kankercentrum – Centre Cancer), Elisabeth Van Eycken (Stichting Kankerregister – Fondation Registre du Cancer), Xavier Ledent (INAMI – RIZIV), Pierre Bonte (INAMI – RIZIV), Olaf Moens (VIGeZ), Sadja Steenhuizen (VIGeZ), Stefaan Demarest (WIV – ISP), Béatrice Jans (ISP – WIV), Natacha Viseur (ISP – WIV), Viviane Van Casteren (WIV – ISP), Nathalie Bossuyt (WIV – ISP), Xavier de Béthune (MC), Johan Hellings (ICURO)

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Stakeholders:	The following administrations and public institutions have been consulted throughout the duration of the project : at the federal level (Federal Public Service Public Health, Federal Public Service Social Affairs, NIHDI, Scientific Institute of Public Health), and at the regional level: Community and Dutch Region (Vlaams Agentschap Zorg en Gezondheid), de Federatie Wallonië-Brussel (Direction générale de la Santé), de Duitstalige Gemeenschap (DGOV Ministerium der Deutschsprachigen Gemeinschaft), het Waalse Gewest (Direction générale opérationelle des Pouvoirs locaux, de l'Action sociale et de la Santé et observatoire wallon de la santé), het Brussels Hoofdstedelijk Gewest (Observatorium voor de Gezondheid)
Conflict of interest:	Any other direct or indirect relationship with a producer, distributor or healthcare institution that could be interpreted as a conflict of interests: Gert Peeters (UZ Leuven - UPC) (Administratief manager van het UPC – UZ Leuven), Joël Boydens (MC ; Groep Emmaüs vzw – lid bestuurscomité)
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Disclaimer:	• **The external experts were consulted about a (preliminary) version of the scientific report. Their comments were discussed during meetings. They did not co-author the scientific report and did not necessarily agree with its content.** • **Subsequently, a (final) version was submitted to the validators. The validation of the report results from a consensus or a voting process between the validators. The validators did not co-author the scientific report and did not necessarily all three agree with its content.** • **Finally, this report has been approved by common assent by the Executive Board.** • **Only the KCE is responsible for errors or omissions that could persist. The policy recommendations are also under the full responsibility of the KCE.**
Publication date:	25 January 2013
Domain:	Health Services Research (HSR)
MeSH:	Delivery of Health Care, Health Promotion; Health Services Accessibility, Quality of Health Care, Efficiency, Organizational, Healthcare Disparities, Social Justice; Benchmarking, Belgium
NLM Classification:	W84
Language:	English
Format:	Adobe® PDF™ (A4)
Legal depot:	D/2012/10.273/117

How to refer to this document?

Vrijens F, Renard F, Jonckheer P, Van den Heede K, Desomer A, Van de Voorde C, Walckiers D, Dubois C, Camberlin C, Vlayen J, Van Oyen H, Léonard C, Meeus P. Performance of the Belgian Health System. Report 2012. Health Services Research (HSR). Bruxelles: Centre Fédéral d’Expertise des Soins de Santé (KCE). 2012. KCE Report 196C. D/2012/10.273/117.

This document is available on the website of the Belgian Health Care Knowledge Centre.

■ SUPPLEMENT S3

TABLE OF CONTENTS

LIST OF TABLES

PART 1: INDICATORS IN MENTAL HEALTHCARE

INTRODUCTION

Since the 1990's mental health has become a policy priority in most Western industrialized countries[1]. The WHO, after all, estimates that mental health problems account for approximately 20% of the total disease burden in the European region and that one in four people at some time in life are affected[a]. Significant reforms in the delivery of mental health services, characterized by a strong de-institutionalization movement, have taken place in many Western countries during the last decennia of the 20th century. This movement emphasized the need to reintegrate mentally disordered persons in the society by shifting from large psychiatric hospitals towards alternative services in the community.[2] Since the beginning of the 21st century, the "balanced care" model is gradually gaining influence on mental health care organization. This model implies that community services should be offered whenever possible, but hospital services should be available if ambulatory care cannot provide a good answer to the patient's needs. To facilitate smooth transition from one service to another many countries currently experiment on how to develop integrated care, care coordination and continuity of care.[2]

The substantial burden of mental illness and the recent reforms in the organization of mental health services highlight the importance of the evaluation of performance within this domain. Nevertheless, with the exception of "alcohol consumption" no indicators relevant to the mental health domain were included in the first set of indicators that was compiled to measure the performance of the Belgian healthcare system.[3]

The present study aims to fill this gap. In first instance, the objective is to draft a long-list of mental health performance indicators based on a review of the literature. Next, based on expert opinion this list of indicators will be reduced to a shortlist of indicators which will be tested, measured and interpreted. Finally, a selection of 'mental health indicators' will be integrated in the general set of indicators that aim to measure the performance of the Belgian healthcare system.

[a] http://www.euro.who.int/en/what-we-do/health-topics/noncommunicable-diseases/mental-health

1. METHODS

1.1. Long-list of mental health performance indicators: a review of the literature

1.1.1. Search Strategy:

The literature review, conducted between April 2011 and June 2011, is based on Ovid Medline, PsychINFO and EMBASE. Language was restricted to English, Dutch and French.

The search was, in a **first step**, limited to (see appendix 1 for search strings) review articles published since 2000. In a **second step**, an additional search was performed (starting from 2008) to search for primary studies published later than the time frame covered by the included literature reviews (see appendix 1 for search strings). A **third step** focused, on grey literature by a targeted search of websites from international organizations (WHO, OECD, Common Wealth Fund, European Commission) and a specific search in google for a selection of countries (Australia, Canada, New Zealand, Scotland, UK). This selection of countries was based on a pre-assessment of the literature. In a **fourth step,** the reference lists were screened for original sources.

1.1.2. In- and exclusion criteria:

The following inclusion criteria, based on a study of Spaeth-Ruble[4], were used:

- The initiative must have indicators related to mental health and (or) substance abuse;
- These indicators ideally should:
  - Be able to be precisely defined with a numerator and denominator that is populated by data (in case of reviews going back to the source article maybe necessary);
  - Measure performance (as defined by Vlayen et al.[3]: Accessibility, Efficiency, Sustainability, Quality: effectiveness, appropriateness, safety, patient-centeredness, continuity);
  - These indicators must have a national or regional level focus or otherwise be used to assess performance among organizations or providers.
- Publications with a presentation of just clinical outcome measures which were not used as part of performance measurement were excluded.

1.1.3. Data extraction:

The information that resulted from the included studies was tabulated. The operational indicator definitions (e.g. Number of deaths due to suicide in the general population) were extracted from the publications and grouped per indicator theme (e.g. suicide). Per theme the scope (e.g. generic, disease specific) and dimension of performance measurement (i.e. Accessibility, Efficiency, Sustainability, Quality: effectiveness, appropriateness, safety, patient-centeredness, continuity) was indicated.

1.2. Shortlist of mental health performance indicators: expert opinion

The long-list of indicators was submitted to a selection of 7 members within the research team (Appendix 2) with a general expertise in measuring health systems performance. Each expert was asked to submit the 25 most relevant indicator themes. Indicators that appeared at least three times in a top 25 were included in a first draft of shortlist.

The shortlist was submitted to a panel of experts with a recognized expertise in the field of Mental Health (cf. Appendix 3). The panel convened and was asked to:

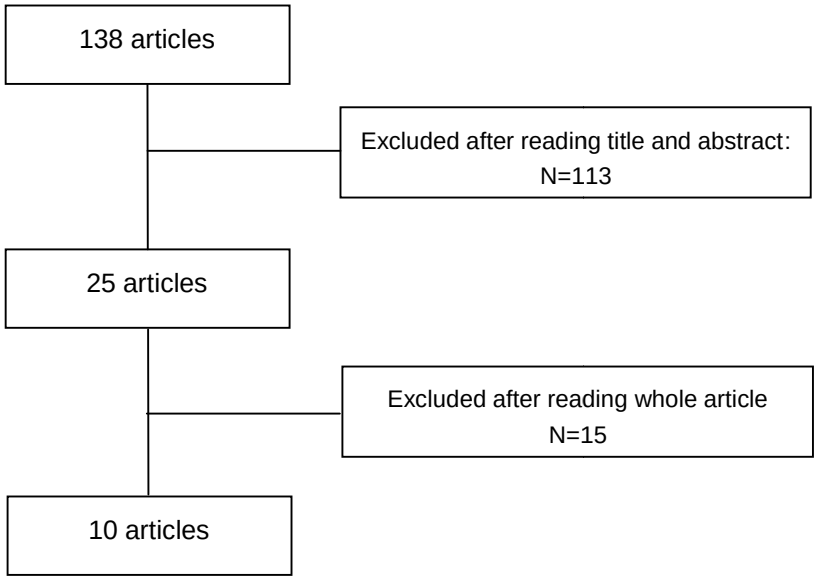
- Indicate publications (if any) that were missed during the literature search;
- Review the pre-selection of indicators made by the experts of the research team.

Based on suggestions of the experts indicator themes that were initially excluded from the long-list were again added to the shortlist. In addition, the experts suggested which operational definition was most relevant for the indicator theme (if more than 1 operational definition was available). In addition, experts were asked to indicate which indicator themes from the shortlist were redundant. This resulted in a revised shortlist of indicator themes with one operational definition per indicator theme.

This revised shortlist was submitted to all experts prior to a second meeting. Each expert was asked to score content validity, reliability, relevance/importance, interpretability, actionability on a 9-point Likert type scale from 1 (strongly disagree) to 9 (strongly agree). The results (median and mean scores) of this rating were presented on a second meeting. To facilitate the discussion indicators were grouped thematically. Within each thematic group, indicators were sorted according to the mean relevance scores (from high to low). In addition, a colour code was assigned to each cell (from dark green for scores ≥8 to dark red for scores <5.5).

2. RESULTS

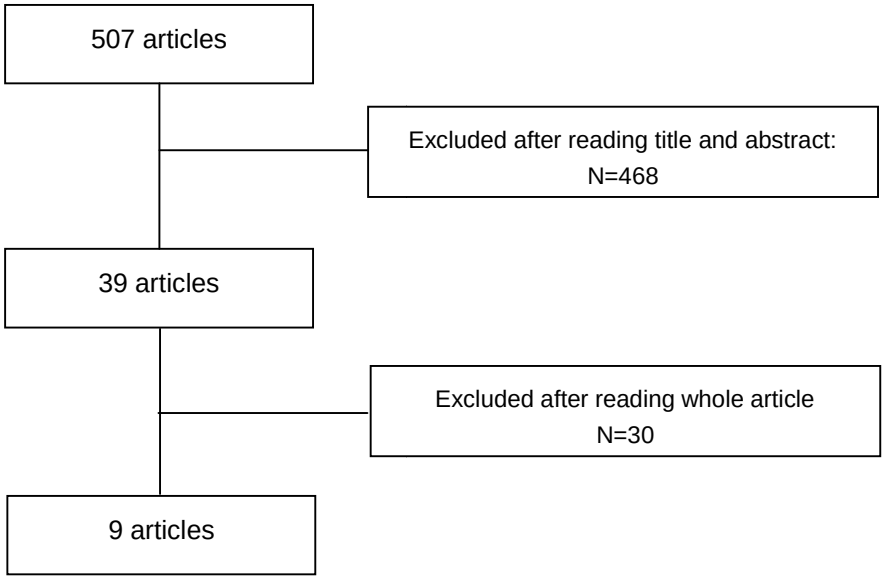
2.1. Search results



The first step of the search identified 10 articles published since 2000:

- 4 reviews[5-8]. The most recent review is from Baars et al,[5] published in 2010. This review includes 23 studies published up to October 2007.
- 1 overview article of initiatives (up to 2010) in 12 different countries.[4]
- 6 articles reviewing initiatives in specific countries (i.e. Germany[9]; Australia[10]; Scotland[11]; US[12] and Japan[13]).

The second step of the search (update since 2008) yielded 9 additional studies[14-22].



The third step of the search (grey literature) resulted in 13 references.[23-35]

The fourth step (screening references included studies) resulted in 27 additional publications.[36-61]

2.2. Indicators extracted from the literature

A total of 224 'indicator themes' with multiple operational definitions were extracted from the literature. All dimensions of performance were covered (Table 1)

.

Table 1 Performance dimensions covered in long-list

Dimension	TOT
Appropriateness	65
Effectiveness	38
Continuity	30
Efficiency	24
Accessibility	21
Patient-centeredness	17
Sustainibility	16
Safety	13
Grand Total	224

Most indicators (n=158) covered generic themes. Indicators covering specific target groups can be listed as follows:

- Substance-abuse (n=16);
- Depression (n=13);
- Schizophrenia (n=10);
- Children and adolescents (n=7);
- Bipolar disorders (n=5);
- Post-traumatic stress (n=4)
- ADHD (n=3);
- Dementia (n=2);
- Psychotic disorders (n=2);
- Borderline (n=1);
- Electro Convulsion Therapy (n=1);
- Homeless people (n=1);
- Learning disabilities (n=1).

2.3. Pre-selection based on expert opinion

Seven experts with an expertise in performance indicators submitted each their top 25 of most relevant indicators. One indicator appeared in the top 25 of 6 respondents; 4 indicators were scored by 4 respondents; 6 indicators by 5 respondents; 9 indicators by 3 respondents; 26 indicators by 2 respondents; 44 indicators by 1 respondent and 134 appeared in non of the submitted top 25's.

Based on the threshold of 'at least 3 respondents placed the indicator in their top-25' the list of 224 indicators was divided in a first draft of "shortlist" including 20 indicators (Table 3) and a list of 204 indicators that were excluded(Table 4).

The shortlist covered 17 generic indicators, 1 indicator specific for children, 1 for depression and 1 for substance-abuse.

Except, for patient-centeredness, all dimensions of performance measurement contained at least 1 indicator (Table 2).

Table 2 Performance dimensions covered in list after pre-selection

Type	TOT
Effectiveness	8
Accessibility	4
Sustainability	4
Appropriateness	1
Continuity	1
Efficiency	1
Safety	1
Patient-centeredness	0
Grand Total	20

Table 3 Pre-selected indicators (1st draft shortlist)

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
128	Effectiveness	Generic	Hospital readmissions for psychiatric patients	% of discharges from psychiatric in-patient care during a 12-month reporting period readmitted to psychiatric in-patient care that occurred within 7 and 30 days Emergency psychiatric readmission rates	6
2	Accessibility	Children	Access to Child and Adolescent Mental Health Care	≥1 visit with adult caregiver of child ≤ 13 treated for a psychiatric or substance-related disorder in 3-month period Family member/child and adolescent perception of access CAMHS Acceptance Rate - (No. Registration / Total No. Referrals)	5
14	Accessibility	Generic	Percentage of people receiving Mental Health treatment	Treated prevalence of serious mental illness (proportion of individuals receiving at least one insured health service compared to the estimated number of persons with SMI in the region - see Section 9 on estimating the target population3). Percentage of people with a mental illness who receive mental health care Proportion of persons with serious mental illness in receipt of any insured care per annum Population receiving care Proportion of consumers with serious mental illness in contact with a mental health specialist	5
19	Accessibility	Generic	Wait-times for Needed Services	Average time (in days) from expression of desire for service by the client, or referral from another provider, to first face-to-face contact by mental health provider. Average wait-time (in days) from referral to admission to inpatient facility (acute and tertiary care). Proportion of urgent referrals that are assessed within 48-hours. Average time to assessment and time to intervention Percentage of clients awaiting less intensive care beds Average wait time for first consultation Waiting time from referral to being seen by psychotic early intervention program team Number and proportions of clients on discharge wait lists awaiting housing CAMHS Assessment Timeliness - (Mean time in weeks between Referral and Initial Appointment date)	5
50	Appropriateness	Generic	Average daily quantity (ADQ) of medication (antidepressants	Expressed usually as number of DDDs/1000 inhabitants and per day	5

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
			/antipsychotics/ hypnotics and anxiolytics) prescribed		
147	Effectiveness	Generic	Suicide (in general population)	Number of deaths due to suicide in the civilian noninstitutionalized population Rank among causes of death —suicide Suicide rate per 1000 for persons with Severe Mental Illness (or specific diagnostic groups). Potential years of life lost: due to suicide Number of suicide attempts	5
210	Sustainibility	Generic	Acute Psychiatric beds per 100,000 population	Number of in-scope acute inpatient psychiatric beds available during the reference period over the total catchment population for in-scope acute inpatient mental health services during the reference period	5
7	Accessibility	Generic	Access to Psychiatrists	Dollars spent per 10,000 population on psychiatry services including fee-for-service, sessional services, outreach services by local health region. Services per 10,000 population by region.	4
132	Effectiveness	Generic	Mortality for Persons with (Severe) Psychiatric Disorders	Standardized mortality rate for % of persons in total population with specified severe psychiatric disorders Relative risk of death for persons with severe and enduring mental illness compared to the general population The total number of mental health service recipients between the ages of 35 and 50 who died during the last 12 months by specific cause (excluding suicide and accidents), compared with the same measure for non-mental health service recipients	4
135	Effectiveness	Generic	Prevalence good mental health	Number of cases exceeding the cutpoint for good mental health/100 000 inhabitants Number of persons exceeding cutpoint (upper quadrant of the population) for being an “optimist” within a country/100 000 inhabitants in year Number of persons exceeding cutpoint for satisfactory level of sense of mastery within a country (satisfactory level of mastery)/100 000 inhabitants in year Health Status (SF36)	4
150	Effectiveness	Substance-abuse	Mortality for Persons with Substance Abuse Disorders	Number of drug related deaths/100 000 inhabitants in a year	4
105	Continuity	Generic	Racial/ethnic disparities in mental health follow-up rates	% of persons with a mental health related visit receiving at least one visit in 12 months after initial visit stratified by race/ethnicity	3
124	Effectiveness	Generic	Directly age-standardized self harm hospital admission rate per	-	3

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
			100,000 population		
134	Effectiveness	Generic	Prevalence (major) depressions	Youths (ages 12-17); Adults (age 18 and ove) with a major depressive episode during the past year Adults with at least one major depressive episode in their lifetime Percent of Nursing Home Residents Who Have Depressive Symptoms Directly age-standardized hospital admission rates for depression per 100,000 population aged 15-74 years	3
146	Effectiveness	Generic	Social isolation	Number of cases with poor, moderate and strong social support/100 000 inhabitants in a year Proportion of enrollees reporting little or no limitation in social functioning	3
164	Efficiency	Generic	Average/Median/Outlying Length of Stay in Acute-Care/Rehabilitation care	Average length of stay for separations with a primary mental health diagnosis by region The middle score within the distribution of length of stay during the reference period. Number of long stay (>365 days)patients	3
197	Safety	Depression	Use of Anti-Cholinergic Anti-Depressant Drugs Among Elderly Patients	% of persons age 65+ years prescribed antidepressants using an anticholinergic anti-depressant drug	3
213	Sustainibility	Generic	Cost mental healthcare	National expenditures for treatment of mental health and substance abuse disorders (including all health services: physician services, drug benefit plan costs, community mental health services and supports, and inpatient care) Total spend for mental health per 1,000 population	3
220	Sustainibility	Generic	Number of visits to psychiatric outpatient care in a year/100 000 inhabitants in a year		3
224	Sustainibility	Generic	Total mental health staff numbers per 1,000 population	Total mental health staff numbers per 1,000 population by (child) psychiatrists, Allied Health Professionals, nurses, psychologists, social workers, Mental health officers Number of community ambulatory mental health services direct care FTE within the reference period over the total catchment population for in-scope community ambulatory mental health services during the reference period. The number of mental health officers (WTEs) per 1,000 population Whole-time-equivalent care staff in NHS day care facilities, rate per 100,000 population aged 18-64 years	3

Table 4 Indicators excluded in the pre-selection process

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
9	Accessibility	Generic	Early Intervention	Duration of untreated symptoms (self and/or family defined). Mean age at first treatment contact for persons with psychotic disorders. Percentage of patients engaged in early psychosis intervention program services Percentage patients for a psychotic early intervention program seen within 2 weeks of referral	2
11	Accessibility	Generic	Financial accessibility Mental Health Serices	The percentage of consumers for whom cost is an obstacle to service utilization	2
23	Appropriateness	ADHD	Appropriate number of visits after initiating ADHD treatment	Percentage of ADHD patients aged 6–18 years who were followed up clinically within 30 days of a first prescription of ADHD-specific medication Percentage of patients with ADHD-specific medication with at least two follow-up visits within 1 year	2
35	Appropriateness	Depression	Assessment suicidal ideation for patients with major depression	% of patients with a major depression who are assessed for suicidal ideation at initial evaluation	2
38	Appropriateness	Depression	Depression diagnosis accuracy	Percentage of patients with newly diagnosed depression or a new phase of depression whose diagnosis was established according to ICD-10 criteria	2
48	Appropriateness	Generic	Antipsichotic use in the absence of psychotic or related disorders	Daily antipsychotic dosage ≥200 CPZ equivalents for nursing home resident with dementia without psychotic symptoms in 3-month period	2
59	Appropriateness	Generic	Physical restraint use	Number of involuntary physical restraint events per patient day in 3-month period Percentage of clients admitted for inpatient psychiatric care who were restrained at least once per facility per year. Number of nursing home residents with dementia restrained physically in 3-month period	2
80	Appropriateness	Substance-abuse	% patients with alcohol dependency receiving appropriate medication (e.g. naltrexone)	% of patients with alcohol dependence with at least one prescription: (a) offered for naltrexone, Antabuse (disulfiram) or acamprosate OR (b) filled OR (c) refused medication OR (d) documentation that prescription is contraindicated within 90 days of start of new treatment episode	2

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
82	Appropriateness	Substance-abuse	Alcohol Use - Screening		2
93	Continuity	Generic	Continuity of visits after mental health-related hospitalisation (Post-discharge community care)	% of persons hospitalized for psychiatric or substance-related disorder with at least one visit per month for 6 months after hospitalization Proportion of persons with SMI lost to follow-up by community mental health services at six months and one year.	2
99	Continuity	Generic	Mental health related Emergency Room Visits	Number of emergency service contacts for persons with SMI per annum ER presentations with a mental health and/or substance misuse diagnosis/total ER presentations Percentage of visits to the ER for mental health and/or substance- related problems by time of day	2
113	Continuity	Generic	Timely ambulatory follow-up after mental health hospitalisation	% of persons hospitalized for primary mental health diagnoses with an ambulatory mental health encounter with a mental health practitioner within 7 and 30 days of discharge Average number of days between hospital discharge and service contact for primary mental health separations.	2
119	Effectiveness	Depression	Depression remission rates	Depression remission at 6/12 months	2
130	Effectiveness	Generic	Increase in mental health literacy	Dissemination of information to public about symptoms of mental illness and available resources.	2
136	Effectiveness	Generic	Prevalence of Mental illness	General prevalence of Mental illness in the community Prevalence of Mental illness specific target groups (e.g. newly sentenced to adult and juvenile correctional facilities; homeless)	2
137	Effectiveness	Generic	Prevalence psychological distress	Adults aged 18 and over with serious psychological distress in the past 30 days The percentage of consumers who experience a decreased level of psychological distress Directly age-standardized hospital admission rates for anxiety disorders per 100,000 population aged 15-74 years	2
140	Effectiveness	Generic	Proportion of adults with a severe anxiety, mood or addiction disorder who receive care for this		2

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
144	Effectiveness	Generic	Relapse or recurrence during follow-up	Relapse or recurrence during an 18-month follow-up period was defined as the initiation of a newantidepressant prescription, or by evidence of a suicide attempt, hospitalisation, mental health-related emergency roomvisit, or receipt of electroconvulsive therapy	2
151	Effectiveness	Substance-abuse	Prevalence alcohol/substance abuse	Number of people aged 12 and over with alcohol and/or illicit drug dependence or abuse in the past year Rates of use of illicit drugs that contribute to mental illness in young peoplePrevalence alcohol dependency Standardized % of alcohol consumption above 'sensible' daily limits	2
156	Efficiency	Generic	% community spend/Total spend	Expenditure on community mental health and addiction services as a proportion of total expenditure on mental health and addiction services	2
158	Efficiency	Generic	Appropriate Spending	Proportion of total expenditures on service recipients with SMI relative to total expenditures on all persons who have received any insured health service for a mental health problem. Proportion of funds spent on preventing crises to funds spent on reacting to crises. Proportion of investment in informal and consumer-run supports to the investment in formal supports. Proportion of mental health sector expenditures on best practice programs to total sector expenditures.	2
185	Patient-centeredness	Generic	Consumer perception of outcomes/ consumer perception of improvement		2
190	Patient-centeredness	Generic	Involvement of Consumers in Service Delivery and Planning	Proportion of communities within region with established regional consumer advisory groups Total amount of resources allocated to support consumer advisory structures and their activities as a percentage of total mental health budget. Proportion of regional health authorities within province/territory that have a designated person at the management level to facilitate partnerships and involvement of consumers and families Number of consumer/family self-directed initiatives	2

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
				Family involvement in treatmen t for Children /Adolesc ents	
203	Safety	Generic	Medication Errors/Side Effects	Number of medication errors/adverse effects reported by clients with SMI to case managers. Number of medical services and/or hospital services required as a direct result of psychotropic medication problems. Appropriate monitoring of metabolic/cardiovascular side effects for individuals receiving antipsychotic medication	2
212	Sustainability	Generic	Community residential beds per 100,000 population	Number of in-scope community residential psychiatric beds available during the reference period over the total catchment population for in-scope community residential mental health services during the reference period.	2
218	Sustainability	Generic	Mental Health Staff Turnover		2
6	Accessibility	Generic	Access to Primary Care	Proportion of persons with Severe Mental Illness (SMI) registered with a primary care physician. Number of primary care outreach services provided to persons with SMI. Number of emergency room presentations for medical problems which could be managed in primary care setting. % of service users registered with a general practitioner who have severe long-term mental health problems Proportion of clients whose first contact with the system is through emergency departments.	1
16	Accessibility	Generic	Readily accessible services for mental health, Alcohol & Other Drug Dependence treatment	Denials for mental health or substance-related services per number of requests in 12-month period The percentage of consumers reporting that services are readily available	1
22	Appropriateness	ADHD	ADHD diagnosis accuracy	Percentage of patients newly diagnosed with ADHD whose medical record contains documentation of DSM-IV or ICD-10	1

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
				criteria having been addressed	
30	Appropriateness	Children	Familiy treatment for children in mental health care		1
32	Appropriateness	Dementia	Rate of dementia patients aged 65 years or older who themselves and their aregivers were counseled about diagnosis, prognosis, and community support		1
37	Appropriateness	Depression	Continuous Anti-Depressant Medication Treatment in Continuation Phase	% of persons age ≥18 years who are diagnosed with a new episode of depression and treated with antidepressant medication, with a 180-day treatment of antidepressant medication	1
41	Appropriateness	Depression	Psychosis assessment of hospitalized elderly patients with depression	% of elderly patients 65 years of age and older admitted to a hospital with a diagnosis of depression who receive an assessment of psychosis.	1
52	Appropriateness	Generic	Existence of Best Practices Core Programs & Programs for the Severly Mentally Ill	CORE: Existence of, or access to (if unavailable in smaller communities), the following continuum of core programs: Case management/assertive community treatment; Crisis esponse/emergency services; Housing; Inpatient/outpatient care; Supported consumer initiatives; Family self-help programs; Vocational/educational programs; Early intervention; Primary care	1
53	Appropriateness	Generic	Fidelity of Best Practices to Established Model	Evidence of a process for establishing, adopting, and maintaining best practice core programs and system strategies Program audit against established criteria Use of treatment guidelines/ use of evidence based guidelines	1
61	Appropriateness	Generic	Screening of psychiatric patients for substance use disorders	% of patients that are assessed for drug and alcohol use at initial evaluation for psychiatric disorder	1
74	Appropriateness	Schizophrenia	Clinician contact with family member of consenting individuals with schizophrenia at initial evaluation	% of schizophrenia patients for which there is clinician contact with a close family member (living with them or seeing them at least twice a week) at initial evaluation	1

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
76	Appropriateness	Schizophrenia	Proportion of schizophrenia patients with long-term utilization of antipsychotic medications	Numerator: Those individuals who received an antipsychotic medication for the following periods of time: a) Patients with 12 months supply of an antipsychotic medication during the study period; b) Patients with at least one filled prescription of an antipsychotic during the study period; c) Patients with no filled prescription for an antipsychotic during the study period Denominator: All patients with a schizophrenia diagnosis	1
78	Appropriateness	Schizophrenia	Proportion of selected schizophrenia patients with antipsychotic polypharmacy utilization	Numerator: Those patients in the denominator with simultaneous prescriptions for at least two oral antipsychotic agents for 90 or more days during the study period Denominator: All patients diagnosed with Schizophrenia prescribed at least one antipsychotic agent during the study period	1
85	Appropriateness	Substance-abuse	Specialized treatment for people with a substance abuse disorder	% of patients in need for specialized treatment of a substance abuse disorder receiving specilized care Numerator: For those in the denominator, a) Patients with any follow up in the 90 days following the start of the new treatment episode b) For those patients with follow up within 90 days, number of days until first outpatient follow-up visit Denominator: Patients with an Substance Abuse Disorder (SUD) diagnosis in a new treatment episode Numerator: Those members in the denominator who within 30 days of the start of a new treatment episode have engaged with SUD treatment Denominator: All patients with an SUD diagnosis in a new treatment episode	1
89	Continuity	Generic	Case Management for Severe Psychiatric Disorders	% of persons with a specified severe psychiatric disorder in contact with the health care system who receive case management (all types)	1
91	Continuity	Generic	Contact with primary care clinician for consenting inpatients with primary psychiatric disorder	% of psychiatric inpatients for which there is contact with the primary care clinician (only consenting patients included)	1
95	Continuity	Generic	Count and proportion of programs that have a process in place to follow clients through the continuum of services		1

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
98	Continuity	Generic	Integrated Care Pathways or care program approach	Number of accredited Integrated Care Pathway (ICP) standards implemented with 100% collection of prescribed datapoints Care Programme Approach (CPA) 7 day follow-up Poportion of patients with abn individualised care plan	1
101	Continuity	Generic	Physician Reimbursement Mechanism for Case Management/coordination activities	Existence of a fee-item within the fee-for-service schedule that reimburses physicians for case consultation/case management activities. Proportion of physicians reimbursed through non-feefor-service mechanisms.	1
104	Continuity	Generic	Proportion of patients using Mental Health Intensive Case Management	Numerator: Patients in the denominator using Mental Health Intensive Case Management Denominator: Patients in all cohorts Numerator: a) Number of patients subsequently enrolled in MHICM; b) Number of days following date of eligibility (per numerator [a]) until client is enrolled in MHICM Denominator: Number of patients in a study cohort who have at least three inpatient discharges or 30 cumulative inpatient days in the study period and were not enrolled in MHICM prior to meeting the inpatient utilization criteria	1
109	Continuity	Generic	The percentage of people discharged from emergency care who receive ambulatory services within 3 days	The total number of emergency psychiatric encounters during the past year that were followed by at least one outpatient (non-emergency) care visit within 3 days, divided by the total number of all emergency psychiatric encounters during the past year	1
110	Continuity	Generic	The percentage of people served in a year who had only one mental health contact		1
116	Continuity	Substance-abuse	Length of Treatment for Substance-Related Disorders	% of persons initiating treatment for a substance-related disorder with treatment lasting at least 90 days	1
117	Effectiveness	Children	School improvement (Children)		1
118	Effectiveness	Children	The percentage of children with serious emotional disturbances placed outside the home for at least one month during the year	The total number of children with serious emotional disturbances placed in any setting outside of the home for at least one month over the period of one year, divided by the total number of children with serious emotional disturbances served by the plan during the same year	1

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
120	Effectiveness	Generic	Clinical Status/ Clinical Outcomes	Percentage of service recipients with Severe Mental Illness experiencing reductions in the number and severity of symptoms between admission and follow-up. There are a wide range of clinical instruments available for the measurement of symptomatology. Mental Health Outcomes Profile (HoNOS) Mental health outcomes of people who receive treatment from state and territory services and the private hospital system	1
121	Effectiveness	Generic	Community-tenure for clients with serious mental illness (aggregated days not spent in hospital, psychiatric facility or jail per person per year)		1
125	Effectiveness	Generic	Employment Status	Percent of service recipients with Severe Mental Illness attaining independent competitive (paid) employment Participation rates by people with mental illness of working age in employment Participation rates by young people aged 16-30 with mental illness in education and employment % of respondents recently in the workforce reporting a target level of improvement in ability to perform paid work The average change in days of work lost % adults with Mental Health-problems in supported employment The proportion of individuals with any mental health diagnosis discharged from an inpatient or residential substance abuse disorder specialty setting that move from being unemployed to being employed either part-time or full-time one year after discharge The number of patients who return to work divided by the number who do not Proportion of persons with serious mental illness in supported employement/ vocational/ educational programs	1
143	Effectiveness	Generic	Quality of Life	Percent of service recipients with (severe) mental illness reporting improvements in quality of life as determined by a valid measure	1

