KCE REPORT 250S

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

IMPLEMENTATION OF HOSPITAL AT HOME: ORIENTATIONS FOR BELGIUM

APPENDIX

KCE REPORT 250S
HEALTH SERVICES RESEARCH

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IMPLEMENTATION OF HOSPITAL AT HOME: ORIENTATIONS FOR BELGIUM

APPENDIX

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1.1. Medline @ Ovid

Date	2014 June		
Database	**Medline (OVID)**		
Search Strategy	**#**	***Query***	***Results***
	1	*Home Care Services, Hospital-Based/	**1311**
	2	hospital at home.mp.	**282**
	3	hospital in the home.mp.	**115**
	4	(hospital* adj2 home).ti,ab.	**3582**
	5	home care.ti.	**7118**
	6	homecare.ti.	**226**
	7	5 or 6	**7341**
	8	inpatient.ti.	**8917**
	9	7 and 8	**17**
	10	Home Infusion Therapy/	**608**
	11	home care technology.mp.	**24**
	12	1 or 2 or 3 or 4 or 9 or 10 or 11	**5181**
	13	exp Patient Readmission/	**8041**
	14	"Length of Stay"/	**58262**
	15	(length adj2 stay).ti,ab.	**28125**
	16	(length adj2 hospital*).ti,ab.	**19466**
	17	LOS.ti,ab.	**16804**
	18	(admission* adj3 avoid*).ti,ab.	**458**
	19	(avoid* adj3 readmission).ti,ab.	**54**
	20	Patient Safety/	**4922**
	21	safe*.ti,ab.	**510208**
	22	Hospital Mortality/ or Mortality/	**57073**
	23	mortality.mp.	**500957**
	24	Survival/ or Survival Rate/ or survival.mp.	**803394**
	25	adverse events.mp.	**70953**
	26	adverse event.mp.	**13419**
	27	13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26	**1736628**
	28	pregnant.ti,ab.	**125960**
	29	prenatal.ti,ab.	**67189**
	30	postnatal.ti,ab.	**78358**
	31	birth.ti,ab.	**205598**
	32	exp Pregnancy/	**711357**
	33	exp Parturition/	**8211**
	34	28 or 29 or 30 or 31 or 32 or 33	**917010**
	35	12 and 27	**1343**
	36	35 not 34	**1205**
	37	limit 36 to (addresses or biography or clinical conference or comment or congresses or consensus development conference or consensus development conference, nih or dataset	**39**

		or dictionary or directory or editorial or festschrift or in vitro or interview or legal cases or letter or newspaper article or periodical index or portraits or video-audio media or webcasts)	
	38	36 not 37	**1166**
Note			

1.2. CINAHL

Date	**2014-06-20**		
Database	**CINAHL**		
Search Strategy (attention, for PubMed, check « Details »)	**#**	***Query***	***Results***
	S1	(MM "Home Health Care+")	**21,204**
	S2	TX "hospital at home"	**Display**
	S3	TX "hospital in the home"	**Display**
	S4	TX (hospital* N2 home)	**Display**
	S5	TI "home care"	**Display**
	S6	TI "homecare"	**Display**
	S7	(S5 OR S6)	**Display**
	S8	(TI inpatient)	**Display**
	S9	((TI inpatient)) AND (S7 AND S8)	**Display**
	S10	TX infusion N2 home	**Display**
	S11	TX "home care technology"	**Display**
	S12	(S1 OR S2 OR S3 OR S4 OR S9 OR S10 OR S11)	**24,845**
	S13	(MH "Readmission")	**Display**
	S14	(MH "Length of Stay")	**Display**
	S15	TX length N2 stay	**Display**
	S16	TX length N2 hospital*	**Display**
	S17	TX LOS	**Display**
	S18	TX admission* N3 avoid*	**Display**
	S19	TX readmission N3 avoid*	**Display**
	S20	(MH "Patient Safety+")	**Display**
	S21	TX safe*	**Display**
	S22	(MH "Hospital Mortality")	**Display**
	S23	(MH "Mortality+")	**Display**
	S24	TX mortality	**Display**
	S25	(MH "Survival") OR (MH "Survival Analysis+") OR (TX "Survival")	**Display**
	S26	(TX "adverse events" OR "adverse event")	**Display**
	S27	(S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26)	**Display**
	S28	TX pregnant	**Display**
	S29	TX prenatal	**Display**
	S30	TX postnatal	**Display**
	S31	TX birth	**Display**
	S32	(MH "Pregnancy+")	**Display**
	S33	TX parturition	**Display**
	S34	(S28 OR S29 OR S30 OR S31 OR S32 OR S33)	**Display**
	S35	(S12 AND S27)	**3,378**
	S36	S35 NOT S34	**2,885**

	S37	S35 NOT S34 Program, Consumer/Patient Teaching Materials, Corrected Article, Critical Path, Diagnostic Images, Directories, Doctoral Dissertation, Equations & Formulas, Forms, Glossary, Historical Material, Interview, Journal Article, Masters Thesis, Meta Analysis, Meta Synthesis, Nurse Practice Acts, Nursing Diagnoses, Nursing Interventions, Pamphlet, Periodical, Pictorial, Practice Acts, Practice Guidelines, Proceedings, Protocol, Questionnaire/Scale, Questions and Answers, Randomized Controlled Trial, Research, Research Instrument, Response, Review, Standards, Statistics, Systematic Review, Tables/Charts, Teaching Materials, Tracings, Trade Publication, Website	**636**
Note			

1.3. Embase @ Embase.com

Date	**2014-06-19**		
Database	**Embase (Embase.com)**		
Search Strategy (attention, for PubMed, check « Details »)	*#*	*Query*	*Results*
	#1	'hospital at home':ab,ti	**371**
	#2	'hospital in the home':ab,ti	**133**
	#3	(hospital* NEAR/2 home):ab,ti	**4,665**
	#4	'home care':ti	**7,627**
	#5	'homecare':ti	**294**
	#6	#4 OR #5	**7,916**
	#7	inpatient*:ti	**18,277**
	#8	#6 AND #7	**21**
	#9	(home NEAR/2 infusion):ab,ti	**481**
	#10	'home care technology':ab,ti	**26**
	#11	#1 OR #2 OR #3 OR #8 OR #9 OR #10	**5,285**
	#12	'hospital readmission'/exp	**17,952**
	#13	'length of stay'/de	**84,606**
	#14	(length NEAR/2 stay):ab,ti	**44,590**
	#15	(length NEAR/2 hospital*):ab,ti	**27,948**
	#16	los:ab,ti	**62,945**
	#17	(admission* NEAR/3 avoid*):ab,ti	**736**
	#18	(avoid* NEAR/3 readmission):ab,ti	**80**

	#19	'patient safety'/de	**52,629**
	#20	safe*:ab,ti	**703,727**
	#21	'mortality'/de	**515,857**
	#22	mortality:ab,ti	**612,417**
	#23	'survival'/de OR 'survival rate'/exp OR survival:ab,ti	**844,581**
	#24	'adverse event':ab,ti OR 'adverse events':ab,ti	**122,833**
	#25	#12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24	**2,286,234**
	#26	'pregnant':ab,ti	**154,975**
	#27	'pregnancy':ab,ti	**342,783**
	#28	'prenatal':ab,ti	**80,058**
	#29	'postnatal':ab,ti	**90,585**
	#30	'birth':ab,ti	**243,522**
	#31	'pregnancy'/exp	**592,580**
	#32	'birth'/exp	**16,492**
	#33	'parturition':ab,ti	**12,864**
	#34	#26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33	**979,246**
	#35	#11 AND #25	**1,552**
	#36	#35 NOT #34	**1,427**
	#37	#36 AND ('editorial'/it OR 'letter'/it OR 'note'/it)	**32**
	#38	#36 NOT #37	**1,395**
Note			

1.4. Cochrane Database of Systematic Reviews

Date	**2014-06-20**		
Database	**Cochrane**		
Search Strategy (attention, for PubMed, check « Details »)	**#**	***Query***	***Results***
	#1	MeSH descriptor: [Home Care Services, Hospital-Based] explode all trees	**249**
	#2	"hospital at home":ab,ti	**72**
	#3	"hospital in the home":ab,ti	**14**
	#4	(hospital* near/2 home):ab,ti	**448**
	#5	"home care":ti	**306**
	#6	"homecare":ti	**18**
	#7	#5 or #6	**324**
	#8	inpatient:ti	**1431**
	#9	#7 and #8	**8**
	#10	MeSH descriptor: [Home Infusion Therapy] this term only	**25**
	#11	"home care technology":ti,ab	**1**
	#12	#1 or #2 or #3 or #4 or #9 or #10 or #11	**654**
	#13	MeSH descriptor: [Patient Readmission] explode all trees	**790**
	#14	MeSH descriptor: [Length of Stay] this term only	**6627**
	#15	(length near/2 stay):ab,ti	**2759**

	#16	(length near/2 hospital*):ab,ti	**2828**
	#17	LOS:ab,ti	**1633**
	#18	(admission* near/3 avoid*):ab,ti	**32**
	#19	(avoid* near/3 readmission):ab,ti	**8**
	#20	MeSH descriptor: [Patient Safety] this term only	**165**
	#21	safe*:ab,ti	**77858**
	#22	MeSH descriptor: [Mortality] this term only	**438**
	#23	MeSH descriptor: [Hospital Mortality] this term only	**1050**
	#24	mortality:ab,ti or survival:ab,ti	**49766**
	#25	MeSH descriptor: [Survival] this term only	**130**
	#26	MeSH descriptor: [Survival Rate] this term only	**8279**
	#27	"adverse events":ab,ti or "adverse event":ab,ti	**31173**
	#28	#13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27	**142622**
	#29	pregnant:ab,ti or pregnancy:ab,ti or prenatal:ab,ti or postnatal:ab,ti or birth:ab,ti or parturition:ab,ti	**23484**
	#30	MeSH descriptor: [Pregnancy] explode all trees	**5771**
	#31	MeSH descriptor: [Parturition] explode all trees	**246**
	#32	#29 or #30 or #31	**25646**
	#33	#12 and #28	**221**
	#34	#33 not #32	**206**
Note			

2. BELGIAN SITUATION

2.1. Home dialysis

Dialysis centres for the treatment of chronic renal failure are defined as medico-technical services, functionally and operationally embedded in a hospital, where a chronic renal failure patient can receive the most appropriate renal replacement therapy, such as:[1]

- Chronic haemodialysis, either the classic haemodialysis in a hospital setting (hospital HD), collective haemodialysis in an appropriate environment (satellite HD) or haemodialysis at the patient's home (home HD).
- Chronic peritoneal dialysis (PD) at home.
- Renal transplantation.