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
145	Effectiveness	Generic	Sickness compensation and benefits due to mental disorders	Persons on incapacity benefit/severe disablement allowance with a mental health diagnosis per 1,000 population Sickness compensation periods due to mental disorders Days absent from work Mental and behavioural disorders incapacity benefit claimant rate per 100,000 population aged 16-59 years Total sick leave as number of total hours paid	1
149	Effectiveness	Substance-abuse	Alcohol-impaired driving fatalities	Alcohol-impaired driving fatalities	1
157	Efficiency	Generic	Acute bed occupancy	Total accrued mental health patient days for in-scope acute psychiatric units during the reference period over the number of available beds days during the reference period	1
162	Efficiency	Generic	Average number of persons seen per year per ambulatory direct care FTE	Number of persons receiving one or more service contacts from in-scope community ambulatory services during the reference period over the total number of community ambulatory direct care FTE during the reference period.	1
170	Efficiency	Generic	Number of professionals/ organizations involved in care		1
172	Efficiency	Generic	Proportion of all health care funds allocated to inpatient, outpatient and all mental health treatment		1
177	Efficiency	Generic	Total mental health drug costs per 1,000 population		1
183	Patient-centeredness	Generic	Carer/family involvement	% carer involvement/those who have a carer Projects to support parenting skills the number of patients whose families are involved in treatment divided by the number whose whose families are not	1
184	Patient-centeredness	Generic	Consumer outcomes participation	Proportion of ambulatory episodes of mental health care with completed consumer self-assessment outcome measures.	1

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
186	Patient-centeredness	Generic	Consumer/family satisfaction with services received	Percentage of consumers/families satisfied with services as measured by valid method Proportion of consumers with SMI who believe the service and supports provided are appropriate to their needs. The percentage of consumers for whom the location/appointment time of services is convenient The percentage of consumers who report that physicians, mental health therapists, or case managers can be reached easily The percentage of consumers who report that they received adequate information to make informed choices. The proportion of individuals receiving care in a SUD specialty care setting with any MHD diagnosis who report improved satisfaction with their care as measured by a standardized instrument after 6 months of treatment	1
189	Patient-centeredness	Generic	Formal complaints	Existence of a clear process for filing complaints Number of complaints received by complaints Commissioner, Mental Health Advocate, Ombudsperson (or equivalent offices), consumer advocacy associations, regional health authority, etc. concerning mental health services and supports. Average time between receipt of complaint and satisfactory resolution Percentage of consumer (and families) satisfied with resolution of complaints. Complaints closed within 30 days	1
192	Patient-centeredness	Generic	Percentage of total mental health budget allocated to support consumer-directed initiatives		1
198	Safety	Electro Convulsion Therapy	Complications Associated with Electro Convulsion Therapy	Percentage of patient undergoing ECT who experience a major medical complication.	1
202	Safety	Generic	Inpatient injury rate	Number of inpatient injuries per patient day in 3-month period Incidence of any physical injury requiring medical attention to psychiatric patients and staff by inpatient facility per year. Incidence of substantiated reports of sexual assaults on	1

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
				inpatients.	
205	Safety	Generic	Patient satisfaction with patient safety and risk management		1
1	Accessibility	Borderline	Access to psychotherapy for patients with borderline personality disorder	1 psychotherapy visit for individuals within 6 months of hospitalization or ER visit for borderline personality disorder	0
3	Accessibility	Generic	% of mental health teams with gateway workers		0
4	Accessibility	Generic	% of mental health teams with National Health Service (NHS) day hospitals		0
5	Accessibility	Generic	Access to crisis resolution home treatment		0
8	Accessibility	Generic	Availability of After-Hours Care and Transportation	Proportion of communities within a region with 24-hour mental health coverage. Proportion of communities within a region with extended hours (evenings, weekends) mental health coverage. Services that arrange transportation for clients and their families.	0
10	Accessibility	Generic	ERs have established relationships and protocols for the assessment, referral and follow-up of mental health clients		0
12	Accessibility	Generic	Geographic accessibility to mental health, Alcohol & Other Drug Dependence treatment	Percentage of persons resident in mental health and addiction service organisation's defined cathcment area who received care from a mental health and addiction service	0
13	Accessibility	Generic	New Client Index	Number of patients entering the Mental Health Care system for the first time	0
15	Accessibility	Generic	Proportion of single treatment day consumers per three month community care period	Number of consumers receiving one treatment day only per three month community care period during the reference period over the total 3-month community care periods during the reference period	0
17	Accessibility	Generic	systems to provide psychiatric services to prisons and to aid the transfer of MDOs from		0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
			prison to hospital		
18	Accessibility	Generic	The percentage of enrollees participating in selected or indicated preventive programs.	The total number of enrollees with identified risk factors who are enrolled during a one-year period in mutual help and other support programs; programs for people with job loss, bereavement, and subclinical depressive symptoms; and skill and other developmental programs for youth at risk of substance abuse or childhood behavior problems, divided by the total number of enrollees during the same one-year period.	0
20	Accessibility	Homeless	Service Reach to the Homeless	Number of homeless clients receiving assertive community treatment as a proportion of the estimated number of homeless people with SMI.	0
21	Accessibility	Substance-abuse	Initiation and engagement in alcohol and drug dependence treatment within 14 days, 30 days		0
24	Appropriateness	ADHD	Percentage of patients with ADHD whose medical records contain documentation that the clinician discussed the need for school-based support and educational service options for children with ADHD		0
25	Appropriateness	Bipolar disorders	Blood serum monitoring of mood stabilizers in patients with bipolar disorders	≥1 serum drug level taken for individuals with bipolar disorder treated with mood stabilizers in 12-month period	0
26	Appropriateness	Bipolar disorders	Percent of bipolar patients with annual assessment of weight/BMI, glycemic control, and lipids		0
27	Appropriateness	Bipolar disorders	Proportion of bipolar I disorder patients treated with mood stabilizer medications	Numerator: a) Patients prescribed a mood stabilizer for 12 weeks following the start of a new treatment episode; b) Patients prescribed a mood stabilizer for less than 12 weeks following the start of a new treatment episode; c) Patients with no filled prescription for a mood-stabilizing agent during the 12 weeks following the start of a new treatment episode Denominator: All patients with bipolar I disorder in a new treatment episode Numerator: Patients included in the denominator with evidence of a) 12 months of any mood-stabilizing medication; b) Any use	0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
				of a mood-stabilizing agent during the study period; c) No filled prescription for a mood stabilizer Denominator: All patients with bipolar I disorder	
28	Appropriateness	Bipolar disorders	Proportion of patients with bipolar I disorder with an appropriate frequency of visits with a licensed prescribing provider or licensed mental health prescribing provider	Numerator: Those patients in the denominator with at least one visit per quarter (four visits per year) during the study period:a) With a licensed prescribing provider; b) With any mental health licensed prescribing provider Denominator: Patients diagnosed with bipolar I disorder	0
29	Appropriateness	Children	Children receiving therapeutic foster care services		0
31	Appropriateness	Dementia	Percentage of newly diagnosed dementia patients, whose prescription list was reviewed for medication which may contribute to cognitive dysfunctions		0
33	Appropriateness	Depression	% major depression patients assessed for comorbidity (e.g. substance abuse, bipolar symptoms)	% of major depression patients with a new treatment episode having documentation of timely comorbid assessment, including the presence or absence of: (a) Alcohol or other drug use; (b) Medication use and (c) History of bipolar symptoms	0
34	Appropriateness	Depression	Assessing disease severity among patients with depression	Percentage of patients with newly diagnosed depression in whom disease severity was assessed with established scales (Patient Health questionnaire-Depression, Beck's Depression Inventory, Hospital Anxiety and Depression Scale, ICD-10)	0
36	Appropriateness	Depression	Continuous antidepressant medication treatment in acute phase	% of persons age ≥18 years who are diagnosed with a new episode of depression and treated with antidepressant medication, with an 84-day (12-week acute treatment phase) treatment with antidepressant medication	0
39	Appropriateness	Depression	Individuals administered Electro Convulsion Therapy, rate per 100,000 population aged 16-64 years		0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
40	Appropriateness	Depression	Percentage of patients with suicide/depression who had a suicide risk assessment completed at each visit		0
42	Appropriateness	Depression	Successful initial choice of antidepressant	Continuous prescription of the same antidepressant,without dosage change, or switch between different drugs or drug classes over 6months	0
43	Appropriateness	Depression	Visits During Acute & Post-acute Phase Treatment of Depression	% of persons with a new diagnosis of major depression who receive at least three medication visits or at least eight psychotherapy visits in a 12-week period Optimal practitioner contacts (at least three follow-up visits from a mental health care professional in the 3 months after a new depressive episode % of Major Depression Diagnosed patients with no care by a licensed mental health provider within 3 months of the start of the new treatment episode	0
44	Appropriateness	Generic	Accreditation standards	Number and proportion of hospital emergency services that meet accreditation criteria for psychiatric services. Availability of national quality accreditation	0
45	Appropriateness	Generic	Adults receiving assertive community treatment		0
46	Appropriateness	Generic	Adverse outcomes: Out of home placements		0
47	Appropriateness	Generic	Annualized Budget for Evaluation and Performance Monitoring	Percentage of mental health sector budget devoted to supporting the organization capacity to conduct performance monitoring	0
49	Appropriateness	Generic	Assessment of general medical status at initial evaluation for psychiatric disorder	% of patients of which general medical status is assessed at initial evaluation for psychiatric disorder	0
51	Appropriateness	Generic	Detection of depression	Percent of patients seen (at least three times during last 12 months) in a general medicine, primary care, women's or mental health primary care clinic who were screened for depression during the previous 12 months. Percentage of patients with newly diagnosed diabetes mellitus or coronary heart disease who were screened for depression using two screening questions	0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
				Use of standardized assessment tools (for example, PHQ-9) for depression Screening patients diagnosed with dementia for depression	
54	Appropriateness	Generic	Involuntary Committal Rate	Rate of involuntary committals as a percentage of all hospitalizations per annum. % of voluntary inpatient/inpatients subject to compulsory treatment by Board Rate of compulsory assessments that commence but do not progress to a compulsory treatment order the number of clients on community-based compulsory treatment orders (CCTOs) as a percentage of clients known to Community Mental Health Services [total compulsory treatment orders (CTOs)]. the proportion of individuals with any MHD diagnosis discharged from an inpatient or residential SUD specialty care setting who report having an episode of incarceration within 6 months of discharge Rate of service provider population with Severe Mental Illness apprehended or incarcerated compared to rate for general population.	0
55	Appropriateness	Generic	Least Restrictive Setting	Ratio served in inpatient care to outpatient care	0
56	Appropriateness	Generic	Mental Health Promotion Policy	% of local implementation teams (LITs) self-assessed as having a mental health promotion lead officer % of LITs self-assessed as 'GREEN' for having a mental health promotion strategy and action plan	0
57	Appropriateness	Generic	Outcomes readiness	Proportion of mental health episodes with clinical outcome assessments completed	0
58	Appropriateness	Generic	Percentage of staff trained in HoNos (Mental Health Outcomes Profile)		0
60	Appropriateness	Generic	Proportion of patients with completed		0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
			diagnostic assessment		
62	Appropriateness	Generic	Seclusion	Percentage of clients admitted for inpatient psychiatric care who experience seclusion per facility per year. Hours of seclusion as a percent of total client hours during admission per facility per year.	0
63	Appropriateness	Generic	Suicide prevention projects	% of primary care trusts with completed suicide audit	0
64	Appropriateness	Generic	Treatment Protocols for Co-morbidity	Number of community mental health programs that screen for substance use disorders and have an appropriate protocol for treatment and/or referral. Proportion of severe mental illness patients with identified substance misuse receiving addictions treatment.	0
65	Appropriateness	Learning disabilities	Best practice in mental health services for people with a learning disability		0
66	Appropriateness	Post-traumatic stress	% of PTSD Patients who have an assessment of PTSD symptoms within the first 30 days of a new treatment episode		0
67	Appropriateness	Post-traumatic stress	Proportion of all PTSD patients with a new treatment episode who are assessed for depression		0
68	Appropriateness	Post-traumatic stress	Proportion of patients receiving any Specialized Intensive PTSD Programs (SIPP)	Numerator: Number of patients receiving any SIPP care a) In the 60 days following the start of a new treatment episode; b) During the study period Denominator: Patients diagnosed with PTSD a) In a new treatment episode; b) All patients	0
69	Appropriateness	Post-traumatic stress	Proportion of Posttraumatic stress disorder (PTSD) patients who are monitored regarding symptom severity		0
70	Appropriateness	Psychotic disorders	Daily antipsychotic dosage between 0.5–9.0 chlorpromazine (CPZ) equivalents per kg body weigh at discharge for individual < 18 hospitalized for psychotic disorder	% of hospitalized children (<18 years) with a psychotic disorder with a daily antipsychotic dosage between 0.5–9.0 CPZ equivalents per kg body weigh at discharge	0
71	Appropriateness	Psychotic disorders	Percentage of caregivers of eligible psychotic patient provided with psychoeducation and		0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
			support		
72	Appropriateness	Schizophrenia	% schizo patients receiving social skills training visits		0
73	Appropriateness	Schizophrenia	% schizo patients with annual assessment of weight/ BMI, glycemic control, and lipids among schizo patients		0
75	Appropriateness	Schizophrenia	Cumulative daily antipsychotic dosage between 300–1000 chlorpromazine (CPZ)equivalents at hospital discharge for schizophrenia	% of patients with schizophrenia that receive a cumulative daily antipsychotic dosage between 300–1000 CPZ equivalents at hospital discharge	0
77	Appropriateness	Schizophrenia	Proportion of selected schizophrenia patients who receive anti-depressant medication for comorbid depression in addition to their antipsychotic regimen	Numerator: Patients in the denominator with simultaneous antidepressant and antipsychotic prescriptions in the study period Denominator: Patients diagnosed with schizophrenia and comorbid depression who are not in a new treatment episode	0
79	Appropriateness	Schizophrenia	Proportion of selected schizophrenia patients with appropriate short-term utilization of antipsychotic medications	Numerator: a) Patients prescribed an antipsychotic for 12 weeks following the start of a new treatment episode; b) Patients prescribed an antipsychotic for less than 12 weeks following the start of a new treatment episode; c) Patients with no filled prescription for an antipsychotic during the 12 weeks following the start of a new treatment episode Denominator: All patients with schizophrenia in a new treatment episode Percentage of patients with schizophrenia receiving new generation (e.g. Clozapine, Quetiapine, Olanzapine, Risperidone, (Ziprasidone) medication	0
81	Appropriateness	Substance-abuse	% patients with opiate dependency receiving Opiate agonist therapy as first line of defense		0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
83	Appropriateness	Substance-abuse	Early discharge rates from residential care for Substance Use Disorder	Numerator: a) Inpatient admission in the denominator where patient was discharged from residential care for SUD within one week of admission b) Total length of stay in days per related inpatient admission for patients in the denominator discharged from residential care for SUD Denominator: SUD-related inpatient admissions during the study period for patients with cohort diagnosis of SUD	0
84	Appropriateness	Substance-abuse	Proportion of patients with Co-occurring mental health and substance use disorders and severe functional impairment that receive integrated substance abuse and mental health treatment		0
86	Appropriateness	Substance-abuse	The proportion of providers in a substance use disorders specialty care setting who are trained to provide specified mental health care	the proportion of (substance use disorders (SUD) providers in a SUD specialty care setting who are trained to provide specified mental health care, and who have a certificate, license or some other documentation to demonstrate proficiency	0
87	Continuity	Generic	% of community mental health teams reported as achieving full local integration between NHS and social services partners		0
88	Continuity	Generic	% of Healthcare Commission survey respondents that had an out-of-hours contact telephone number		0
90	Continuity	Generic	Communication between providers		0
92	Continuity	Generic	Continuity of visits after hospitalisation for dual psychiatric/ substance related conditions	% of persons discharged with a dual diagnosis of psychiatric disorder and substance abuse with at least four psychiatric and at least four substance abuse visits within the 12 months after discharge	0
94	Continuity	Generic	Continuity of visits after mental health-related treatment initiation	Receipt of at least two additional outpatient services within 30 days after initiation of treatment	0
96	Continuity	Generic	Delayed transfers of care	the number of discharges for mental health specialties delayed by 6 weeks or longer than scheduled per 1,000 population	0
97	Continuity	Generic	Drop-outs; Community do not attend rate		0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
100	Continuity	Generic	Numbers of patients diverted from the criminal justice system		0
102	Continuity	Generic	Post discharge continuing care plan	Percentage of patients discharged from acute-care facilities (excluding those discharged against medical advice) who have a documented discharge plan Percentage of patients with a post discharge continuing care plan Percentage of patients for which post discharge continuing care plan is transmitted to next level of care provider upon discharge	0
103	Continuity	Generic	Pre-admission community care	Percentage of patients with primary care contact prior to mental health admission	0
106	Continuity	Generic	Repatriation of SMI Clients	Percentage of clients transferred out of region for acuteor tertiary care who return to home community upon discharge.	0
107	Continuity	Generic	Single Point of accountability	Existence of single mental health authority at local level.	0
108	Continuity	Generic	The percentage of consumers who receive services that support recovery		0
111	Continuity	Generic	The percentage of service recipients who had a change in principal mental healthcare provider during the year or term of treatment	The total number of service recipients who had a change in principal mental healthcare provider during the year or term of treatment, divided by all mental health service recipients during the year	0
112	Continuity	Generic	The proportion of resources expended on services that promote recovery		0
114	Continuity	Schizophrenia	Intentive case management for patients with schizophrenia	% of patients with 4 ER visits or 2 hospitalizations for schizophrenia in 12-month period that are enrolled in intensive case management (ICM)	0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
115	Continuity	Substance-abuse	Integrated service programs for co-occuring substance abuse and mental health care problems	the proportion of programs in a defined service area (e.g., county, city or state) that report having integrated services (e.g., SUD and MHD services in the same treatment program) or co-located services (e.g., SUD and MHD services in the same location) assesses the proportion of SUD providers in a defined service area (e.g., county, city or state) reporting the ability to bill for MHD services provided to patients assesses the proportion of SUD specialty care settings in a defined service area (e.g., county, city or state) that have formal documented referral policies for MHD services the proportion of individuals formally screened for a MHD upon admission to a SUD specialty care setting the proportion of individuals that screened positive for COD in a SUD specialty care setting that received a MHD service (or at least one integrated service) within 30 days of screening. the proportion of COD with an inpatient or day/night episode (SUD or MHD related) visit that have at least one SUD and one MHD outpatient clinic visit (or one integrated treatment visit) within thirty days of discharge	0
122	Effectiveness	Generic	Criminal Justice System Involvement	Number of mental health related police calls Percentage of Mental Health consumers with arrests during the treatment year. Number of homicides committed by persons with Severe Mental Illnesses	0
123	Effectiveness	Generic	Directly age-standardized hospital admission rate per 100,000 population for poisoning	-	0
126	Effectiveness	Generic	Financial Status	Percentage of service recipients with severe mental illness living above the poverty line.	0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
127	Effectiveness	Generic	Functional Status (Global)	Percentage of service recipients with improved (or maintained) functioning as measured by a standardized global functioning instrument. % of youth (age 6 – 17 years) reporting improvement or regression in school functioning Number of cases with role limitation/100 000 inhabitants	0
129	Effectiveness	Generic	Housing Status	Percent of service recipients with severe mental illness in independent or supported housing. Number of persons with severe mental illness on housing wait lists The percentage of adults with serious mental illness living in residences they own or lease The percentage of consumers whose housing situations improve as a direct result of treatment Proportion of patients admitted to psychiatric inpatient unit or residential treatment unit with ≥ 24 hr stay who received housing services Proportion of patients admitted to psychiatric inpatient unit or residential treatment unit with ≥24 hr stay who were appropriately housed at discharge from unit	0
131	Effectiveness	Generic	Mental health demands population		0
133	Effectiveness	Generic	Pharmacotherapeutic continuity and adherence	paid claims for psychotropic medications (the proportion of days in each month that the consumer would have possess a supply of medication)	0
138	Effectiveness	Generic	Proportion of adults with a severe anxiety, mood or addiction disorder under care who receive a satisfactory form of care		0
139	Effectiveness	Generic	Proportion of adults with a severe anxiety, mood or addiction disorder under care who receive at least one follow-up contact		0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
141	Effectiveness	Generic	Proportion of people who end up at the accident and emergency department after a suicide attempt and are seen by a psychiatrist there		0
142	Effectiveness	Generic	Proportion of secondary mental health treatments that are ended in joint consultation between the therapist and the client/patient		0
148	Effectiveness	Generic	The percentage of consumers who experience increased activities with family, friends, neighbors, or social groups		0
152	Effectiveness	Substance-abuse	Proportion of individuals with any mental health disease discharged from an inpatient or residential substance abuse disorder specialty care setting with abstinence from drugs and/or alcohol one year after discharge		0
153	Effectiveness	Substance-abuse	Reduced substance abuse impairment		0
154	Effectiveness	Substance-abuse	The average level of impairment in service recipients with substance abuse problems	(a) The rate of all adults receiving services in the mental health system who are identified with substance use Agreater than or equal to 3@ on the Clinical Alcohol and Drug Use Scale. (b) The proportion of children and adolescents for whom there is a decreased level on the CAFAS Substance Abuse subscale.	0
155	Efficiency	Children	Productivity outpatient child and adolescent mental health services		0
159	Efficiency	Generic	Average annual cost per residential bed	Total expenditure on residential mental health services during the reference period. Total number of available beds in the residential mental health service during the referee period.	0
160	Efficiency	Generic	Average cost per acute inpatient episode		0
161	Efficiency	Generic	Average cost per three month community care period		0
163	Efficiency	Generic	Average weekly contacts/ treatment days/ per direct care FTE	Total community ambulatory service contacts within the reference period over the total number of community ambulatory direct care FTE within the reference period multiplied by 44 (assuming annual reporting period).	0
165	Efficiency	Generic	cost containment		0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
166	Efficiency	Generic	Expenditures per enrollee on dissemination of preventive information		0
167	Efficiency	Generic	Labour Overhead	Proportion of dollars spent on administrative and support full-time employees (FTEs) to dollars spent on total FTEs.	0
168	Efficiency	Generic	Needs Based Resource Allocation Strategy	Existence of a regional mental health funding formula reflecting a needs-based resource allocation strategy.	0
169	Efficiency	Generic	Number of consultation		0
171	Efficiency	Generic	Price divided by units of service (for example, per diem rate, case rate, and premium per member per month)		0
173	Efficiency	Generic	Proportion of expenditures on administration		0
174	Efficiency	Generic	Proportion of out-of-scope overnight separations	Number of overnight separations deemed out-of-scope from acute psychiatric inpatient units within the reference period over the total number of overnight separations from acute psychiatric inpatient units during the reference period.	0
175	Efficiency	Generic	The average resources per enrollee expended on mental health services.	The total amount of direct service expenditures on mental health services in one year, divided by the total number of full-time enrollees who received at least one mental health service	0
176	Efficiency	Generic	Throughput time		0
178	Efficiency	Generic	utilization of capacity		0
179	Patient-centeredness	Children	The proportion of resources expended on mental health services provided in a natural setting (home, school, and work)	For child and adolescent enrollees only: the total amount of direct service expenditures on mental health services that are provided in the child's home in one year, divided by the total amount of direct service expenditures for children and adolescents	0
180	Patient-centeredness	Generic	Adequate provision of information on treatment/support		0
181	Patient-centeredness	Generic	Adults receiving peer support services	Numerator: Unduplicated number of consumers with severe mental illness receiving peer support services (e.g. drop-in centers, peer case management, peer professional services, and social clubs)during the reporting period. Denominator: Unduplicated number of adults with serious mental	0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
				illness served during the reporting period.	
182	Patient-centeredness	Generic	Availability of illness self-management training	Numerator: Number of adults/adolescents receiving illness self-management training (e.g. Self-management includes psychoeducation, behavioral tailoring, early warning sign recognition, coping strategies, social skills training, and cognitive behavioral treatment) Denominator: Number of adults/adolescents receiving mental health services	0
187	Patient-centeredness	Generic	Cultural Sensitivity	Proportion of consumers within service provider population of persons with serious mental illness who report that staff are sensitive to their language and ethnic/cultural background. Proportion of service staff who are culturally "literate"; i.e. knowledgeable about the history, traditions and beliefs of ethno-cultural minorities The percentage of consumers who report that staff are sensitive to their ethnicity, language, culture, and age.	0
188	Patient-centeredness	Generic	Existence of a consumer/family charter of rights that has been endorsed by the appropriate health authority and/or government body		0
191	Patient-centeredness	Generic	Number of self-help groups in the region with public sector support		0
193	Patient-centeredness	Generic	Proportion of consumers and families within a service provider population of persons with serious mental illness who actively participate in decisions concerning their treatment		0
194	Patient-centeredness	Generic	Proportion of health authorities with established regional consumer advisory groups		0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
195	Patient-centeredness	Generic	The percentage of enrollees who are adult consumers and family members who serve on planning and development groups or hold paid staff positions in the health plan.	The total number of full-time-equivalent (FTE) staff positions (either direct care or administrative) that are occupied by consumers of mental health services, divided by the total number of FTE direct care and/or administrative positions The total number of family members on planning, evaluation, and Total Quality Management teams, divided by the total membership of these groups.	0
196	Safety	Bipolar disorder	% patients with bipolar disorders assessed regularly for medication side effects	Percentage of patients with bipolar disorders for whiCh medication side effects are assessed 2–4 months after the initiation of any antipsychotic treatment	0
199	Safety	Generic	Average number of assaults per inpatient bed night		0
200	Safety	Generic	Hazards due to lack of information with emergency admissions		0
201	Safety	Generic	Information about the side-effects of medicines	Percentage of (psychotic) patients with structured assessment of medication side effects done at least twice in 1 year	0
204	Safety	Generic	Number and proportion of staff trained yearly in non-violent crisis intervention		0
206	Safety	Generic	Percentage of staff trained in suicide prevention, education and training		0
207	Safety	Generic	Undesired combination of medication and clinical care		0
208	Safety	Schizophrenia	% schizophrenia assessed regularly for medication side effects	Percentage of patients with schizophrenia for whiCh medication side effects are assessed 2–4 months after the initiation of any antipsychotic treatment	0
209	Sustainability	Generic	% in total planned investment in adult mental health services by main provider type		0
211	Sustainability	Generic	Amount of training delivered to and supervision provided by mental health staff e.g. staff training in Care Programme Approach, self-harm and suicide, looked after children		0
214	Sustainability	Generic	Full year cost per acute inpatient bed	Total expenditure for all in-scope acute psychiatric inpatient units during the reference period over the number of in-scope acute psychiatric inpatient beds available during the reference period.	0

NBR	Type	Scope	Indicator	Operational Definition(s)	TOT
215	Sustainability	Generic	Full year cost per community ambulatory direct care FTE	Total expenditure for in-scope community ambulatory services within the reference period over the total community ambulatory mental health direct care FTE within the reference period.	0
216	Sustainability	Generic	Information technology use		0
217	Sustainability	Generic	Mental Health Staff Satisfaction		0
219	Sustainability	Generic	Number of innovations introduced each year		0
221	Sustainability	Generic	Resources available for on the job development and continuous learning		0
222	Sustainability	Generic	Resources available to train staff to meet required competencies for role		0
223	Sustainability	Generic	Staffing mix per acute patient day	Total direct care staffing hours for nursing/medical/allied health for in-scope acute psychiatric units during the reference period over the total direct care staffing hours for in-scope acute psychiatric units during the reference period.	0

2.4. Intermediate selection during first expert meeting

The short-list and list with excluded indicators were presented during an expert meeting. Based on suggestions of the experts 22 indicator themes that were initially excluded from the long-list were again added to the shortlist (i.e. indicator numbers: 5; 11; 25; 26; 54; 75; 78; 99; 102; 103120; 125; 129; 156; 186; 188; 189; 191; 193; 203; 202;). The experts suggested to divide indicator 203 "side effects medication" in two parts (i.e. 203a "Appropriate monitoring of metabolic/cardiovascular side effects for individuals receiving antipsychotic medication" and 203b "Number of medical services and/or hospital services required as a direct result of psychotropic medication problems."). The panel suggested also to split indicator 147 in:

- 147a "Suicide in general population";
- 147b "Suicide attempts in general population";

The panel suggested to exclude four indicators from the shortlist (i.e. 7; 105; 124; 212). Of the 12 indicators suggested by the only 3 indicators (i.e. 128 Hospital readmissions for psychiatric patients; 132 Mortality for Persons with Severe Psychiatric Disorders; 197 Use of Anti-Cholinergic Anti-Depressant Drugs Among Elderly Patients) were included directly in the shortlist. Also the OECD indicator "racial/ethnic disparities in mental health follow-up rates) was suggested to be included in the sub-analysis of, for example, indicator 2 "Access to Mental Health Care". Given the international character of the OECD indicators and the likelihood that the OECD will ask Belgium to provide data for this sub-set of indicators in the near future, the 8 other indicators (i.e. 36; 37; 43; 89; 92; 93; 113; 117) were kept in the list that was submitted to the experts for in-depth evaluation. It should be noted that 3 indicators are also included in Health at a glance 2011:

- 128: Hospital readmission (OECD: schizophrenia and bipolar disorders);
- 147a: Suicide;
- 224 Total mental health staff numbers per 1000 population (OECD: psychiatrists per 100.000 population).

In addition Health at a glance also includes figures about 'type of provider consulted for mental health problems: GP; psychiatrist; psychologist).