The specialist (a qualified nephrologist or specialist in internal Medicine) of the dialysis centre responsible for the supervision of patients can decides, on a case by case basis and by mutual agreement with the patient, which patients are eligible for home dialysis (home HD or PD). Patients are given the opportunity to choose between dialysis modalities if medically feasible. Home dialysis modalities are mainly chosen by patients because of the flexibility they offer, while dialysis in a centre is chosen because it is performed in a more secure environment. Social support from a partner or informal caregiver is an important but not sufficient condition for choosing a home dialysis modality.[1]

The supervision of the home dialysis is done by the physician of the dialysis centre (a qualified nephrologist or a specialist in internal Medicine). They are supported in their activities by a team of qualified personnel (nurse, technician, logistic personnel). According to the law, at least one of them should be a nurse with a special qualification in dialysis. However, such a qualification does not officially exist in Belgium and this requirement hence remains unfulfilled in practice. Consequently, the only real requirement is that it should be a qualified nurse.[1]

Prior to the start of the home HD and PD, the dialysis centre must educate the patient and if necessary a second person who supports the patient in order to ensure that the patient can correctly perform his dialysis. In case of calls from a patient dialysed at home (HD or PD) –be it for an emergency or not- the responsible nephrologist of the centre or a delegated doctor, needs to be immediately available for advice. If necessary, a qualified person is sent to the patients' home. No formal legal requirements for the number of staff members are imposed.[1]

The dialysis centre must provide the dialysis equipment (machines), materials and some dialysis-related medication. The centre also performs the necessary in-house adaptation works such as electricity, water supply, telephone connections for home dialysis. Moreover, the dialysis centre installs and maintains the equipment. As for hospital HD patients, the centre keeps a medico-technical patient file for every home dialysis patients and supervises a dialysis journal completed by the patients.[1]

The financing system has been modified a couple of times, with the explicit goal of introducing incentives for alternatives to hospital dialysis. The current financing system is as followed:[1]

- Hospital HD is financed through a lump sum and a fee (honorarium for the medical specialist) per session. The baseline amount of the lump sum depends for 20% on the hospital's historical per diem price. A lump sum bonus is granted depending on the proportion of patients treated with alternative dialysis modalities. The bonus increases up to the point where 35% of the dialysis treatments are through alternative dialysis modalities and remains constant afterwards.
- Satellite HD is reimbursed through a lump sum per session. A maximum of 6 lump sums are paid per 14 days of satellite HD treatment.
- Home HD is reimbursed through a lump sum per session, with a maximum of 3 sessions per week. A higher lump sum can be paid in case of nursing support.
- PD at home is reimbursed through a lump sum per week. A higher lump sum can be paid in case of nursing support.

If a home nurse carries out the nursing support at the patient's home, she has to make an agreement with the hospital in order to receive the payment from the dialyse centre.[2] The dialysis centre receives the lump sums and pay to home nursing services the difference between the lump sum with and without nursing support. However, even if this amount is fixed, it has been showed that the reimbursement received by the home nursing services differs across centres.[1]

2.2. Home Oxygen Therapy

Delivery and reimbursement of home oxygen therapy in Belgium depends on whether the prescription is performed (i) in a department of pulmonology of a hospital or a campus of a hospital admitted to the "INAMI-RIZIV and hospital convention" system or (ii) under the "INAMI-RIZIV agreements with pharmacists".

- INAMI-RIZIV and hospital convention: Delivery of home oxygen therapy is limited to a well specified set of indications. The department should be able to perform spirometry, diffusion capacity, ventilator mechanics, arterial blood gases and transcutaneous oxygen saturation. In addition, the hospital or campus, should be able to measure pulmonary arterial pressure by catheterisation and to start controlled or assisted continuous ventilation in case of an emergency. The roles are divided as followed:
  - The specialist (a qualified pulmonologist or paediatrician) of the department is responsible for: (1) the prescription of the oxygen modality, (2) the duration of hours oxygen use per day with surveillance of the therapeutic compliance; (3) the installation and surveillance of efficiency at home of the appropriate devices and type of oxygen; (4) the delivery and renewal of any add-ons required for the appropriate delivery of oxygen at home, (5) the education and motivation for use of home oxygen therapy, (6) help in case of emergency, (7) removal of equipment at end of the therapy, (8) contact with the patient's general practitioner and pharmacist, and (9) any administrative procedure required for renewal and reimbursement.
  - The general practitioner of the patient is also involved in the points (1) the prescription of the oxygen modality, (2) the duration of hours oxygen use per day with surveillance of the therapeutic compliance, and (3) the installation and surveillance of efficiency at home of the appropriate devices and type of oxygen. The GP refers the patient to the medical specialist in order to confirm whether home oxygen therapy is required. GP's can also prescribe home oxygen therapy for palliative patients. In case of "**cluster headache**", the GP has to introduce a demand for delivery of home oxygen therapy to the medical advisor of the sickness fund.[a]
  - Health care companies are usually involved in the delivery of home oxygen therapy as they often play a role in some of the steps that fall under the responsibility of the medical specialist notably the points (3) the installation and surveillance of efficiency at home of the appropriate devices and type of oxygen. In addition, the pulmonologist or paediatrician is responsible of delivery and renewal, of any add-ons required for the appropriate delivery of oxygen at home; (5) education and motivation for use of home oxygen therapy, (6) help in case of emergency.
  - Equipment supply is provided by hospitals or by health care companies. Collaboration between the medical specialist and the health care company is accepted under the convention agreements.
  - The hospital is also included in the process with clearly defined responsibilities notably: correct invoicing to sickness funds and copies to patients, reimbursement in some cases of the patient's electricity costs, report of "data production", accounting of income and expenses for the INAMI-RIZIV, yearly report of activities, correction of invoicing when the patient is hospitalized in order to avoid double payments (pseudo code may not be reimbursed).
- INAMI – RIZIV agreements with pharmacists:
  - All physicians, both general practitioners and specialists of any speciality can prescribe oxygen. In this case, the pharmacist decides to deliver and install the gaseous oxygen and all the required equipment and is responsible for: (1) the control of the installation, (2) informing the patient with inclusion of a written text about the correct utilization of the accessories and the flow rate(s) of oxygen to be used, (3) appropriate invoicing according to INAMI-RIZIV rules. In addition, the pharmacist must provide appropriate supply of oxygen cylinders and ensure a proper stock rotation of

[a] http://www.inami.fgov.be/citizen/fr/medical-cost/specific/oxygen/index.htm#2b.

the cylinders, rent a manometer integrated or not at the cylinders, provide a guarantee for the supply of masks or nasal cannula and tubing for the correct delivery of oxygen and supply monthly the patient with a disposable humidifier. The electricity bill is not refunded to the patient.

- The pharmacist can ask a home care company to deliver oxygen at home of the patient. The health care company may charge the pharmacist for the installation costs. The items and services that may be delivered by the commercial oxygen suppliers in connection with the provision of gaseous oxygen at home are listed by the Belgian pharmaceutical association and the cooperative association of pharmacists in Belgium, based on the prices provided by the suppliers. An updated version of this list is sent monthly to the INAMI-RIZIV, to the insurance companies and to the pricing offices. The parties involved who signed the agreement; require from the oxygen suppliers a full list of delivered materials even if these are not reimbursable. A charter signed between the non-hospital pharmacies and the home care companies ensures compliance with all procedures involved in the "short-term" oxygen therapy convention. In addition, specific arrangement with health care companies were in place for the reimbursement of a specific modality of domiciliary oxygen therapy. In this case, any physician can prescribe this type of home therapy and full reimbursement is ensured.

Since 1 July 2012, community pharmacists can nevertheless only participate in the delivery and care of short-term home oxygen therapy (less than three months) and its reimbursement will depend on the agreement of the advisory physician. Access to long-term oxygen therapy, depends on defined eligibility criteria and is always linked to its prescription in the context of the convention with a hospital.

2.3. Palliative care services at home

Between 10 000 and 20 000 patients need palliative care in Belgium. Specific support structures have been developed for palliative care:[3.Gerkens, 2010 #37]

- Belgian palliative associations that foster the cooperation between representatives of front-line social and medical workers, organizations, institutions, associations and services for palliative care. Their mission is to promote communication between members, to organize education sessions, to stimulate the development of knowledge and research and to be representatives for the authorities.
- Networks of palliative care (samenwerkingsverbanden in palliatieve zorg – associations en matière de soins palliatifs) are responsible for the promotion of palliative care through raising awareness in the population, coordinating local care, educating caregivers and volunteers, and evaluating the needs for palliative care. Each network is supported by a multidisciplinary counselling team. This team counsels the informal caregivers.

Palliative care are developed in several settings:[3.Gerkens, 2010 #37]

- Palliative care at home.
- Palliative day-care centres.
- Palliative function in homes for the elderly, nursing homes and hospitals.
- Palliative care units in hospitals.

Palliative care at home is performed by a team of health professionals (GPs, nurses, physiotherapists, psychologists), informal caregivers and volunteers. An external multidisciplinary counselling team, specialized in palliative care and linked to a palliative network, can provide counselling by organizing consultations with caregivers, coordinating palliative care, and supporting caregivers psychologically and morally. Besides the support of the primary caregivers, this team is also responsible for registration of the patients' data and for day-and-night accessibility (by phone).[3.Gerkens, 2010 #37]
A patient who stays at home and has a life expectancy of less than three months can benefit from a "palliative statute". This statute involves, for example, a lump sum that covers during two months the additional costs

linked to palliative care and the abolition of the patients' co-payments for nursing, GP visits and visits of the physiotherapist.[3.Gerkens, 2010 #37]

The Belgian law also fosters home care with possible career break (part-time or full-time, with a maximum of two months) for informal caregivers to give support to their next of kin. Palliative day centres also give the families some respite.[3.Gerkens, 2010 #37]

2.4. Mental health care services and the article 107

Mental health care in Belgium is provided in different structures:[3]

- Centres for mental health care, where care is provided by a multidisciplinary team able to address the medical, psychiatric, psychological and social aspects of the health problem. Their provide both curative and preventive care. Their main tasks are to deal with anxiety, mood disturbances and addictions. Many centres also have specific programmes for children and adolescents.
- Psychiatric hospitals and psychiatric departments in general hospitals, that provide short-term treatment for patients with mental health problems.
- Psychiatric nursing homes, that provide care for patients with a stable condition needing permanent care for a long-term mental health problem who do not require hospital treatment under surveillance of a specialist in (neuro)psychiatry.
- Initiatives for sheltered accommodation that provide accommodation and support to people with stabilized mental health problems who need help to (learn to) live independently. They are supervised and day activities are organized to help them to acquire relevant social skills that are useful in their living environments.
- Rehabilitation centres that focus on addiction problems (medical-social reception centres, day centres, crisis intervention centres and therapeutic communities) and centres for psychosocial rehabilitation of children and adults.
- Others, such as psychiatric home care, psychiatric annexes in prisons, and the private practices of (neuro)psychiatrists and of psychotherapists.

Because Belgium was among the European Union Member States with the highest number of psychiatric beds per 100 000 populations, therapeutic projects in mental health care have started in April 2007 with the aim of deinstitutionalizing mental health care services and implementing an "integrated health services model" guaranteeing continuity of care, providing needs-based care to the patient and promoting rehabilitation in society to standardize well-defined care processes are used by many institutions. In succession of these therapeutic projects, it was decided at the Interministerial Conference on Public Health of 28 September 2009, to reform the mental health care sector by implementing the article 107 of the Hospital Act to create care circuits and networks via pilot projects. This reform has two major objectives:[4]

- The organization of a mental health care circuits around the patient, with a collaboration - in an identified area - between outpatient centres and residential institutions for mental health care, together with actors in primary care and bodies responsible for personal assistance.
- The detection, as quickly as possible, of people with a mental problem and the provision of support in their living environment, with care adapted to their personal situation.

The reform gives priority to outpatient care in collaboration with the first line instead of psychiatric hospitalization.

Since April 2012, it should also be noted that an allowance is provided for the participation in consultations around the patient, for a reference person (i.e. the contact person for both the patient, his family and the health care professionals), and for the organization and coordination of the consultation. The reference person is responsible for the establishment of a support plan and its coordination.[4]

2.5. Protocol 3

In 2010, INAMI – RIZIV started financing innovative projects[5], called Protocol 3 projects that aim at developing innovative interventions to keep frail older persons longer in their own home or residency settings. Project encompassed among others case management, night care and day care. The projects use an international multidisciplinary scoring instrument (BELRAI) in order to objectively identify the frailty of people. Currently the second wave of projects is being financed. The new call for projects is expected to finance multidisciplinary and integrated initiatives, case manager involvement, further use of the BelRAI to evaluate care provision and to incentive GP's participation.

2.6. Care pathways, clinical pathways, care programs and networks

Improving multidisciplinary cooperation between health professionals and facilities, and integrated care also linking hospitals with primary care levels to rationalize the supply and improve the quality of care is a policy objective in Belgium for several years.

In primary care, two care pathways (zorgtraject/trajet de soins) have been developed in Belgium with a.o. the objective of enhancing the collaboration in care between the patient, the GP, the specialist and other caregivers: one for patients with chronic kidney insufficiency and one for patients with diabetes type 2 who no longer respond to oral treatment. These "care pathway" contracts lasts four years and describe the collaboration between caregivers. Financial incentives are also foreseen for both the physician (a yearly lump sum of €80 per patient) and the patient (who is completely reimbursed for consultations by the GP and the diabetic specialist, has more access to specific devices and has other advantages such as for example, a personal care plan and the guarantee that the care plan is individually adapted to his or her specific needs). In the Flemish region, these pathways are part of a broader coordination of primary care called "samenwerkingsinitiatieven eerstelijnsgezondheidszorg".[3, 6]

In hospitals, several initiatives have been undertaken to promote the use of clinical pathways in hospitals (e.g. in surgery, obstetrics-gynaecology, internal medicine and neurology) and there are a number of bottom-up initiatives with integrated care pathways across care settings (e.g. in hip replacement). More standardisation of the care processes through clinical pathways, etc. is still possible, and many of the standardised and elective care processes can be shifted to day-care activities and ambulatory care. The shift to ambulatory care will also be made possible by technological evolutions (e.g. less invasive surgery) and new models of care (e.g. outreaching care offering specialised services in the home environment of the patient, such as hospital at home programs).[7]

The regulation and recognition of medical hospital services and functions was also gradually replaced by that of 'care programmes'. A care programme is a coherent set of services for well-defined pathologies or patient groups, such as a.o. children and geriatric patients. For each care programme, legal criteria are set related to the target group, nature and content of care, minimum activity level, necessary infrastructure, required medical and non-medical staff and their required expertise, standards concerning quality and quality monitoring, economic standards and geographical accessibility criteria.[7] The care program for children was created to reduce the number of paediatric services with a low occupancy rate to the benefit of paediatric services with a higher occupancy rate, and to establish paediatric services that offer the whole range of care settings (consultation, day hospitalization, classical hospitalization). The care programme for geriatric patients was developed from the same logic and integrates different care settings (polyclinic treatment, day hospitalization, classic hospitalization) and internal and external liaison functions. The liaison function should guarantee a transmural approach in the form of care pathways.[3, 6]

3. INTERNATIONAL COMPARISON

3.1. Methods for the international comparison

3.1.1. Questionnaire:

Historic perspective and implementation stages

This first point aims at having an overview of the historic context in which HAH were developed

- What were the initial policy objectives? (Cost/Quality/Innovation)
- Is there a legal or formal definition for HAH?
- What were the implementation stages? (How did the first structures functioned and how they evolved? How were they linked to existing care providers?)
- What were the barriers encountered during the implementation stages?

What requirements must be met by HAH suppliers?

- Design:
  - Are there specific HAH facilities (e.g. separate units) or providers (e.g. teams)?
  - Are there HAH activities delimited within specific geographical boundaries?
  - Are there specific norms / conditions defined?
- Workforce:
  - How is the workforce organized (FTE, competencies, Are there specific qualification / specific training required? Are there new roles defined?)
- Financing:
  - What type of payment system applies to HAH activities?
  - Are there specific financial incentives/disincentives to promote/bargain these activities?
- Quality of care:
  - Are there quality indicators defined?
- IT services
  - Are there specific IT services or information tools developed?
- Decision support:
  - Are there specific guidelines defined?

How are routine hospital at home interventions planned, provided and coordinated?

- Which pathologies are covered?
- Is there a specific plan of care for the patient? Who is responsible for this plan?
- Which formal services and support are delivered?
- How are care coordinated? Who is responsible of the care coordination?

In case of emergency, how is acute response provided?

- Who is responsible? Is there a specific process?

How are patients and families supported?

- Are they specific measures for patient empowerment?
- Are they specific measures for informal caregivers ?

Are there specific conditions for early identification or screening of patients?

- How are potential candidates identified, what is the target population?
  - What are the eligibility criteria / conditions?
  - Are there exclusion criteria?
  - Who assess patient eligibility? When?

How are HAH activities integrated within the health system?

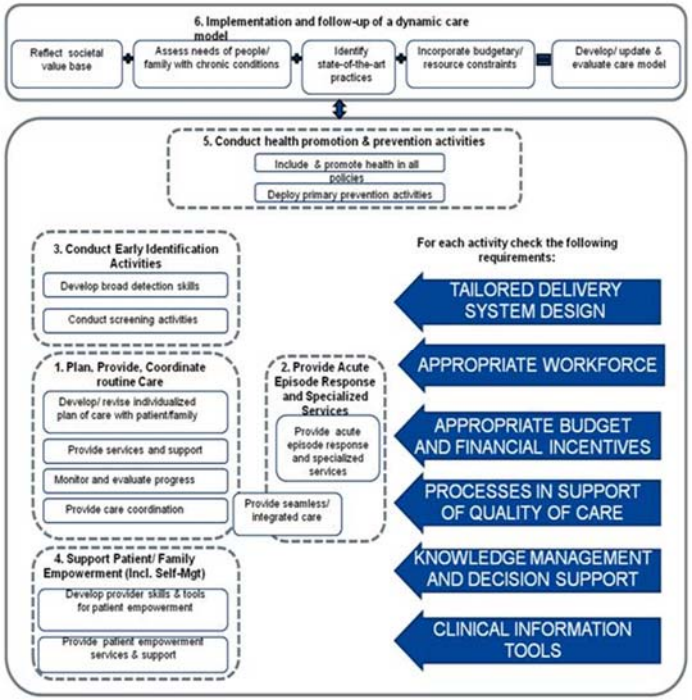
- What is the link of HAH activities with primary and secondary care providers?
- What is the link of HAH activities with the social care providers?
- Are there specific seamless care / integrated care programs organized with a link with the HAH activities? How are there integrated within the system and what is the link with other available structure (e.g. other home care services)?

Follow-up of HAH activities - How are HAH's activities evaluated?

- What is the demand for these services?
- How is the quality of care of the activities assessed?
- Are they official evaluations? What are the outcomes?
- Which problems were encountered and which solutions were taken?

3.1.2. Belgian Chronic Care Model

Figure 1 – The full conceptual model for a chronic care system



Source: Paulus et al. [8]

3.1.3. Experts contacted for validation of the countries

Table 1 – Experts identified in different countries

Country	Name and email
Victoria	Michael Montalto michael.montalto@epworth.org.au Director, Hospital in the Royal Melbourne Hospital and Epworth Hospital, Melbourne, VIC. Expertise: Field actor and researcher
Spain	Antonio Apezetxea Celaya (Basque Country) ANTONIO.APEZETXEACELAYA@osakidetza.net President Spanish Hospital at Home Society (Sociedad Española de Hospitalización a Domicilio – SEHAD) Expertise: Field actor and researcher. Juan Gallud (Valencia) gallud_jua@gva.es General Management Office for the Healthcare Planning and Provision, Valencia Health Agency, Valencia Health Ministry, Valencia, Spain Expertise: Policy advisor
France	Roman Jarry (rjarry@stratelys.fr) Project Leader, Statelys Expertise: Field actor
The Netherlands	Charles Mentink c.mentink@planet.nl Expertise: Field actor J. Veerkamp j.veerkamp@zn.nl Policy advisor National Association of Health Insurers Expertise: Policy advisor

3.2. Victoria (Australia)

The Health care system in Australia is characterized by a distribution of responsibilities (and financing) between the federal government (Australia Government or so-called "Commonwealth") and the federated authorities (six states and the two territory governments). [9]

- The federal government has a leader role in health policy-making and financing. Resources from the Federal Government are arranged under the Medical Benefits Schedule (MBS) (which reimburses non-hospital medical care), the Pharmaceuticals Benefits Scheme and the grants provided for free hospital care, comprise the national health care funding system known as Medicare.[9] In broad terms, the federal government is primarily responsible for the funding of primary health care, and wholly responsible for funding primary medical services, community pharmaceutical benefits.
- Funding for public hospital services was initially channelled via five-year Medicare agreements, which later became the Australian health care agreements.[9] The federal government also funds mental health services, public health programs and some high-cost drugs for public day hospital, outpatients and other admissions upon discharge through the Highly Specialised Drug Program (HSD). The States are fully responsible for managing funding for public hospitals.
- The federated authorities ensure an additional part of the funding and provide health care services. Federated authorities have a large autonomy in regulating and administering health services. Such autonomy has led to different health care policies between the states. However, converging patterns in health care provision are increasingly observed.

Currently, the federal and federated authorities share responsibility for primary health care services (including general practitioners, practice nurse, community health centres, child and maternal health clinics, etc.).[10] Some federated authorities play a more direct role in funding primary health services. While some of these decentralised-funded primary health services are equivalent to MBS services, others provide services equivalent to those provided in hospitals acute services.[11] The federated authorities' freedom to finance certain services has led to different levels of provision of Hospital in the home (HITH) care. The Commonwealth has no direct role in financing Hospital in the Home.

The Department of Health of Victoria delivers services through its eight geographical regions that include three metropolitan regions (Metropolitan Melbourne – East, North & West and South –) and five rural regions. (Barwon-South Western Region, Gippsland Region, Grampians Region, Hume Region and Loddon Mallee Region). Regions have different responsibilities including providing advice on the planning and development of services according to local needs of the population, the delivery and evaluation of health and aged care services and regulatory functions for specific services.

Primary care

In Australia, the federal and federated authorities share responsibility for funding primary health care services (including home nursing care). In Victoria, the funding from the Department of Health for home nursing care is channelled through different mechanisms allocated to specific programs. In general, programs employ all their staff. Private practitioners, community centres run by non-government organisations or integrated with public health service provide primary care.