During the meeting experts also suggested which operational definition was most relevant for the indicator theme (if more than 1 operational definition was available). (see Table 5)

Table 5 Intermediate selection after 1st expert meeting

NBR	Dimension	Sub-category	Indicator	Operational Definition(s)	Comments	selection
164	Efficiency	Generic	Average Length of Stay in Acute-Care/Rehabilitation care		Average can be replaced by Median/Outlying	KCE_EXTERN
19	Accessibility	Generic	Wait-times for Needed Services	Mean time in weeks between Referral to specialized Mental Health Care and Initial Appointment date	Sub-group analysis recommended for children and adolescents; ethnic minorities	KCE_EXTERN
2	Accessibility	Generic	Access to Mental Health Care	Proportion of referrals to specialized Mental Health Care receiving an Initial Appointment date	access in general with sub-analysis for different age targets (child & adolescent; adults; elderly); and ethnic/racial disparities (indicator 105)	KCE_EXTERN
11	Accessibility	Generic	Financial accessibility Mental Health Serices	The percentage of consumers for whom cost is an obstacle to service utilization	Alternative: patient share in total mental health costs or Percentage of service recipients with SMI living above the poverty line	EXTERN
5	Accessibility	Community	Access to crisis resolution home treatment	Numerator: The number of admissions to the hospital's acute wards (excluding admissions to psychiatric intensive care units) that were gate kept** by the crisis resolution home treatment teams. Denominator The total number of admissions to the hospital's acute wards		EXTERN

NBR	Dimension	Sub-category	Indicator	Operational Definition(s)	Comments	selection
				(excluding admissions to psychiatric intensive care units).		
220	Sustainibility	Community	Number of visits to psychiatric outpatient care in a year/100 000 inhabitants in a year		Outpatient care: outpatient service or unity within specialised psychiatric care (public or private); includes e.g. Community Mental Health Centres, Polyclinics in hospitals etc.	KCE_EXTERN
156	Efficiency	Community	% community spend/Total spend	Expenditure on community mental health and addiction services as a proportion of total expenditure on mental health and addiction services		EXTERN
125	Effectiveness	Re-integration	Employment Status	Participation rates by people with mental illness of working age in employment		EXTERN
129	Effectiveness	Re-integration	Housing Status	Percent of service recipients with severe mental illness in independent or supported housing		EXTERN

NBR	Dimension	Sub-category	Indicator	Operational Definition(s)	Comments	selection
146	Effectiveness	Generic	Social support	Number of cases with poor, moderate and strong social support/100 000 inhabitants	Social support is generally defined as availability of people whom the individual trusts and who make one feel cared for and valued as a person. The key issue in terms of health effects is whether social support is "received" in some form (e.g. having someone to listen to one's troubles) or "perceived" by the individual to exist (e.g. the belief that in times of trouble support would be expectable). Alternative: social isolation	KCE_EXTERN
14	Accessibility	Generic	Percentage of people receiving Mental Health treatment	Population receiving care (proportion of individuals receiving at least one insured health service)	sub-analysis for group of Severe Mental Illness	KCE_EXTERN
135	Effectiveness	Prevalence	Prevalence good mental health	Number of cases exceeding the cutpoint for good mental health/100 000 inhabitants using a validated instrument (e.g. SF36)		KCE_EXTERN
134	Effectiveness	Prevalence	Prevalence (major) depressions	Youths (ages 12-17); Adults (age 18 and above) with a major depressive episode during the past year		KCE_EXTERN

NBR	Dimension	Sub-category	Indicator	Operational Definition(s)	Comments	selection
128	Effectiveness	Generic	Hospital readmissions for psychiatric patients	% of discharges from psychiatric in-patient care during a 12-month reporting period readmitted to psychiatric in-patient care that occurred within 30 days	Health at a glance 2011 (schizophrenia & bipolar disorders)	KCE_EXTERN
147a	Effectiveness	Generic	Suicide in general population	Number of deaths due to suicide in the general population	Health at a glance	KCE_EXTERN
147b	Effectiveness	Generic	Suicide attempts in general population	Number of suicide attempts in the general population		KCE_EXTERN
150	Effectiveness	Substance-abuse	Mortality for Persons with Substance Abuse Disorders	Number of drug related deaths/100 000 inhabitants in a year		KCE_EXTERN
132	Effectiveness	Generic	Mortality for Persons with Severe Psychiatric Disorders	Standardized mortality rate for % of persons in total population with specified severe psychiatric disorders		KCE_EXTERN
120	Effectiveness	Generic	Clinical Status/ Clinical Outcomes	Mental health outcomes of people who receive treatment using standardized instruments (HoNos; Honosca)	Routine outcome monitoring	EXTERN
50	Appropriateness	Medication	Average daily quantity (ADQ) of medication (antidepressants /antipsychotics/ hypnotics and anxiolytics) prescribed	Expressed usually as number of DDDs/1000 inhabitants and per day		KCE_EXTERN
197	Safety	Medication	Use of Anti-Cholinergic Anti-Depressant Drugs Among Elderly Patients	% of persons age 65+ years prescribed antidepressants using an anticholinergic anti-depressant drug		KCE_EXTERN
78	Appropriateness	Medication	Proportion of selected schizophrenia patients with antipsychotic polypharmacy utilization	Numerator: Those patients in the denominator with simultaneous prescriptions for at least two oral antipsychotic agents for 90 or more days during the study period Denominator: All patients diagnosed with Schizophrenia prescribed at least one		EXTERN

NBR	Dimension	Sub-category	Indicator	Operational Definition(s)	Comments	selection
				antipsychotic agent during the study period		
25	Appropriateness	Medication	Blood serum monitoring of mood stabilizers in patients with bipolar disorders	≥1 serum drug level taken for individuals with bipolar disorder treated with mood stabilizers in 12-month period		EXTERN
26	Appropriateness	Medication	Percent of bipolar patients with annual assessment of weight/BMI, glycemic control, and lipids			EXTERN
75	Appropriateness	Medication	Cumulative daily antipsychotic dosage between 300–1000 chlorpromazine (CPZ)equivalents at hospital discharge for schizophrenia	% of patients with schizophrenia that receive a cumulative daily antipsychotic dosage between 300–1000 CPZ equivalents at hospital discharge		EXTERN
203a	Safety	Medication	Side Effects Medication	Appropriate monitoring of metabolic/cardiovascular side effects for individuals receiving antipsychotic medication		EXTERN
203b	Safety	Medication	Side Effects Medication	Number of medical services and/or hospital services required as a direct result of psychotropic medication problems.		EXTERN
202	Safety	Generic	Inpatient injury rate	Number of inpatient injuries per patient day in 3-month period		EXTERN
210	Sustainibility	Generic	Acute Psychiatric beds per 100,000 population	Number of acute inpatient psychiatric beds	(A, T, K beds)	KCE_EXTERN

NBR	Dimension	Sub-category	Indicator	Operational Definition(s)	Comments	selection
213	Sustainibility	Generic	Cost mental healthcare	Total spend (including all health services: physician services, drug benefit plan costs, community mental health services and supports, and inpatient care) for mental health per 1,000 population	combination with indicator 172 (Proportion of all health care funds allocated to inpatient, outpatient and all mental health treatment)	KCE_EXTERN
224	Sustainibility	Generic	Total mental health staff numbers per 1,000 population	Total mental health staff numbers per 1,000 population by (child) psychiatrists, Allied Health Professionals, nurses, psychologists, social workers, Mental health officers		KCE_EXTERN
189	Patient-centeredness	Generic	Formal complaints	Number of complaints received by complaints Commissioner, Mental Health Advocate, Ombudsperson (or equivalent offices), consumer advocacy associations, regional health authority, etc. concerning mental health services and supports.		EXTERN
186	Patient-centeredness	Generic	Consumer/family satisfaction with services received	Percentage of consumers/families satisfied with services as measured by valid method		EXTERN
188	Patient-centeredness	Generic	Existence of a consumer/family charter of rights that has been endorsed by the appropriate health authority and/or government body		The explicit description of client and family expectations of mental health services by way of a formal charter of rights can facilitate the development of a care system and standards within that	EXTERN

NBR	Dimension	Sub-category	Indicator	Operational Definition(s)	Comments	selection
					system that meet the needs of consumers.	
191	Patient-centeredness	Generic	Number of self-help groups in the region with public sector support			EXTERN
193	Patient-centeredness	Generic	Proportion of consumers and families within a service provider population of persons with serious mental illness who actively participate in decisions concerning their treatment			EXTERN
54	Appropriateness	Generic	Involuntary Committal Rate	Rate of involuntary committals as a percentage of all hospitalizations per annum.		EXTERN
99	Continuity	Generic	Mental health related Emergency Room Visits	Percentage of visits to the ER for mental health and/or substance-related problems		EXTERN
102	Continuity	Generic	Post discharge continuing care plan	Percentage of patients discharged from acute-care facilities (excluding those discharged against medical advice) who have a documented discharge plan		EXTERN
103	Continuity	Generic	Pre-admission community care	Percentage of patients with primary care contact prior to mental health admission		EXTERN
113	Continuity	Generic	Timely ambulatory follow-up after mental health hospitalisation	% of persons hospitalized for primary mental health diagnoses with an ambulatory mental health encounter with a mental health practitioner within 7 and 30 days of discharge		OECD
92	Continuity	Generic	Continuity of visits after hospitalisation for dual psychiatric/ substance related conditions	% of persons discharged with a dual diagnosis of psychiatric disorder and substance abuse with at least four psychiatric and at least four substance abuse visits		OECD

NBR	Dimension	Sub-category	Indicator	Operational Definition(s)	Comments	selection
				within the 12 months after discharge		
93	Continuity	Generic	Continuity of visits after mental health-related hospitalisation (Post-discharge community care)	% of persons hospitalized for psychiatric or substance-related disorder with at least one visit per month for 6 months after hospitalization		OECD
89	Continuity	Generic	Case Management for Severe Psychiatric Disorders	% of persons with a specified severe psychiatric disorder in contact with the health care system who receive case management (all types)		OECD
43	Appropriateness	Depression	Visits During Acute & Post-acute Phase Treatment of Depression	% of persons with a new diagnosis of major depression who receive at least three medication visits or at least eight psychotherapy visits in a 12-week period		OECD
36	Appropriateness	Depression	Continuous antidepressant medication treatment in acute phase	% of persons age ≥18 years who are diagnosed with a new episode of depression and treated with antidepressant medication, with an 84-day (12-week acute treatment phase) treatment with antidepressant medication		OECD
37	Appropriateness	Depression	Continuous Anti-Depressant Medication Treatment in Continuation Phase	% of persons age ≥18 years who are diagnosed with a new episode of depression and treated with antidepressant medication, with a 180-day treatment of antidepressant medication		OECD
116	Continuity	Substance-abuse	Length of Treatment for Substance-Related Disorders	% of persons initiating treatment for a substance-related disorder with treatment lasting at least 90 days		OECD

2.5. Final selection during second expert meeting

A total of 7 experts rated the validity, reliability, relevance, interpretability and actionability of the intermediate set of 48 indicators.

Table 6 Results rating 48 indicators by the experts

NBR	Dimension	Sub-category	Indicator	Operational Definition(s)	Validity MEDIAN	Validity MEAN	Reliability MEDIAN	Reliability MEAN	RelevanceMEDIAN	Relevance MEAN	Interpretability MEDIAN	Interpretability MEAN	Actionability MEDIAN	Actionability MEAN	Comments
11	Accessibility	Generic	**Financial accessibility Mental Health Services**	The percentage of consumers for whom cost is an obstacle to service utilization	7	6,9	5	5,3	8	7,7	6	5,9	8	7,3	Alternative: patient share in total mental health costs or Percentage of service recipients with SMI living above the poverty line
14	Accessibility	Generic	**Percentage of people receiving Mental Health treatment**	Population receiving care (proportion of individuals receiving at least one insured health service)	6	5,9	7	6,3	7,5	7,7	5	5,7	6,5	7	sub-analysis for group of Severe Mental Illness
19	Accessibility	Generic	**Wait-times for Needed Services**	Mean time in weeks between Referral to specialized Mental Health Care and Initial Appointment date	6	6,6	6	5,3	7	7,3	5	4,9	6	5,6	Sub-group analysis recommended for children and adolescents; ethnic minorities data zijn maar zeer disparaat beschikbaar; wachttijden worden vaak veroorzaakt door multiple factoren, vaak bij de patient zelf
2	Accessibility	Generic	**Access to Mental Health Care**	Proportion of referrals to specialized Mental Health Care receiving an Initial Appointment date	7	6,1	7	5,6	8	7	7	5,6	6	5,6	access in general with sub-analysis for different age targets (child & adolescent; adults; elderly); and ethnic/racial disparities (indicator 105) welke database ga je raadplegen ?; kan alleen via prospectieve gegevens verzameling
43	Appropriateness	Depression	**Visits During Acute & Post-acute Phase Treatment of Depression**	% of persons with a new diagnosis of major depression who receive at least three medication visits or at least eight psychotherapy visits in a 12-week period	7	6,4	7	6,6	8	6,9	5	5,6	6	6,7	
37	Appropriateness	Depression	**Continuous Anti-Depressant Medication Treatment in Continuation Phase**	% of persons age ≥18 years who are diagnosed with a new episode of depression and treated with antidepressant medication, with a 180-day treatment of antidepressant medication	7	7	7	6,9	8	6,9	5	6,3	6	6,4	

54	Appropriateness	Generic	**Involuntary Committal Rate**	Rate of involuntary committals as a percentage of all hospitalizations per annum.	**8**	**7,1**	**7**	**6,6**	**7,5**	**6,8**	**7**	**6,1**	**7**	**6,9**	zeker relevant in het licht van de hervormingen GGZ
36	Appropriateness	Depression	**Continuous antidepressant medication treatment in acute phase**	% of persons age ≥18 years who are diagnosed with a new episode of depression and treated with antidepressant medication, with an 84-day (12-week acute treatment phase) treatment with antidepressant medication	**7**	**6,7**	**7**	**6,9**	**8**	**6,7**	**5**	**6**	**6**	**6,4**	
156	Efficiency	Community	**% community spend/Total spend**	Expenditure on community mental health and addiction services as a proportion of total expenditure on mental health and addiction services	**8**	**7,1**	**5**	**6,4**	**8**	**7,9**	**8**	**7,3**	**8**	**7,6**	
5	Accessibility	Community	**Access to crisis resolution home treatment**	Numerator: The number of admissions to the hospital's acute wards (excluding admissions to psychiatric intensive care units) that were gate kept** by the crisis resolution home treatment teams. Denominator The total number of admissions to the hospital's acute wards (excluding admissions to psychiatric intensive care units).	**7**	**5,3**	**5**	**4,9**	**7**	**7**	**4**	**4,6**	**6**	**6**	A crisis resolution team (sometimes called a crisis resolution home treatment team) provides intensive support for people in mental health crises in their own home: they stay involved until the problem is resolved.
220	Sustainibility	Community	**Number of visits to psychiatric outpatient care in a year/100 000 inhabitants in a year**		**7**	**6,1**	**6**	**5,6**	**6**	**6,7**	**7**	**5,7**	**7**	**6,3**	Outpatient care: outpatient service or unity within specialised psychiatric care (public or private); includes e.g. Community Mental Health Centres, Polyclinics in hospitals etc.
89	Continuity	Generic	**Case Management for Severe Psychiatric Disorders**	% of persons with a specified severe psychiatric disorder in contact with the health care system who receive case management (all types)	**8**	**7,1**	**8**	**7**	**8,5**	**8,3**	**6**	**6,4**	**7**	**7**	Quid definitie van casemanagement
102	Continuity	Generic	**Post discharge continuing care plan**	Percentage of patients discharged from acute-care facilities (excluding those discharged against medical advice) who have a documented discharge plan	**7**	**6,9**	**8**	**7**	**8,5**	**7,7**	**8**	**6,9**	**6,5**	**6,7**	
103	Continuity	Generic	**Pre-admission community care**	Percentage of patients with primary care contact prior to mental health admission	**7**	**7,3**	**7**	**6,9**	**8**	**7,6**	**6**	**5,9**	**6**	**6,4**	moeilijkheid van 1 patient ID en centraliseren van gegevens

113	Continuity	Generic	**Timely ambulatory follow-up after mental health hospitalisation**	% of persons hospitalized for primary mental health diagnoses with an ambulatory mental health encounter with a mental health practitioner within 7 and 30 days of discharge	**8**	**7,4**	**8**	**7,1**	**8,5**	**7,5**	**6**	**6,6**	**6**	**6,7**	moeilijkheid van 1 patient ID en centraliseren van gegevens
93	Continuity	Generic	**Continuity of visits after mental health-related hospitalisation (Post-discharge community care)**	% of persons hospitalized for psychiatric or substance-related disorder with at least one visit per month for 6 months after hospitalization	**8**	**7,4**	**6**	**6,4**	**8,5**	**7,5**	**6**	**6,6**	**6,5**	**7**	
116	Continuity	Substance-abuse	**Length of Treatment for Substance-Related Disorders**	% of persons initiating treatment for a substance-related disorder with treatment lasting at least 90 days	**7**	**7**	**8**	**7,1**	**8**	**7,3**	**7**	**6,4**	**8**	**7,3**	
99	Continuity	Generic	**Mental health related Emergency Room Visits**	Percentage of visits to the ER for mental health and/or substance- related problems	**8**	**7,4**	**8**	**7**	**7**	**7**	**7**	**6,4**	**7**	**6, 7**	validiteit wordt sterk bepaald door codering op spoed
92	Continuity	Generic	**Continuity of visits after hospitalisation for dual psychiatric/ substance related conditions**	% of persons discharged with a dual diagnosis of psychiatric disorder and substance abuse with at least four psychiatric and at least four substance abuse visits within the 12 months after discharge	**7**	**6,6**	**6**	**6,6**	**7,5**	**7**	**6**	**5,9**	**6**	**6,8**	moeilijkheid van 1 patient ID en centraliseren van gegevens
147a	Effectiveness	Generic	**Suicide in general population**	Number of deaths due to suicide in the general population	**8**	**7,9**	**8**	**7,7**	**8**	**8**	**8**	**7,4**	**8**	**7,3**	de betekenis van deze parameters is niet altijd duidelijk, noch het verband met de kwaliteit/toegankelijkheid van zorgverlening
128	Effectiveness	Generic	**Hospital readmissions for psychiatric patients**	% of discharges from psychiatric in-patient care during a 12-month reporting period readmitted to psychiatric in-patient care that occurred within 30 days	**8**	**7,7**	**8**	**7,1**	**8**	**7,7**	**7**	**6,6**	**6**	**6,4**	
147b	Effectiveness	Generic	**Suicide attempts in general population**	Number of suicide attempts in the general population	**8**	**7,7**	**5**	**6,1**	**8**	**7,6**	**5**	**5,7**	**6**	**6**	
150	Effectiveness	Substance-abuse	**Mortality for Persons with Substance Abuse Disorders**	Number of drug related deaths/100 000 inhabitants in a year	**7**	**7,6**	**7**	**7,1**	**8**	**7,1**	**6**	**6,3**	**6**	**6,1**	
132	Effectiveness	Generic	**Mortality for Persons with Severe Psychiatric Disorders**	Standardized mortality rate for % of persons in total population with specified severe psychiatric disorders	**7**	**7**	**7**	**7,4**	**8**	**7**	**7**	**6,4**	**7**	**6,7**	samen met gegevens van medicatiegebruik te bekijken ifv long term side effects van medicatie

120	Effectiveness	Generic	**Clinical Status/ Clinical Outcomes**	Mental health outcomes of people who receive treatment using standardized instruments (HoNos; Honosca)	**7**	**6,3**	**7**	**6,3**	**8**	**7**	**6**	**5,3**	**6**	**6,3**	Routine outcome monitoring Quid clinical time; analyse per sub-populatie te overwegen; belangrijk om acute situaties en chronische populaties uit elkaar te houden
164	Efficiency	Generic	**Average Length of Stay in Acute-Care/Rehabilitation care**		**7**	**6,9**	**7**	**6,6**	**7**	**6,6**	**6**	**5,4**	**7**	**7,1**	Average can be replaced by Median/Outlying spreiding op het gemiddelde; mediane waarde
50	Appropriateness	Medication	**Average daily quantity (ADQ) of medication (antidepressants /antipsychotics/ hypnotics and anxiolytics) prescribed**	Expressed usually as number of DDDs/1000 inhabitants and per day	**8**	**6,6**	**8**	**6,4**	**8**	**6,9**	**8**	**7,1**	**8**	**7,1**	
197	Safety	Medication	**Use of Anti-Cholinergic Anti-Depressant Drugs Among Elderly Patients**	% of persons age 65+ years prescribed antidepressants using an anticholinergic anti-depressant drug	**7**	**6,9**	**7**	**6,6**	**7**	**6,7**	**7**	**6,6**	**6**	**6,9**	
78	Appropriateness	Medication	**Proportion of selected schizophrenia patients with antipsychotic polypharmacy utilization**	Numerator: Those patients in the denominator with simultaneous prescriptions for at least two oral antipsychotic agents for 90 or more days during the study period Denominator: All patients diagnosed with Schizophrenia prescribed at least one antipsychotic agent during the study period	**7**	**6,6**	**6**	**6,1**	**5**	**5,7**	**4**	**5,6**	**7**	**6,9**	
203a	Safety	Medication	**Side Effects Medication**	Appropriate monitoring of metabolic/cardiovascular side effects for individuals receiving antipsychotic medication	**8**	**6,6**	**6**	**6**	**6**	**5,6**	**7**	**6,285 714**	**7**	**6,1**	
75	Appropriateness	Medication	**Cumulative daily antipsychotic dosage between 300–1000 chlorpromazine (CPZ)equivalents at hospital discharge for schizophrenia**	% of patients with schizophrenia that receive a cumulative daily antipsychotic dosage between 300–1000 CPZ equivalents at hospital discharge	**6**	**6**	**5**	**5,3**	**4**	**5,2**	**5,5**	**5,5**	**5**	**5,3**	

203b	Safety	Medication	**Side Effects Medication**	Number of medical services and/or hospital services required as a direct result of psychotropic medication problems.	**5**	**5,3**	**4**	**4,9**	**5**	**5,1**	**4**	**4,7**	**4**	**4,7**	
25	Appropriateness	Medication	**Blood serum monitoring of mood stabilizers in patients with bipolar disorders**	≥1 serum drug level taken for individuals with bipolar disorder treated with mood stabilizers in 12-month period	**6**	**6,3**	**6**	**6**	**4**	**5**	**7**	**6,142 857**	**6**	**6,1**	
26	Appropriateness	Medication	**Percent of bipolar patients with annual assessment of weight/BMI, glycemic control, and lipids**		**8**	**6,7**	**7**	**6,1**	**5**	**5**	**7**	**6**	**6**	**5,6**	Operationaliseerbaar ? Gaat om dossiergegevens
186	Patient-centeredness	Generic	**Consumer/family satisfaction with services received**	Percentage of consumers/families satisfied with services as measured by valid method	**7**	**6,7**	**5**	**5,6**	**8**	**7,6**	**6**	**5,9**	**6**	**6,3**	
188	Patient-centeredness	Generic	**Existence of a consumer/family charter of rights that has been endorsed by the appropriate health authority and/or government body**		**7**	**7**	**7**	**6,7**	**7**	**7,5**	**7**	**7,2**	**7**	**7,3**	The explicit description of client and family expectations of mental health services by way of a formal charter of rights can facilitate the development of a care system and standards within that system that meet the needs of consumers.
193	Patient-centeredness	Generic	**Proportion of consumers and families within a service provider population of persons with serious mental illness who actively participate in decisions concerning their treatment**		**6,5**	**5,7**	**5**	**4, 7**	**7,5**	**7**	**5**	**4,5**	**6**	**5**	hoe ga je dat meten ?
189	Patient-centeredness	Generic	**Formal complaints**	Number of complaints received by complaints Commissioner, Mental Health Advocate, Ombudsperson (or equivalent offices), consumer advocacy associations, regional health authority, etc. concerning mental health services and supports.	**7**	**6,6**	**5**	**5,1**	**6**	**6,9**	**5**	**5**	**5,5**	**5,3**	zeer disparaat; zegt vaak meer over cultuur in een organisatie en over performantie van ombudsdienst; individuele casuïstiek is wel bruikbaar
191	Patient-centeredness	Generic	**Number of self-help groups in the region with public sector support**		**7**	**6**	**6**	**5,1**	**6**	**4,9**	**5**	**4,9**	**6**	**5,1**	

135	Effectiveness	Prevalence	**Prevalence good mental health**	Number of cases exceeding the cutpoint for good mental health/100 000 inhabitants using a validated instrument (e.g. SF36)	**8**	**7,3**	**8**	**7,3**	**7**	**7,3**	**6**	**6,6**	**5**	**6,1**	
134	Effectiveness	Prevalence	**Prevalence (major) depressions**	Youths (ages 12-17); Adults (age 18 and above) with a major depressive episode during the past year	**7**	**7,3**	**7**	**6,3**	**7**	**7,3**	**7**	**7,1**	**7**	**6,6**	
125	Effectiveness	Re-integration	**Employment Status**	Participation rates by people with mental illness of working age in employment	**7**	**7,4**	**7**	**6,9**	**8**	**7,7**	**8**	**7,1**	**7**	**7,1**	valide voor zover het gaat om gekende psychiatrische patienten; de zorgmijders heb je vaak niet mee
129	Effectiveness	Re-integration	**Housing Status**	Percent of service recipients with severe mental illness in independent or supported housing	**8**	**7,7**	**8**	**7,4**	**8**	**7,7**	**8**	**7,6**	**7**	**7,4**	
146	Effectiveness	Generic	**Social support**	Number of cases with poor, moderate and strong social support/100 000 inhabitants	**7**	**6,9**	**6**	**5,9**	**7**	**7,1**	**6**	**5,9**	**7**	**6**	Social support is generally defined as availability of people whom the individual trusts and who make one feel cared for and valued as a person. The key issue in terms of health effects is whether social support is “received” in some form (e.g. having someone to listen to one’s troubles) or “perceived” by the individual to exist (e.g. the belief that in times of trouble support would be expectable). Alternative: social isolation Veel ruis op de definitie van social support
202	Safety	Generic	**Inpatient injury rate**	Number of inpatient injuries per patient day in 3-month period	**5**	**5,9**	**5**	**4,7**	**5**	**5,4**	**4**	**4,3**	**4**	**5,3**	zegt vaak meer over cultuur van incidentmelding, performantie van het systeem, of zorgzwaarte

213	Sustainibility	Generic	**Cost mental healthcare**	Total spend (including all health services: physician services, drug benefit plan costs, community mental health services and supports, and inpatient care) for mental health per 1,000 population	**8**	**7,7**	**6**	**6,7**	**8**	**8,3**	**8**	**7,4**	**8**	**7,56**	combination with indicator 172 (Proportion of all health care funds allocated to inpatient, outpatient and all mental health treatment)
224	Sustainibility	Generic	**Total mental health staff numbers per 1,000 population**	Total mental health staff numbers per 1,000 population by (child) psychiatrists, Allied Health Professionals, nurses, psychologists, social workers, Mental health officers	**6**	**7**	**6**	**6,1**	**8**	**8,1**	**7**	**7**	**8**	**7,1**	zelfstandige psychologen en therapeuten zijn moeilijk in kaart te brengen; therapeut is geen beschermde titel
210	Sustainibility	Generic	**Acute Psychiatric beds per 100,000 population**	Number of acute inpatient psychiatric beds	**8**	**7,1**	**8**	**7,4**	**7**	**6,6**	**7**	**6,4**	**7**	**7,1**	(A, T, K beds) Type bed zegt al lang niets meer over type zorg dat er in plaatsheeft

After discussion the following 14 indicators were retained:

- The percentage of consumers of mental health services for whom cost is an obstacle to service utilization (Nbr 11)
- Mean time in weeks between Referral to specialized Mental Health Care and Initial Appointment date (Nbr 19)
- Rate of involuntary committals as a percentage of all hospitalizations per annum (Nbr 54)
- Expenditure on community mental health and addiction services as a proportion of total expenditure on mental health and addiction services (Nbr 156)
- % of persons with a specified severe psychiatric disorder in contact with the health care system who receive case management (all types) (Nbr 89)
- Percentage of visits to the Emergency Rooms in general hospitals for mental health and/or substance-related problems (Nbr 99)
- Number of deaths due to suicide in the general population (Nbr 147a)
- % of discharges from psychiatric in-patient care during a 12-month reporting period readmitted to psychiatric in-patient care that occurred within 30 days (Nbr 128)
- Mortality for Persons with Severe Psychiatric Disorders or Substance Abuse Disorders (NBR's 150/132)
- Average daily quantity (ADQ) of medication (antidepressants /antipsychotics/ hypnotics and anxiolytics) prescribed (Nnr 50)
- % of persons age 65+ years prescribed antidepressants using an anticholinergic anti-depressant drug (Nbr 197)
- Percentage of consumers/families satisfied with services as measured by valid method (Nbr 186)
- Participation rates by people with mental illness of working age in employment (Nbr 125)
- Total mental health staff numbers per 1,000 population by (child) psychiatrists, Allied Health Professionals, nurses, psychologists, social workers, Mental health officers (Nbr 224)

3. SEARCH STRATEGY:

3.1. Search for reviews:

3.1.1. MEDLINE-OVID

Date	**20/04/2011**
Database (name + access ; e.g.: Medline OVID)	Database: Ovid MEDLINE(R) 1948 to Present with Daily Update Search Strategy: ----------
Search Strategy (attention, for PubMed, check « Details »)	1. *"Outcome and Process Assessment (Health Care)"/ (6574) 2. *"Outcome Assessment (Health Care)"/ (15926) 3. *"Process Assessment (Health Care)"/ (1137) 4. *"Quality Assurance, Health Care"/ (24288) 5. *Benchmarking/ (3406) 6. *"Quality Indicators, Health Care"/ (3920) 7. *"Health Status Indicators"/ (7622) 8. (performance adj2 (measurement or analysis or indicator$ or evaluation or assessment)).mp. [mp=protocol supplementary concept, rare disease supplementary concept, title, original title, abstract, name of substance word, subject heading word, unique identifier] (26109) 9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 (84981) 10. *Mental Health Services/ (16719) 11. *Mental Disorders/ (78832) 12. *Mental Health/ (10011) 13. *Psychiatry/ (22130) 14. *Child Psychiatry/ (3084) 15. *Adolescent Psychiatry/ (1463) 16. *community mental health services/ (10605) 17. *Emergency Services, Psychiatric/ (1454) 18. 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 (129510)

	19. 9 and 18 (1897) 20. limit 19 to yr="2000 -Current" (1079) 21. limit 20 to (dutch or english or french) (987) 22. meta-analysis.mp,pt. or review.pt. or search:.tw. (1721647) 23. 21 and 22 (113)
Note	

3.1.2. PSYCHINFO-OVID

Date	**20/04/2011**
Database (name + access ; e.g.: Medline OVID)	Database: PsycINFO <1806 to April Week 2 2011>----------
Search Strategy (attention, for PubMed, check « Details »)	1. outcome assessment.mp. (638) 2. process assessment.mp. (154) 3. benchmarking.mp. (502) 4. quality indicators.mp. (494) 5. health status indicators.mp. (56) 6. (performance adj2 (measurement or analysis or indicator$ or evaluation or assessment)).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] (5763) 7. *Quality of Services/ (2667) 8. *Quality of Care/ (5027) 9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 (14732) 10. *community mental health services/ (5107) 11. *Mental Health Services/ (18681) 12. *Mental Disorders/ (44155) 13. *Psychiatry/ (14167) 14. *Child Psychiatry/ (3914) 15. *Adolescent Psychiatry/ (2206) 16. 10 or 11 or 12 or 13 or 14 or 15 (80472) 17. 9 and 16 (1111)

	18. limit 17 to yr="2000 -Current" (767) 19. limit 18 to (dutch or english or french) (707) 20. meta-analysis.mp,pt. or review.pt. or search:.tw. (55550) 21. 19 and 20 (22)
Note	

3.1.3. EMBASE

Date	**20/04/2011**
Database (name + access ; e.g.: Medline OVID)	Embase
Search Strategy (attention, for PubMed, check « Details »)	Embase Session Results

No.	Query	Results	Date
#7	#6 AND ([cochrane review]/lim OR [meta analysis]/lim OR [systematic review]/lim) AND [embase]/lim AND [2000-2011]/py	9	20 Apr 2011
#6	#5 AND ([article]/lim OR [article in press]/lim OR [review]/lim) AND ([dutch]/lim OR [english]/lim OR [french]/lim) AND [embase]/lim AND [2000-2011]/py	299	20 Apr 2011
#5	#2 AND #3 AND (2000:py OR 2001:py OR 2002:py OR 2003:py OR 2004:py OR 2005:py OR 2006:py OR 2007:py OR 2008:py OR 2009:py OR 2010:py OR 2011:py)	953	20 Apr 2011
#4	#2 AND #3	1953	20 Apr 2011
#3	'mental health care'/mj OR 'mental health service'/mj OR 'home mental health care'/mj OR 'mental hospital'/mj OR 'mental disease'/mj OR 'psychiatry'/mj OR 'child psychiatry'/mj OR 'mental health'/mj OR 'community mental health'/mj OR 'psychological well being'/mj	165166	20 Apr 2011
#2	'outcome assessment'/mj OR 'health care quality'/mj OR 'health survey'/mj OR 'quality control'/mj OR 'performance measurement system'/mj	91397	20 Apr 2011

Note

3.2. Search for studies published since 2008:

3.2.1. MEDLINE-OVID

Date	**20/05/2011**
Database (name + access ; e.g.: Medline OVID)	Database: Ovid MEDLINE(R) 1948 to Present with Daily Update Search Strategy: ----------
Search Strategy (attention, for PubMed, check « Details »)	1. *"Outcome and Process Assessment (Health Care)"/ (6613) 2. *"Outcome Assessment (Health Care)"/ (16054) 3. *"Process Assessment (Health Care)"/ (1146) 4. *"Quality Assurance, Health Care"/ (24399) 5. *Benchmarking/ (3432) 6. *"Quality Indicators, Health Care"/ (3958) 7. *"Health Status Indicators"/ (7666) 8. (performance adj2 (measurement or analysis or indicator$ or evaluation or assessment)).mp. (26317) 9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 (85552) 10. *Mental Health Services/ (16834) 11. *Mental Disorders/ (79197) 12. *Mental Health/ (10091) 13. *Psychiatry/ (22214) 14. *Child Psychiatry/ (3091) 15. *Adolescent Psychiatry/ (1466) 16. *community mental health services/ (10645) 17. *Emergency Services, Psychiatric/ (1460) 18. 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 (130129) 19. 9 and 18 (1912) 20. limit 19 to (english language and yr="2008 -Current" and (dutch or english or french)) (301)
Note	

3.2.2. EMBASE

Date	20/04/2011
Database (name + access ; e.g.: Medline OVID)	Embase
Search Strategy (attention, for PubMed, check « Details »)	Embase Session Results ..... No. Query Results Results Date #6. #3 AND #4 AND (2008:py OR 2009:py OR 2010:py OR 2011:py) 336 20 May 2011 #5. #3 AND #4 1,941 20 May 2011 #4. 'mental health care'/mj OR 'mental health service'/mj OR 'home mental health care'/mj OR 'mental hospital'/mj OR 'mental disease'/mj OR 'psychiatry'/mj OR 'mental health'/mj OR 'community mental health'/mj OR 'psychological well being'/mj 161,447 20 May 2011 #3. 'outcome assessment'/mj OR 'health care quality'/mj OR 'health survey'/mj OR 'quality control'/mj OR 'performance measurement system'/mj 91,692 20 May 2011
Note	

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PART 2: INDICATORS IN HEALTH PROMOTION

INTRODUCTION

While the former "Performance" Project (2008-2010) limited its scope to the evaluation of the performance of the health care system, it has been decided, in this 2d phase of the work, to broaden the scope and to include the health promotion aspects. Several authors (Nutbeam, Mac Donald, St-Leger, Rootman) argue that health promotion indicators should cover a wide variety of areas, such as health, wellbeing, equity, health behaviours, individual skill, community capacity, environmental context, policy development, process evaluation. In Belgium, health and health-behaviour indicators are well documented and largely used in general dashboards (Declercq, Godin, Tellier, Observatoire de la santé de Bruxelles, Vlayen, Vlaams Agentschap Zorg en gezondheid) but the use of indicators covering other areas of health promotion is rather limited at the policy-makers level.

The former "Performance' report (Vlayen and all, 2010) included 55 indicators, amongst which 9 could be considered as "Health promotion indicators". Six of those pertained to "health behaviour" class[b]; the 3others[c] pertained to the "Physical health status" class. The aim of this work is to propose a more balanced set of health promotion indicators.

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[b] The 6 indicators of the former 55-indicators set pertaining to the « health-behaviour » class in were: % of adults who smoke on a daily basis, % of adults that are problematic alcohol-drinkers (consumption >140 g of ethanol per week for the women and > 210 g for the men); % of adults eating fruits at least once a day; % of adults eating vegetables at least once a day; % of children exclusively breastfed at 6 months; % of adults who meet the dietetic recommendation about salt consumption

[c] The 3 indicators of the former 55-indicators set pertaining to the "physical health status " class and have some link with health promotion are: infant mortality (generic indicator, meaning linked to health promotion as well as curative or preventive care), premature mortality (generic indicator), % of children with carried or filled teeth at 12 (specific to health promotion)

1. OBJECTIVES

The purpose of this section is to examine the feasibility to broaden the spectrum of indicators to cover other issues related to health promotion, such as environmental context, policy development, community capacity, individual skills. The set of health promotion indicators should be integrated in the global set of performance indicators, and should then be kept at a reasonable number.

2. METHODS

The general principle of the method was to select indicators through an iterative process. An initial "Long list" of potential indicators is generated from various sources. It is then gradually filtered down through several selection steps.

2.1. Phase 1: producing of a "long list" of potential indicators from various sources

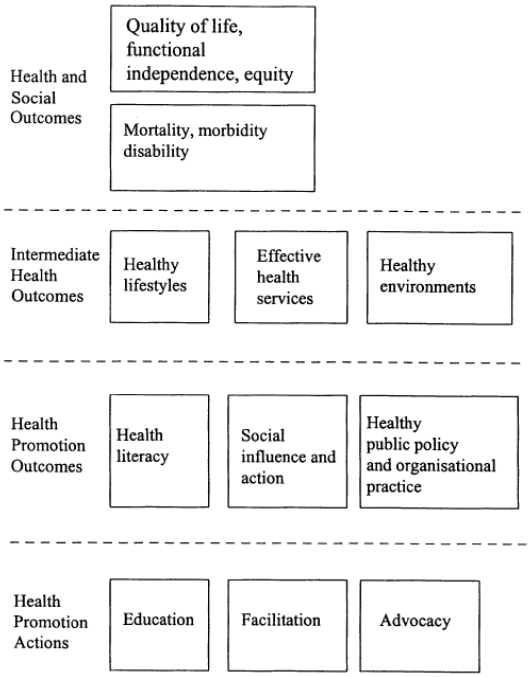
2.1.1. Sources of indicators

- Literature review: A search in the indexed literature on health promotion indicators was completed using the Medline (Ovid) and Embase databases. The concepts of performance measurement, health promotion and health policies were approached by a search strategy using several terms for each concept (see annex). The search was limited to articles published since 2000 in English, French or Dutch. 706 articles were retrieved and scanned on title and/or abstract. The criteria to exclude articles were: no indicator presented, too different context (developing countries), too specific intervention (for instance evaluation of a specific project of physical activity in a given town or enterprise) or intervention targeting a very specific subpopulation (example baby's, patients with cognitive problems, etc).
- Additional published articles providing indicators were found by "handsearching", for instance by checking in the list of references of the articles read.
- Beside this search in the indexed literature, a search on health promotion indicators in the grey literature was performed. The search was essentially done in international websites providing health-related indicators (WHO- OECD, European Union). For national websites, we used links provide in a former review comparing health systems in developed countries (Doumont).
- The provisory results of the literature search have been discussed with a panel expert, during a 1st expert meeting; additional reading has been proposed by the experts.

2.1.2. Classification of the indicators

- Extraction of the indicators from the sources: the health promotion indicators were then extracted from the retained material. We limited the list of "Physical health outcomes" indicators to those that could be improved by health promotion intervention. For each indicator, we extracted also its purpose and the potential use of this information (to what, for whom), in the context of each publication. 210 indicators were extracted to generate the initial "Long list".
- Choice of a conceptual framework: several frameworks have been proposed to classify health promotion indicators (Nutbeam, Cloetta, EUHPID). Nutbeam has proposed a framework that classifies health promotion indicators in 4 broad classes ranking from most proximal indicators (health promotion actions), through health promotion outcomes (health literacy, social influence and policies), intermediate health outcomes (healthy lifestyle, effective health services and healthy settings), to final health and social outcomes (physical health, like morbidity and mortality, and social health like well being and equity). In this work, we choose the Nutbeam's framework to classify the indicators, because it corresponds largely to the broad axes and principles of the Ottawa Charter. He has been widely used and its relative simplicity makes it appropriate tools for evaluation purposes.
- Classification of the indicators: the 210 indicators of the long list were classified according to the subclasses of the Nutbeam model. Some indicators that were part of a comprehensive audit-tool intended at assessing all aspects of projects were considered as outside the scope of this work.

2.1.3. *The Nutbeam 'framework*



2.2. Phase 2: reducing the list through an iterative filtering

Step 1 evaluation of the relevance of the indicators of the long list.

The experts and the researchers have been asked to evaluate the 210 indicators of the long list with relevance as only criteria. The judging was binary (Yes-No answer). The score of relevance was calculated as the total number of "YES" answers. The criteria to retain an indicator and put it into the "Intermediate list" was to have a score >= 4 OR to be part of a set of very close indicators encompassing an important dimension of health promotion. The outcome of this 1st step scoring was an intermediate list of 36 indicators.

Step 2 evaluation of the indicators of the intermediate list against predefined selection criteria

The 36 indicators of the intermediate list were scored against 5 criteria, validity, reliability, relevance, interpretability, potential for actions. For this second scoring, it was asked to rate each criteria with a score between 1 and 9. The mean and median of the rating value of each criterion for each indicator was calculated.

Step 3 consensus meeting

The indicators were reviewed and discussed during the meeting at the light of the scoring results. A choice was made in the series of indicators when the themes were considered as essentials, but the 1st scoring results didn't allow selecting between a series of close indicator. This was the case for instance for the themes of "physical activity" or "inequality". During the discussion, some indicators were replaced by close indicators coming up from the long list pool, and that the experts finally judged more appropriate.

Step 4 synthesis work: reviewing and refining of the set

In a subsequent synthesis meeting, a subgroup of the researchers reviewed the produced list in order to eliminate redundancy or inconsistency. Redundant indicators were grouped. The remaining points to be finalized were listed (classes not represented, need for precisions, etc). It was decided to finalize the consensus discussions by e-mail.

3. RESULTS

3.1. Results from the literature review

The tables 1a show the results of the systematic literature review in indexed databases, based on the predefined set of terms. 706 articles were initially found. After screening on the title or abstract, 59 articles were judged interesting to be read for the purpose of the work; 30 provided indicators and 29 provided interesting concepts or methodological issues.

Table 1a: Results from the systematic literature review in indexed databases

1. Standardized search Medline-embase	Nb
Total found	706
Rejected based on title or abstract	647
Read from systematic search	59
	From which
Documents with indicators	**30**
Documents interesting for concept or methodological issues	29

The table 1b shows the results of the whole documental research, by source. On the light of those results, it should be noted that the research in the grey literature and by handsearching was much more productive that the systematic literature research. Some possible explanations are that many of those indicators are still in development phase and not yet published, that many of them are context-dependent (meaning adapted to national objectives) and are not judged enough interesting to be published, that the subject itself of indicators in health promotion doesn't interest the editors.

Table 1b: Results from the whole documental research, by source

2. Total read from all sources	Standardized search Medline-embase	Handsearching	Grey literature	Total
Documents with indicators	**30**	**15**	**48**	**93**
Documents interesting for concept or method	29	23	15	**67**
Read from all sources	**59**	**38**	**63**	**160**

3.2. Results from the selection process of indicators

Step 1 Evaluation of the relevance of the indicators of the long list.

The evaluation of the long list of 210 indicators is shown in table 2.

26 indicators reached a score >=4

10 indicators with a score <4 were kept for the second round because they encompass an important dimension; they were very close from each other, so the experts choices were spread between them.

An intermediate list of 36 indicators was produced

Step 2 evaluation of the indicators of the intermediate list against predefined selection criteria

The intermediate list of 36 indicators contained 10 indicators that scored 7 or higher at the 1st scoring. Those were kept in the set for discussion at the expert meeting but were not scored against other predetermined criteria.

6 indicators from last years were re-evaluated positively and stayed in the new data set:

- Infant mortality
- Premature mortality
- % of adults who smokes on a daily basis
- % of adults who are problematic alcohol-drinkers
- % of children with carried or filled teeth at 12
- 2 others indicators were kept after the 1st round because they reached a good score.
- % of health expenditures devoted to prevention of public health
- % of people who are overweight or obese, stratified by children-adolescents-adults

The remaining 28 indicators were submitted to the scoring against the other criteria (reliability, relevance, interpretability, potential for actions). The mean and median of the rating value of each criterion for each indicator scoring of the intermediate list is shown in table 3.

Step 3 consensus meeting, and

Step 4 synthesis work: reviewing and refining of the set

The results of the step 3 and 4 are presented together in the table 4.

21 indicators were retained: 5 of them are generic[d] and 16 are specific for health promotion. They are spread into many of the subclasses of the conceptual model (table 2); seemingly it is more difficult to find indicators for some categories than for others.

The following issues or limits of the set were pointed out:

- In particular, there was no indicator for the category "effective health services". An additional effort will be made to find one.
- No indicator was proposed in the field of occupational health promotion.
- The indicator "Composite index on the health promotion policy in the municipalities (VIGEZ) should be further documented
- The indicator on health literacy issued from the European work is still in development and should be validated.
- The optimal indicator on the consumption of fruits ad vegetables should be "% of people who consume fruits and vegetable in accordance to the national/regional recommendations"; since it is not regularly measurable, it will be recommended to use the 2 indicators from the HIS to follow this behavior. They will be considered as secondary indicators
- At the end of the process, the resulting list of indicator is a bit longer than the expected result (the expected number was about ten). Maybe this will be further shortened when the global set of performance indicators will be set up.

[d] Meaning that they are linked to curative and preventive care as well as to health promotion

Table 1: the long list of indicators (N=210) and the results of the relevance scoring

Class (Nutbeam)	Subclass in Nutbeam model	TOPIC	Indicator	Total
Health and social outcomes	Health status and quality of life	General	Self-perceived health : Proportion of people reporting their health is good or very good	9
Health and social outcomes	Health status and quality of life	General	Health expectancy : Healthy Life Years	9
Health and social outcomes	Health status and quality of life	General	Infant mortality	7
Health and social outcomes	Health status and quality of life	General	Premature mortality	6
Health and social outcomes	Health status and quality of life	General	Life expectancy	5
Health and social outcomes	Health status and quality of life	General	Score of self-esteem following Roesenberg scale	2
Health and social outcomes	Health status and quality of life	General	Depression, self reported prevalence	2
Health and social outcomes	Health status and quality of life	General	Long term activity limitations: Proportion of people reporting that they have long-term restrictions in daily activities.	2
Health and social outcomes	Health status and quality of life	General	Overall agegroup -specific mortality rate	1
Health and social outcomes	Health status and quality of life	General	% of people perceiving their mental health as excellent, good, medium or bad	1
Health and social outcomes	Health status and quality of life	General	Rate of suicide attempt among students	0
Health and social outcomes	Health status and quality of life	General	Rate of suicide ideation among students	0
Health and social outcomes	Health status and quality of life	Obesity/Diet/Physical activity & Related health issues	Population-based percentage of overweight or obese adults, children and adolescents.	7
Health and social outcomes	Health status and quality of life	Obesity/Diet/Physical activity & Related health issues	Obesity rates (% of people with a BMI >=30);	6
Health and social outcomes	Health status and quality of life	Obesity/Diet/Physical activity & Related health issues	CVD mortality	2
Health and social outcomes	Health status and quality of life	Obesity/Diet/Physical activity & Related health issues	Percentage of adults with raised blood pressure (BP) (i.e., systolic (SBP) . 140 and/or diastolic (DBP) 90 mmHg).	1
Health and social outcomes	Health status and quality of life	Obesity/Diet/Physical activity & Related health issues	Percentage of adults with raised total cholesterol (i.e. . 5.2 mmol/l).	1

Class (Nutbeam)	Subclass in Nutbeam model	TOPIC	Indicator	Total
Health and social outcomes	Health status and quality of life	Obesity/Diet/Physical activity & Related health issues	Proportion of adult persons (18+) who have diabete (self-reported)	1
Health and social outcomes	Health status and quality of life	Obesity/Diet/Physical activity & Related health issues	Body weight satisfaction	1
Health and social outcomes	Health status and quality of life	Tobacco	Larynx & Lung cancer incidence	3
Health and social outcomes	Health status and quality of life	Tobacco	Smoking-related mortality	3
Health and social outcomes	Health status and quality of life	Tobacco	Acute myocardial infaction incidence	1
Health and social outcomes	Health status and quality of life	Alcohol and illicit drugs	Drug-related mortality	3
Health and social outcomes	Health status and quality of life	Alcohol and illicit drugs	Alcohol-related mortality	2
Health and social outcomes	Health status and quality of life	Alcohol and illicit drugs	Number of alcohol related traffic accidents	1
Health and social outcomes	Health status and quality of life	Else, Miscellaneous	Incidence of HIV-Aids	5
Health and social outcomes	Health status and quality of life	Else, Miscellaneous	Abortion rate	4
Health and social outcomes	Health status and quality of life	Else, Miscellaneous	Road injuries incidence (Self-reported or registered based)	3
Health and social outcomes	Health status and quality of life	Else, Miscellaneous	Injuries at home,leisure time,school, self-reported incidence	2
Health and social outcomes	Health status and quality of life	Else, Miscellaneous	Incidence of Chlamydia infection;	1
Health and social outcomes	Health status and quality of life	Else, Miscellaneous	Incidence of gonorrhoeal infection;	0
Health and social outcomes	Health status and quality of life	Workplace	% absenteeism at work	4
Health and social outcomes	Health status and quality of life	Workplace	% turnover at work	2
Health and social outcomes	Health status and quality of life	Workplace	% of employees expressing job satisfaction	1
Health and social outcomes	Health status and quality of life	Workplace	Injuries at workplace self-reported incidence of serious injuries at work	0
Health and social outcomes	Health status and quality of life	Workplace	% of expressed satisfaction on working conditions	0
Health and social outcomes	Inequalities	General	Fraction of bad self perceived health attributable to socio-economic inequalties (PAF)	3
Health and social outcomes	Inequalities	General	Gini of bad self-perceived health among SES status	3
Health and social outcomes	Inequalities	General	Ratio of the leading health indicators between ethnies and social groups	2
Health and social outcomes	Inequalities	General	Fraction of chronical disease attributable to socio-economic inequalties (PAF)	2
Health and social outcomes	Inequalities	General	Concentration index of inequality in self-perceived health among SES	2

Class (Nutbeam)	Subclass in Nutbeam model	TOPIC	Indicator	Total
			status	
Health and social outcomes	Inequalities	General	Inequality in incomes (for instance GINI, quintile ratio of incomes))	2
Health and social outcomes	Inequalities	General	Gini of the prevalence chronical disease among SES status	1
Health and social outcomes	Inequalities	General	Odd ratio of Bad Self perceived health between higher and lower SES status	1
Intermediate health outcomes	Healthy lifestyle	Obesity/Diet/Physical activity & Related health issues	Percentage of population eating fewer than 5 servings of fruit and vegetables per day, or proportion of adults eating less than 400 g of fruit and vegetables per day.	5
Intermediate health outcomes	Healthy lifestyle	Obesity/Diet/Physical activity & Related health issues	% of people practising at least 30 minutes of PA per day	4
Intermediate health outcomes	Healthy lifestyle	Obesity/Diet/Physical activity & Related health issues	% of sedentary people	3
Intermediate health outcomes	Healthy lifestyle	Obesity/Diet/Physical activity & Related health issues	% of adults reporting to eat fruits at least once a day	2
Intermediate health outcomes	Healthy lifestyle	Obesity/Diet/Physical activity & Related health issues	% of adults reporting to eat vegetables at least once a day	2
Intermediate health outcomes	Healthy lifestyle	Obesity/Diet/Physical activity & Related health issues	% of children achieving 30 minutes of sportive activity in afterschool program	2
Intermediate health outcomes	Healthy lifestyle	Obesity/Diet/Physical activity & Related health issues	Percentage of children participating in at least 60 minutes of physical activity per day.	2
Intermediate health outcomes	Healthy lifestyle	Obesity/Diet/Physical activity & Related health issues	% engaged in leisure-time physical activity;	1
Intermediate health outcomes	Healthy lifestyle	Obesity/Diet/Physical activity & Related health issues	Percentage of population with dietary fat intake > 30 % of total energy daily consumed	1
Intermediate health	Healthy lifestyle	Obesity/Diet/Physical	Percentage of children exclusively breastfed for 6 months.	1

Class (Nutbeam)		Subclass in Nutbeam model	TOPIC	Indicator	Total
outcomes			activity & Related health issues		
Intermediate outcomes	health	Healthy lifestyle	Obesity/Diet/Physical activity & Related health issues	Percentage of adults with low level of physical activity (<600 Metaboloc equivalent per week)	1
Intermediate outcomes	health	Healthy lifestyle	Obesity/Diet/Physical activity & Related health issues	% of people who meet the recommendations about the consumption of salt	0
Intermediate outcomes	health	Healthy lifestyle	Obesity/Diet/Physical activity & Related health issues	% of people practicing more than 4 hours PA per week	0
Intermediate outcomes	health	Healthy lifestyle	Tobacco	% of the population > 15 years that smokes on a daily basis	6
Intermediate outcomes	health	healthy lifestyle	Tobacco	Prevalence and incidence of smokers in adolescents	2
Intermediate outcomes	health	Healthy lifestyle	Tobacco	Percentage of smoke-free adults	2
Intermediate outcomes	health	Healthy lifestyle	Tobacco	Percentage of smoke-free adolescents	2
Intermediate outcomes	health	Healthy lifestyle	Alcohol and illicit drugs	% of the population >=15 years who are problematic drinkers (>14 glass per weeks for women and >21 for men)	10
Intermediate outcomes	health	Healthy lifestyle	Alcohol and illicit drugs	% of people who drink and drive	2
Intermediate outcomes	health	Healthy lifestyle	Alcohol and illicit drugs	Percentage of people reporting to have used illicit drugs during the past year (last year prevalence).	1
Intermediate outcomes	health	Healthy lifestyle	Alcohol and illicit drugs	Alcohol consumption among individuals aged 15+, expressed in litres of pure ethanol consumed per person per year.	1
Intermediate outcomes	health	Healthy lifestyle	Else, Miscellaneous	score of global behaviour risk profile (see details in référence)	0
Intermediate outcomes	health	Effective health services	General	% of healthy lifestyle advice in high-risk patients in primary care	3
Intermediate outcomes	health	Effective health services	Obesity/Diet/Physical activity & Related health issues	Percentage of the population offered advice on a healthy diet by primary care team.	0

Class (Nutbeam)		Subclass in Nutbeam model	TOPIC	Indicator	Total
Intermediate outcomes	health	Effective health services	Hospitals	% of hospitals offering counselling/consultation on healthy lifestyle	1
Intermediate outcomes	health	Effective health services	Hospitals	% of hospitals offering information on healthy lifestyle	0
Intermediate outcomes	health	Healthy environment	Obesity/Diet/Physical activity & Related health issues	Kilometres of bicycle paths per square kilometre (or per 100 square kilometres) by urban versus rural.	3
Intermediate outcomes	health	Healthy environment	Obesity/Diet/Physical activity & Related health issues	Number of fast food restaurants per capita	2
Intermediate outcomes	health	Healthy environment	Obesity/Diet/Physical activity & Related health issues	availability of physical activity facilities to community members (%, hours open, cost)	0
Intermediate outcomes	health	Healthy environment	Obesity/Diet/Physical activity & Related health issues	presence of healthy menus in restaurants	0
Intermediate outcomes	health	Healthy environment	Obesity/Diet/Physical activity & Related health issues	Percentage of food manufacturers providing full nutrition labelling.	0
Intermediate outcomes	health	Healthy environment	Obesity/Diet/Physical activity & Related health issues	Kms of walking trails per capita	0
Intermediate outcomes	health	Healthy environment	Obesity/Diet/Physical activity & Related health issues	Kms of bike lanes per capita	0
Intermediate outcomes	health	Healthy environment	Obesity/Diet/Physical activity & Related health issues	% of restaurants in companies offering healthy food options on menu	0
Intermediate outcomes	health	Healthy environment	Schools	presence of healthy foods in vending machines in schools	4
Intermediate outcomes	health	Healthy environment	Schools	Total school hours allocated to physical activity at primary and secondary level.	4
Intermediate outcomes	health	Healthy environment	Schools	Percentage of schools restricting the availability of high fat, salt, sugar products in vending machines.	4

Class (Nutbeam)	Subclass in Nutbeam model	TOPIC	Indicator	Total
Intermediate outcomes health	Healthy environment	Schools	% of schools having obtained the label of healthy attitudes "Mangerbouger" of the French Speaking Community;	2
Intermediate outcomes health	Healthy environment	Schools	% of children educated in a health promoting school	2
Intermediate outcomes health	Healthy environment	Schools	% of schools having consulted a dietician to optimize the nutritional practices inside the school	1
Intermediate outcomes health	Healthy environment	Schools	presence of healthy menus in schools	1
Intermediate outcomes health	Healthy environment	Schools	% of schools offering soup or vegetables at least 4 times a week	0
Intermediate outcomes health	Healthy environment	Schools	% of schools with a fast-food restaurant	0
Intermediate outcomes health	Healthy environment	Schools	% of schools offering/vending soda's with the meal	0
Intermediate outcomes health	Healthy environment	Schools	% of secondary schools offering effective schools-based prevention programme	0
Intermediate outcomes health	Healthy environment	Schools	Percentage of schools offering school meals consistent to dietary guidelines.	0
Intermediate outcomes health	Healthy environment	Workplace	% of population working in enterprises offering specific worksites health promotion programmes	3
Intermediate outcomes health	Healthy environment	Workplace	Percentage of workplaces serving meals consistent with national dietary guidelines.	2
Intermediate outcomes health	Healthy environment	Workplace	% of large companies having implemented health promotion programmes (tobacco/alcohol/physical activity)	0
Intermediate outcomes health	Healthy environment	Workplace	Percentage of workplaces with showers and changing-room facilities.	0
Intermediate outcomes health	Healthy environment	Workplace	Percentage of workplaces offering physical activity programmes for employees.	0
Intermediate outcomes health	Healthy environment	Hospitals	% patients educated for self management	3
Intermediate outcomes health	Healthy environment	Hospitals	% patients assessed for risk factors	2
Health promotion outcomes	Health literacy	General	% of people reporting to be able to interpret and evaluate easily	4

Class (Nutbeam)	Subclass in Nutbeam model	TOPIC	Indicator	Total
			information on medical issues and treatment	
Health promotion outcomes	Health literacy	General	% of people reporting be able to take decisions on risk factor for health	4
Health promotion outcomes	Health literacy	General	% of people facing challenges in understanding basic instruction from their physician	3
Health promotion outcomes	Health literacy	General	% of people reporting to find easily information on medical isues and treatment	2
Health promotion outcomes	Health literacy	General	% of people reporting be able to take decisions onon determinants of health in the social and physical environment	2
Health promotion outcomes	Health literacy	General	% of people reporting tounderstand easily information on medical isues and treatment	1
Health promotion outcomes	Health literacy	General	% of people reporting be able to take decisions on medical issues and treatment	1
Health promotion outcomes	Health literacy	General	% of people reporting tounderstand easily information on risk factors for health	1
Health promotion outcomes	Health literacy	General	% of people reporting to be able to interpret and evaluate easily information on risk factor for health	1
Health promotion outcomes	Health literacy	General	% of people reporting tounderstand easily information on determinants of health in the social and physical environment	1
Health promotion outcomes	Health literacy	General	% of people reporting to be able to interpret and evaluate easily information on determinants of health in the social and physical environment	1
Health promotion outcomes	Health literacy	General	% of people reporting to find easily information on risk factors for health	0
Health promotion outcomes	Health literacy	General	% of people reporting to find easily information on determinants of health in the social and physical environment	0
Health promotion outcomes	Health literacy	Obesity/Diet/Physical activity & Related health issues	perception, understanding , knowledge regarding physical activity and diet recommendations, and food offer	2
Health promotion outcomes	Health literacy	Obesity/Diet/Physical activity & Related health issues	score of attitudes concerning physical activity	0
Health promotion outcomes	Health literacy	Else, Miscellaneous	trends in the number of new breast cancer diagnosis per month in relation with the moment of the campaign	0
Health promotion outcomes	Social influence and actions	General	Social support measured with the OSS3 scale	4

Class (Nutbeam)	Subclass in Nutbeam model	TOPIC	Indicator	Total
Health promotion outcomes	Social influence and actions	General	Rate of young people leaving schools without a diploma	4
Health promotion outcomes	Social influence and actions	General	% of people >=65 years who socialize with friends or neighbours in the past week	3
Health promotion outcomes	Social influence and actions	General	Long term unemployment rate	3
Health promotion outcomes	Social influence and actions	General	self-reported level of belonging to the local community	2
Health promotion outcomes	Social influence and actions	General	The community is welcoming and supportive to the whole diversity of the community	1
Health promotion outcomes	Social influence and actions	General	People participate actively in the social, political and economic life of the community	1
Health promotion outcomes	Social influence and actions	General	People from all parts of the community are involved in community activities	1
Health promotion outcomes	Social influence and actions	General	Access to high level responsibility to women with children	1
Health promotion outcomes	Social influence and actions	General	Success rate at school in children from low socio-economic class	1
Health promotion outcomes	Social influence and actions	General	Residents have positive perceptions of their community	0
Health promotion outcomes	Social influence and actions	General	% of people >=65 years who attended movies, sport event, clubs in the past week	0
Health promotion outcomes	Social influence and actions	General	Proportion of homeless people in the population	0
Health promotion outcomes	Social influence and actions	General	Existence of religious or ethnical ghettos	0
Health promotion outcomes	Social influence and actions	General	Proportion of over-indebted households	0
Health promotion outcomes	Social influence and actions	General	Participation rate to the elections	0
Health promotion outcomes	Social influence and actions	General	Proportion of disable people working in the public/private sectors	0
Health promotion outcomes	Social influence and actions	General	Proportion of elderly people living in the family	0
Health promotion outcomes	Social influence and actions	General	score of traditional social cohesion, based on 1, shared common values (measured by the rate of participation to the main catholic rituals) 2, absence of property crime (theft) 3, social capital (measured by the rate of socio-cultural associations, rate	0
Health promotion outcomes	Social influence and actions	General	score of modern social cohesion, based on 1, absence of deprivation (measured by rate of unemployment, rate of long term unemployment, percentage of population on welfare benefits, percentage of births in underprivileged families)/2, absence of violent cr	0
Health promotion outcomes	Social influence and actions	Hospitals	% of hospitals who cooperate with patients organisations	3
Health promotion outcomes	Social influence and actions	Hospitals	% of hospitals who practice patient satisfaction studies	1

Class (Nutbeam)	Subclass in Nutbeam model	TOPIC	Indicator	Total
Health promotion outcomes	Healthy public policies and organisational practice	General	Net expenditure on health promotion and prevention per inhabitant	8
Health promotion outcomes	Healthy public policies and organisational practice	General	% of the public « Health expenditures » allocated to prevention or public health services	6
Health promotion outcomes	Healthy public policies and organisational practice	General	% of municipalities where the health promotion is integrated in the broader scope of social policy and in different sub matters (young people, old people, school, etc) and in a long term agenda	4
Health promotion outcomes	Healthy public policies and organisational practice	General	% of municipalities with a workgroup on health promotion where citizens are represented	3
Health promotion outcomes	Healthy public policies and organisational practice	General	% of municipalities with an employee explicitly in charge of the coordination of health promotion	2
Health promotion outcomes	Healthy public policies and organisational practice	General	Existence of intersectorial action between at least 2 sectors who develop e coordinated policy in response to a common priority	0
Health promotion outcomes	Healthy public policies and organisational practice	General	% of municipalities developing expertise on health promotion in their staff	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Existence of a clear national programme or campaign for physical education and public awareness.	2
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Percentage of the population or specific target population reached with the healthy diet and physical activity communication campaigns or messages	2
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Composite index measuring the strength of healthy diet promoting policy in municipalities; components of the index are offer of healthy food/information/regulation/participation/networking/budget	2
Health promotion outcomes	Healthy public policies and organisational practice in settings (schools, worksites)	Obesity/Diet/Physical activity & Related health issues	Existence of a policy that affects the cost of healthier foods and beverages (as defined by the Insitute of Medicine(IOM)) relative to the cost of less healthy foods and beverages sold in various settings (eg schools, local government facilities)	2
Health promotion outcomes	Healthy public policies and organisational practice in settings (schools, worksites)	Obesity/Diet/Physical activity & Related health issues	% of companies with policies for healthy food and exercise	1
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	National action plan on diet and physical activity published	1

Class (Nutbeam)	Subclass in Nutbeam model	TOPIC	Indicator	Total
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Existence of published national dietary guidelines	1
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Regulation regarding physical activities in schools	1
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Existence of multistakeholder national and/or regional transport policies that promote active and safe methods of transportation such as walking or cycling.	1
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Legislation and/or regulation regarding nutrition labelling and health claims developed.	1
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Existence of a clear national programme or campaign for diet education and public awareness.	1
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Existence of policies requiring to provide breastfeeding accommodations for employees that include both time and private space for breastfeeding during working hours	1
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	% of municipalities organizing information/ awareness actions on healthy diet for the population	1
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	% of municipalities having a budget devoted to promote physical activity in disadvantaged groups	1
Health promotion outcomes	Healthy public policies and organisational practice in settings (schools, worksites)	Obesity/Diet/Physical activity & Related health issues	Existence of a policy to apply nutritional standards consistent with the national dietary guidelines to all food sold (e.g. meal menus and vending machines) in schools and other settings (city and conty buidings, prisons, juvenile detention centers, commu	1
Health promotion outcomes	Healthy public policies and organisational practice in settings (schools, worksites)	Obesity/Diet/Physical activity & Related health issues	Existence of a policy to prohibit the sale of unhealthy food, and sugar-weetened beverages in schools (as defined by the IOM), and other settings	1
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Policies on healthy nutrition	0
Health promotion outcomes	Healthy public policies and	Obesity/Diet/Physical	Existence of an expert Council of advisory board to advise on the	0

Class (Nutbeam)	Subclass in Nutbeam model	TOPIC	Indicator	Total
	organisational practice	activity & Related health issues	development of the strategy	
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Existence of legislation to support availability and access to healthy food.	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Existence of national coordinating mechanism (an organization, committee or other body) to oversee, develop and implement the nutritionnal and physical activity policy or strategy.	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Existence of published national physical activity guidelines.	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Existence of clear and sustainable national and/or sub-national budget for action on diet and nutrition.	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Existence of national or regional guidance for the development of urban plans that promote physical activity.	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Existence of a regulatory framework and/or self-regulatory mechanism to limit the marketing of food and non-alcoholic beverages to children.	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Existence of local or municipal food subsidies and food pricing strategies that are consistent with national dietary guidelines.	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Percent of counties or municipalities with policies that promote recreation facilities (e.g. bikeways, parks, fields, gyms, pools, tennic courts, and playgrounds) in new and redeveloped residentail and mixed-use communities	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	Nutritional labeling requirements at restaurants, stores, snack bars	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	% of municipalities organizing information/ awareness actions on healthy diet for their employees	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related	% of municipalities implementing policies aiming to increase the consumption of healthy food and drinks for the population	0

Class (Nutbeam)	Subclass in Nutbeam model	TOPIC	Indicator	Total
		health issues		
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	% of municipalities implementing policies aiming to increase the consumption of healthy food and drinks for their employees	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	% of municipalities organizing information/awareness actions on physical activity for the population	0
Health promotion outcomes	Healthy public policies and organisational practice	Obesity/Diet/Physical activity & Related health issues	% of municipalities organizing information/awareness actions on physical activity for their employees	0
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	Composite index summarizing regulations implemented by health (and other) authorities on smoking restrictions in specific areas	5
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	Composite index measuring the strength of tobacco prevention policy in municipalities; components of the index are information/regulation/intervention/participation/networking/budget	3
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	Intensity of the smoke free environments legislation	2
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	% of taxes in the retail price of tobacco products	1
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	Clean air laws in public buildings, restaurants, worksites, etccc	0
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	Tobacco vending machine regulations in communities	0
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	Enforcement of ordinances prohibiting tobacco sales to minors	0
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	Intensity of the monitoring of smoking prevalence	0
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	Level of the offer of treatment for tobacco dependance	0
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	Level of the obligation of warning about the dangers of tobacco on the packs	0
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	Level of the anti-smoking mass media campaign	0
Health promotion outcomes	Healthy public policies and	Tobacco	Level of the bans on tobacco advertising and promoting	0

Class (Nutbeam)	Subclass in Nutbeam model	TOPIC	Indicator	Total
	organisational practice			
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	% of municipalities who conducted awareness action for the population last year	0
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	% of municipalities with a total / partial interdiction of smoking for their employees	0
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	% of municipalities where a procedure is foreseen when employees/ the population in the municipality services don't respect the interdiction of smoking	0
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	% of municipalities offering support to stop smoking (organization of courses, intervention in the costs of medicine, etc..)	0
Health promotion outcomes	Healthy public policies and organisational practice	Tobacco	% of municipalities collaborating with partners (networking) for the tobacco prevention	0
Health promotion outcomes	Healthy public policies and organisational practice	Alcohol and illicit drugs		
Health promotion outcomes	Healthy public policies and organisational practice	Schools	Existence of a policy that limits advertising and promotion of less healthy foods and beverages within local government facilities or in schools	3
Health promotion outcomes	Healthy public policies and organisational practice	Schools	Composite index measuring the strength of healthy diet promoting policy in fundamental schools; components of the index are offer of healthy food/health education/regulation/participation/networking	2
Health promotion outcomes	Healthy public policies and organisational practice	Schools	Composite index measuring the strength of policy promoting physical activity in municipalities enterprises; components of the index are offer /information/regulation/participation/networking	2
Health promotion outcomes	Healthy public policies and organisational practice	Schools	Existence of a policy that requires students to be physically active for at least 50% of time spent in Physical Education classes	1
Health promotion outcomes	Healthy public policies and organisational practice	Schools	Composite index measuring the strength of tobacco prevention policy in secondary schools; components of the index are education/regulation/intervention/ participation/networking	1
Health promotion outcomes	Healthy public policies and organisational practice	Schools	Composite index measuring the strength of policy promoting physical activity in secondary schools; components of the index are offer /health education/regulation/participation/networking	1
Health promotion outcomes	Healthy public policies and organisational practice	Schools	Presence of local policy to include Physical Education in schools	0
Health promotion outcomes	Healthy public policies and organisational practice	Schools	Policies that limit junk food sales in schools	0