Home nursing

Home nursing is delivered through Community health services (CHSs) that can be organized as agencies integrated into networks of health care providers (including hospitals) and non-for-profit independent centres (the distribution of centres account for 58% and 42%). CHS's funding is based on a unit price per contact hour (fee-for-service per hour) for nursing and for allied care professionals. In addition, annual targets based on contact hours and cash-flows funds throughout the year up to the target are set per service. Besides this funding, CHSs providing care related to specific programs receive additional funding. For instance, the post-acute care program (PAC) provides short-term community based care to assist people to recuperate after leaving the hospital. The funding model for the PAC services combines features of a population-needs-based approach with an activity/output-based approach and must respond to targets set by the health department. The Hospital admission risk program (HARP) focuses on service delivery for people with chronic disease, aged and/or complex needs who frequently (or are at risk to) use hospital services and is funded through a block grant. Sub-

acute ambulatory services (SACS) may provide home-based rehabilitation (as well as centre-based) and are funded via block grants with activity targets. It is important to mention that some of these programs may be organised outside of the scope of the Community health services.

General practice

GPs can work in private practices as well as in CHS's (about 40% of all CHS's in Victoria offer general practice services). In CHS's, third-party payer is applied and the patients are not charge with any co-payments. In private practise the patient may have to pay additional co-payments. [12]

The costs of visits to general practitioners (as well as for specialists, optometrists and some other allied health professionals) are arranged under the Medical Benefits Schedule (MBS). The MBS establishes different fee-for-services depending in the tasks performed by the physician. MBS billing mixes using an expected time spent in consultations (standard and long consultations). The resulting price is based on a unit price per contact hour. Multiple GP employment arrangements are reported (e.g. CHS bills MBS activity for and on behalf of GPs (self-employed) and (s)he pays a part of the income received to the CHS, salaried with an hourly remuneration, etc.)

Hospital financing

The current activity-based funding (ABF) used to finance hospitals is being restructured under the National Health Reform Agreement (NHRA). From 1 July 2012, Victoria's acute hospital services, including HAH services commenced funding under the national ABF model. However, there is currently a transition period to ensure a smooth passage from the old activity-based funding (ABF) system the Weighted Inlier Equivalent Separation (WIES)) to the new National Weighted Activity Units (NWAUs). Budgets allocated to hospitals will continue to be set according to the WIES in 2014-15. Because, during the making of this report the system is in the transition phase, it was decided to illustrate the current working of HAH financing. However, it is important to mention that the HAH services will continue to be financed under the new activity-based funding.

In Victoria, a casemix funding model with predetermined levels for each discharge for a particular diagnostic related group (DRG) and length of stay (LOS) is used to finance Health services. Refined Diagnosis Related Groups (AR-DRGs) are used in Australia (version 7.0 release in the first half of 2013) in order to have a clinically meaningful way of relating the number and type of patients treated in a hospital to the resources required by the hospital.

Victoria makes minor modifications to AR-DRGs, known as Victorian-modified DRGs (VIC-DRG) to suit local funding requirements. The majority of these modifications have been incorporated in subsequent versions of AR-DRGs.

The WIES reimbursement per DRG includes different cost weights for funding different types of stay, thereby moderating financial risk based on the total length and the type (sameday & overnight cost weights) of stay.

Six different cost weights to fund a patient in a DRG are defined

- Multiday inlier cost weight
- Multiday high outlier cost weight
- Multiday high outlier cost weight for hospital-at-home days
- Multiday low outlier cost weight
- Sameday cost weight
- Overnight cost weight

Cost weights are based upon the recurrent costs of treating patients as reported by hospitals to DH

WIES funding represents about 60% of a hospitals budget. Other budget's sources include:[9]

- the Non-Admitted Emergency Services Grant (NAESG) for emergency departments,
- a combination of historic levels of Victorian Ambulatory Classification System (VACS) and block funding for outpatient clinics,
- Specified grants (e.g. education and research) and other sources.

It is important to mention that the casemix financing is capped throughput WIES targets. Targets are adjusted annually in order to account, among other aspects, for growth in demand, government priorities (Statement of Priorities) and latest measures of hospital costs (Variable payment for a Health Service = WIES Target * WIES price). If the target is exceeded, health services are reimbursed at a discount rate for the first two per cent in excess of the target. Beyond this level there is no further reimbursement for services provided. [13] Health service management is then responsible for

allocating the annual budget across different areas of the hospital and for managing variable activity to within the allocated WIES target

Hereafter we present the general framework for HAH as defined for the State of Victoria. This state was selected because:

- It has long history with HAH.
- HAH activities are financed and regulated by the Victoria health care authorities.
- HAH provision started as pilot program. Lessons from this first steps could be interesting for the Belgian projects that will be launched in the second half of 2014. Due to the projects time constraints, it was not possible to review HAH programs in other states. However, an early evaluation of programs in Australia was also reviewed in to have a broader picture of all HAH programs.[14, 15]
- For the purpose of coherence with other chapters in this report, we will refer to Hospital in the home (HITH) as Hospital at home (HAH).

3.2.1. Historic perspective and implementation stages

What were the initial policy objectives?

See following sections

Is there a legal or formal definition for HAH?

There is no legal framework at a national level as responsibilities for health care delivery remain in the hands of the decentralized authorities.[16] The Department of health of Victoria finances and regulates HAH providers along with all other health care services provided in hospitals.

Box 1 – Definition for hospital in the home

HAH (hospital in the home) services provide care in the home that would otherwise need to be delivered within a hospital as an admitted patient. Patients who receive HAH care are classified as admitted patients and their care is funded through a health service's casemix revenue. HAH often provides an alternative to admission to a hospital or an opportunity for earlier relocation to the home than would otherwise be possible. Many HAH patients are elderly and chronically ill, but there is a significant cohort of patients who have an acute event and require short-term, intensive medical treatments, including paediatric and neonatal patients.

Source:Department of Health (2011)[17]

What were the implementation stages? How did the first structures functioned and how they evolved? How were they linked to existing care providers?

First initiatives of HAH were created in the middle of the 1990s. These initiatives were implemented at the same that the profound reform of the hospital system in Victoria. The reform involved both a new financing structure as well as a reorganization of hospitals into networks (today called "health care services").[18] During this period, Victoria's health system incurred significant budgetary and capital reductions [19]

Hereafter, a brief summary over the historical perspective of HAH is provided.

1995: A HAH a pilot program was launched as part of a strategy to provide patients with greater health care options by incorporating home-based care in an episode of acute care.[20] Eight million dollars were dedicated to support 43 projects in public hospitals.

1996: Additional budgets for HAH were allocated to pilot programs in order to increase provision and service development, to monitor and to evaluated programs. A per diem payment for each bed day in HAH was implemented.[13, 20, 21]

1997-1999: Audits of HAH programs in 42 hospitals were performed and pointed out that the number of admissions (called separations) as well as the complexity of patients increased. [13, 20, 21] Overall evaluations were

positive and encouraged policymakers to introduce structural funding for hospitals with HAH units. A cost study analysed the feasibility of a casemix payment that was later implemented.[22]

2001: Victoria's government established a casemix payment for HAH activities. [23, 24] Rural and regional health services (see a definition of different types of health services in section 3.2.2.1) received a grant to address specific needs in rural areas. The use of the HAH Minimum Data Set developed by the Victorian Centre for Ambulatory Care Innovation (VCACI) was encouraged. Unplanned hospital readmissions were required to be reported twice a year (quality indicator).[23, 24]

2002: Casemix payments for patients treated in HAH were maintained. Additional funding was provided through the Quality Framework. In addition, it was decided to[25]:

- Establish performance benchmarks for commonly treated conditions;
- Support for the development of direct referral from emergency departments

2003: 43 Acute hospitals participate in the HAH program. Case-mix payment continues (WIES – http://www.health.vic.gov.au/abf/service-streams/non-admitted.htm), but outliers are paid at a rate of 80% of the normal high outlier per diem rate (subject to maximum and minimum conditions).[26]
2004-2007: No major changes in the financing of HAH occurred. 43 Acute hospitals have HAH programs

2008-2009: A review of the HAH program was undertaken in 2008-09. The review analysed not only the HAH working but also the interface and alignment HAH with other home-based services that substitute for or prevent a hospital inpatient stay and facilitate early discharge from hospital. Other programs include Post-Acute Care (PAC), Sub-acute Ambulatory Care Services (SACS) and the Hospital Admission Risk Program Chronic Disease Management (HARP CDM) service.[27, 28]. It was also decided to review Hospital in the Home outlier payment rates.[28]. In 2009, 47 hospitals had a HAH program.

Results from the evaluation process of 2009 and the new guidelines developed will be described in detail in the remaining sections of this documents.

2012: All admitted patient services, including Hospital in the Home will be funded with the new Activity Based Funding model. [29]

What were the barriers encountered during the implementation stages?

According to early evaluations on HAH In Victoria, highlighting important organisational issues for HAH, including[21]:

- An improvement in delivering care to patients who require complex care instead to patients requiring lower levels of care (a reduction from 16% to 6.7¨% of patients were found to be non-acute in 1996/1997 and in 1997/1998, respectively). However, it was not always easy or possible for programs to appropriately measure care acuity;
- Programs had good documentation of protocols and procedures, but lacked of consistent documentation of patient care (e.g. medical record, in some cases lack of care plans or discharge plans), did not always provide or registered consent forms for patients and families (e.g. sometimes verbal consent only) and adverse events were not reported;
- Insurances issues (with recording of admissions and reclassification of private patients as public patients) were not dealt with in a consistent manner;
- Appropriate emergency backup, particularly prompt treatment and documentation of situations was available in most programs. However, staff safety protocols were heterogeneous and not always in line with Hospital in the home Safety Guidelines from the Victorian Centre for Ambulatory Care Innovation (VCACI);
- Quality of care indicators were not systematically registered, reflecting conflicting views on the value of collecting data as well as the nature of the data that would add value.

3.2.2. What requirements must be met by HAH suppliers?

3.2.2.1. Design

Are there specific HAH facilities (e.g. separate units) or providers (e.g. teams)?

All HAH programs are directly linked to public hospitals. Before, discussing their organization, a brief reminder of the structure of the hospital's network is provided. Since the 1990, hospitals are organized into networks (the so called "health services") and the type of specialised care provided is regulated and depends on the network structure. Health services are organised into local network entities that are governed by a board. [9] Today, hospital networks are organized as follow:

- Thirteen Metropolitan health services are located within the three Metropolitan areas.
- They are six major regional services that are responsible for meeting the health needs of their own local population as well as to provide specialist services within their region.[30] Regional health services are located in the largest population centres of their respective regions.
- Sub-regional health services are located in medium to large Victorian towns with populations of between approximately 10 000 and 30 000 inhabitants. Nine sub-regional health services are responsible for meeting the health needs of their own local population as well as to provide services to a wider (variable in size and function) catchment community, which can vary between 55 000 and 80 000 people. [30]
- Local health services vary considerably in size and function. They have a key role in facilitating access to care for their community including appropriate coordination with surrounding health services at other levels (local, sub-regional or regional health services) as well as within the coordinated rural health system. Small rural health services and private hospitals are all integral components of the local health service system.[30, 31] Eleven local health services and 47 smaller rural health services exist today. Among the smaller rural health services, seven are multipurpose services that provide flexible service options for small rural and remote communities. [9]

In the state of Victoria, HAH models reflect the historical and current link between the programs and the health services (hospitals) to which they are linked to. The working of the HAH program varies being an "extension" of one Hospital unit (*Division of Medicine)* to being a separate unit within the hospital.[13] In smaller regional hospitals (sub-regional), the HAH is usually contracted to the local community nursing service. In this case, activity becomes part of the community nursing service and not of the hospital. [19] Incentives to develop a HAH program are limited for smaller hospitals in Victoria: they have bed availability and patients far away from the hospital and the technology to deliver care is often not present.

From the recent evaluation of the programs, it is clear that a wide variety of arrangements to deliver HAH care exist. Differences between programs may involve the following aspects: [13]

- To deliver HAH to a broad or narrow groups of patients or types of interventions or both (general vs. specialised care).
- To provide medical review (patient's medical follow-up) from within the HAH program, another hospital unit or by involving a general practitioner. The GP has to have admitting rights, i.e. is allow to admit and manage a patient in the hospital. Few GPs have admitting rights in metropolitan hospitals while this is relatively common in regional, sub-regional and rural hospitals. If the patient's GP has admitting rights, he provides the medical review.
- In return, this may determine the frequency of the review.
- To have different workforce arrangements for nurses (employed by the unit or subcontracted).
- To access to allied health staff during the HAH episode.

HAH programs may also pursue to deliver HAH in order to avoid admission or enhance early discharge.

Given the variability in HAH programs, a large diversity of workforce arrangements and patients' follow-up exist and depends on the functioning program (see following sections for more details).

Table 2 – HAH programs in Victoria (2011)

	2011
Number of programs	41
Health services covered (as %)	Variable*
Population coverage	N.A.
Biggest unit (beds in the virtual ward)	70-80 to no cap unit
Smallest unit	0-10 virtual bed

*Source: Department of Health (2012)[32] * According to Montalto 100% of regional and sub-regional hospitals have HAH services while this is less common in smaller regional hospitals. [19]*

Are there HAH activities delimited within specific geographical boundaries?

The geographical boundary for HAH activities is usually the catchment area of the health service to which the program is attached to. However, transfers to other hospitals or other HAH services is possible. It may either require transfer of patient to a local regional hospital and then possible entry into that hospitals' HAH program [19]

HAH is delivered to patients in their home or at a temporary residential address. "Home" definition is broad and covers workplace, school, residential care facility, etc. However, services delivered in other settings such as clinics or inpatient institutions is only possible in specific circumstances. For instance, in some rural settings, the patient may receive a HAH interventions in a clinic instead that in their own home. In this case, documentation in the medical record must explain why the contact was not provided in the patient's home (page 8, guideline for HAH[17]).

Are there specific norms / conditions

General norms and conditions that apply to the health services (hospitals) apply to HAH programs (as they are attached to them). This implies all norms and conditions set at the level of the federal level "Commonwealth" and the federated authorities "states".

According to a recent evaluation "Victorian HAH services have developed in the context of the organisational needs of their host health services". Therefore, HAH programs also may respond to the specific requirements and norms of the services they belong to.[13]

In addition, the 2011 HAH guideline points out that program management should respect:

- Coding standards must respect the Victorian admitted Episode Data (VAED) for admitted care (inpatient care at hospital). The VAED is used for casemix funding)
- Effective leadership of HAH services within each health service providing HAH services
- Professional development plan
- Appropriate skills of health care personnel working in HAH programs
- Annual quality improvement plans
- Evaluation of safety for patients and staff in the home environment.

How is the workforce organized?

Employed staff in HAH programs

They are no clearly defined requirements in terms of staff for HAH programs. Staff in HAH programs are usually salaried professionals employed by the Victoria Health Department.

Table 3 provides an overview of health care professionals in 35 out of the 41 HAH programs existing in 2011.[32]

Table 3 – Health care professionals employed directly by HAH programs (full-time equivalent (FTE)) in Victoria (2011)

Qualification	Metro	Regional	Sub-regional	Rural	All
Number of programs	15	6	10	4	35
Manager	15.3	6.5	5.8	0.75	28.4
Nurses	193.15	26.3	30.8	0.3	250.55
Medical Specialist	9.2	5.5	2.2		16.9
GP	2.3	2.2	0.2		4.7
Administrative assistant	16	4	1.3	0.4	21.7
Physiotherapist	1.6				1.6
Pharmacist	4.75	0.4	0.4	0.7	6.3

Source: Department of health (2012) [32]

By far, metropolitan services have the largest number of employed staff providing HAH interventions, including the largest pool of nurses and physicians. Most nurses working in HAH programs are registered nurses (see definition Box 2). Opposite to this, rural programs seem to have the smallest work force. This is due to the fact that that services are outsourced to local community services (which are often run by these same health service network) .[19] According to the 2012 survey, a higher number of specialists than of GPs work in HAH units (see Table 3).

Physicians are not systematically employed in HAH programs. This influences who is in charge of patient's medical review and whether patients receive medical visits in their home. Arrangements for medical review of patients involve home visits, consultation in the hospital emergency unit and wards, consultation in HAH clinics and other arrangements (e.g. GP visits). When medical review is provided in HAH clinics, the patient has to travel to the local hospital? In 2011, 11 (out of 35) HAH programs provided medical visits to patient's homes. Most programs providing medical review at the patient's home are established in the metropolitan area (7 out of 35).

Table 4 – Access to medical review for HAH patients

	Metro (15)*	Regional (6)*	Sub-regional (10)*	Rural (4)*
Medical home visit	7	1	3	0
Emergency department	4	3	6	3
Ward	6	2	0	0
HAH clinic	7	4	6	0
Other (GP)	11	5	0	0

*Source: Department of health (2012). *Total number of programs. Information in each cell in this table reports the number of programs who answered providing medical review in the different settings*

The role of other health care professionals (allied health) is also extremely dependent of the HAH program. HAH services may access health care professionals from their health service if and when required.[32] In 2011, two HAH programs employed a physiotherapist and twelve a pharmacists (not necessarily on a full-time basis). There are no allied health assistants, occupational therapist or psychologists employed directly by HAH services.

Manager of HAH programs include a Nurse Unit Manager (head nurse of the program) or divisional manager are essentially the administrators of the service. The divisional manager is also the person responsible at hospital executive level for the program. [19] The divisional manager has a health background (nurse or physician)

Subcontracted staff

HAH programs also reported the existence of diverse subcontracting arrangements across all disciplines and support services.[32] However according to the 2012 survey[32], it seems that HAH programs are reconsidering the role of subcontracting and are increasing the number of employed staff. External service providers (e.g. nurses or GP) may be contracted in order to:[17]

- Provide different care services or additional care of the same type
- Overcome peak demands and geographical barriers.

Given that HAH requires a great deal of care coordination and non-face-to-face work (e.g. telephone contact with patients), HAH programs may employ administrative assistants.

Box 2 – Difference in nurse practice in Australia

Nurse Practitioner (NP): A nurse practitioner is an advanced practice nurse endorsed by the Nursing and Midwifery Board of Australia (National Board) to practise within their scope under the legislatively protected title 'nurse practitioner'. Nurse practitioners are clinical and professional leaders and most of their work involves direct service delivery where they can put their advanced training, clinical expertise and skills to best use. They work within a model of nursing practice that meets a particular service need(s). Their practice is supported by evidence-based policies/guidelines agreed by their employer. Each nurse practitioner model is different because each service, client group and employer is different.

- **Registered nurse (RN)**: A person registered to practise nursing in Australia
- **Enrolled nurse (EN)**: A person registered to provide nursing care under the supervision of a registered nurse

Are there specific qualification / specific training required?

The Australian Health Practitioner Regulation Agency and other relevant professional boards specify general professional standards, competencies, codes of ethics, codes of professional conduct and other professional guidelines are now specified.

The 2011 guidelines[17] point out that HAH delivery requires that staff "have suitable competence and credentials to deliver high-quality, safe services in the home setting". These skills depend on the health care professionals' education and training as well as on the training provided by HAH programs. It is also required to:

- Clearly define responsibilities, accountabilities and activities for HAH staff
- Ensure that relevant policy checks and working with children checks are completed.
- Staff participate in a comprehensive orientation program and maintain staff appraisal.
- All outreach staff should have a current cardiopulmonary resuscitation (one rescuer) competency.
- All staff administering intravenous medication should have a current anaphylaxis competency.

Since 1 July 2010, employers must confirm that enrolled nurses have followed during their education the units of study related to administer intravenous (IV) medicines. Previously, the module allowing nurses to administer and monitor intravenous medication was considered an elective course in their education.[33]

Both nurse practitioners and registered nurses have training in anaphylaxis competency and cardiopulmonary resuscitation. However, employees must ensure that their knowledge is kept up-to date.

Are there new roles defined?

No information found

3.2.2.2. Financing

What type of payment system applies to HAH activities?

HAH services are funded through the regular inpatient payment system, through the casemix/(WIES)[b]. Financing of HAH activities is include in the WIES reimbursement. Therefore, payment for HAH activities is included in the amount calculate per patient for each DRG. Specific reimbursement for HAH activities is foreseen only when the average length of stay per DRG is exceeded (see hereafter).

Are there specific financial incentives/disincentives to promote/bargain these activities?

Specific reimbursement for HAH activities is foreseen only when the patient is transferred to a HAH program and when the length of stay is exceeded.

In cases where a length of stay exceeds the inlier high boundary point, a HAH outlier per diem is payable at a discounted rate (80 per cent) to the usual in hospital outlier per diem. Take the following example from the Victorian health policy and funding guidelines 2014–15:

"A patient stayed seven days in hospital, followed by five days of HITH, but a complication occurred requiring another four days in hospital care (total of 16 days) and was subsequently allocated to a DRG with a high boundary of 10 days. The patient has an LOS of 16 days resulting in six high days, five of which will be paid at the HITH high outlier multi-day per diem rate and one of which will be paid at the high outlier per diem rate."

3.2.2.3. Quality of care

Are there quality indicators defined?

All services participating in the recent program evaluation [13] pointed out that their accreditation standards, adverse events, clinical risk management and quality of care programs are consistent and integrated with other departments in the health service to which they belong to. In addition, HAH quality indicators are included in the Australasian Clinical Indicator Report (ACHS).

The ACHS that includes collective performance against each of the ACHS Clinical Indicators. The clinical indicators are developed by working parties of health care professionals, representatives of the relevant Australian and New Zealand colleges and associations, consumer representatives, statisticians and ACHS staff.[34]

Rational for different indicators by the ACHS was extracted from the 2013 report.[35] For a more detail discussion on some of this indicators we refer the reader to Montalto et al (1999)[36].

1. Patient safety and selection (Process indicator)

Success in HAH care requires the selection of patients with appropriate conditions, who consent to care and have a safe and stable home environment. Careful patient selection prior to a HAH admission may avoid potential problems during admission.

- HAH admission – ≥1 unexpected telephone

Numerator: Total number of patients making 1 or more unexpected telephone calls during their HAH admission.

Denominator: Total number of patients commenced on a HAH program.