Class (Nutbeam)	Subclass in Nutbeam model	TOPIC	Indicator	Total
Health promotion outcomes	Healthy public policies and organisational practice	Schools	Composite index measuring the strength of tobacco prevention policy in fundamental schools; components of the index are education/regulation /intervention/ participation/ networking	0
Health promotion outcomes	Healthy public policies and organisational practice	Schools	Composite index measuring the strength of healthy diet promoting policy in secondary schools; components of the index are offer of healthy food/health education/regulation/participation/networking	0
Health promotion outcomes	Healthy public policies and organisational practice	Schools	Composite index measuring the strength of policy promoting physical activity in fundamental schools; components of the index are offer /health education/regulation/participation/networking	0
Health promotion outcomes	Healthy public policies and organisational practice	Workplace	% of companies with breastfeeding accommodations for employees	2
Health promotion outcomes	Healthy public policies and organisational practice	Workplace	Composite index measuring the strength of tobacco prevention policy in enterprises; components of the index are education/regulation/ intervention/ participation/ networking	2
Health promotion outcomes	Healthy public policies and organisational practice	Workplace	Formal policy that supports healthy eating at worksites	1
Health promotion outcomes	Healthy public policies and organisational practice	Workplace	Composite index measuring the strength of healthy diet promoting policy in enterprises; components of the index are offer of healthy food/information/regulation/participation/networking/budget	1
Health promotion outcomes	Healthy public policies and organisational practice	Workplace	Composite index measuring the strength of policy promoting physical activity in enterprises; components of the index are offer /information/regulation/participation/networking	1
Health promotion outcomes	Healthy public policies and organisational practice	Workplace	Presence of formal worksite policies that support physical activity (e.g. flextime)	0

Table 2: The intermediate list of indicators evaluated against predetermined criteria

		Validity		Reliability		Relevance		Interpreta.		Action	
Indicator	**relevance, total at 1st round**	**Med**	**M**	**Med**	**M**	**Med**	**M**	**Med**	**M**	**Med**	**M**
Self-perceived health : Proportion of people reporting their health is good or very good	9										
Health expectancy : Healthy Life Years	9										
Infant mortality	7										
Premature mortality	6										
Life expectancy	5	**7**	**6,88**	**8,5**	**8,38**	**7**	**6,75**	**7**	**6,88**	**4,5**	**5,25**
Population-based percentage of overweight or obese adults, children and adolescents.	7										
Obesity rates (% of people with a BMI >=30);	6										
Incidence of HIV-Aids	5	**7**	**7,29**	**5**	**6,14**	**8**	**6,29**	**6**	**6,71**	**6**	**5,71**
Abortion rate	4	**5**	**6,33**	**5,5**	**6**	**5,5**	**5,67**	**5**	**5**	**5,5**	**5,5**
% absenteeism at work	4	**7**	**6,88**	**6**	**6**	**7,5**	**7,5**	**5,5**	**5,13**	**5,5**	**5,63**

Fraction of bad self perceived health attributable to socio-economic inequalties (PAF)	3	**7**	**7**		**6,5**	**6,5**		**7**	**7,67**		**7**	**6,67**		**5**	**5,33**
Gini of bad self-perceived health among SES status	3	**8**	**7,5**		**6,5**	**6,5**		**9**	**8,2**		**8**	**6,8**		**5**	**5,6**
Ratio of the leading health indicators between ethnies and social groups	2	**8**	**7,2**		**7**	**6,6**		**7**	**7**		**7**	**7**		**5**	**5,2**
Fraction of chronical disease attributable to socio-economic inequalties (PAF)	2	**8**	**7**		**7**	**6,67**		**7**	**7,67**		**7**	**7**		**5**	**5**
Concentration index of inequality in self-perceived health among SES status	2	**6,5**	**6,5**		**6,5**	**6,5**		**8**	**8**		**3**	**4,67**		**5**	**5**
Gini of the prevalence chronical disease among SES status	1	**6,5**	**6,5**		**6,5**	**6,5**		**7**	**7,67**		**5**	**5,67**		**5**	**4**
Odd ratio of Bad Self perceived health between higher and lower SES status	1	**7**	**7,25**		**7**	**6,75**		**7**	**6,75**		**7**	**6,5**		**4,5**	**4,75**
Percentage of population eating fewer than 5 servings of fruit and vegetables per day, or proportion of adults eating less than 400 g of fruit and vegetables per day.	5	**7**	**6,86**		**7**	**5,71**		**7**	**6,86**		**7**	**6,43**		**6**	**6,14**
% of people practising at least 30 minutes of PA per day	4	**7**	**6,88**		**7**	**5,88**		**8**	**8**		**7**	**6,75**		**7**	**6,75**
% of sedentary people	3	**6**	**6**		**5**	**5,33**		**7,5**	**7,17**		**5**	**5,83**		**5**	**5,83**
% engaged in leisure-time physical activity;	1	**6,5**	**6,5**		**6**	**5,88**		**6**	**6,38**		**6**	**6,13**		**7**	**6,25**
Percentage of adults with low level of physical activity (<600 Metaboloc equivalent per week)	1	**7**	**7,33**		**6,5**	**6**		**7**	**7,43**		**6,5**	**6,83**		**6**	**6**

% of the population > 15 years that smokes on a daily basis	6												
% of the population >=15 years who are problematic drinkers (>14 glass per weeks for women and >21 for men)	10												
presence of healthy foods in vending machines in schools	4	**7**	**6,43**		**7**	**6,57**		**6**	**6,43**		**6**	**6,29**		**7**	**7,14**
Total school hours allocated to physical activity at primary and secondary level.	4	**7,5**	**7,5**		**8**	**7,63**		**7**	**7**		**7**	**6,75**		**7**	**6,75**
Percentage of schools restricting the availability of high fat, salt, sugar products in vending machines.	4	**7**	**6,71**		**6**	**5,29**		**6**	**6,43**		**6**	**5,43**		**5**	**5,14**
% of people reporting to be able to interpret and evaluate easily information on medical issues and treatment *	4	**8**	**7,71**		**6**	**5,43**		**8**	**7,57**		**7**	**6,86**		**7**	**7**
% of people reporting be able to take decisions on risk factor for health	4	**7**	**6,57**		**6**	**5,43**		**7**	**6,86**		**6**	**5,71**		**6**	**5,57**
% of people facing challenges in understanding basic instruction from their physician	3	**7**	**6,5**		**6,5**	**6,13**		**8**	**7,57**		**7**	**6,57**		**8**	**6,86**

Social support measured with the OSS3 scale	4	**7,5**	**7**		**6,5**	**6,5**		**8,5**	**8**		**7,5**	**7,25**		**6**	**6,25**
Rate of young people leaving schools without a diploma	4	**8**	**7,75**		**8**	**8**		**8**	**6,88**		**7**	**6,63**		**5,5**	**5,38**
Net expenditure on health promotion and prevention per inhabitant	8														
% of the public « Health expenditures » allocated to prevention or public health services	6														
% of municipalities where the health promotion is integrated in the broader scope of social policy and in different sub matters (young people, old people, school, etc) and in a long term agenda *	4	**5**	**5,43**		**5**	**5**		**8**	**6,86**		**7**	**6**		**6**	**6,57**
Composite index summarizing regulations implemented by health (and other) authorities on smoking restrictions in specific areas	5	**7**	**7**		**6,5**	**6,5**		**7**	**6,67**		**7**	**6,6**		**6,5**	**6,83**
% of schools with elements of health promotion written in their school-project **															

** Indicator that was replaced by a close indicator from the long list during the meetin*
*** Indicator proposed during the meeting*

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PART 3: INDICATORS IN CONTINUITY OF CARE AND PATIENT CENTEREDNESS

INTRODUCTION

Within the domain of quality of care, five clusters of indicators are quoted in the prior KCE report about performance indicators: efficacy, appropriateness, safety, patient-centeredness and continuity.[1] Other classifications exist in the domain of quality of care, as the 'six aims for improvement' identified by the Institute of Medicine: safety, effectiveness, patient-centeredness, timeliness, efficiency and equity.[2] The variety of classification and the diversity of definition of each concept lead to many overlaps.[3] For example, accessibility is covered by the IOM dimensions equity and timeliness. Relevance and legitimacy are part of patient-centeredness. Optimality is similar to efficiency. Efficacy is a part of effectiveness. Acceptability, continuity and comprehensiveness are related to patient centeredness. In this chapter, the concepts of continuity and patient-centeredness are separate, but the boundaries are sometimes blurred between them.

Continuity of care

There are several definitions of continuity of care. Within the KCE report 128 (performance report), the selected definition was : "The extent to which healthcare for specific users, over time, is smoothly organised within and across providers, institutions and regions[3] and to which the entire disease trajectory is covered."[1]

Continuity of care (COC) is distinguished from other attributes of care by two core elements : care over time and the focus on individual patients [4]. The patient's perspective and the coherency with the patient's medical needs and personal context are thus integrated in some definition of continuity[4]. However, these dimensions are moderately developed in the chapter given over continuity because widely related to patient centeredness (see below).

During several years, 3 types of continuity have been distinguished, based on the fact that continuity is the result of good information flow, good interpersonal skills, and good coordination of care [4-9]:

- **Informational continuity** : availability and use of data from prior events during current patient encounters; information links care from one provider to another and from one health event to another. Some authors make a distinction between informational continuity and team continuity, the last focusing on the good communication across a team of professionals or services.[6]
- **Management continuity**: coherent delivery of care from different providers (often focus on care plan for specific, chronic health problem).The measures of this aspect of continuity can overstep the boundaries of quality of medical care (focusing on compliance with management protocols).[9]
- **Relational continuity**: an ongoing relationship between patients and one or more providers that connects care over time and bridges discontinuous events (mainly for primary care and mental health care). This relational continuity is also defined as a therapeutic relationship between a patient and one or more providers that spans various health care events and results in accumulated knowledge of the patient and care consistent with the patient's needs. [10]

Therefore, these concepts overlap and some authors propose other categories:[6],

- **"Seamless care" or "coordinated care"** which involves integration, coordination and shared information **between professionals** or between provider organisations.[6] Coordination encompasses what others have described as "informational continuity", 'team continuity" and "management continuity".[11] Transitional care is a part of it as a "set of actions designed to ensure the coordination and continuity of care as patient transfer between different locations or different levels of care within the same location".[12]
- **"Longitudinal continuity"** with **an identified professional** : the *objective* fact of repeated consultations over time with a few doctors as possible.[6]
- **"Continuous caring relationship" or "patient-professional relationship"** : the *subjective* experience of a caring relationship between patient and doctor. [6]

Patient-centeredness

There are also several definitions of patient-centred care with many interconnecting components. In the KCE reports 128 and 41[1, 13], the selected definition of patient-centeredness is " 'providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions'[14].

According to the Institute of Medicine, patient-centeredness is defined as : "Health care that establishes a partnership among practitioners, patients, and their families (when appropriate) to ensure that decisions respect patients' wants, needs, and preferences and that patients have the education and support they need to make decisions and participate in their own care".[15]

Responsiveness and patient-centeredness are often taken to be equivalent.[3, 16]. Some authors talk about "people-centred" rather than patient-centred care.[17]

Several attributes is given to patient-centered care. For primary care by instance, we can find : access to care, patient engagement in care, clinical information systems, care coordination, integrates-comprehensive care, ongoing-routine patient feed-back, and publicly available information about practices.[18] For nursing (qualitative study), patient-centered care is associated by patients with individualising care, including the patient as a partner, respecting patient preferences, displaying a caring approach, establishing rapport, assuring care coordination and continuity, and promptly attending to patients' concerns and comfort.[19] These different attributes show the overlap between concepts, mainly between centeredness and coordination or continuity. In the 8 dimensions of patient-centred care defined by the Picker approach, centeredness is also related to accessibility, coordination and integration, transition and continuity.[19, 20]

Therefore to avoid a repetition of performance indicator in the different parts of this study, we focus on the specific element of centeredness, a part from continuity, coordination, accessibility and timeliness.

1. OBJECTIVES

The objectives of the literature review on continuity and patient-centred care indicators are:

- 1. To gather information on the indicators used in other countries
- 2 To help for the choice of a restricted number of indicators in Belgium

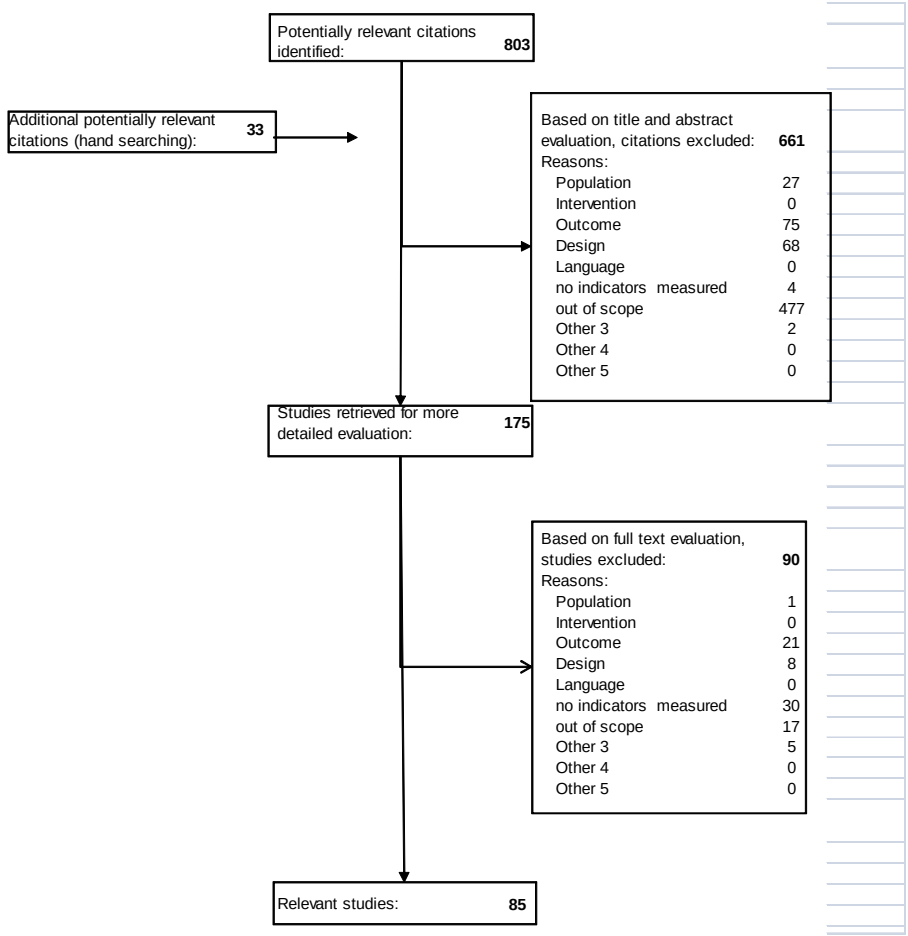
2. METHODS

- Literature review: search for published indicators
  - A search in the indexed literature on continuity and patient-centred care indicators was completed using the Medline (Ovid) and Embase databases. The concepts of performance measurement, continuity and patient-centred care and health policies were approached by a search strategy using several terms for each concept (see chapter 3.4). The search was limited to articles published since 2000 in English, French or Dutch. 803 articles were retrieved and scanned on title and/or abstract. The criteria to exclude articles were: out of scope, no indicator, too different context (developing countries).
  - 17 additional published articles were found by “handsearching”.
  - Beside this search in the indexed literature, a search on continuity and patient-centred care indicators in the grey literature was performed in 13 national and international websites providing health-related indicators (WHO- OECD, National Institute for Public Health and the Environment of Dutch, Agency for Healthcare Research and Quality, JCAHO…).
- Extraction and selection of the indicators:
  - The continuity and patient-centred care indicators were extracted from the retained material and organised in 2 separated lists (one for continuity of care and one for patient-centeredness). These lists (see chapter 3.5) had been checked by 7 members of the research team (KCE-ISP-INAMI) with the aim of choosing 25 indicators per topic, based on their relevance. The number of indicators selected by the experts per topic varied between 16 and 33.
  - On this basis, an intermediate list of indicators was constituted with 54 indicators for continuity of care and 55 indicators for patient-centeredness. The criteria to retain an indicator were the selection by minimum 2 experts OR the selection by one expert only, but encompassing a specific dimension of continuity or patient-centeredness.
  - An expert panel was formed with extern experts. Because of the overlap of several item in the 2 topics, only one panel was constituted for both continuity and patient-centeredness. 13 experts who were known for their expertise in continuity or patient-centeredness were contacted. 10 have confirmed their interest in the project. Finally, 8 have really participated. The panel was charged with reviewing and evaluating the indicators. A proposition of missing indicators was also stimulated. Two meeting were organised (on November and December 2011) to obtain an agreement on a short list of max 15 indicators by topic.

3. RESULTS

3.1. Indicators extracted from the literature review

Figure 1 Flowchart with amount of included and excluded articles, and exclusion criteria



To the 803 articles identified for continuity and centeredness, 33 were added by hand searching. From this amount, 661 were eliminated on the basis of titles and abstracts. From the 175 articles selected, 85 remained on the basis of the full text. The reasons for exclusion can be found in the flow chart above.

By the end of October, some 212 indicators related to continuity and 248 to patient-centred care were extracted from the literature search

3.2. Continuity

There is no consensus among the published literature about what should comprise COC indices but it's clear that no index is wholly inclusive all facets of continuity.[21]. Multiples measures are needed to capture all aspects of continuity, some being more useful in some contexts than others.[9]

The three type of indicators are distinguished : structure, process and outcome. A categorisation is made on the basis of van Walraeven review [5] which distinguishes the measure of 3 types of continuity for the process (informational, management and provider) and 4 types of outcomes. In the process indicators category, we added 2 domains: the broader concept of coordination and a separate classe of patient's perception questionnaire. Some outcome indicators are quoted but few result from an intervention improving continuity of care .

1. Structure
2. Process

   Informational continuity : this can be measured for medical history, medication or test use;

   Management continuity : follow up plan (from one provider group to another) and transition plan (from one organisation to another)[9]);

   Provider or relational or longitudinal continuity : place of primary care ; link with a same provider ; duration of care with the same provider ; diversity of providers ; sequence of care ; link between family and provider;

   Coordination : collaboration between primary care provider and specialists ; collaboration between physicians and nurses ; collaboration intra clinic, intra-team ; overall coordination; or mixed with other concepts of quality ; integrated care pathways.

3. Outcome

   Clinical

   Resource utilisation

   Treatment plan compliance

   Patient satisfaction: This part quoted several instruments without details because a description of each item of all of this instrument encompasses broadly the scope of this study.

Each indicator has been classified according to 2 categories:

- The level of care assessed : health care system level; institution level; provider level;
- The focus of the measurement : generic (comprehensive, assessing the overall impact independently of specific disease type or treatment) versus disease-specific measures (related to a given medical condition).

All continuity measure are classified as objective (quantitative indexes) or subjective (included patient-reported assessments of continuity) according to the type of data gathered.[5]

The aspect "patient-centeredness" of care are treated in the corresponding chapter.

3.3. Centeredness

The need for multiple measures to assess the patient-centeredness care is outlined by several authors.[2, 22] Furthermore, there is a difficulty to measure the "patient-centeredness'" within a quantitative paradigm, notably because this concept may have less to do with the relative quantity of specific behaviours than with the doctor's ability to successfully match communication style to the particular needs of the patient.[23]

The two main methodological approaches used to measure patient-centred care are thus based on [24]:

- Self-report measures of doctors' patient-centeredness. Major initiatives around the world are collecting and comparing data on patients' experience of care in healthcare organisation.[25]
- External observation of consultation process: rating scales or verbal behaviour coding system.

For each attribute of patient-centeredness, many patients self-report measures exist including by instance patients' perception of doctors skill in communication; patient scale in empowerment; patients' satisfaction… It is not in our purpose to describe each existing questionnaire. Some of them, because found in several articles or because used in a international level, are in appendix. For others, only titles and references are quoted in the table below.

The result are presented for the 3 types of indicators : structure, process and outcomes. According to the centeredness definition, we have distinguished several domains of structure and process indicators.[10, 15, 26-28] The outcome indicators are poorly developed for patient-centred intervention. They have to be taken with caution.

1. Structure

   Acknowledgement of patients needs, wants, preference : patients' right ; privacy ; comfort preference.

   Providers skill of communication : response to language need.

   Patients and carers involvement (enabling patients to manage their care and to make informed decisions about their treatment options): patient information; inform consent; global patients involvement; patients involvement in service & delivery planning; patients involvement in quality improvement.

2. Process

   Acknowledgement of patients needs, wants, preference : patients' right ; patients' needs ; preference of care ; pain management ; privacy ; spiritual support ; cultural needs ; patients' strengths ; psycho-social aspects ; comfort ; social support.

   Providers skill of communication : providers ability to listen their patients carefully; providers ability to explain things clearly; courtesy/respect; spent enough time to their patient; emotional support to relieve fear and anxiety; language; global communication skills; poor communication.

   Patients and carers involvement (enabling patients to manage their care and to make informed decisions about their treatment options): patients/carers information; inform consent; self-management support;

patients/carers involvement in services and delivery planning; patients' participation in decision or shared decision-making.

Global centeredness process indicators or mixed with other domain of quality.

3. Outcome

Empowerment

Clinical

Resource utilisation

Treatment plan compliance

Patient satisfaction. This part quoted several instruments without details because a description of each item of all of this instrument encompasses broadly the scope of this study. Therefore, serious reservations have been raised about the validity of both concepts and measures of satisfaction.[29, 30]

Each indicator has been classified according to 2 categories:

- The level of care assessed : health care system level; institution level; provider level;
- The focus of the measurement : generic (comprehensive, assessing the overall impact independently of specific disease type or treatment) versus disease-specific measures (related to a given medical condition).

The type of data, objective or subjective, is also given.

The aspect "continuity and secure transition between health care providers" and the aspect "coordination of care" are treated in the corresponding chapter.

3.3.1. Selected indicators

An amount of 12 indicators for the dimension continuity of care and 8 indicators for the dimension patient centeredness were selected (see table below)

Table 7 Selected indicators for the dimension continuity

Category	Indicators
Informational continuity - structure	% practices with EMR that allows sharing the data : internal coordination (problem list, ambulatory visits, medication lists, laboratory findings, medication-ordering reminders, drug interaction, radiology findings); external coordination, including out of hours (GPs & pharmacist, specialist, physiotherapist, dietetician…)
Informational continuity (medical history) - process	% patients whose the specialist consultation was referred by GP's letters.
Informational continuity (medication) - process	% patients for which information on medication prescribed at outpatient clinics, hospital wards, and outside the hospital is accessible at outpatient clinics, hospital wards, the hospital pharmacy and outside the hospital.
Informational continuity(tests) - process	% chronically ill people for who they are problems with the coordination of care: test results not available at time of doctor's appointment, or duplication of tests.
Management continuity - process	% patients, regardless of age, discharged from an hospital to ambulatory care or home health care, or their caregiver(s), who received a transition record at the time of discharge including, at a minimum, all of specified elements: • Major procedures and tests performed during hospital visit, AND • Principal diagnosis at discharge OR chief complaint, AND • Patient instructions, AND • Plan for follow-up care (OR statement that none required), including primary physician, other health care professional, or site designated for follow-up care, AND • List of new medications and changes to continued medications that patient should take after discharge, with quantity prescribed and/or dispensed (OR intended duration) and instructions for each
Relational continuity - process	% of individuals with a GMD / all citizen

Relational continuity - process	UPC= proportion of consultations that were conducted by the professional consulted most frequently
Coordination - process	Proportion of breast cancer women discussed at the multidisciplinary team (MDT) meeting
Coordination / timeliness - process	Proportion of women with class (3), 4 or 5 abnormal mammograms who have at least one of the following procedure within 2 months after communication of the screening result : mammography, ultrasound, fine-needle aspiration, or percutaneous biopsy
Coordination - process	% of patients with diabetes or renal failure registered in a care pathway.
Coordination - process	% of CT patients with care pathways who meet the target of consulting their CT GP (or a GP of the practice of the CT GP) or CT specialist at least 4 times in the period 01/01/2010 - 31/12/2010
Coordination - outcome	Potentially avoidable emergency department encounters for asthma among adults and children / population

Table 8 Selected indicators for the dimension centeredness

Category	Indicators
Acknowledgement of patients needs, wants, preferences, values (patients' right)- structure	Existence of a clear process for filing or managing complaints
Providers skills of communication (language need) - structure	% d'hôpitaux implantés dans les grandes villes avec service linguistique ou qui ont une collaboration organisée avec un service linguistique
Patients and carers involvement in management & decision of care - structure	% hospitals with internal quality improvement including monitoring patients views
Acknowledgement of patients needs, wants, preferences, values (patients' preference)- process	the number of terminally ill patients (or patients with end stage disease) for whom the patients' preferences for care are documented in the medical record
Acknowledgement of patients needs, wants, preferences, values (pain management)- process	% adult inpatients who reported that their pain level was assessed
Providers skill of communication - process	% of care users who reported that:

	• Care providers listened carefully • They were given understandable information by care providers • They were treated politely by care providers • Care providers spent enough time with them • Care providers respected what they had to say
Patients and carers involvement in management & decision of care - process	% of care users who reported that: the doctor/nurse/allied health professional involved them as much as they wanted to in decisions about their care and treatment
Outcome	% of population above 15 years old who report to be satisfied with healthcare services

3.4. Continuity and patient-centred care : Search Strategy

3.4.1. OVID MEDLINE for continuity of care

Description :

Database:	**Ovid Medline**
Description	This search is based on the 5th step described in the document of Koen Van den Heed ("SEARCH-MEDILINE-MH-15032011.doc"). The "step 5 search" has been adapted to the domain of continuity of care. The Mesh term used was "Continuity of Patient Care", Year of Entry : 91 (75), SCOPE: Health care provided on a continuing basis from the initial contact, following through all phases of medical care. In primary health care in the Tree.
Name of the search	PerformanceContinuityHPolicy
Date of the last run:	29/04/2011

Results:

Searches	Results
1. *"Outcome and Process Assessment (Health Care)"/	6579
2. *"Process Assessment (Health Care)"/	1137
3. *Quality Assurance, Health Care/	24306
4. *"Outcome Assessment (Health Care)"/	15956
5. *Quality Indicators, Health Care/	3925
6. *Health Status Indicators/	7627
7. *Benchmarking/	3412
8. (performance adj2 (measurement or analysis or indicator$ or evaluation or assessment)).mp.	26157
9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8	
10. *"Continuity of Patient Care"/	85094
11. 9 and 10	5758
12. limit 11 to (yr="2000 -Current" and (dutch or english or flemish or french))	294
13. Health Policy/	**219**
14. "Outcome and Process Assessment (Health Care)"/	
15. "Process Assessment (Health Care)"/	**42077**
16. Quality Assurance, Health Care/	18808
17. "Outcome Assessment (Health Care)"/	2464
18. Quality Indicators, Health Care/	42938
19. Health Status Indicators/	38573
20. Benchmarking/	7255
21. (performance adj2 (measurement or analysis or indicator$ or evaluation or assessment)).mp.	16075
22. 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21	8282
23. "Continuity of Patient Care"/	26157
24. 22 and 23	
25. limit 24 to (yr="2000 -Current" and (dutch or english or flemish or french))	148957
26. 13 and 25	11809
27. 12 or 26	1561

	1080
	23
	242

3.4.2. OVID MEDLINE for patient-centered care

Description :

Database:	**Ovid Medline**
Description	This search is based on the 5th step described in the document of Koen Van den Heed ("SEARCH-MEDLINE-MH-15032011.doc"). The "step 5 search" has been adapted to the domain of patient-centered care. The Mesh term used was "Patient-Centered Care", Year of Entry : 95, SCOPE: Design of patient care wherein institutional resources and personnel are organized around patients rather than around specialized departments. In primary health care also in the Tree.
Name of the search	PerformanceCenteredHPolicy
Date of the last run:	29/04/2011

Results :

Searches	Results
1. *"Outcome and Process Assessment (Health Care)"/	6579
2. *"Process Assessment (Health Care)"/	1137
3. *Quality Assurance, Health Care/	24306
4. *"Outcome Assessment (Health Care)"/	15956
5. *Quality Indicators, Health Care/	3925
6. *Health Status Indicators/	7627
7. *Benchmarking/	3412
8. (performance adj2 (measurement or analysis or indicator$ or evaluation or assessment)).mp.	26157
9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8	
10. *Patient-Centered Care/	85094
11. 9 and 10	4061
12. limit 11 to (yr="2000 -Current" and (dutch or english or flemish or french))	266
13. Health Policy/	**203**
14. "Outcome and Process Assessment (Health Care)"/	
15. "Process Assessment (Health Care)"/	**42077**
16. Quality Assurance, Health Care/	18808
17. "Outcome Assessment (Health Care)"/	2464
18. Quality Indicators, Health Care/	42938
19. Health Status Indicators/	38573
20. Benchmarking/	7255
21. (performance adj2 (measurement or analysis or indicator$ or evaluation or asse ssment)).mp.	16075
22. 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21	8282
23. Patient-Centered Care/	26157
24. 22 and 23	
25. limit 24 to (yr="2000 -Current" and (dutch or english or flemish or french))	148957
26. 13 and 25	7161
27. 12 or 26	1209

	923
	27
	230

3.4.3. Embase for continuity of care and patient-centered care

Description:

Database:	**Embase**
Description	This search is based on the document of Françoise Renard (“Embase strategy 20110407_HP5.notepad”). The search has been adapted to the domain of continuity of care (and patient centered-care). In Emtree, the synonym of “continuity of care” is “patient care”. This term was added to Emtree in 1974. It is also the synonym of patient-centered care. Synonyms are : advance care planning; care, continuity of; continuity of care; continuity of patient care; episode of care; night care; patient-centered care; patient care management; patient care team; patient helper; patient isolation; patient management. “Outcome assessment” was added to Emtree in 2006. Synonyms are: outcome assessment (health care); outcome measurement. “Health care quality” was added to Emtree in 1981. Synonyms are: clinical governance; health care evaluation; health care evaluation mechanisms; health care quality, access, and evaluation; healthcare evaluation; healthcare quality; process assessment (health care); program evaluation; quality assurance, health care; quality indicators, health care; quality of care research; quality of health care; quality, health care. To explode. “Health survey” was added to Emtree in 1974. Synonyms are : dental health surveys; dmf index; health care surveillance, registration and quality control; health status indicators; health surveys; population surveillance; survey, health. It was in tree of “Health care quality”. “Quality control” was added to Emtree in 1974. Synonyms are: benchmarking; quality assessment; quality assurance; quality control chart. “Performance measurement system” was added in 2006.
Name of the search	PerformanceContiCenter
Date of the last run:	29/04/2011

Results: With focus excepted for Health care policy and Patient care, and limits in type of publication

Searches	Results
'quality control'/mj AND [embase]/lim AND [2000-2011]/py OR ('outcome assessment'/mj AND [embase]/lim AND [2000-2011]/py) OR ('performance measurement system'/mj AND [embase]/lim AND [2000-2011]/py) OR ('health care quality'/exp/mj AND [embase]/lim AND [2000-2011]/py) OR (performance NEAR/2 (measurement OR analysis OR indicator OR evaluation) AND [embase]/lim AND [2000-2011]/py) AND 'patient care'/exp AND ([dutch]/lim OR [english]/lim OR [french]/lim) AND 'health care policy'/exp AND ([article]/lim OR [article in press]/lim OR [review]/lim) AND [embase]/lim AND [2000-2011]/py	355

3.5. Continuity and patient-centred care : Long list of indicators

Table 9. Indicators of continuity/coordination

Category of indicator	Type of measure		Example of indicator	Comments
	Setting	Focus		
Structure				
	Health care system Primary care	Generic	• % practices with existence of patient registry: diabetes, asthma, congestive heart failure, coronary artery disease, depression, other[31]	Patient-centered medical home
	Health care system Primary care	Generic	• % practices with Electronic medical record (EMR): internal coordination (problem list, ambulatory visits, medication lists, laboratory findings, medication-ordering reminders, drug interaction, radiology findings)[31]	Patient-centered medical home
	Health care system Primary care	Generic	• % practices with Electronic medical record (EMR): external coordination (services by other specialists, inpatient stays, emergency room visits)[31]	Patient-centered medical home
	Health care	Generic	• % practices with community linkage for	Patient-centered medical

Category of indicator Structure	Type of measure Setting	Focus	Example of indicator	Comments
	system Primary care		care[31]	home
	Health care system Primary care	Generic	• **Information technology use among primary care physicians**[32] • **Patient clinical information and office systems among PCP**[32]	Comparison between 7 countries Parts of a physician s' questionnaire (parts in appendix)
	Health care system	Mental health	• Count and proportion of programs that have a process in place to follow clients through the continuum of services (cf Koen)	
	Health care system	Mental health	• Existence of a fee-item within the fee-for-service schedule that reimburses physicians for case consultation/case management activities (cf Koen)	
	Health care system	Mental health	• Proportion of physicians reimbursed through non-fee-for-service mechanisms (cf Koen)	
	Health care system	Mental health	• Proportion of resources expended on services that promote recovery (cf Koen)	
	Health care system (regional)	Mental health	• Proportion of programs in a defined service area (e.g., county, city or state) that report having integrated services (e.g., SUD and MHD services in the same treatment program) or co-located services (e.g.,SUD	

Category of indicator	Type of measure		Example of indicator	Comments
	Setting	Focus		
Structure				
			and MHD services in the same location)(cf Koen)	
	Health care system (regional)	Mental health	• Proportion of SUD providers in a defined service area (e.g., county, city or state) reporting the ability to bill for MHD services provided to patients (cf Koen)	
	Health care system (regional)	Mental health	• Proportion of SUD specialty care settings in a defined service area (e.g., county, city or state) that have formal documented referral policies for MHD services (cf Koen)	
	Institution	Generic	• Presence of a case-manager (or other person responsible for coordination of care)[9]	
Process				
Informational continuity : **measures related to the availability of documentation, the completeness of information transfer between providers, and to the extent to which existing information is acknowledged or used by a provider or patient**[9]				
Medical history continuity	Health care system	Generic	• % patients who reported that they had to tell the same story more than once[16]	Dutch performance
	Health care system	Generic	• % patients quoting that prior information are used by their providers[9]	
	Health care system	Generic	• % adult health plan members who reported how often their personal doctor seemed	NCQM (CAHPS questionnaire; HEDIS)

			informed and up-to-date about care they got from other doctors or other health providers.[33]	
	Health care system	Generic Children	• % parents or guardians who reported how often their child's personal doctor seemed informed and up-to-date about the care their child got from other doctors or health providers.[33]	NCQM (CAHPS questionnaire; HEDIS)
	Primary care	Generic	• % patient with medical records from a prior care source (or request for such medical records) in the outpatient medical record / patient new to a primary care practice[34]	Focus on vulnerable elders (ACOVE) Modified indicator
	Primary care	Generic	• Confidence that if patient needs to see an alternate physician, the regular physician will receive information about this visit[35] 5 item from the Primary care assessment tool (PCAT-AE)	No details given
	Ambulatory care Follow-up after discharge	Generic	• % patients with physician visit or telephone contact documented within 6 weeks of discharge and acknowledgement of the recent hospitalisation in the medical record / patient discharged from a hospital to home and surviving 6 weeks or longer after discharge[34]	*Focus on vulnerable elders (ACOVE)* *Modified indicator*
	Hospital Discharge	Generic	• % outpatient for which the referring physician's medical record acknowledge the consultant's recommendation (or why the consultation did not occur) / patient referred to a consultant and revisiting the referring physician[34]	Focus on vulnerable elders (ACOVE) Modified indicator
	Hospital Discharge	Generic	• % patient with information noted on visit or treatment in the medical record (taken or postponed) / patient discharged from a hospital to home or a nursing home and with	Focus on vulnerable elders (ACOVE) Modified indicator

				a follow-up appointment for a physician visit or a treatment specified in the hospital medical record[34]	
	Hospital Discharge	Generic	•	% patient with discharge summary in the outpatient or nursing home medical record / patient discharged from a hospital to home or nursing home[34]	Focus on vulnerable elders (ACOVE) Modified indicator
	Hospital Discharge	Generic	•	% patient with discharge summary in the outpatient medical record / patient discharged from a nursing home to home[34]	Focus on vulnerable elders Modified indicator
	Hospital Discharge	Mental health	•	Total number of inpatients who have a discharge summary or letter at the time of hospital discharge / Total number of inpatient separations.[33, 36]	Australian quality indicator Mental health indicators
	Hospital Discharge	Mental health	•	% inpatients who have a final discharge summary recorded in the medical record within 2 weeks of hospital discharge.[33]	NQMC (Australian quality indicator) Mental health indicators
	Hospital Admission	Generic	•	% patient with documentation (during the emergency department visit or within first 2 days after admission) of communication with a continuity physician (or an attempt to reach) / patient treated at an ED or admitted to a hospital[34]	Focus on vulnerable elders (ACOVE) Modified indicator
	Institution Transition between facility	Generic	•	% patients transferred to another health care facility whose medical record documentation indicated that medication-related information was communicated to the receiving facility within 60 minutes of departure.[33]	NQMC (University Minnesota)
	Institution Transition between facility	Generic	•	% patients transferred to another health care facility whose medical record documentation indicated that physician or practitioner generated information was communicated to the receiving facility within 60 minutes of	NQMC (University Minnesota)

			departure.[33]	
	Institution Transition between facility	Generic	• % patients transferred to another health care facility whose medical record documentation indicated that pre-transfer information was communicated to the receiving facility within 60 minutes of departure.[33]	NQMC (University Minnesota)
	Institution Transition between facility	Generic	• % patients transferred to another health care facility whose medical record documentation indicated that patient identification was communicated to the receiving facility within 60 minutes of departure.[33]	NQMC (University Minnesota)
Medication/therapy continuity	Health care system	Generic	• % hospitals with electronic exchange of patient information on medication history.[15]	AHRQ
	Health care system	Generic	• % hospitals where information on medication prescribed at outpatient clinics, hospital wards, and outside the hospital is online accessible at outpatient clinics, hospital wards, the hospital pharmacy and outside the hospital[16]	Dutch performance
	Ambulatory care	Chronic illness	• % outpatient for which the non prescribing physician acknowledge the medication change at the next visit / patient under outpatient care of 2 or more physicians and 1 physician prescribed a new chronic disease medication or a change in prior medication[34]	Focus on vulnerable elders (ACOVE) Modified indicator
	Ambulatory care	Generic	• % outpatient with information (on medication's taking) noted on the follow-up visits / outpatient with a new chronic disease medication and follow-up with the prescribing physician[34]	Focus on vulnerable elders (ACOVE) Modified indicator
	Ambulatory care	Generic	• % people with a usual source of care whose health provider usually asks about	AHRQ

			prescription medications and treatments from other doctors / Civilian non institutionalised population who report a usual source of care.[15]	
	Hospital Discharge	Generic	• % hospitalised patient with documentation on medication change in outpatient medical record within 6 weeks of discharge / patient discharged from a hospital to home and with new chronic disease medication or a change of prior medication[34]	Focus on vulnerable elders (ACOVE) Modified indicator
	Hospital Discharge	Generic	• % hospitalised patient with documentation on medication level (or medication stopped) in outpatient medical record / patient discharged from a hospital to home with a new medication that requires a serum medication level to be checked[34]	Focus on vulnerable elders (ACOVE) Modified indicator
	Hospital Discharge	Cardio	• Total number of patients on hospital initiated warfarin who receive written drug information on discharge / Total number of discharged patients on hospital initiated warfarin.[36]	Australian quality indicator Adverse drug reaction
	Hospital Discharge	Generic	• % patients, regardless of age, discharged from an inpatient facility to home or any other site of care, or their caregiver(s), who received a reconciled medication list at the time of discharge including, at a minimum, medications in the specified categories.	
	Hospital pharmacy service	Generic	• % patients with an accurate admission medicine history[37]	Centerness for the author Modified indicator
	Hospital pharmacy service	Generic	• % patients for which the administration of medicines during the first 24 hours of admission to a surgical receiving ward was followed for 7 days, using the administration recording sheet use within the patient care	Centerness for the author Modified indicator

			documentation.[37]	
	Hospital pharmacy service	Generic	• % new patients admitted to the medical receiving ward which were assessed for medicine-related care issues each morning and evening by the duty admissions pharmacist.[37]	Centerness for the author Modified indicator
	Hospital pharmacy service	Generic	• % discharged patients with completed forms containing records on prescription of each stage of the process and time that this was accomplished.[37]	Centerness for the author Modified indicator
	Institution Transition between facility	Generic	• % patients transferred to another health care facility whose medical record documentation indicated that medication-related information was communicated to the receiving facility within 60 minutes of departure.[33]	NQMC (University Minnesota)
	Specialist care Transition with others providers	Cancer	• Total number of patients who have a letter on file to the referring doctor and general practitioner, regarding the current radiotherapy course / Total number of patients receiving radiotherapy.[36]	Australian quality indicator Radiation oncology indicators
	Specialist care Transition with others providers	Cancer	• % patients, regardless of age, with a diagnosis of cancer who have undergone brachytherapy or external beam radiation therapy who have a **treatment summary report** in the chart that was communicated to physician(s) providing continuing care and to the patient within one month completing treatment.[33, 38]	NQCM (American Society for Therapeutic Radiology & Oncology)
	Specialist care Transition with others providers	Cancer	• % patients, regardless of age, with a diagnosis of cancer who have completed chemotherapy within the 12 month reporting period who: A) have a chemotherapy treatment summary documented in the chart; AND B) have documentation that the written chemotherapy treatment summary	JCAHO (American Society for Therapeutic Radiology and Oncology and al) Also centeredness for

			was provided to the patient; AND C) have documentation that the chemotherapy treatment summary was communicated to the physician(s) providing continuing care.[38]	JCAHO
Test continuity	Health system	Chronic illness	• % chronically ill people who reported that they experienced problems with the coordination of care: test results not available at time of doctor's appointment, or duplication of tests, by country[16]	Dutch performance
	Ambulatory care	Generic	• % outpatient with information about the test (even if is pending) noted on the follow-up visits / outpatient with an order for a diagnostic test[34]	Focus on vulnerable elders (ACOVE) Modified indicator
	Hospital Transition between facility	Generic	• % patients transferred to another health care facility whose medical record documentation indicated that procedure and tests were communicated to the receiving facility within 60 minutes of departure.[33]	NQMC (University Minnesota)
	Hospital Transition between facility	Generic	• % patients transferred to another health care facility whose medical record documentation indicated that vital signs were communicated to the receiving facility within 60 minutes of departure.[33]	NQMC (University Minnesota)
	Hospital discharge	Generic	• % hospitalised patient with documentation on test result in outpatient or nursing medical record within 6 weeks of discharge / patient discharged from a hospital to home or nursing home and with transfer form or discharge summary indicating that a result is pending[34]	Focus on vulnerable elders (ACOVE) Modified indicator
	Specialist care	Cancer	• Use of the pathology report sheet for rectal cancer patients(eo) [39]	KCE report Rectal cancer
	Specialist care	Cancer	• Quality of TME assessed according to Quirke and mentioned in the pathology	KCE report

			report (Ile)[39]	Rectal cancer
	Specialist care	Cancer	• Distal tumour-free margin mentioned in the pathology report (Ile) [39]	KCE report Rectal cancer
	Specialist care	Cancer	• (y)pCRM mentioned in mm in the pathology report (Ile) [39]	KCE report Rectal cancer
	Specialist care	Cancer	• Tumour regression grade mentioned in the pathology report (after neoadjuvant treatment) (Ile)[39]	KCE report Rectal cancer
	Specialist care	Generic Children	• % parents/guardians who reported how often their child's doctor's office followed up on results for blood tests, x-rays or any other tests ordered.[33]	AHRQ
	Specialist care	Generic	• % adult specialty care patients who reported how often their doctor's office followed up on results for blood tests, x-rays or any other tests ordered. [33]	AHRQ
	Primary care	Generic	• % adult primary care patients who reported how often their doctor's office followed up on results for blood tests, x-rays or any other tests ordered. [33]	AHRQ

Management continuity **: measures focusing on the delivery of one aspect of care in the continuum of the management plan, most commonly whether follow-up visits are made when care crosses organisational boundaries**[9]				
Follow-up plan	Ambulatory care Preventive care	Generic	• % outpatient with medical record documentation of a reminder that a preventive care is needed within one full interval since the missed event / outpatient missing a required preventive care event that is recurrent with a specific periodicity[34]	Focus on vulnerable elders Modified indicator QI = 100 %

	Specialist care	Cancer	• % patients, regardless of age, with a new occurrence of melanoma who have a **treatment plan** documented in the chart that was communicated to the physician(s) providing continuing care within one month of diagnosis.[33]	NCQM (American Academy of Dermatology)
	Specialist care	Cancer	• % adult patients with a progressive, debilitating disease who have a palliative care plan documented in the medical record.[33]	AHRQ
	Specialist care	HIV	• % HIV positive adolescent and adult patients who reported how often their case manager went over their service plan and updated it with them every 3 months.[33]	AHRQ
	Specialist care	Generic	• Temporal Continuity Index (TCI)[9] = intervals between index and follow-up visit in relation to what would be expected	Not extensively developed or validated[9]
Transition plan	Hospital Discharge	Generic	• Total number of *separations* for which there is an appropriate **discharge plan** for a patient (excluding deaths and those cases with a suspension of rehabilitation treatment leads to a care type change to acute care) / Total number of separations (excluding deaths and those cases with a suspension of rehabilitation treatment leads to a care type change to acute care).[36]	Australian quality indicator Rehabilitation indicators
	Hospital Discharge	Generic	• % patients, regardless of age, discharged from an inpatient facility to home or any other site of care for whom a **transition record** was transmitted to the facility or primary physician or other health care professional designated for **follow-up care** within 24 hours of discharge[33]	NQCM (American Board of internal Medicine Foundation)
	Hospital	Generic	• % patients, regardless of age, discharged	AHRQ

	Discharge		from an emergency department (ED) to ambulatory care or home health care, or their caregiver(s), who received a transition record at the time of ED discharge including, at a minimum, all of specified elements:[33] •Major procedures and tests performed during ED visit, AND •Principal diagnosis at discharge OR chief complaint, AND •Patient instructions, AND •Plan for follow-up care (OR statement that none required), including primary physician, other health care professional, or site designated for follow-up care, AND •List of new medications and changes to continued medications that patient should take after ED discharge, with quantity prescribed and/or dispensed (OR intended duration) and instructions for each	
	Hospital Discharge	Generic	• % separations for which there is an appropriate discharge plan for a patient, during the 6 month time period.[33] .	AHRQ
	Hospital Discharge	Asthma	• Total number of patients admitted to hospital with a diagnosis of acute asthma for whom there is documented evidence of an **appropriate discharge plan** / Denominator: Total number of patients admitted to hospital with a diagnosis of acute asthma.[36]	Australian quality indicator Internal medicine indicators
	Hospital Discharge	Asthma	• Total of asthmatic inpatient children with home **management plan** of care document given to patient/caregiver / total of asthmatic inpatient children.[33]	AHRQ Children's asthma care Modified indicators
	Hospital	Thrombo-	• Total of venous thromboembolism (VTE) patient with **Warfarin therapy discharge**	AHRQ

	Discharge	embolism		**instructions** / total of venous thromboembolism patient with Warfarin therapy.[33]	VTE care Modified indicators
	Hospital Discharge	Heart failure	•	% hospitalized adult patients with heart failure who were given **complete written discharge instructions** / Hospitalized adult patients with a principal discharge diagnosis of heart failure [15]	AHRQ
	Hospital Discharge	Generic	•	% patients who reported that they received information about follow-up care at hospital discharge[16]	Dutch performance
	Hospital Discharge	Chronic illness	•	% chronically people who reported that they received information about follow-up care at hospital discharge[16]	Dutch performance
	Hospital Discharge	Mental health	•	Psychiatric inpatients for whom the **post discharge continuing care plan** is created and contains all of the following: reason for hospitalization, principal discharge diagnosis, discharge medications and next level of care recommendations.[33]	AHRQ
	Hospital Discharge	Mental health	•	Is there documentation in the medical record of a **continuing care plan** which includes the discharge medications, dosage and indication for use or states no medications were prescribed?[38]	AHRQ
	Hospital Discharge	Mental health	•	Is there documentation in the medical record of a **continuing care plan** which includes next level of care recommendations AND was the continuing care plan including next level of care?[33, 38]	AHRQ
	Hospital Discharge	Mental health	•	Is there documentation in the medical record of a **continuing care plan** which includes the principal discharge diagnosis AND was the continuing care plan including the principal discharge diagnosis transmitted to	AHRQ

			the next level of care provider no later than the fifth post-discharge day?[38]	
	Hospital Discharge	Mental health	• Is there documentation in the medical record of a **continuing care plan** which includes the reason for hospitalization AND was the continuing care plan including the reason for hospitalization transmitted to the next level of care provider no later than the fifth post-discharge day?[38]	AHRQ
	Hospital Discharge	Mental health	• Is there documentation in the medical record that the patient was referred to the next level of care provider upon discharge from a hospital-based inpatient psychiatric setting?[38]	AHRQ
	Hospital Discharge	Mental health	• % patients discharged from acute-care facilities (excluding those discharged against medical advice) who have a documented discharge plan(cf Koen)	
	Hospital Discharge	Mental health	• % patients for which post discharge continuing care plan is transmitted to next level of care provider upon discharge(cf Koen)	
Provider or relational or longitudinal continuity: **measures of the affiliation between patient and provider or duration of their relationship or by asking patients and providers directly how strong their ties are**[9]				
Place of primary care	Health care system	Generic	• Clinician index[21] = N of ambulatory visit to a primary clinician / N of ambulatory visits in the 1st year	High continuity defined as a primary site or provider that accounted for at least 50% of visits.[21]
	Health care system	Generic	• % of adults (19-64) having accessible primary care provider [40]	U.S. Health System Performance
Link with a same provider	General practitioners	Generic	• % of individuals without a GMD/all citizen[1]	KCE report

		Generic	• % patients answering they know their providers “well”; adequacy of communication and trust; extent of knowledge obtained from asking providers; provider’s sense of ongoing responsibility[9]	Strength of relationship
	Primary care providers	Generic	• Fundamental Continuity of Care index (FCCI)[21] (Fractional visit to the PCP) X (normalised time the patient spends with the PCP)	
		Generic	• Usual provider of care (UPC) index[5, 6, 9, 21, 41, 42] = proportion of consultations that were conducted by the professional consulted most frequently • UPC_{cat} or Categorical UPC index[41] = "low" continuity if UPC ≦0,50; "high" continuity if UPC>0,50 UPC_{12} or UPC-12 index[41] = n of 12 most recent visits to predominant provider/12 visits	Measure of concentration of care For GPs in surgery but also for doctors and nurses, all type consultations Is easily interpreted, OK for large sample
		Generic	• Continuity of care (COC) index[5, 6, 9, 21, 41-43] = proportion of consultations with the same doctor, adjusted for the number of consultations $\sum_{j=1}^{S} n^2j - N/N(N-1)$ where N=total number of visits; n=number of visits to jth provider; s=number of providers	Measure both of the concentration and the dispersion of care among all providers seen. For GPs in surgery but also for doctors and nurses, all type consultations. Allows comparison, is independent of practice

				size or patients consultation rate but has no intuitive meaning apart from at the extremes. [6]
		Generic	• Continuity Score[21] 1-(N of ambulatory providers/{N of ambulatory visits +0.1}) 1-(1/{N of ambulatory visits +0.1}) • Continuity Score by measurement period[21] = The visits that is scored for continuity is observed within the measurement period (MP)	Range from approximately 0 (if each visit is to different provider) to 1 (if all visits are to the same provider)
		Generic	• Binary measure[21] = proportion of patients still seeing the same provider at each time point.	Indicates the time until patients report that the provider they saw for their initial study visit is not longer the person serving as their regular PCP.[21]
	Primary care providers	Generic	• Percentage visits by PCP[21] = % of patients seen by the same practitioner as in index visit	
	General practitioners	Generic	• Provider continuity[21] = N of visits with own physician for a year / total N of physician office visits for the year • Usual Provider continuity score[44] = N of visits to the usual provider / total N of ambulatory visits • Provider continuity[45] = patient always visiting (home or office) the same family physician during 2 years (more than one =	

			discontinuity)	
		Generic	• Most Frequent Provider Continuity index[42]	Primary provider is the one seen most frequently during the study period
		Generic	• Index Provider Identification process[42]	Primary provider is the first provider seen
	Specialists	Mental health	• Total number of service recipients who had a change in principal mental healthcare provider during the year or term of treatment, divided by all mental health service recipients during the year (cf Koen)	
	Specialists	Prenatal care	• % of obstetric visit performed by the physician who performed the initial obstetric history and physical examination[46]	Preventive
	Physicians	Generic	• Patient has a **regular** care provider[5]or has one particular doctor who he/she usually sees[41] • Patients reports on the proportion of visits to **regular** physician relative to the total number of visits to any physician of the clinic[35]; Patients reports on the proportion of visits to one clinic relative to the total number of visits to any clinic[35] • % patient responding “always, almost always or a lot of time” for seeing same doctor[47]; Idem over the past 12 months[41] • Usual source of Medical care[21] • Usual Provider of Care[21]	
Duration of care with the same providers		Generic	• Duration of care with the same doctor[5, 9, 21, 42] For Jee : • under the care of the referring doctor for <	Measure of the duration of care

		12 months • under the care of the referring doctor for 1 to 10 years • under the care of the referring doctor for >10 years	
	Generic	• Longitudinal Care : Duration and Density[9, 21] Duration = time from the first visit to the present Density = N of consultations (office or home visits) within the last 12 months.	
Diversity of providers	Generic	• FRAC Index (FRAC) [21, 42] • Likelihood of Continuity index (LICON) [42] • Likelihood of Sequential Continuity index (LISECON) [42] • Herfindahl index[21, 42] • Index of Concentration (CON) [21, 42] • GINI Index of Concentration (GINI) [21, 42] • Fraction of care continuity[21] = Fraction of visits during the continuity-determining period that were made to the current provider • Discounted Fraction of Care Continuity[21] Formule in Jee	LICON = measure of the probability that the N of providers seen is fewer than that would have occurred under random conditions, given the patient's utilisation levels and the number of available providers[9]
	Generic	• K index (K) [21, 42, 48] = (N of visits – N of doctors) / (N of visits-1)	Measure of concentration of care with different providers[9]
	Generic	• Modified Continuity (MCI) index[21, 41-43, 49] 1-(N of providers / (N of all visits + 0,1))	Measure of concentration of care in a population of patients[9]

	Generic	• Modified, Modified Continuity (MMCI) index[21, 41, 42] 1-(N of providers/{n of all visits + 0,1}) 1-(1/n of visits + 0,1)	Measure of concentration of care with providers and at the individual patient level[9]
		• CCI = $\{(a^2+b^2+c^2)-(a+b+c)\} / \{(a+b+c)x(a+b+c-1)\}$[50] Where variables 'a', 'b' and 'c' are the number of visits with different general medical providers and 'a' would be the designated primary provider.	
	Generic	• Nb of providers seen (NOP) during an episode of care (e.g. hospitalisation) or in a defined time interval [5, 9, 42]	Measure of concentration of care
	Generic	• % patients able to identify a physician or a clinic to call for medical care or knowing the telephone number or other mechanism to reach this source of care[34]	Focus on vulnerable elders Modified indicator
Sequence of care	Generic	• Sequential Continuity index (SECON) index[5, 21, 42] Formule in Jee and Reid	Measure of the sequencing of care[9]
	Generic	• Alpha index[9]	Alpha index = measure of visit sequencing (SECON) with a measure of concentration[9]
Link between family and provider	Generic	• Family Care Measure (FC) [42] • Family Mean Continuity index (FMCI)[42] • Family Continuity of Care index (FCOC) [42]	
	Generic	• % of parents saying: "my child hardly ever sees the same doctor when he or she goes for medical care" [21] • % of parents saying: "my child sees the	Child Continuity[21]

			same doctor just about every time he or she goes for medical care" [21] • 3-item Continuity scale[21] = Score of 0-12 for 3 items: "my child hardly ever sees the same doctor when he or she goes for medical care" "if more than one family member needs medical care, we have to go to different doctors" "my child sees the same doctor just about every time he or she goes for medical care"	
Coordination : **measures of the integration, coordination and shared information between professionals or between provider organisations.** [6]				
Collaboration Primary care provider (PCP)-Specialists	Health care system	Generic	• Confidence that PCP and specialist will **collaborate** and communicate for patients' care[35] 7 items from the Primary care assessment tool (PCAT-AE)	No details given
	Hospital	Mental health	• % of psychiatric inpatients for which there is contact with the primary care clinician (only consenting patients included) (cf Koen)	
Collaboration Physicians-nurses	Health care system	Generic	• Confidence that nurse and PCP will communicate regarding visit with nurse and that PCP is concerned **with the quality of care** received from the nurse[35] 6 items from the Primary care assessment tool (PCAT-AE)	No details given
	Hospital nursing	Cancer	• **Collaboration and satisfaction about care decisions scal**e (nurse & physicians were cooperatively working together, sharing responsibility for problem solving and	Focus on hemato-oncology patient

			decision making to formulate and carry out plans for patient care)[19]	
Collaboration intra-clinic, intra-team	Hospital	Generic	• Confidence that health care providers from one clinic will **collaborate** in and communicate about patients' care (nurse-physician or physician-physician collaboration)[35] 4 items from the Primary care assessment tool (PCAT-AE)	No details given
	Hospital	Cancer	• Proportion of breast cancer women discussed at the **multidisciplinary team** (MDT) meeting[51]	KCE report
	Hospital	Cancer	• Proportion of patients with rectal cancer discussed at a **multidisciplinary team** meeting (low level of evidence)[39]	KCE report
	Institution	Rehabilitation	• % patients admitted to a rehabilitation unit/facility for whom there is a documented established **multidisciplinary rehabilitation plan** within 7 days of patient admission, during the 6 month time period.[33]	JCAHO
	Hospital	Haematemesis / melaena	• Total number of patients admitted to hospital with haematemesis and / or melaena, who receive a blood transfusion, for whom there is documented evidence that a member of surgical staff has been **notified of their condition** / Total number of patients admitted to hospital with haematemesis and / or melaena who receive a blood transfusion.[36]	Australian quality indicator Internal medicine indicators
	Hospital	Asthma	• Total number of patients admitted to hospital with a diagnosis of acute asthma for whom there is documented objective **assessment of** severity in addition to the initial assessment which facilitates ongoing	Australian quality indicator Internal medicine indicators

			inpatient management / Total number of patients admitted to hospital with a diagnosis of acute asthma.[36]	
	Institution	Mental health	• Total number of inpatient who have a **multidisciplinary review recorded** every 3 months / Total number of inpatient with the stay of greater than 3 months.[33, 36]	Australian quality indicator Mental health indicators
	Specialist care	HIV	• HIV positive adolescent and adult patients who reported how often their case manager and their HIV medical care providers worked together to help them.[33]	AHRQ
	Health care system	End of life care	• % practices who has a **complete register** available of all patients in need of palliative care-support irrespective of age / practices whose patient population includes individuals who are in need of palliative care*support (one practice at a time).[33] • % practices who has **regular (at least 3 monthly) multidisciplinary case review meetings** where all patients on the palliative care register are discussed / practices whose patient population includes individuals who are in need of palliative care/support (one practice at a time).[33]	Palliative care NQMC (BMA)
Overall coordination	Health care system	Generic	• % care users who reported that they were given **contradictory advice**s by care providers[16]	Dutch Performance
	Health care system	Generic	• Subjective assessment that care is similar across providers[9]	Confounded by issues of access[9] Difficult to distinguish from quality of care process measures[9]

	Ambulatory care Follow-up after discharge	Generic Older	• % patients aged 65 years and older discharged from any inpatient facility (e.g., hospital, skilled nursing facility, or rehabilitation facility) and seen within 60 days discharge in the office by the physician providing on-going care who had a reconciliation of the discharge medications with the current medication list in the outpatient medical record documented [33]	NQMC (American Geriatric society)
	Follow-up	Generic Older	• % adults 66 years and older who had each of the following during the measurement year: advance care planning, medication review, functional status assessment and pain screening.[33]	JCAHO
	Health care system	Chronic illness Children	• % patients or guardians of health plan members who reported whether they received **assistance with coordination** of care and services for their children (17 years & younger) with chronic conditions[33]	NCQM (CAHPS questionnaire)
	Health care system	Chronic illness Children	• % patients or guardians who reported whether they received assistance with coordination of care and services for their enrolled children (17 years & younger) with chronic conditions[33]	NCQM (CAHPS questionnaire)
	Health care system	Chronic illness Children	• proportion of children needing more than one health care service who received coordinated care. [33]	AHRQ
	Health care system	Chronic illness Children	• Proportion of children age 3 months to 48 months who needed care from multiple health care providers or used more than one service, who received a well-child visit in the last 12 months, and whose parent answered the item in the "Care Coordination (CC)" scale on the Promoting Healthy Development Survey (PHDS)[33]	NCQM (CAHPS questionnaire)

	Health care system	Chronic illness Children	• % children with effective care coordination and with a medical home / Children under age 18.[15]	*AHRQ*
	Primary care physicians	Generic	• **Primary care physicians' reports on experiences**[32]	Comparison between 7 countries Part of a physicians' questionnaire (part in appendix)
	Primary care physicians	Chronic illness	• **Care for chronically ill patients and use of teams among primary care physicians**[32]	Comparison between 7 countries Part of a physicians' questionnaire (part in appendix)
	Primary care Medical centres	Generic	• **VA Patient satisfaction with care survey: Coordination of Care (Overall)**[10, 52] 6 item Were the providers who cared for you always familiar with your most recent medical history? Were there times when one of your providers did not know about tests you had or their results? Were there times when one of your providers did not know about changes in your treatment that another provider recommended? Were there times when you were confused because different providers told you different things? Did you always know what the next step in your care would be? Did you know who to ask when you had questions about your health care?	National VA (veterans affairs) Patient Satisfaction with Care Survey (based on Picker Commonwealth approach) From a long questionnaire

	Primary care Medical centres	Generic	• **VA Patient satisfaction with care survey: Coordination of Care (Visit)** [52] 5 item Did someone tell you how you would find out the results of your tests? Did someone tell you when you would find out the results of your tests? If you needed another visit with this provider, did the staff do everything they could to make the necessary arrangements? If you needed another visit with another provider did the staff do everything they could to make the necessary arrangements? Did you know who to call if you needed help or had more questions after you left your appointment?	National VA (veterans affairs) Patient Satisfaction with Care Survey (based on Picker Commonwealth approach) From a long questionnaire
		Generic	• **Perception of Continuity Scale** [9, 41] Self administered questionnaire 23 items	No details given
	Specialist care	Generic	• **Questionnaire on Continuity of care (QCC)** [53] 15 indicators scored (1-5) Health professionals should : - Have a locum in case of absence - Give sufficient information to the locum - Inform each other adequately about patients' situation - Adapt care when necessary in changing situations - Provide care immediately during emergencies - Provide concurrent care - Cooperate with each other	Focus on people with rheumatic diseases and transmural nurse clinic

			- Provide the necessary care - Be accessible by telephone - Refer me to another care provider when necessary - Give compatible advice - Keep to the time appointment - Not cancel an appointment without reason - Not provide care with too many different care providers - Visit patients at home when necessary	
	Specialist care	Diabetes	**ECC-DM (experienced continuity of care for diabetes mellitus):** 19 items 4 domain[54]	Questionnaire in appendix
	Specialist care	Mental health	• **Alberta Continuity of Services Scales for Mental health** (ACSS-MH)[9]	No details given
	Specialist care	HIV	• **%** HIV positive adolescent and adult patients who reported how often their case manager helped them get services at their clinic and, if needed, at other places.[33]	AHRQ
	Hospital Discharge	Generic	**Patient-perceived coordination**[11] 5 domains 27 item	Patient-Perceived Coordination Index[11] Questionnaire in appendix
	Hospital Discharge	Generic	• Transition/discharged planning activities(PREPARED)[55] Factor score for patients and for carers **Information exchange** - Advice on managing usual activity - Advice on community services - Organisation of community services - Advice on equipment	Focus on senior 65 years+

			- Organisation of equipment **Receipt of medication information** - Advice on use of medications at home - Advice on side effects - Written instructions on medications - For carer: information on personal care of patient **Preparation for coping post-discharge** - Any other information required whilst in hospital - For patient: Worries about managing at home - Carer confidence about managing the patient at home **Control of discharge circumstances** - On the day of discharge, patient confidence about managing at home - Delays in leaving hospital **The mean score for each of the 4 process domains and the total process score = % of the maximum possible score**	
	Institution Transition between services	Mental health Child & Ado	**- Combined transition score**[56] 4 items **Information transfer** (information continuity) - % of patients with evidence that a referral letter, summary of prior care or case notes transferred to the new system of care along with a contemporaneous risk assessment[56] **Period of parallel care** (relational continuity) - % of patients with a period of joint working between 2 services during transition[56]	Transition between child & ado mental health service and adults mental health service

			Transition planning (cross-boundary and team continuity) - % of patient with at least one meeting involving service user and/or carer and a key professional from both services prior to transfer of care[56] **Continuity of care** (long term continuity) - % of patient either engaged with the new service 3 months post-transition or appropriately discharged by this service following transition[56] **Combined** Sub-optimal transitions were those that failed to meet one or more of the 4 criteria[56]	
	Hospital Transition between services	Cancer Transition	**- Transition for breast cancer patients**[57] 10 items - % patients knowing at all times what is to happen next. - % patients always knowing how they can be in contact with a health professional. - % patients feeling there is concordance between the information they receive from the 2 departments. - % patients where relevant papers are present in the chart upon the first consultation in the oncology outpatient clinic. - % patients receiving an appointment at the oncology department over the phone, the day after discharge from the surgical department - % of the appointment letters from the oncology department sent out the latest 5 days after the patient at the surgical department had received information about her oncology/adjuvant	Breast cancer patients leaving the surgical department for the oncology out-patient clinic

		treatment.(standard = 90%) - % patients who are offered a consultation within 2 weeks in the oncology department. (standard = 100%) - % patients who are consulted by an oncology specialist (standard = 60%) - % discharge summary made by the surgical nurse received by the oncology department upon the first visit to the oncology out-patient clinic. - % patients who are offered postoperative instructions by a physiotherapist (standard = 90%)	
	Generic	***Handoff* quality assessment**[58] 17 items **Handoff characteristics** - Handoff followed a logical structure (F1) - The person handing off the patient continuously used the available documentation (anaesthesia record, patient chart, etc) to structure the handoff(F1 & F2) - Not enough time was allowed for the handoff (F1) - All relevant information was selected and communicated (F1) - Priorities for further treatment were addressed (F1 & F2) - The person handing off the patient clearly communicated her/his assessment of the patient (F1) - Possible risk and complication were discussed (F2) - It was easy to establish good contact at the	Analysis of 3 factors of handoff : F1 Information transfer (or technical aspect) F2 Shared understanding F3 Working atmosphere

			beginning to the handoff (F2 & F3) - There was tension within the team during handoff (F3) - Questions and ambiguities were resolved (active enquiry by the person taking on responsibility for the patient) (F2) - The team jointly ensured that the handoff was complete (F2) - Documentation was complete ((F1) - The patient's experience was considered carefully during handoff (respect) ((F1 & F3) **Handoff quality** - Overall, the quality of handoff was very high **Circumstances of the handoff** - The person handling off the patient was under time pressure - The person taking on the responsibility for the patient was under time pressure	
Mixed coordination/ timeliness	Health care system	Breast cancer (follow up)	- Proportion of women with class (3), 4 or 5 abnormal mammograms having an assessment with a specialist within 2 months of mammography[51] - Proportion of women with class (3), 4 or 5 abnormal mammograms who have at least one of the following procedure within 2 months after communication of the screening result : mammography, ultrasound, fine-needle aspiration, or percutaneous biopsy[51] - Proportion of newly diagnosed cstage I-III breast cancer women who underwent two-view mammography or breast sonography within 3	KCE report

			months prior to surgery[51]	
	Health care system	Breast cancer (follow up)	- % Breast Imaging and Reporting Data System (BI-RADS) category 4 or BI-RADS category 5 mammograms that are followed by a biopsy within 7 to 10 days.[33]	AHRQ
	Health care system	Rectal cancer (follow-up)	- Time between first histopathologic diagnosis and first treatment (lle) [39] - Rate of curatively treated patients that received a total colonoscopy within 1 year after resection (mle)[39] - Rate of patients undergoing regular follow-up (according to the PROCARE recommendations) (mle) [39] - Late grade 4 complications of radiotherapy or chemoradiation (eo) [39]	KCE report
	Health care system	Cancer	- % patients with cancer diagnosed within the last 18 months who have a patient review recorded as occurring within 6 months of the practice receiving confirmation of the diagnosis.[33]	AHRQ
	Health care system	Melanoma	- % patients, regardless of age, with a current diagnosis of melanoma or a history of melanoma who were entered into a recall system with the date for the next complete physical skin exam specified, at least once within the 12 month reporting period.[33]	NQMC (American Academy of Dermatology)
	Health care system	Cardiology	- % patients, regardless of age, with an emergency department diagnosis of ST-elevation myocardial infarction (STEMI) or new left bundle branch block (LBBB) on 12-lead electrocardiogram (ECG) who received primary percutaneous coronary intervention (PCI) who had documentation that the emergency physician	NQMC (American College of Emergency Physicians)

			initiated communication with the cardiology intervention service within 10 minutes of the diagnostic 12-lead ECG.[33]	
Mixed Coordination/ Getting the right care	Health care system	Generic	**- Performance indicator for the U.S. Health care system"**[40] - % adults (19-64) having accessible PCP - % of children having "medical home - care coordination at hospital discharge : (average 3 ratios:[40]) . % of hospitalised patients with new RX-medications who were reviewed at discharge . % of heart failure patients who received written instruction at discharge . % of patient with follow-up within 30 days after hospitalisation for mental health disorders (in 3 health plans) - Nursing home (hospital admissions & readmissions among residents): (average of 2 ratios): . % of hospital admissions among resident in nursing home . % of hospital readmissions within 3 months among resident in nursing home - % of hospital admission among home health patients = Coordinated care dimension score (addition of 13 indicators/13)[40]	U.S. Health System Performance U.S. national rate compared with a comparison group
Mixed coordination centeredness	Health care system	Chronic illness	**- Care Process Self-Evaluation Tool (CPSET)**[59] 29 item in 5 sub-scales. - Monitoring & follow-up of care process (Q1 to	Clinical pathway (Belgium & The Netherlands) Questionnaire in appendix.