- HAH admission – 1 unscheduled staff

Numerator: The number of patients having 1 unscheduled staff callout during their HAH admission

Denominator: The total number of patients commenced on a HAH program.

2. Program interruption

Unplanned interruption to a HAH program is an important outcome, as it may reveal difficulties with eligibility criteria, care choice, skill of assessor, initial choice of therapy, and misdiagnosis. High rates of unplanned returns could

[b] A separation is also called and admission. The current "WIES" funding system will progressively be replaced by a new Activity Based Funding (ABF) that is developed at a national level. Activity-based funding under the National health reform agreement (NHRA) commenced on 1 July 2012. Under these arrangements, Victoria's health services receive funds for activity-based funding services through a national funding pool, to which both the Commonwealth and state governments contribute. Payments from the pool will be provided on the basis of national weighted activity units (NWAU).

result in patient anxiety, added cost, and possible deterioration of the patient's condition.

- Unplanned return to hospital – patient not returning to HAH program

Numerator: Number of patients having an unplanned return to hospital (as defined in the manual) where the patient does not return to the HAH program, during that admission.

Denominator: Number of patients commenced on a HAH program patients not returning to HAH program.

- Unplanned return to hospital – patients returning to HAH program ≤24 hour

Numerator: Number of patients who have an unplanned return to hospital (as defined in the manual) and are transferred back to the HAH program.

Denominator: Number of patients commenced on a HAH program.

- Unplanned return to hospital – patients transferred back to HAH program (N)

Numerator: Number of HAH patients who have an unplanned return to hospital

Denominator: Number of patients commenced on a HAH program.

3. Unexpected deaths

Whilst there are expected deaths among HAH patients, such as those receiving palliative care, unexpected deaths in HAH patients should be very low. Monitoring death rates is viewed as measure of HAH safety

- Unexpected deaths during HAH admission (L)

Numerator: Number of unexpected deaths in patients during the HAH admission.

Denominator: Number of patients commenced on a HAH program.

- Unexpected deaths following unplanned return to hospital during HAH admission (L)

Numerator: Number of unexpected deaths subsequent to an unplanned return to hospital during the HAH admission.

Denominator: Number of patients commenced on a HAH program

Are there specific IT services or information tools developed?

Information tools are linked to that developed for other health services providers and telemedicine is encouraged.[17] Need for better management of HAH in the PMR was pointed out by the 2009 evaluation. It was pointed out that patients records were kept in a heterogeneous ways[13]

- HAH-specific patient file kept in a HAH office or in the patient's home,
- Hospital file used across inpatient and HAH services (and kept in a HAH office or the patient's home) or filed by HAH providers after the visit directly in the hospital.

The HAH guidelines now provide more clear instructions to use of appropriate IT as well as to reported data related to patient eligibility and care provision. For instance, data that must be registered include:

- HAH treatment is documented in the patient's medical record (PMR).
- Reason for admission should be identifiable in the PMR
- When provision of HAH does not comply with an eligibility/admission criteria it should be clearly stated.
- Informed consent should appear in the PMR
- Appropriate reporting that respects VAED ruling and is consisting with inpatient DGR practices
- Acute Care Certificates apply to HAH. The Acute Care Certificate indicates why the patient needs to remain in hospital (inpatient as HAH) after being hospitalized for 35 days. Without the certificate, the patient becomes a nursing-home type, therefore determining the payment due to the hospital.

HAH services have started to use mobile information packages. The Department of Health, in collaboration with Australian Centre for Health Innovation developed a "Toolkit" allowing to evaluate mobile services used by HAH programs (http://health.vic.gov.au/HAH/mobile-computing-guide.htm). The Toolkit survey has four sections:

- Project Preparation
- Clinical Process
- Software Considerations

Data on current use of mobile information programs was not available.

3.2.2.4. *Decision support*

Are there specific guidelines defined?

Beside the certification of HAH facilities, The Department of Victoria developed the Hospital in the Home Guidelines "to assist HAH services to administer the HAH service within appropriate governance and funding structures, and to deliver high-quality HAH services to patients. They aim to promote consistency of access and reduce variation of service profiles across the state within the context of a complex service system".[17] HAH providers must also take into account the general guidelines, frameworks legislation, standards and agreements encompassing all health care providers.

The evaluation of HAH in Victoria pointed out Ambulatory Care Australia has developed a suite of program standards and clinical guidelines which are specific to HAH. [13] However, no further information on these guidelines was found.

3.2.3. *How are routine hospital at home interventions planned, provided and coordinated?*

Which pathologies are covered?

HAH may be prescribed for every acute or chronic pathology if, and only if, it substitutes acute admitted care. The focus is therefore not on the pathology but on the effective substitution of admitted care. [17]

Table 5 provides the rank for most common diagnostics in terms bed days (total number of bed days) and admission (separations) [13] To be noted that the admissions for an undetermined condition ranks in the first place and that oncology treatment is not included in the table.

Table 5 – Rank of top DRGs for bed days and concomitant rank for separations (admissions) for Victoria

DRG	Descriptor	Rank for HITH bed days	Rank for Separations
J64B	Cellulitis (Age >59 W/O Catastrophic or Severe CC) or Age <60	1	2
F63B	Venous Thrombosis W/O Catastrophic or Severe CC	2	5
Z64B	Other Factors Influencing Health Status, SD	3	1
K01Z	Diabetic Foot Procedures	4	65
E63Z	Sleep Apnoea	5	4
E61B	Pulmonary Embolism W/O Catastrophic or Severe CC	6	8
T61A	Postoperative & Post-traumatic Infections Age >54 or W (Cat or Sev CC)	7	29
I12A	Infect/Inflam of Bone & Joint W Misc Musc Sys & Conn Tiss Procs W Cat CC	8	78
F71B	Non-Major Arrhythmia and Conduction Disorders W/O Catastrophic or Severe CC	9	13
I04Z	Knee Replacement and Reattachment	10	17
E60A	Cystic Fibrosis W Catastrophic or Severe CC	11	49
Z63B	Other Aftercare W/O Catastrophic or Severe CC	12	15
T01A	OR Procedures for Infectious and Parasitic Diseases W Catastrophic CC	13	89
I64B	Osteomyelitis W/O CC	14	84
G44B	Other Colonoscopy W/O Catastrophic or Severe CC	15	7

Source: DLA Phillips Fox (2009) [13] (page 32). Rank for HITH (HAH) bed days calculated as the total bed days delivered by all HAH services for one condition. Rank for separations (admissions) is the rank to the total number of admissions for that condition in all HAH.

Is there a specific plan of care for the patient? Who is responsible for this plan?

In Victoria, the care plan may be linked to a specific clinical pathway or as an episode of care between different but interlinked actors.[17] HAH interventions are usually only a part of a health episode. According to the HAH guidelines (2011)[17] patient assessment should be carried out from the entry process and until patient's discharge. Coordination with other health care providers and programs is essential, in particular when considering other community-based care services. (see section 3.2.7). HAH responsibility in organizing a care plan depends on involves:

- planning appropriate referral and organization of care provision with other care providers,
- coordinating and contacting care providers who provided care before the HAH episode to ensure continuity of services as well as to avoid duplication some care provided by HAH.

Which formal services and support are delivered?

Range of services are defined in the HAH guideline. According to the guideline minimum requirements include:

- all medical (e.g. specialist, physiotherapy), nursing, pharmaceutical, radiology, pathology, transport (including ambulance), emergency access required to cover patient's care need,
- "hotel services", accommodation and personal care are provided where an unmet need exists. HAH services do not receive additional reimbursement for these services.
- use an interdisciplinary approach through collaborative goal setting and shared resources.

Who is responsible of the care coordination?

Care coordination may depend on the structure of the program. In hospital-based medical unit, it is the responsibility of the Medical Director or the Nurse Unit Manager.

3.2.4. In case of emergency, how is acute response provided?

Who is responsible?

According to the HAH Guideline of 2011[17], patients and informal caregivers (carers) must have a 24-hour access to appropriate health care professionals from the HAH service.

Patients should have identified protocols for care provision in case of emergency according to business hours and out-of-hours service provision.

Minimum requirements include [17]:

- Policies, protocols and practices are in place for patients to access appropriate health care advice 24 hours per day from within the HAH service or hospital.
- Patients must be informed of protocols and practices on how to access services or assistance out of hours.
- Telephone advice and face-to-face clinical assessment should be available if required.
- Emergency plans that direct patients to access emergency services directly should be provided where appropriate.
- Where the local GP has admitting rights to the HAH service, they may be the nominated contact if able to provide 24-hour access.

Is there a specific process?

See before. Protocols are set by the different HAH services but require information on what to do in case of emergency on a 24 hours basis. Specific coordination or share information with ER departments is not foreseen. [19]

3.2.5. How are patients and families supported?

Patients and families are supported by HAH programs as care coordination is provided. Quality interviews [37] show that patients and their informal caregivers benefits of HAH programs outweigh the weaknesses. However, results must be analysed with caution as a double risk of bias in selection of patients exist:

- HAH is delivered to patients who accept and who can receive this type of care

- People accepting to participate in the interview may include those who would report more favourable results

But even the light of the possible selection, there was an overwhelmingly positive response towards HAH services that was consistent across 12 different HAH services.

In the 2011 guidelines, it is also explicitly stated that it is necessary to fully assess, organize and report issues related to patient safety.

Are they specific measures for patient empowerment?

No specific references were found.

Are they specific measures for informal caregivers (attention on follow-up of care)?

No specific references were found.

3.2.6. Are there specific conditions for early identification or screening of patients?

How are potential candidates identified, what is the target population? What are the eligibility criteria / conditions?

Patient's referral to HAH program may vary depending on their condition and treatment. However, patients eligible for admission must comply with:

- *Victorian hospital admission policy*[38]. The Victorian Hospital Admission Policy provides guidelines to enable hospitals to distinguish between admitted and non-admitted patient episodes for the purpose of data reporting.
- Selection criteria by HAH providers are:
  - clinical stability of the patient and appropriateness of HAH treatment,
  - provision of equivalent care to that provided in the hospital,
  - safe and appropriate environment were the care is to be provided,
  - informal caregiver support,
  - consent to receive HAH and
  - location of care(geographical distance).
- The guidelines require that for some interventions (wound care, drain tube care, venous access device maintenance and trial of void), HAH teams outweigh whether the patient requires complex care that can only be provided in hospital settings. For simple interventions, community-based providers should be in charge of patients' care

Are there exclusion criteria?

See before.

Who assess patient eligibility? When?

Assessment occurs before admission for all patients and includes clinical, social and environmental elements. We found no direct reference on who performs patient's assessment. It may depend from internal rules of the HAH program and patient health status (complexity and severity)(e.g. medical staff, nurse)

Assessment is conducted for all HAH patients, even after a direct referral for HAH treatment (e.g. emergency department). In this case, patient assessment must still be carried during the HAH episode.

3.2.7. How are HAH activities integrated within the health system?

What is the link of HAH activities with primary and secondary care providers?

1. HAH and other providers from the health service that they belong to.

As mentioned, HAH programs are integrated in different ways with departments in an organization of health care providers.