			Q9) - Coordination of the care process (Q10 to Q16) - Patient-focused organisation (Q17 to Q22) - Communication with patient and family (Q23 to Q26) - Collaboration with primary care (Q27 to Q29)	
	Health care system	Chronic illness	**- Care coordination and transition among adults with chronic condition**[60]	Comparison between 8 countries Part of a the 2008 Commonwealth Fund International Health Policy Survey (part in appendix)
	Specialist and primary care	Generic	**- Consumers Quality index** (CQ-index)[7] 22 items in 4 domains (4-point scale)	Assess GP-Specialist collaboration Questionnaire in appendix.
	Primary care	Generic	**- Patients' reports of Primary care Relationship and accessibility**[61]	Comparison between 7countries Part of a the 2007 Commonwealth Fund International Health Policy Survey (several parts in appendix, also in centeredness)
	Primary care	Generic	**- CPCI : Component of primary care index**[48, 62] 19 items	Questionnaire in appendix
	Primary care	Generic	- **MHFS : Medical Home Family Survey**[62] = measure the delivery of PC for all children and youth including those with special care needs	

	Primary care	Generic	- **MHI : Medical Home Index Adult Version 1.1**[62] = translate the broad indicators defining the medical home into observable, tangible behaviours and processes of care in any office setting.	
	Primary care	Generic	- **MHIQ : Medical Home IQ**[62] = assess practices in the "model of care" continuum	
	Primary care	Generic	- **P3C : Perception of Primary Care**[62] = develop a brief parent report of each child's primary care	
	Primary care	Generic	- **PPC-PCMH : Physicians Practice Connections-Patient-Centered Medical Home**[62] = assess many of the ways in which the practices function as a patient-centered medical home	
	Primary care	Generic	- **PCAS : Primary Care Assessement Survey**[9, 62] = operationalise formal definitions of PC, including the definition by the Institute of Medicine	
	Primary care	Generic	- **PCAT : Primary Care Assessement Tool**[9, 62] = assess the attainment of PC attributes	
	Specialist care	Cancer	**- MCQ : Medical Care questionnaire**[48] 15 items	Adapted from the CPCI Focus on oncology outpatients Questionnaire in appendix
	Specialist care	Diabetes	**- Diabetes Continuity of care scale (DCCS)**[50] 4 option (strongly disagree-strongly agree); 4	Questionnaire in appendix

			domains: Domain 1: Access/getting care Domain 2: Care by doctor Domain 3: Care by other healthcare professional Domain 4: Communication between healthcare professionals Domain 5: Self-care	
	Hospital Discharge	Generic	**- CTM-15: Care Transitions Measure**[12, 63] 15 items	Transition in versus out hospital Questionnaire in appendix
	Hospital Discharge	Generic	**- CTM-3 : Care Transitions Measure**[63] 3 items - The hospital staff took my preferences and those of my family or caregiver into account in deciding *what* my health care needs would be when I left the hospital. - When I left the hospital, I had a good understanding of the things I was responsible for in managing my health. - When I left the hospital, I clearly understood the *purpose* for taking each of my medications.	Shorter & valid CTM
Integrated care pathways or care program approach or case management	Health care system	Mental health	*- N of accredited Integrated Care Pathway (ICP) standards implemented with 100% collection of prescribed data points (cf Koen)*	
	Health care system	Mental health	*- Care Programme Approach (CPA) 7 day follow-up (cf Koen)*	
	Health care system	Mental health	*- Proportion of patients with an individualised care plan (in Koen)*	

	Specialist care Integrated care	Mental health	*- Proportion of individuals formally screened for a MHD upon admission to a substance abuse disorders (SUD) specialty care setting (in Koen)* *- Proportion of individuals that screened positive for COD in a SUD specialty care setting that received a MHD service (or at least one integrated service) within 30 days of screening. (in Koen)* *- Proportion of COD with an inpatient or day/night episode (SUD or MHD related) visit that have at least one SUD and one MHD outpatient clinic visit (or one integrated treatment visit) within thirty days of discharge (in Koen)*
	Health care system	Mental health	- % persons with a specified severe psychiatric disorder in contact with the health care system who receive case management (all types) (coordination pour Herman 2006 in Koen)
		Mental health	- Patients in the denominator using intensive case management (MHICM) divided by Patients in all cohorts (in Koen)
	Health care system	Mental health	- Numerator a) N of patients subsequently enrolled in MHICM b) N of days following date of eligibility (per numerator [a]) until client is enrolled in MHICM Denominator: N of patients in a study cohort who have at least three inpatient discharges or 30 cumulative inpatient days in the study period and were not enrolled in MHICM prior to meeting the inpatient utilization criteria. (in Koen)
	Health care system	Mental health	- % patients with 4 ER visits or 2 hospitalizations for schizophrenia in 12-month period that are

			enrolled in intensive case management (ICM). (in Koen)	
	Health care system	Mental health	- % people served in a year who had only one mental health contact (in Koen)	
	Health care system	Mental health	- % consumers who receive services that support recovery (in Koen)	
	Health care system	Mental health	- N patients diverted from criminal justice system (in Koen)	
	Health care system	Mental health	- N discharges for mental health specialties delayed by 6 weeks or longer than scheduled/1000 population (in Koen)	
	Health care system	Mental health	- % healthcare commission survey respondents that had an out-of-hours contact telephone number (in Koen)	
	Hospital	Mental health	- Total number of hours that all psychiatric inpatients were held in seclusion (Include patients for whom at least one seclusion event is reported during the month)[33]	AHRQ
	Hospital	Mental health	- Total number of hours that all patients admitted to a hospital-based inpatient psychiatric setting were maintained in physical restraint. (Include patients for whom at least one physical restraint event is reported during the month).[33]	AHRQ
	Hospital	Mental health	- % patients admitted to a hospital-based inpatient psychiatric setting who are screened within the first three days of admission for all of the following: risk of violence to self or others, substance use, psychological trauma history and patient strengths.[33]	AHRQ

	Hospital	Mental health	- % patients discharged from a hospital-based inpatient psychiatric setting on two or more antipsychotic medications with appropriate justification.[33]	AHRQ
	Hospital	Mental health	- % patients discharged from a hospital-based inpatient psychiatric setting on two or more antipsychotic medications.[33]	AHRQ
	Health care system	Chronic illness	**- Integrated Care Pathway Appraisal Tool (ICPAT)**[59] = score the clinical pathway document in the patient record	Clinical pathway (Belgium & The Netherlands)
Outcome				
Clinical	Specialist care	Mental health	- Substance abuse as Addiction Severity index (ASI)[43] - Psychiatric/psychological problems as Global Severity index (GSI)[43] - Social adjustment (veteran's current employment; size of social network)[43] - Housing (N of day homeless and N of day housed) [43]	Veteran
	Hospital discharge	Generic Rehabilitation	- Total number of patients discharged from a completed rehabilitation program for whom there is documented evidence of functional gain / Total number of patients discharged from a completed rehabilitation program.[36]	Australian quality indicator Rehabilitation indicators
Resource utilisation	Primary care	Generic	- % of referral leading to appointments (a)[64]	Considered as an outcome of informational continuity

			- % of appointments leading to consultation (b)[64] - Overall completion rate (a x b)[64]	by the author. Older urban
	Primary care	Generic	*- Regularity of care (checkups at least twice a year), continuity of care (seeing the same GP for at least 2 years)* [21]	Health-Related Quality of Life (HRQOL)[21]
	Hospital	Generic	- Average length of stay in hospitals (ALOS)[1]	But considered as an indicator of efficiency by other authors[65, 66]
	Hospital	Generic	- N of acute inpatient stays during the measurement year that were followed by an acute readmission for any diagnosis within 30 days and the predicted probability of an acute readmission, for members 18 years of age and older.[33]	NCQM (NCQA HEDIS)
	Hospital	Generic	- % hospitalisation within 30 days after discharge[5]	
	Hospital	Heart Failure (HF)	- % rehospitalization for congestive heart failure / Patients hospitalized for congestive heart failure[15]	AHRQ
	Hospital	Acute Myocardial Infarction (AMI)	- Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following AMI hospitalization : calculated as the ratio of predicted to expected readmissions, multiplied by the national unadjusted rate. ("numerator" of the ratio component = predicted N of readmissions for each hospital within 30 days given the hospital's performance with its observed case mix.)[33]	NCQM (Centers for Medicare & Medicaid Services) Safety for IOM
	Hospital	Heart Failure (HF)	- Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following HF hospitalization : calculated as the ratio of predicted to expected readmissions, multiplied by the national unadjusted rate. ("numerator" of the ratio component = predicted N of readmissions for	NCQM (Centers for Medicare & Medicaid Services)

			each hospital within 30 days)[33]	
	Hospital	Pneumonia	- Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following pneumonia hospitalization : calculated as the ratio of predicted to expected readmissions, multiplied by the national unadjusted rate. ("numerator" of the ratio component = predicted N of readmissions for each hospital within 30 days)[33]	NCQM (Centers for Medicare & Medicaid Services) Safety for IOM
	Health care system	Mental health/ Disability Child	- Resource Acquisition Needs subscale in the Family Needs Survey (FNS)[67] (because a major function of service coordination is to facilitate the acquisition of child and family support resources)	Time period = entry in the disability services and 1 year later. No details given
		Generic	- Emergency department use[5, 41]	
		Asthma	- Potentially avoidable emergency department encounters for asthma among adults and children / U.S. population.[15]	AHRQ
		Generic	- Hospitalisation & ED use combined[5]	
		Generic	- Receipt of preventive services[41]	
Treatment plan compliance	Specialist care Follow-up	Cancer	- Total number of patients who had radiotherapy for glottic cancer (T1-2N0M0), who had **complete follow-up** / Total number of patients who receive radiotherapy for glottic cancer.[36]	Australian quality indicator Radiation oncology indicators
	Specialist care Follow-up	Cancer	- Total number of patients who had radiotherapy for breast conservation who had **complete follow-up** / Total number of patients who receive radiotherapy for breast conservation. [36]	Australian quality indicator Radiation oncology indicators
	Specialist care	Mental health	- Length of stay in the program[43]	Others indicators in Koen

			- N of AA meetings attended per week[43] - Average weekly earnings in the work therapy program[43] - Toxicology screenings per week[43]	
	Specialist care	Mental health	- % patients beginning a new episode of treatment for substance use disorder (SUD) who maintain **continuous treatment involvement** for at least 90 days after qualifying date.[33] - % patients who were diagnosed with a new episode of depression, and treated with antidepressant medication, and who remained on an antidepressant drug for at least 84 treatment days (12 weeks) after the Index Prescription Date[33]	NQMC (Veteran health administration)
	Specialist care	Mental health	- N of months in the 6 month after the initial assessment in which the patient had at least 1 visit[68] - % patient discharged from an inpatient psychiatry program receiving any MH outpatient treatment during the 1st 30 days or the first 3 months after discharge (Yes/No)[43, 68] - total number of visits between the initial global assessment functioning (GAF) and the last GAF within 180 days[68] - Average number of days between hospital discharge and service contact for primary mental health separations. (in Koen) - % persons hospitalized for primary mental health diagnoses with an ambulatory mental health encounter with a mental health practitioner within 7 and 30 days of discharge (Herman 2006 in Koen)	

			- % persons discharged with a dual diagnosis of psychiatric disorder and substance abuse with at least four psychiatric and at least four substance abuse visits within the 12 months after discharge (Herman in Koen) - % of persons hospitalized for psychiatric or substance-related disorder with at least one visit per month for 6 months after hospitalization (Herman in Koen) - Proportion of persons with SMI lost to follow-up by community mental health services at six months and one year (in Koen). - Total N of emergency psychiatric encounters during the past year that were followed by at least one outpatient (non-emergency) care visit within 3 days, divided by the total number of all emergency psychiatric encounters during the past year (in Koen)	
Patient satisfaction	Hospital Discharge	Generic	**- Transition / discharge planning activities(PREPARED)[55]** - Satisfied with community service - Equipment met needs - Overall satisfied with way hospital prepared patient / carer for returning home - Free text (has anything been done to deal with your worries about managing at home/ have any unexpected problems occurred) - Use of health services in the week post-discharge (patient / carer): GP, specialists medical doctor, physiotherapist, pharmacist, occupational therapist, meals-on-wheels, domiciliary care, district nurse, hospital outpatient/emergency clinic, other.	Focus on seniors 65 years +

			- Use of home support services : home modifications, assistance with shopping, house cleaning, other. - Extra out-of-pocket expenses: taxi fares, petrol, extra shopping, private health services, extra pharmacy costs, extra electricity **Total outcome score = % of the maximum possible score**	

NS= not specified PCP= Primary Care provider

Table 10. Indicators of patient-centeredness

Category of indicator	Type of measure		Example of indicator	Comments
	Level	Focus		
Structure				
Acknowledgement of patients needs, wants, preference				
Patients' right	Health care system	Generic	- Existence of a consumer/family **charter of rights** that has been endorsed by the appropriate health authority and/or government body (McEwan et al. 2001 in Koen)	Article about Mental health
	Hospital level	Generic	- % hospitals with **patients' right** posted[20]	Modified indicators (from a long questionnaire)
	Specialist care	Mental health	- Existence of a clear process for filing complaints (cf Koen)	
Privacy	Hospital level	Generic	- % hospitals where consultation and treatment allow **privacy**[20]	Modified indicators (from a long questionnaire)

Category of indicator	Type of measure		Example of indicator	Comments
	Level	Focus		
Structure				
Acknowledgement of patients needs, wants, preference				
	Ward level	Generic	- % wards where consultation and treatment allow **privacy**[20]	Modified indicators (from a long questionnaire)
	Hospital level	Generic	- % hospitals with **written policy on confidentiality** [20]	Modified indicators (from a long questionnaire)
Comfort preference	Hospital level	Generic	- % hospitals offering patients **plenty of choice in the food** provided[29]	Modified indicators
	Hospital level	Generic	- % hospitals offering choice in **timing of meals**[20]	Modified indicators (from a long questionnaire)
	Ward level	Generic	- % ward offering choice in **timing of meals**[20]	Modified indicators (from a long questionnaire)
	Hospital level	Generic	- % hospitals offering a possibility of obtaining a **single room** upon request[20]	Modified indicators (from a long questionnaire)
	Ward level	Generic	- % ward offering a possibility of obtaining a **single room** upon request[20]	Modified indicators (from a long questionnaire)
Providers skills of communication				
Language need	Health care system	Generic	- % practices with **linguistic** services[31]	Patient-centered medical home

Category of indicator	Type of measure		Example of indicator	Comments
	Level	Focus		
Structure				
Acknowledgement of patients needs, wants, preference				
	Ward level	Generic	- % wards able to inform foreign patients about their condition and treatment[20]	Modified indicators (from a long questionnaire)
Patients and carers involvement in management & decision of care				
Patient Information	Health system	Generic	- Personal health record (PHR) which respond to several criteria : PHR access for patient proxies; for minor; patient view EMR clinical progress notes; EMR full diagnosis list; patient data control of information access; emergency “break the glass” access; normal lab results availability; clinician response to patient emails	Modified indicators (from policy model)
Inform consent	Hospital level	Generic	- % hospitals with written policies for informed consent[20]	Modified indicators (from a long questionnaire)
Global patient involvement	Hospital level	Generic	- % hospitals with written policies for patient involvement[20]	Modified indicators (from a long questionnaire)
Involvement in service and delivery planning	Health care system	Mental health	- Proportion of communities within region with established regional consumer advisory groups.(cf Koen) - Proportion of health authorities with established regional consumer advisory groups - Total amount of resources allocated to support consumer advisory structures and their activities as a	

Category of indicator	Type of measure		Example of indicator	Comments
	Level	Focus		
Structure				
Acknowledgement of patients needs, wants, preference				
			percentage of total mental health budget. (cf Koen) - Proportion of regional health authorities within province/territory that have a designated person at the management level to facilitate partnerships and involvement of consumers and families. (cf Koen) - Total N of full-time-equivalent (FTE) staff positions (either direct care or administrative) that are occupied by consumers of mental health services, divided by the total number of FTE direct care and/or administrative positions(cf Koen) - % total mental health budget allocated to support consumer-directed initiatives. (cf Koen) - N of self-help groups in the region with public sector support. (cf Koen) *- Total N of family members on planning, evaluation, and Total Quality Management teams, divided by the total membership of these groups.(cf Koen)* *- Patient Bill of rights.(cf Koen)*	
Patient involvement in quality improvement	Hospital	Generic	- % hospitals where patients are involved in development of criteria or standards[20]	Modified indicators (from a long questionnaire)
	Hospital	Generic	- % hospitals where patients are involved in design of protocols[20]	Modified indicators (from a long questionnaire)

Category of indicator	Type of measure		Example of indicator	Comments
	Level	Focus		
Structure				
Acknowledgement of patients needs, wants, preference				
	Hospital	Generic	- % hospitals where patients are involved in evaluation of quality objectives[20]	Modified indicators (from a long questionnaire)
	Hospital	Generic	- % hospitals where patients are involved in participation in quality committee[20]	Modified indicators (from a long questionnaire)
	Hospital	Generic	- % hospitals where patients are involved in participation in improvement project[20]	Modified indicators (from a long questionnaire)
	Hospital	Generic	- % hospitals where patients are involved in discussion of results of patient survey[20]	Modified indicators (from a long questionnaire)
	Hospital	Generic	- % hospitals with internal quality improvement including monitoring patients views[20]	Modified indicators (from a long questionnaire)
	Hospital	Generic	- % hospitals with internal quality improvement including analysis of patients' complaints[20]	Modified indicators (from a long questionnaire)
	Hospital	Generic	- % hospitals with data on complaints reported to governing board[20]	Modified indicators (from a long questionnaire)
	Hospital	Generic	- % hospitals with data on monitoring patients' opinion reported to governing board[20]	Modified indicators (from a long questionnaire)
	Ward	Generic	- % wards where patients are invited to express opinion[20]	Modified indicators (from a long questionnaire)
	Ward	Generic	- % wards where patients are informed about complaints procedure[20]	Modified indicators (from a long questionnaire)

Category of indicator	Type of measure		Example of indicator	Comments
	Level	Focus		
Structure				
Acknowledgement of patients needs, wants, preference				long questionnaire)

Process **Acknowledgement of patients needs, wants, preferences**				
Patients' right	Hospital	Generic	- % adult patients who reported whether they were given information about patient rights. [33]	AHRQ
Patients' needs	Hospital	Generic	- % adult inpatients who reported how often the hospital staff was responsive to their needs. [33]	AHRQ
	Health care system	Generic Children	- Proportion of children whose parents had concerns about their child's learning, development and behavior and they received information to address their concerns. [33]	AHRQ
	Health care system	Generic Children	- % parents/guardians who reported whether their child's doctor addressed their child's growth and development. [33]	AHRQ
	Health care system	Generic Children	- % parents/guardians who reported whether their child's doctor gave advice on keeping their child safe and healthy. [33]	AHRQ
	Health care system	Generic Children	- Proportion of children whose parents reported care provided was helpful or very helpful on core aspects of preventive and developmental health care. [33]	AHRQ
	Health care system	Generic Children	- Proportion of children whose parents routinely received all aspects of family-centered care. [33]	AHRQ
	Health care system	Generic Children	- Average percentage of recommended aspects of family-centered care regularly received. [33]	AHRQ

Process **Acknowledgement of patients needs, wants, preferences**				
	Hospital	Generic	**- %** adult inpatients who reported how often the hospital staff was responsive to their needs.[33]	AHRQ
	Specialist care	Palliative care	- % patients in intensive care unit (ICU) palliative care who have documentation of resuscitation status on or before Day One of ICU admission. [33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported whether their providers asked them whether they needed help to tell their sexual partners about their HIV status and made a referral if needed.[33]	AHRQ
	Health care system	Generic	- % adult health plan members who reported how often their health plans handled their claims quickly and correctly. [33]	AHRQ
Preference of care	Specialist care	Cancer	- % patients with advanced cancer who are admitted to the ICU and survive 48 hours for whom the patient's preferences for care or an attempt to identify them was documented in the medical record within 48 hours of ICU admission. [33]	AHRQ
	Specialist care	Cancer	- % patients with advanced cancer who are mechanically ventilated in the ICU for whom the patient's preference for mechanical ventilation or why this information was unavailable was documented in the medical record within 48 hours of admission to the ICU. [33]	AHRQ

Process **Acknowledgement of patients needs, wants, preferences**				
	Specialist care	End-of-life	- % healthcare professionals who affirm that in their unit or area enquiries are always made about terminal patients' preferences regarding life-support procedures and treatment.[33]	AHRQ
Pain management	Institution	Generic	- % of adult home health care patients who reported whether their home health care providers addressed specific care issues related to pain and medication.[33]	AHRQ
	Hospital	Generic	- % adult inpatients who reported how often their pain was controlled.[33]	AHRQ
	Specialist care	Palliative care	- For patients in intensive care unit (ICU) palliative care, % percent of 4-hour intervals (on Day Zero and Day One of ICU admission) for which pain was assessed and documented. [33]	AHRQ
	Specialist care	Palliative care	- % 4-hour intervals (on Day Zero and Day One of ICU admission) for which the documented pain score was less than or equal to 3 in patients Intensive care unit (ICU) palliative care.[33]	AHRQ
	Specialist care	Palliative care	- % patients with advanced cancer who died an expected death who were referred for palliative care prior to death (hospital-based or community hospice) or there was documentation why there was no referral.[33]	AHRQ
	Specialist care	Rheumato	- For patients with osteoarthritis, % patient visits with assessment for function and pain.[33]	AHRQ
Privacy	Health care	Generic	- % adult patients who reported whether anyone	AHRQ

Process				
Acknowledgement of patients needs, wants, preferences				
	system		shared information regarding their counseling or treatment that should have been kept private.[33]	
	Specialist care	HIV	- % HIV positive adult patients who reported how often their plan protected their confidentiality. [33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often the staff and their providers kept their HIV status confidential.[33]	AHRQ
Spiritual support	Specialist care	Palliative care	- % patients in intensive care unit (ICU) palliative care who have documentation in the medical record that spiritual support was offered to the patient and/or family on or before Day Three of ICU admission. [33]	AHRQ
Cultural needs	Health care system	Generic	- % adult patients who reported whether the care they received was responsive to their cultural needs.[33]	AHRQ
	Specialist care	Mental health	**-** Proportion of consumers within service provider population of persons with serious mental illness who report that staff are sensitive to their language and ethnic/cultural background. (cf Koen) *- Proportion of service staff who are culturally "literate"; i.e. knowledgeable about the history, traditions and beliefs of ethno-cultural minorities(cf Koen)* - % consumers who report that staff are sensitive to their ethnicity, language, culture, and age. (cf	

Process Acknowledgement of patients needs, wants, preferences				
			Koen)	
Patients strengths	Hospitals	Mental health	- Is there documentation in the medical record that the patient was screened for a minimum of two patient strengths within the first three days of admission?[38]	JCAHO
Psycho-social aspects	Provider level	Diabetes	- Health care professionals should be aware of potential effects of life events on stress and self-care behaviour[69]	
	GP	Generic	- Proportion of all GPs questions relating to psychosocial and lifestyle issues / total GP talk in the consultation.[23]	Videoteaped
	Health care system	Generic Children	- Assessment of psychosocial well-being of parent(s) in the family: average percentage of recommended topics assessed.[33]	AHRQ
	Health care system	Generic Children	- Assessment of psychosocial well-being of parent(s) in the family: proportion of children whose parents were assessed for one or more topics related to psychosocial well-being.[33]	AHRQ
	Health care system	Generic Children	- Assessment of smoking, substance abuse, safety, and firearms risks in the family by a child's doctor(s) or other health care provider(s): proportion of children whose parents were assessed for one or more risk factors.[33]	AHRQ
	Health care system	Generic Children	- proportion of children who were determined to be at significant risk for developmental, behavioral, or social delays who received some	AHRQ

Process Acknowledgement of patients needs, wants, preferences				
			level of follow-up health care.[33]	
	Specialist care	HIV	- HIV positive adolescent and adult patients who reported whether their providers or case managers asked them how they were feeling emotionally and made a referral to a mental health provider, counselor, or support group if needed.[33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported whether their providers or case managers asked them about their life situation (housing, their finances, etc.), and made a referral if needed.[33]	AHRQ
Comfort	Hospital	Generic	- % adult inpatients who reported how often the area around their room was quiet at night. [33]	AHRQ
	Hospital	Generic	- % adult inpatients who reported how often their room and bathroom were kept clean.[33]	AHRQ
Social support	Health care system	Generic	- % adult patients who reported whether someone talked to them about including family or friends in their counseling or treatment. [33]	AHRQ
	Specialist care	Palliative care	- % patients in intensive care unit (ICU) palliative care who have documentation in the medical record that social work support was offered to the patient and/or family on or before Day Three of ICU admission.[33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often their case manager involved their family and friends in their care as	AHRQ

Process **Acknowledgement of patients needs, wants, preferences**				
			much as they needed. [33]	
	Specialist care	Mental health	- proportion of patients with schizophrenia where relatives accept an offer of contact with the treatment system.[33]	AHRQ
Providers skill of communication				
Listening ability	Medical centres	Generic	**VA Patient satisfaction with care survey**[52] **Preferences** 4 item/5 - When you saw the provider, did he or she give you a chance to explain the reason for your visit? - Did the provider listen to what you had to say? - Were you involved in decisions about your care as much as you wanted? - *Was the provider willing to talk to your family or friends about your health or treatment?* - Did the provider ask how your family or living situation might affect your health?	National VA (veterans affairs) Patient Satisfaction with Care Survey (based on Picker Commonwealth approach) From a long questionnaire
	Specialist care	HIV	**- %** HIV positive adolescent and adult patients who reported how often their providers ignored a complaint about their medical care.[33]	JCAHO
	Specialist care	HIV	**- %** HIV positive adolescent and adult patients who reported how often they found it hard to talk to their case manager.[33]	JCAHO
Explaining ability	Health care	Generic	- % patients who reported that they were given an	Dutch performance

Process Acknowledgement of patients needs, wants, preferences				
	system		understandable **explanations** by care providers [16]	
	Medical centres	Generic	**VA Patient satisfaction with care survey**[52] **Patient Education/Information** 7 item - Did the provider explain why you needed tests in a way that you could understand? - When you asked questions, did you get answers you could understand? - After the tests were done, did the provider explain the results in a way that you could understand? - Did someone explain the purpose of any prescribed medicines in a way you could understand? - Did someone tell you about side effects of your medicines in a way you could understand? - Did the provider explain what to do if problems or symptoms continued, got worse, or came back? - Did you get as much information about your health and/or treatment as you wanted from the provider?	National VA (veterans affairs) Patient Satisfaction with Care Survey (based on Picker Commonwealth approach) From a long questionnaire
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often their providers' answers to their questions about their HIV health care were hard to understand.[33]	AHRQ

Process **Acknowledgement of patients needs, wants, preferences**				
	Specialist care	HIV	- % HIV positive adult patients who reported how often the written materials about their plan and its benefits were difficult to understand.[33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported whether their providers explained the side effects of their HIV medications in a way they could understand.[33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often their providers made sure they understood what their lab test results (such as CD4 and viral load) meant for their health.[33]	AHRQ
Courtesy/Respect	Health care system: providers	Generic	- % care users who reported that they were treated politely by care providers[16]	Dutch performance
	PCP	Generic	- % adult primary care patients who reported how often their doctor's office staff was courteous and helpful. [33]	AHRQ
	PCP	Generic Children	- % parents/guardians who reported how often their child's doctor's office staff was courteous and helpful. [33]	AHRQ
	Specialist care	Generic	- % adult specialty care patients who reported how often their doctor's office staff was courteous and helpful. [33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often their visits with their providers got interrupted (by phone calls, other	AHRQ

Process **Acknowledgement of patients needs, wants, preferences**				
			patients, etc.). [33]	
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often they found their providers to be accepting and non-judgmental of their life and health care choices.[33]	AHRQ
	Medical centres	Generic	**VA Patient satisfaction with care survey**[52] **Courtesy** 2 item - How would you rate the courtesy of the person who made your appointment? [52] - Overall, how would you rate the courtesy of your provider? [52]	National VA (veterans affairs) Patient Satisfaction with Care Survey (based on Picker Commonwealth approach) From a long questionnaire
Time spend by providers	Health care system	Generic	- % care users who reported that care providers spent enough time with them (by type of care)[16]	Dutch performance
	Health care system	Generic	- % routine booked appointments with doctors in the practice that are not less than 10 minutes (8 minutes for practices with only an open surgery system).[33]	AHRQ
	GP	Generic	- Total N of patient 'utterances' to total GP 'utterances' indicating the degree to which the GP gives the patient space to tell their 'story'.[23]	Videotaped
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often they wanted their providers to spend more time with them.[33]	AHRQ
Emotional support	GP	Generic	- Proportion of all GPs social talk and expressions	Videoteaped

Process **Acknowledgement of patients needs, wants, preferences**				
			of reassurance & encouragement / total GP talk in the consultation (verbal caring).[23]	
	GP	Generic	- Observer ratings of GP 'warmth-friendliness' and 'interest-concern' / maximum score across the 2 rating scales (non verbal caring).[23]	Videoteaped
	GP	Generic	- Patients' experience with their general practice consultation: overall mean Consultation and Relational Empathy (CARE) score among patients who completed the CARE measure. [33]	AHRQ
	Medical centres	Generic	**VA Patient satisfaction with care survey**[52] **Emotional Support 3 item/4** - Did you have concerns that you wanted to discuss but did not? - If you and the provider did not talk about your concerns, was it because: (1) you were embarrassed about bringing them up, (2) you didn't have time to bring them up, (3) provider did not have time to listen, (4) provider didn't ask about your concerns, (5)too many interruptions/no privacy - Did you have confidence and trust in the provider you saw? *- Did you have trouble understanding the provider because of a language problem?*	National VA (veterans affairs) Patient Satisfaction with Care Survey (based on Picker Commonwealth approach) From a long questionnaire
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often the staff were unfriendly	AHRQ

Process **Acknowledgement of patients needs, wants, preferences**				
			to them while they checked in and waited for their visit.[33]	
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often they felt comfortable sharing their feelings and problems with their case manager.[33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often they felt uncomfortable talking about personal or intimate issues with their providers.[33]	AHRQ
Language	Health care system	Generic	- % patient which received an interpreter or translated materials to facilitate communication / patients deaf or not speaking english[34]	Focus on vulnerable elders Modified indicator
	Health care system	Generic	- % limited English-proficient (LEP) patients receiving both initial assessment and discharge instructions supported by assessed and trained interpreters or from bilingual providers and bilingual workers/employees assessed for language proficiency.[33]	AHRQ
	Health care system	Generic	- % encounters where the wait time for an interpreter is 15 minutes or less. [33]	AHRQ
	Health care system	Generic	- % patient visits and admissions where preferred spoken language for health care is screened and recorded.[33]	AHRQ
	Health care system	Generic	- % patient visits and admissions where preferred written language for health care is screened and	AHRQ

Process Acknowledgement of patients needs, wants, preferences				
			recorded.[33]	
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often they got services in the language they wanted.[33]	AHRQ
Global communication skills	PCP	Generic	- Measure of patient-centered communication (MPCC) during an standardised patient encounter[70] or current patients[71], in 3 components : Exploring both the disease and the illness experience; understanding the whole person; finding common ground (about the nature of the problem and its management).	Audiotaped analyse
	PCP	Generic	- Claims data from patients[70]	
	PCP	Generic	- Patients survey : 5-item HCCQ autonomy scale; 2 subscales from the PCAS; 4 item PCAS-K & 8 item PCAS-T; 6 option Likert scale question on satisfaction[70]	
	PCP	Generic	- Claims data from patients; MPCC et Patients survey (see above)[70]	
	PCP	Generic	- Patient perception of Patient-centeredness: 14-item[71]	No details given
	PCP	Generic	- % adult primary care patients who reported how often their doctors communicated well.[33]	AHRQ
	PCP	Generic Children	- % parents/guardians who reported how often their child's doctor communicated well.[33]	AHRQ

Process **Acknowledgement of patients needs, wants, preferences**				
	Specialist care	Generic	- % adult specialty care patients who reported how often their doctors communicated well. [33]	AHRQ
	Specialist care	Nephrology	- % in-center hemodialysis patients who reported how often their nephrologist cared and communicated well. [33]	AHRQ
	Hospital	Generic	- % adult inpatients who reported how often the hospital staff communicated well about medications.[33]	AHRQ
	Hospital doctors	Generic	- % adult inpatients who reported how often their doctors communicated well. [33]	AHRQ
	Hospital nursing	Generic	- % adult inpatients who reported how often their nurses communicated well. [33]	AHRQ
	Institution	Generic	- mean score on seven items asking about helpfulness of office staff, overall rating of care and whether doctor/other providers listen carefully, explain things clearly, respect you, spend enough time.[33]	AHRQ
Poor communication	Provider level (in & out)	Generic Adults	- % adults who had a doctor's office or clinic visit in the last 12 months who reported poor **communication** with health providers / civilian non institutionalised population aged 18 & over who had a doctor's office or clinic visit in the last 12 months[15]	AHRQ
	Provider level (in & out)	Generic Children	- % children who had a doctor's office or clinic visit in the last 12 months whose parents reported poor	AHRQ

Process **Acknowledgement of patients needs, wants, preferences**				
			communication with health providers / Civilian non institutionalised population under age 18 who had a doctor's office or clinic visit in the last 12 months.[15]	
	Hospital provider level	Generic	- % adult hospital patients who reported poor **communication** with nurses and doctors = composite indicators that combines 4 measures: data on providers who sometimes or never listened carefully, explained things clearly, respected what patients had to say, and spent enough time with patients.[15]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often they had questions they wanted to ask their providers about their HIV care but did not ask.[33]	AHRQ

Patients involvement in management & decision of care				
Patients/carers Information	Health care system	Generic	- % adult patients who reported whether they were told about medication side effects.[33]	AHRQ
	Health care system	Generic	- % adult patients who reported whether they were told about other ways to receive treatment after their benefits were used up. [33]	AHRQ
	Health care system	Generic	- % adult patients who reported whether they were provided information about treatment options.[33]	AHRQ
	Health care system	Generic Children	- proportion of children whose parents received all health information.[33]	AHRQ
	Health care system	Generic Children	- proportion of parents who had their informational needs met.[33]	AHRQ
	Health care system	Generic Children	- % parents or guardians of health plan members who reported their experiences in getting needed information for their children with chronic conditions.[33]	NCQM (CAHPS questionnaire; HEDIS)
	Hospital ward	Generic	- % wards with patients informed at discharge about follow-up care[20]	Modified indicators (from a long questionnaire)
	Specialist care	Anaesthesia	- Total number of patients who have received **information** about the risks associated with the anaesthesia technique, as documented in the patient chart / Total number of patients receiving anaesthesia care.[36]	Australian quality indicators Anesthesia indicators
	Specialist care	Anaesthesia	- Total number of patients who have received **written, verbal or visual information** on the anaesthesia technique, as documented in the	Australian quality indicators Anesthesia indicators

Patients involvement in management & decision of care				
			patient chart / Total number of patients receiving anaesthesia care.[36]	
	Specialist care	Anaesthesia	- Total number of patients who have received **written information** on the anaesthesia technique, as documented in the patient chart / Total number of patients receiving anaesthesia care.[36]	Australian quality indicators Anesthesia indicators
	Specialist care	Cancer	- % patients who underwent chemotherapy and, prior to chemotherapy, were informed about the risks and benefits of treatment, including likely symptoms and side effects, and whether the treatment intent is curative or palliative.	JCAHO
	Specialist care	Palliative care	- % patients in intensive care unit (ICU) palliative care who have documentation of advance directive status on or before Day One of the ICU admission[33]	JCAHO
	Specialist care	Palliative care	- % patients in Intensive care unit (ICU) palliative care whose **family** was personally given a written information leaflet by an ICU team member on or before Day One of ICU admission. [33]	AHRQ
	Specialist care	Neuro-psy	- % patients diagnosed and treated for bipolar disorder who are provided with education and information about their illness and treatment within 12 weeks of initiating treatment.[33]	AHRQ
	Specialist care	Pain	- % patients diagnosed with chronic pain who are prescribed an opioid who have an opioid agreement form and urine toxicology screen documented in the medical record.[33]	AHRQ

Patients involvement in management & decision of care				
	Specialist care	Obstetric/pain	- % obstetric patients who have documentation of risks and benefits of spinal analgesia/epidural, during the time period under study. [33]	AHRQ
	Specialist care	Obstetric/ Routine prenatal care	- % pregnant women who report to have received counseling and education by the 28th-week visit. [33]	AHRQ
	Specialist care	Obstetric/ Routine prenatal care	- % vaginal birth after cesarean (VBAC)-eligible women who receive general education describing risks and benefits of VBAC (e.g., the American College of Obstetricians and Gynecologists pamphlet on VBAC). [33]	AHRQ
	Specialist care	Gynaecology	- % women who have been prescribed an oral or patch contraceptive method who have also received information from the practice about long acting reversible methods of contraception in the previous 15 months. [33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported whether their providers explained to them what kinds of medical tests they should be getting and how often they should get them. [33]	AHRQ
	Specialist care	Urology	- % in-center hemodialysis patients who reported whether specified information was provided to them. [33]	AHRQ
Inform consent	Healthcare system	Generic	- % healthcare professionals who affirm that in their unit or area steps are always taken to ensure that patients have understood the risks and complications before they sign the informed consent form. [33]	AHRQ

Patients involvement in management & decision of care				
	Hospital ward	Generic	- % wards where patients give written consent to treatment[20]	Modified indicators (from a long questionnaire)
	Specialist care	Anaesthesia	- Total number of obstetric patients for whom there is documented evidence of **informed consent** for labour ward epidural/spinal analgesia / Total number of obstetric patients receiving epidural/spinal/combined spinal-epidural procedures in the labour ward. [36]	Australian quality indicators Anesthesia indicators
	Specialist care	Transfusion	- Total number of transfusion episodes where **informed patient consent** was not documented / Total number of transfusion episodes.[36]	Australian quality indicators Hospital-Wide Clinical Indicators
	Specialist care	Radiotherapy	- Total number of patients who have **informed consent** recorded in the medical record before receiving radiotherapy / Total number of patients receiving radiotherapy.[33, 36]	Australian quality indicators Radiation oncology indicators
Self-management support	Health care system	Generic	- % adult health plan members who reported how often their doctor and other health provider talked about specific things they could do to prevent illness.[33]	NCQM (CAHPS questionnaire; HEDIS)
	Health care system	Generic Children	- % parents or guardians who reported how often they and their child's doctor or other health provider talked about specific things they could do to prevent illness in their child.[33]	NCQM (CAHPS questionnaire; HEDIS)
	Health care system	Generic	- % adult patients who reported whether they were given enough information to manage their condition. [33]	AHRQ
	Health care	Generic	- patients, regardless of age, discharged from an inpatient facility to home or any other site of care,	AHRQ

Patients involvement in management & decision of care				
	system		or their caregiver(s), who received a reconciled medication list at the time of discharge including, at a minimum, medications in the specified categories.[33]	
	Health care system	Generic	- % encounters for cold symptoms (phone care and/or office visits) for which there is documentation of home treatment education. [33]	AHRQ
	Health care system	Generic Children	- proportion of children whose parents reported care had a positive influence on their confidence in parenting their child and managing their responsibilities.[33]	AHRQ
	Health care system (hospital)	Generic	- % adult inpatients who reported whether they were provided specific discharge information.[33]	AHRQ
	Primary care	Chronic illness	- **PCRS** (Assesment of Primary Care Resources and Supports for chronic disease self-management) Composite questionnaire for primary care team to assess their current capacity to support & implement consistent patient-centered self-management.[72]	PC team
	Specialist care	Mental health	- N of adults-ado receiving illness **self-management training** (e.g. Self-management includes psychoeducation, behavioral tailoring, early warning sign recognition, coping strategies, social skills training, and cognitive behavioral treatment) / N of adults-ado receiving mental health services. (cf Koen)	
	Specialist care	Neuro-muscular	- % patients with low back pain diagnosis who received education regarding low back pain self-	AHRQ

Patients involvement in management & decision of care				
			care and the importance of maintaining an active lifestyle. [33]	
	Specialist care	Asthma	- % asthmatic patients with documented self-management goals in the last 12 months. [33]	AHRQ
	Specialist care	Asthma	- % pediatric asthma inpatients with documentation that they or their caregivers were given a written Home Management Plan of Care (HMPC) document.[33]	AHRQ
	Specialist care	Cardio	- % hypertensive patients who receive education on the usage of non-pharmacological treatments.[33]	AHRQ
	Specialist care	Cardio	- % hypertensive patients with a home blood pressure monitoring device who have been educated in the correct technique for blood pressure measurement and monitoring. [33]	AHRQ
	Specialist care	Cardio	- % hospitalized patients at risk for venous thromboembolism who have venous thromboembolism education within 24 hours of admission that includes: 1) venous thromboembolism risk, 2) signs and symptoms, 3) early and frequent mobilization and 4) clinically appropriate treatment/prophylaxis methods.[33]	AHRQ
	Specialist care	Cardio	- % patients diagnosed with confirmed VTE that are discharged to home, to home with home health or home hospice, or discharged/transferred to court/law enforcement on warfarin with written discharge instructions that address all four criteria: compliance issues, dietary advice, follow-up monitoring, and information about the potential for	AHRQ

Patients involvement in management & decision of care				
			adverse drug reactions/interactions.[33]	
	Specialist care	Cardio	- % stroke patients with documented education provided during hospital stay during audit period.[33]	AHRQ
	Specialist care	Cardio	- % stroke patients with documented care plan developed and provided to patient/family prior to hospital discharge during audit period. [33]	AHRQ
	Specialist care	Cardio	- % ischemic or hemorrhagic stroke patients or their caregivers who were given educational materials during their hospital stay addressing all five specified education categories[33]	AHRQ
	Specialist care	Cardio	- % adult heart failure patients to whom (or to their caregivers) written or verbal instructions or educational material are given during the clinic visit, addressing one or more of the following: activity level, diet, medications, follow-up appointment, weight monitoring, and what to do if symptoms worsen (primary care and outpatient cardiology).[33]	AHRQ
	Hospital	Cardio	- % adult patients with a primary diagnosis of heart failure discharged home with written instructions or educational material given to the patient or his or her caregiver at discharge or during the hospital stay, addressing all of the following: activity level, diet, discharge medications, follow-up appointment, weight monitoring, and what to do if symptoms worsen.[33]	AHRQ
	Specialist care	Cardio	- % patients aged greater than or equal to 18 years with diagnosed heart failure who were	AHRQ

Patients involvement in management & decision of care				
			provided with patient education on disease management and health behavior changes during one or more visit(s). [33]	
	Specialist care	Cardio	- % adult heart failure patients who have used tobacco anytime during the previous year and who were given smoking cessation advice or counseling at the last clinic visit (primary care and outpatient cardiology).[33]	AHRQ
	Hospital	Cardio	- % adult patients with a primary diagnosis of heart failure who have used tobacco anytime during the year prior to hospital arrival and who are given smoking cessation advice or counseling during the hospital stay or at discharge.[33]	AHRQ
	Specialist care	Cardio	- % people diagnosed with hypertension diagnosed after 1 April 2009 who are given lifestyle advice in the last 15 months for: increasing physical activity, smoking cessation, safe alcohol consumption and healthy diet.[33]	AHRQ
	Specialist care	Neuro	- % patients with a diagnosis of depression with documented self-management goals set within the last 12 months. [33]	AHRQ
	Specialist care	Neuro	- % patients diagnosed with ADHD whose medical record contains documentation that the clinician discussed the need for school-based supports and educational service options for children with ADHD.[33]	AHRQ
	Specialist care	Neuro	- % migraineurs who have documentation in the medical record that they have received written educational materials on migraines at a	AHRQ

Patients involvement in management & decision of care				
			clinic/office visit.	
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often HIV-specific educational materials were available for them to read. [33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often their case manager was good at showing them how they could help themselves.[33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported whether their providers explained to them how to avoid getting sick.[33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported whether their providers suggested ways to help them remember to take their HIV medications.[33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often their providers told them how important it was to keep their appointments. [33]	AHRQ
	Specialist care	Urology	- For patient with advanced chronic kidney disease (CKD), % patients with documentation that education was provided. [33]	AHRQ
	Specialist care	Gyneco	- % women prescribed emergency hormonal contraception at least once in the year by the practice who have received information from the practice about long acting reversible methods of contraception at the time of, or within one month of, the prescription.[33]	AHRQ

Patients involvement in management & decision of care				
	Specialist care	Diabetes	- % patients aged 18 years and older with a diagnosis of diabetes and foot ulcer who received education regarding appropriate foot care AND daily inspection of the feet within the 12 month reporting period. [33]	AHRQ
	Specialist care	Cardio	- % patients aged 18 years and older with a diagnosis of venous ulcer who received education regarding the need for long term compression therapy including interval replacement of compression stockings within the 12 month reporting period. [33]	AHRQ
	Specialist care	Mental health	- % patients aged 18 years and older with a diagnosis of current alcohol dependence who were counseled regarding psychosocial AND pharmacologic treatment options for alcohol dependence within the 12 month reporting period. [33]	AHRQ
	Specialist care	Hepatitis C	- % patients aged 18 years and older with a diagnosis of hepatitis C who were counseled regarding the risks of alcohol consumption at least once within the 12 month reporting period. [33]	AHRQ
	Specialist care	*Mental health*	*- Unduplicated N of consumers with severe mental illness receiving peer support services (e.g. drop-in centers, peer case management, peer professional services, and social clubs)during the reporting period / Unduplicated N of adults with serious mental illness served during the reporting period. (cfr Koen)*	

Patients involvement in management & decision of care				
Patients / carers involvement in service delivery and planning	Specialist care	Mental health	- % patients on the mental health register who have a comprehensive care plan documented in the records agreed between individuals, their family and/or carers as appropriate.[33]	AHRQ
	Specialist care	Mental health	- Number of consumer/family self-directed initiatives (cf Koen) - Family involvement in treatment for Children /Adolescents (cf Koen) - % carer involvement/those who have a carer(cf Koen) - Projects to support parenting skills(cf Koen) - N patients whose families are involved in treatment / N patients whose families are not(cf Koen)	Mental health but maybe can be applied to others disease
	Specialist care	Cardio	- % eligible **carers of stroke patients** who undertook documented training prior to discharge of hospital during audit period. [33]	AHRQ
	Specialist care	Palliative care	- % patients in intensive care unit (ICU) palliative care: who have documentation in the medical record that an interdisciplinary family meeting was conducted on or before Day Five of ICU admission. [33]	AHRQ
	Specialist care	Palliative care	- % patients in intensive care unit (ICU) palliative care who have documentation of ICU efforts to identify a health care proxy (or other appropriate surrogate decision-maker) on or before Day One of the ICU admission. [33]	AHRQ

Patients involvement in management & decision of care				
Patients participation in decision/ shared decision making (SDM)	Health care system	Generic	- % care users who reported that they were **involved in decision making** about care and treatment [16]	Dutch performance
	Health care system	Generic	- % adults with a usual source of care whose health providers sometimes or never **asked for the patient's help** to make treatment decisions [15]	AHRQ
	Health care system	Generic	- % adult patients who reported whether they felt they could refuse a specific type of medicine or treatment.[33]	AHRQ
	Health care system	Generic	- % adult health plan members who reported whether a doctor or other health provider included them in shared decision making.[33]	AHRQ
	Health care system	Generic Children	- % parents or guardians who reported their experiences with shared decision-making for their enrolled children with chronic conditions.[33]	NCQM (CAHPS questionnaire)
	Health care system	Cardio	- % women 56 through 79 years and men 46 through 79 years who discussed the risks and benefits of using aspirin with a doctor or other health provider.[33]	AHRQ
	Physicians (GP)	Generic	- Proportion of GP behaviours that facilitate patient involvement in decision-making (giving information about the condition and associated treatment, using 'clarifying' statements to solicit patient opinions and check understanding) / GPs' total talk.[23]	Video-taped
	Physicians (GP)	Generic	- **Informed Decision Making (IDM)**[73] 9 item	Audio-taped

Patients involvement in management & decision of care				
			- discussion of the patient's role in decision making- determination of the context of the decision - discussion of the clinical issue and nature of the decision to be made - discussion of the alternatives - discussion of the pros and cons of the alternatives - discussion of the uncertainties associated with the decision - assessment of the patient's understanding - assessment of the patient's desire or input - asking the patient to express a preference	Item in appendix Both doctor-focused elements and interactional element
	Physicians (GP or specialists)	Generic & breast cancer	**Observing Patient Involvement (OPTION)** instrument.[73-75] 12 item in a set of competences: - problem definition - explaining legitimate choices - portraying options and communicating risk - conducting the decision process or its deferment	Audio-taped Item in appendix Focus on doctor-behaviour
	Physicians (GP or specialists)	Breast cancer	- **Response to Emotional Cues and Concerns (RECC)** coding system.[74] which codes emotional expressions, specifically cues, concerns and psychosocial issues	Audio-taped
	Physicians (GP or specialists)	Breast cancer	- **Blocking and facilitating behaviour scales**[74] - 10 item blocking behaviour scale - 9 item facilitating behaviour scale	Audio-taped
	Specialist care	Cancer	- Assessment of SDM behaviours in the oncology	Audio-taped

Patients involvement in management & decision of care				
			context by coding audio-taped consultation (3 coding systems : OPTION, DSAT & DAS-O)[76]	
	Specialist care	Mental health	- Proportion of consumers and families within a service provider population of persons with serious mental illness who actively **participate in decisions** concerning their treatment (McEwan et al. 2001; Herbstman & Pincus 2009; Ganju 1996 in Koen)	Mental health
	Specialist care	HIV	- % HIV positive adult patients who reported how often they wanted to be more involved in making decisions about their health care.[33]	AHRQ
	Specialist care	HIV	- % HIV positive adolescent and adult patients who reported how often they felt they would get in trouble if they disagreed with or complained about their case manager.[33]	AHRQ
Global centeredness process indicators or mixed with other domain of quality, patient assessment included				
	Health care system : hospitals	Generic	- Number of hospitals which achieve recognition as a Designated Patient-Centered Hospital (50 criteria).[77]	
	Health care system : hospitals	Generic	- % hospitals with implementation of strategies to improve patient-centeredness according to the questionnaire of the MARQuIS project.[20]	
	Health care system : hospital wards	Generic	- % wards with implementation of strategies to improve patient-centeredness according to the questionnaire of the MARQuIS project.[20]	
	Health care	Generic	**- World health survey** : responsiveness module	Questionnaire to 50 persons/country involved in

Patients involvement in management & decision of care				
	system		(long = 143 items, short = 78)[28]	the health sector
	Health care system	Generic	- **CAI : Competency Assessment Instrument**[33]	AHRQ
Mixed Access, centeredness…	Health care system (ambulatory or facility)	Generic	**- CAHPS: Consumer assessment of healthcare providers and Systems** (or Health plan survey)[78] = assess consumer experience with respect to multiple dimensions of care[62]	https://www.cahps.ahrq.gov/content/products/Prod_Intro.asp?p=102&s=2
	Medical groups (PCP and specialists)	Generic	- **Modified CAHPS**: [25] 46 items in 5 domains	Assess quality improvement
	Primary care	Generic	- **CPCI : Components of Primary Care Instrument**[62] = evaluate domains of primary care	
	Primary care	Generic	- **MHFS : Medical Home Family Survey**[62] = measure the delivery of PC for all children and youth including those with special care needs	
	Primary care	Generic	- **MHI : Medical Home Index Adult Version 1.1**[62] = translate the broad indicators defining the medical home into observable, tangible behaviours and processes of care in any office setting.	
	Primary care	Generic	- **P3C : Perception of Primary Care**[62] = develop a brief parent report of each child's primary care	

Patients involvement in management & decision of care				
	Primary care	Generic	- **PCAS : Primary Care Assessement Survey**[10, 62] = operationalise formal definitions of PC, including the definition by the Institute of Medicine	
	Primary care	Generic	- **PCAT : Primary Care Assessement Tool**[62] = assess the attainment of PC attributes	
	Hospital Discharge	Generic	**- CTM-15 : Care Transitions Measure**[12, 63] 15 items	Transition in versus out hospital Questionnaire in appendix (in continuity)
	Hospital Discharge	Generic	**- CTM-3 : Care Transitions Measure**[63] 3 items - The hospital staff took my preferences and those of my family or caregiver into account in deciding *what* my health care needs would be when I left the hospital. - When I left the hospital, I had a good understanding of the things I was responsible for in managing my health. - When I left the hospital, I clearly understood the *purpose* for taking each of my medications.	Shorter & valid CTM
	Hospitals	Generic	- **P-CIS: Patient-Centred Inpatient Scale**: 20 items[29]	Frail older population Questionnaire in appendix
	Hospitals	Generic	- **Patient expectations questionnaire** : 70 items in 8 domains (annexe)[30]: provider competence; provider behaviour; respect & caring; hotel services; education/communication; anticipation of	Common theme with satisfaction questionnaire but also different as anticipation of needs,

Patients involvement in management & decision of care				
			needs; individualisation of care; postdischarge status.	provider competence and postdischarge status.
	Medical centres	Generic	- **Picker/Commonwealth patient-centered care survey**[52]	National VA (veterans affairs) Patient Satisfaction with Care Survey (based on Picker Commonwealth approach)
	Pediatric hospitals	Generic	- **PFCC : Patient-and-Family-Centered-Care survey**[79] . 17 subscales with 107 items for leadership & staff . 10 subscales with 58 items for families	Benchmarking of institutions
	Hospital nursing	Cancer	**- OPPQNCS : Oncology Patients' Perceptions of the Quality of Nursing Care Scale**[19] - Responsiveness scale: degree to which the nurse demonstrated that she or he was able to meet patient needs in a caring and attentive manner. - Individualisation : degree to which the nurse personalised care according to the patient's feelings, preferences, and desired level of involvement in care. - Coordination: degree to which the nurse promoted communication among other nurses and the patient. - Proficiency : degree to which the nurse provided knowledgeable, skilful nursing care.	Focus on hemato-oncology patient

Patients involvement in management & decision of care				
	Nursing	Generic	**- ICS-patient Instrument**: patients' perception[80] 43 item in 2 scales - Taking account of patient individuality 22 item; - Facilitating patients' participation in decision-making 21 item.	Individual care
	Nursing	Generic	**- ICS-Nurse Instrument:** nurses' perception:[81] 34 item in 2 scales - ICS-A-Nurse 17 item to explore nurses' views on how nurses support patient individuality through nursing activities in general; - ICS-B-Nurse 17 item exploring the extent to which nurses perceive the care they provide to patients is individual.	Nurses' perception
	Health care system	Chronic Illness	**- PACIC : Patient Assessment of chronic illness care** [78, 82] 20 item in 5 domains: - patient activation (Q1-3) - delivery system design/ decision support 4-6) - goal setting (Q7-11) - problem solving/ contextual counselling (Q12-15) - follow-up/coordination (Q16-20)	Complement the ACIC which assesses the quality of chronic illness care (Chronic care model CCM) Questionnaire in appendix
	Health care system	Chronic illness Children	- % parents or guardians who reported their experiences with their children's personal doctor or nurse for their enrolled children with chronic conditions. .[33]	NCQM (CAHPS questionnaire)

Patients involvement in management & decision of care				
	Health care system	Epilepsy	- **PGQI : Patient-Generated Quality Indicators** [83] 5 indicators	Type of providers not specified
	Specialist care	Cancer	**- Medical Care questionnaire (MCQ)** [48] 15 items	Adapted from the CPCI Focus on oncology outpatients
Mixed Centeredness, Continuity, Quality of care…	PCP	Generic	**- PCP-ACES** [82] (refinement of PCAS; item from 4 – 11 subscales from the primary care module of the Ambulatory care experience survey):communication; integration; contextual knowledge of patient; preventive care).	
Outcome				
Empowerment	Health care system	Chronic illness	- Use of self-management service (Website, health education classes, emotional support groups…) [78]: 5 question yes/no	
	Health care system	Chronic illness	- Performance of self-management behaviours 4 item: patients rate about : consuming 5 servings of fruits and vegetable; doing tasks needed to manage their chronic condition; following a regular exercise program; following a regular stress management program. [78]	
	Health care system	Chronic illness	- Medication adherence [78]: patients question about how many days of medication doses were missed in the past 7 days.	

Outcome				
	Health care system	Chronic illness	**- Care management Experiences among adults with chronic condition**[60] **Doctor-patient communication**	Comparison between 8 countries Part of a the 2008 Commonwealth Fund International Health Policy Survey (part in appendix) Related to CCM
	Health care system	Generic	- % adults who found it easy to understand written information from a doctor's office.[15]	AHRQ
	Health care system	Generic	- % adults who found it easy to read the instructions on a prescription bottle.[15]	AHRQ
	PCP	Generic	- **Health care climate questionnaire** (HCCQ autonomy scale): 5-item[70] : = measure of autonomy supportiveness and patient involvement in decision-making.	
	PCP	Generic	**- Doctor-Patient Communication and care coordination**[61]	Comparison between 8 countries Part of a the 2007 Commonwealth Fund International Health Policy Survey (part in appendix)
	PCP	Chronic illness	- **Patient Self-Activation scale**[82]: 22 item to assess the extent to which patients feel able to take responsibility for their care (having the knowledge, skill, confidence to self-manage and collaborate with providers)	

Outcome				
	PCP (GP)	Generic	- **PEI: Patient Enablement Instrument**[23]	
	Patients from psychiatry Day hospitals / Day units	Mental health	- **Self-efficacy scale** : 15 point questionnaire[84]	Questionnaire in appendix
	Physician (specialists)	Breast cancer	- **Decisional Conflict scale** (DCS)[74] 3 item measuring decisional uncertainty and 9 items factors contributing to uncertainty.	
	Physician (specialists)	Breast cancer	- **State-Trait Anxiety Inventory**[74] 20 item measuring decisional uncertainty and 9 items factors contributing to uncertainty.	
	Ambulatory care	Mental health	**- Consumer outcome participation** (cf Koen) - Proportion of ambulatory episodes of mental health care with completed consumer self-assessment outcome measures.	
Clinical outcome	Health care system	Chronic illness	**- WHOQOL-BREF** (Quality of Life)[78]	
	Specialist care	Cancer	**- HRQOL** (Quality of life)[2] SF-36; SIP; NHP; EORTC QLQ-C30	
	Specialist care	Pain specific	- Total number of patients satisfied with their current pain relief / Total number of patients receiving acute pain management.[36]	Australian quality indicators Anesthesia indicators
	PCP (GP)	Generic	**- Measure Yourself Medical Outcome Profile** (MYMOP)[85]	Focus on complementary practitioners

Outcome				
				Not possible to deal with 'control & coping' and 'securing support and hope' Questionnaire in appendix
	PCP (GP)	Generic	**- Patient recovery from Discomfort and Concerns** by Visual Analogue Scales (VAS) :[71] - severity of the symptom they identified as the main presenting problem - concern about that problem at 2 points : the post-encounter interview and the follow-up 2 month later.	
	PCP (GP)	Generic	**- Patient health status: SF-36**[71]	
	PCP	Diabetes	- % diabetics with cholesterol & glycohemoglobin testing[70]	
	Nursing hospital	Surgery	- Absence of infection during hospital stay in the medical record[86] - Absence of falls during hospital stay in the medical records[86] - Hospital Length of stay[86] - Adverse event in the medical record within 7 days after discharge, pain consult included[86]	LOS but PCC sans impact
Resource utilisation	PCP (GP)	Generic	- Number and kind of diagnostic tests ordered and of referrals made during the 2 months that were relevant to the problems presented at the prior visit.[71] - Number and kind of referrals made during the 2 months that were relevant to the problems	

Outcome				
			presented at the prior visit.[71]	
Treatment plan compliance				
Consumer/family satisfaction	Health care system	Generic	- % patients who reported that they were satisfied with care providers' behaviour towards them[16]	Dutch performance
	Health care system	Generic	- % population (de 15 ans et plus) qui se dit satisfaite des prestations …[87] . des services hospitaliers 87% . des dentistes et orthodontistes 94% . des médecins spécialistes 92% . des médecins généralistes 95% . des services de soins à domicile 92% - % population (de 15 ans et plus) qui se dit très satisfaite des prestations …[87] . des services hospitaliers 43% . des dentistes et orthodontistes 61% . des médecins spécialistes 57% . des médecins généralistes 70% . des services de soins à domicile 61%	Belgium HIS
	PCP (GP)	Generic	- **MISS : Medical Interview Satisfaction Scale**[23]	
	PCP (GP)	Generic	- **CSG : Consultation Satisfaction Questionnaire** [23] 18 item	
	Nursing Home	Generic	- **Nursing Home Family Survey**[33] - **Nursing Home Resident Survey**[33]	AHRQ

Outcome				
	Specialist care	Cancer	- **Satisfaction with the SDM** (12 item).[76]	
	Specialist care	Intensive care	- Mean score on the "Family Satisfaction with Decision-making Around Care of Critically Ill Patients" scale on the Family Satisfaction in the Intensive Care Unit© (FS-ICU 24) questionnaire.[33]	AHRQ
	Specialist care	Cancer	**QLQ-INPATSAT32 questionnaire**[2]: 7 dim: - provider/support staff technical & interpersonal skills, - information availability and provision, - information exchange between providers and patient, - hospital access, - waiting time, - general comfort, - satisfaction	EORTC Inpatient care
	Specialist care	Cancer	**- Decision regret scale**[2] 5 items	
	Specialist care	Cancer	**- Patient preference** [2] **Standard gamble method** Patient chooses between a definite outcome, and a gamble defined as the probability of the best possible outcome (ie, optimal health) vs the probability of the worst possible outcome (ie, death).[2]	Cancer
	Specialist care	Cancer	**- Patient preference** [2]	Cancer

Outcome				
			Time trade off Patient choose an intervention that may decrease overall life expectancy with a trade off of higher quality of life during that shorter life span.[2]	
	Specialist care	Uro	- % in-center hemodialysis patients who reported how often they were satisfied with the quality of dialysis center care and operations.[33]	AHRQ
	Hospital Nursing	Cancer	Patients questionnaire[19] - Trust in nurse - Authentic self-representation; - Cancer optimism; - Fortitude; - Well being : Mental Health inventory 5 (in RAND 30)	
	Health care system	Generic	- mean score on six items asking about the helpfulness of counseling among young adults who received counseling on selected topics.[33]	AHRQ
	Specialist care	Mental health (cf Koen)	- N of complaints received by complaints Commissioner, Mental Health Advocate, Ombudsperson (or equivalent offices), consumer advocacy associations, regional health authority, etc. concerning mental health services and supports. (Nature of complaints received should also be reported) - Average time between receipt of complaint and satisfactory resolution - % consumer (and families) satisfied with	

Outcome				
			resolution of complaints. - % complaints closed within 30 days	
	Physician (specialists)	Breast cancer	- **Satisfaction with the decision scale**[74] 6 item	
	Physician (specialists)	Breast cancer	- **Satisfaction with the consultation**[74] 25 item - amount and quality of information received - communication skills of the clinician - level of patient participation throughout the consultation	
	Physician (specialists)	Breast cancer	- **Satisfaction with the doctor SDM skills**[74] 12 item purpose-designed measure	
Mixed Process & outcome	Mental retarded facility	Mental health	- Instrument of 6 process indicators & 9 outcomes indicators[88]	Not detailed in the articles
Mixed Centeredness, Continuity, Access, Quality of care…	Health care system	Chronic illness	- **NS-CSHCN : National survey of Children with special health care needs questionnaire**.[89]	
	Nursing hospital	Surgery	- **BTMS 7**[86] 7 item in 3 subscales : purchase intention; quality of services; satisfaction with services.	
	Nursing hospital	Surgery	- **SPNCS**[86] 15 item in 4 subscales (seeing the individual patient; explaining action; responding to needs; watching over patient.	

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