No specific references were found with respect to how purchasing and commissioning of pharmaceuticals, devices and equipment were dealt with by HAH providers. Because HAH providers must comply with all the rules of the health services to which they are attached to, it is likely that rules concerning purchasing and commission of pharmaceuticals also apply to them. However, each HAH unit may have different arrangements to manage pharmaceuticals and devices. GP

Role of the GP during the HAH episode is not clearly mentioned in the guidelines, except when the GP is in charge of the medical review.

The following table provides self-reported data on referral sources. While some bias may exist, it should be noted that most reported referral sources are directly linked to the hospital.

Table 6 – Number of HAH programs having direct referral for their patients from different health care providers

Qualification	Metro (15)	Regional (6)	Sub-regional (10)	Rural (4)	All (35)
Emergency Department	12	6	9	3	30
Medical Ward	13	6	10	3	32
Surgical Ward	14	5	10	3	32
Sub-acute service	2	2	3	1	8
Community GP	4	4	7	3	18
Out patient department	7	3	3	0	13
Residential aged care	5	2	2	1	10
Other	10	3	3	2	18

Source: Department of Health (2012)[32]

What is the link of HAH activities with the social care providers?

No specific reference found.

Are there specific seamless care / integrated care programs organized with a link with the HAH activities? How are these integrated within the system and what is the link with other available structure (e.g. other home care services)?

Several specific community care programs are available in Victoria to cover patients care needs. Most of these programs provide services that are complementary to HAH, while others share some features of with HAH. In the latter case, coordination between programs is required. For instance, HAH will be in charge of coordinating and providing and funding all nursing care during the HAH episode regardless of whether nursing care was provided earlier by another provider (i.e. HACC Active Service Model).[17] Personal care will be provided by the HAH team, if the patient does not require additional care to that provided by regular care providers.[17]

3.2.8. Follow-up of HAH activities - How are HAH's activities evaluated?

What is the demand for these services?

In 2008/09 32 462 discharges (about 2.5% of all inpatient and almost 3% for health services having a HAH program) had a HAH component of care. The number multiday discharge was reduced by 10% between 2004-05 and 2008/09. The reasons for this were not identified in the report where the data were extracted. [13]

Table 7 – Selected indicators for HAH activity in Victoria.

	Number of multi-day separations (% of total HITH seps)	Number of same day separations (% of total HITH seps)	Number of overnight separations (% of total HITH seps)	Total HITH separations
2006/07	21749 (53%)	8627 (21%)	10503 (26%)	40879
2007/08	21448 (56%)	9177 (24%)	7830 (20%)	38455
2008/09	20975 (65%)	9010 (28%)	2477 (8%)	32462

Source: DLA Phillips Fox (2009)[13]. Seps = discharge LOS = Length of stay. Same day separation (admission) stands for an admission without an overnight stay. Overnight stay is an admission where the patient was a HAH patient at midnight.

It is important to note that in multiday stays a patient not receiving in a given day a home visits is not considered as being "hospitalised in for HAH". In this case, HAH staff most report a leave in the Victorian Admitted Episode Data.

More recent data (2011-12), reflect a decrease in admission when compared with 2008-2009:

- 25 379 admission and 175 686 HAH "bed-days".

- The cost of the services amount to approximately 110 million Australian dollars (81.3 million Euros in 2011). It is estimated that HAH beds replace 481 beds in inpatient care.
- A HAH component is found in of all Victorian admissions involve HITH and of Victorian multi day admission at a proportion of 1.7% and 5.6% respectively.

How is the quality of care of the activities assessed?

HAH quality is assessed via regular hospital indicators as well as through specific quality indicators outcomes (see section 3.2.2.3) for details. In addition, several external audits to evaluate programs performance have been undertaken.[13, 20, 21, 37, 39]. The Department of Health of Victoria also has performed two surveys to assess different aspect of the programs.[32]

Are they official evaluations? What are the outcomes?

Independent entities have performed a series of audits on HAH working and some cost evaluation. The most recent audit by DLA Philips Fox [13, 37, 39] were analysed by the Department of Health. As result, Hospital in the Home guidelines (2011)[17] Hospital in the home Society of Australia also made a recent cost study[40]

- In terms of cost: A cost minimisation analysis was conducted for six commonly occurring AR-DRGs in HAH services in Victoria: cellulitis, venous thrombosis, pulmonary embolus, respiratory infection/inflammation, Chronic obstructive pulmonary disease (COPD) and knee replacement[c].
  - Under an economy-wide perspective, HAH care was found to be less costly than hospital care for all AR-DRGs except for COPD.
  - HAH related cost savings relative to hospital care are expected to depend on the degree to which the impact of HAH has on patient length of stay. This in return varies across different pathologies.
  - Analysis included informal care cost, set at a low level because conditions under investigation generally allow people to maintain their independence around the home and within society, with the exception of knee replacements. For the latter more informal care (more than 6 hours per day) would make HAH more costly than a classic hospitalization.
  - HAH cost may vary across conditions, therefore not always providing a less costly alternative. Overall cost will depend on: perspective of a cost evaluation, condition being treated, patient selection criteria and discharge criteria, hospital level factors, geographic factors.
- In terms of quality/safety
  - Patient safety and selection: The annual rates for these indicators remain low and stable when considering the participating HAH services. It is expect that HAH Services with rates substantially above or below the mean examine their data both for reliability and completeness of counting, and for evidence of clinical variation where calls and callouts are due to changes in the patient's condition.
  - Program interruption: The rate remains low for HAH services participating but it is not specified the desired rate level.
  - Unexpected deaths: The different unexpected deaths related indicators were very low (0.009 per 100 patients).
  - While indicators are available their interpretation (Patient safety and selection and Program interruption) is ambiguous. In addition, reporting rates for ACHS HAH clinical indicators have been falling over time despite the growth in HAH care. Collection of these indicators in many services will be manual and hence subject to service resource issues.

[c] The authors also report study limits that include among others whether outcomes are truly equivalent for the six AR-DRGs chosen as this may depend on the specific hospital and home care setting (e.g. lack of AR-DRG specific data on informal care and duration of nurse home visits with HAH)

Which problems were encountered?

- Financing issues

Often contact and need for care coordination combined with limited administrative support, add an additional care load to the medical staff. The cost of these work is not well-recognised in traditional casemix payments. In Victoria, a significant factor identified as a barrier to the development of HAH programs is the capped volume for hospitals. HAH services have increased hospital capacity but further development is constrained in the context of capped volume activities limit the reimbursement from the health care authorities. In addition, of capped volume activity and competition in allocation of WIES budgets may also service development. [13]

- Administrative burden

HAH services have a significant administrative activity as clinical staff and patients are not located together on-site, high workload involving non face-to-face care coordination of different actors (hospital, nursing, community and medical services) and complex discharge planning with the patient's general practitioner. Limited resources or specific personnel devoted for these tasks have impacts upon health care professionals to undertake other duties.[13]

- Patient selection

Admission criteria that are based on administrative rather than clinical requirements may discourage the development of HAH programs. Longer stay patients with complex conditions, may require active daily care coordination but not a daily home visit. Funding should respond to include these patients without introducing perverse incentives to unnecessarily extend length of stay. [13]

- Case coding (pag 30 of the evaluation)

HAH services provide information in compliance with the requirements of the Victorian Admitted Episodes Dataset (VAED), which includes information about: the patient (age, sex, suburb of residence); the admission (admission date, DRG code, diagnosis and procedure codes, length of stay); and administrative matters (account class, care type), which provides detailed information about each HAH admission. The DRG code which provides the primary basis for comparative analysis and benchmarking, however, may not be applied consistently and does not necessarily map well with the HAH program working. Inappropriate coding may arise.[13]

- Transport fleet and travel distance

The fact that transport costs (or transport fleet) do not have a specific financing is considered as problematic in some HAH programs. Activity-based payments fail to include these cost and therefore create a financial risk for HAH programs that may only be covered according to the service management.

- Heterogeneity of programs: [13]

While imposing a single program structure or model for HAH may not be desirable, it is necessary that successful initiatives are understood and applied by other health services as appropriate (no proof of what works best).

- Lack of clear admission between HAH and post-acute services

Hospitals may have incentives to avoid defining a clear line between HAH programs and other post-acute services available. Distinction between programs and whether the patient should be admitted to HAH or to another program depend on criteria that may be blurred. In addition, overlap in organisation, structure, staffing and funding for different programs may exist. Poor funding for home care "low-complexity" programs may incentive care providers to use resources or to admit patients into the higher complexity care devoted to HAH programs.

- Lack of recognition for HAH as a specialty.

This may difficult recruiting health care staff and in return to attract medical leadership needed to diminish the capacity of HAH programs to be an alternative for inpatient care. Credibility, trust and support from rest of health service

A recent survey among HAH managers also pointed out other remaining issues}[32]. Notably:

- Increasingly complex patients (including cognitive and dementia issues), insufficient home supports and safety issues,
- Accommodating peak demand- additional referrals, travel, twice daily visits
- Issues of geography, large service areas, multiple sites, distance and travel
- Sub-contracting limitations

- Inadequate provision of cars, budget, office space, treatment or review room, IT and technology
- Limited access to PICC insertions

3.3. The Autonomous Communities of Valencia and the Basque Country (Spain)

Since the beginning of the 1980s, the health care system in Spain is characterised by a large degree of decentralisation.

- The federal government sets the general framework for coordination and financing of the National Health Service *(Sistema Nacional de Salud – SNS)* and defines the basic health care basket. The health care system is mainly financed via tax revenue (regional and national – totally or partially shared) and some grants from the central government. [41]
- The Autonomous Communities (ACs) (federated authorities) are responsible for the purchasing and the provision of health care. ACs develop public health policies and are entitled to extend the basic NHS benefits.[41, 42]. Each AC organizes care in different ways:
  - The Ministry of Health of the AC of Valencia divides the responsibilities of health care delivery into 24 catchment areas (so called "*departamentos*"). In each area, one team (directed by a general manager) is responsible for the planning and delivery of all health care services. Valencia's Ministry of health grants a global budget to each catchment area ("*departamento"*) in order to finance all health services (both primary and specialised care) provided to the local population.
  - The Ministry of Health of the Basque country divides the responsibilities of health care organization to regional authorities of the three catchment areas (*"areas de salud"* of Alava, Vizcaya and Guipúzcoa). Contract-programs ("*contrato-programa"*) establish arrangements between the Ministry of Health and public health care providers ("*Servicio Vasco de Salud* – Osakidetza. [43]

Because each AC allocates funding according to its own health care plan (*plan de salud*), the provision and implementation of HAH varies from one AC to another. Hereafter we present the general framework for HAH as defined at the national level and we look more closely to the policy for HAH activities in the AC of Valencia and the Basque Country. These two AC were selected because they were identified as having a long history with HAH initiatives. When information obtained covers only one AC, this will be explicitly mentioned in the text.

Primary care

The Department of Health of the autonomous community in Spain designates a yearly budget to cover the costs of "primary health care centres"[d] that are in charge to provide primary care services within defined catchment arears. The budgets allocated to each catchment area are calculated based on a capitation system. Delivery of primary care services, including attention by general practitioners and home nurse care is the responsibility of the primary care teams (PCT) (*equipos de atención primaria*) working in the centres. PCT ensure the gatekeeper function. All of the staff working in the centre are employees and their salary depends on their qualification level. The primary care team is composed by general practitioners, nurses and other care providers (e.g. social workers). The team performs a need's assessments and establishes the amount of time to be dedicated by nurses in order to cover care needs at home. Nurses are responsible to provide a large array of services that vary from curative care, chronic care, preventive care, support, etc.

Hospital financing

Each autonomous community implements their own rules to finance hospital services. In most cases, budgets for specialised care are negotiated between health care institutions (public sector) from the regional health service and the regional health department. For public hospitals, the hospital's structural characteristics (namely its equipment, size, etc.) and historical costs determined the global budget that is allocated. [41] Funding for hospitals takes into account specific health care objectives fixed by the

[d] Primary care centres are called "Centro de salud – Osasun Zentroa" in the Basque country and "Centros de salud – Centre de Salut in the AC of Valencia

health department. In some autonomous communities, such as the Basque Country negotiations between hospitals and the health authorities are established in a contract-programme (Contratos Programa).

3.3.1. Historic perspective and implementation stages

What were the initial policy objectives?

Hospitalization at home (called *Hospitalización Domiciliaria (HAD – HADO), Hospitalización a Domicilio (HAD), Hospital a Domicilio (HAD) or Atención Domiciliaria Basada en el Hospital (ATDBH))* were developed in order to[44]:

- respond to bed shortage and overcrowding of emergency units
- and as means to reduce public spending

Is there a legal or formal definition for HAH?

National Level

The current benefits included in the health care basket are established in the Act 16/2003, 28 May 2003, on the cohesion and quality of the National Health System and in the Royal Decree 1030/2006, 15 September 2006[45] which establishes the common services portfolio of the National Health System. According to the Royal Decree 1030 /2006, common specialised care services (servicios comunes de atención especializada) cover treatments, that primary care (*atención primaria*) does not encompass. HAH is defined as a common specialised care service that may support primary care in the case of an early discharge from the hospital (Royal Decree 1030/2006, Annexe III, 4. [45] *Apoyo a la atención primaria en el alta hospitalaria precoz, y en su caso, hospitalización a domicilio)*. The Royal Decree does not provide an exact definition of the exact nature of HAH interventions as they depend of the organization of each regional health care system. However, it broadly encompasses six areas to be covered by HAH (see Box 1).

Box 3 – Requirements to be fulfilled by services (included hospital at home) that may support primary care in the case of an early discharge from the hospital

Includes diagnostic and therapeutic activities that can be carried out in the patient home, following care episode in a specialised care facility and that are provided in coordination and agreement between primary and specialised care providers. Continuity of care after discharge needs to be ensured thanks to the specialised care programs available in each health service. If the patient requires continuity of care and is not in an unstable clinical condition that may jeopardize his condition, the health service may opt for hospital at home. It includes:

- Comprehensive needs assessment of the patient prior to discharge, to ensure continuity of care after discharge.
- Establishment of a care plan that includes preventive measures, instructions for treatment monitoring, hygiene and diet recommendations, symptom control and general care. Mechanisms to ensure care continuity and safety must be implemented.
- Ensure accessibility to diagnostic tests and procedures not feasible in the patient's home.
- Treatment provision and follow-up required by the patient.
- Prescription and if necessary administration of medication, enteral and parenteral nutrition, wound care, fungible material, orthoprosthesis and other relevant medical products required.
- Information and advice to people linked to the patient, especially the main informal caregiver.

Source: Royal Decree 1030/2006, Annexe III, 4. [45]

Despite the large experience with HAH, the legal framework established by the different AC is very limited. Hereafter we summarise the findings for the AC included in this international comparison.

AC Valencia

Following a first trial period, Valencia' Ministry of Health Care *(Consejeria Valenciana de Salud – Conselleria de Sanitat)* provided a general framework for hospital at home units (*unidades de hospitalización a domicilio)* via the Decree of 26 May 1995 (DOGV n 2527). [46] The Decree (DOGV n° 2527) set the grounds to ensure a stable funding for health care professionals involved in HAH units. Since the beginning, the policymakers at the level of people in charge of the organization of HAH in Valencia's Ministry of Health pleaded in favour of developing HAH as unit in the hospital (at the same level of other units (or departments)). This oppose to establishing HAH within different existing units or departments (e.g. oncology). According to article 3 of the Decree, the objective of HAH units is to look after a stable patient following a hospitalization episode or when according to his health care status the home is considered the best therapeutic environment. Today, HAH units are evolving rapidly towards becoming an alternative for hospital admission (substitution for hospitalization).

Box 4 – Activities of HAH units in the AC of Valencia as defined by the Decree 2527 (DOGV 2527)

A patient admitted to a classical hospitalization unit or to a HAH unit should receive the same benefits (Article 3, DOGV n° 2527)[46] in terms of:

- administrative procedures and assistance,
- pharmaceuticals and treatments and
- receive a discharge at the end of the treatment in a HAH unit.

Activities to be carried out by the unit (Article 4, DOGV n° 2527)[46] include:

- patient's assessment in the hospital and in their home as well as home visits (scheduled or following an emergency),
- teaching and training for professionals in the unit as well as research activities aiming at improving service delivery,
- creating a link with the community through a partnership with social and voluntary services and through the coordination between different health care levels and between the health and social care sector.
- following the administrative requirements for an appropriate functioning of the unit.

AC Basque

In 1992, the Basque health care service created and reinforced HAH units as a part of a larger strategy program aiming to develop alternatives to hospitalization. [44] Yet, a detailed definition of HAH unit has not been included in the regional health care law.

What were the implementation stages? How did the first structures functioned and how they evolved? How were they linked to existing care providers?

The first initiatives of hospital at home in Spain were launched in the beginning of the 1980 and were designed as an extension of the services provided in the hospital. The model for HAH interventions in the different AC is developed within the hospital settings. The most distinctive feature of HAH in Spain is that their evolution is historically linked with the policy and objectives developed by the AC. Even today, objectives in terms of population coverage or quality indicators depend on the AC policy. Hereafter, a list of key moments in the development of HAH units are summarized.

Beginnings at a national level[44, 47]:

1981: The first HAH unit was initiated in the Provincial Hospital of Madrid. Initially the funding came from the local authorities

1983: The first large scale pilot project financed by the statutory health insurance (*Insituto Nacional de Salud – INSALUD*) was launched and financed in Bilbao (*Hospital de las Cruces de Bilbao, Basque Country*)

Until 1987: Large hospitals implemented HAH units (*Universitario Virgen del Rocío en Sevilla (1984), Hospital Universitario Marqués, de Valdecilla en Santander (1984), Hospital General Yagüe en Burgos (1985), Hospital Complejo Universitario de A Coruña (1987), etc*.)

2011: First consensus manual on clinical guidelines and procedures for HAH units. [48]

AC Valencia

1990: The Valencia Health Care Service (*Agencia Valenciana de Salud – Agencia Valenciana de Salut today merged with the Consejeria Valenciana de Salud – Conselleria de Sanitat*) started developing HAH activities (4 units were implemented). [49]

1995: The decree of 1995 of the Valencia authorities (DOGV n 2527 12/06/1995) explicitly defines the activities of HAH units.[46]. Hospital at home interventions were included among the tools to fulfil the objectives of the PALET program (Program for older patients, with a long-term illness and for terminal patients).

1998: Creation of the first paediatric line of service for a HAH unit.[49] Development of an integrated care program for palliative care in a HAH unit in Denia.[50]

2000: Among the objectives of the Health care plan 2001-2004 (*Plan de Salud de la Comunidad Valenciana 2001-2004*) it was established to create psychiatric HAH units. In addition, the Health care planned included objectives aiming to improve the role of HAH units in the health system:

- encouraging the units role as case managers,
- managing bed in assisted living facilities and
- coordinating activities with primary care providers.[51]

It was also decided to develop clinical procedures and to enhance coordination between the different services.

2002: The goals of the oncology plan 2002-2006 (*Plan Oncológico de la Comunidad Valenciana 2002-2006*) [52]included:

- to increase the coverage of HAH units and care for palliative patients,
- to increase HAH for paediatric cancer patient by establishing HAH units in the 3 paediatric centres of the AC

2003: The development of HAH units is considered as one of the tools to bring care closer to the patients home. (*Plan de humanización de la Comunidad Valenciana 2003*). The objective is to increase the coverage of HAH units to all the population.

2004: Creation of the first mental health line of service for a HAH unit.[49] This line of service responds to the need of reducing inpatient treatment for patients with mental health care problems. [53]

2005: The integration and coordination of health care providers at home (including HAH units) is included among the objectives of the Health care plan of 2004-2009.[54] These objectives are also reflected in the Plan for the improvement of home care from 2004-2007 (*Plan para la mejora de la atención domiciliaria en la comunidad Valenciana).*[55]

2006: Publication of the Catalogue for hospital at home procedures (*Catálogo de Procedimientos de Hospital a Domicilio*).[56]

2010: The Palliative Care Plan (*Plan integrado de cuidados paliativos* 2010-2013) establishes that HAH units play a role in the support team for palliative care of the department (EP).

AC Basque country

1992: The Basque Health care service (*Servicio Vasco de Salud (Osakidetza)*) launched a program to develop alternatives to classical hospitalization ("Alternativas a la Hospitalización Tradicional") that included HAH.

1994: The Health care plan 1994-2000 included among its strategies to develop financial incentives to develop alternatives to classical hospitalization, including HAH. 2002: No references about HAH were found the objectives of the Health care plan 2002-2010[57]

2004: In order to provide better care to patients with mental health care problems, the strategic plan for mental health care (2004-2012) (*Asistencia Psiquiátrica y Salud Mental. Plan Estratégico 2004 / 2008*) proposed to increase services for mental health care patients in hospital at home units.[58]

2009: Hospital at home units are included among the tools to provide better care to chronic ill patients. As such, it is expected HAH supply will increase in following years.[59]

2013: No references about HAH were found the objectives of the Health care plan 2013-2020[60]

What were the barriers encountered during the implementation stages?

Little information was obtained related to encountered barriers in the initial stages. [61] Identified, initial barriers included feelings that there was a competition for patients between the HAH unit and other hospital services and that the workload of primary care providers increased during out-of hours. In addition, there were concerns on duplication of services and lack of care continuity. What requirements must be met by HAH suppliers?

3.3.2. What requirements must be met by HAH suppliers?

3.3.2.1. Design

Are there specific HAH facilities (e.g. separate units) or providers (e.g. teams)?

The Hospital at Home Unit (*Unidad de Hospitalizacion Domiciliaria – UHD)* encompasses all hospital at home interventions. In Valencia, most HAH units can be found in public hospitals. However, hospitals managed by private groups (e.g. *La Ribera modelo Alzira de concesión administrativa*) and few non-profit organization provide HAH under the request of the authorities.[48]

Box 5 – Characteristics of HAH activities in the AC of Valencia

- Complexity: regarding the patient case, techniques for diagnosis and/or treatment usually provided at the hospital level and for the care provided by the specialised health care professionals
- Intensity: daily or more than once a day interventions. When intervention needs or care needs decrease, primary care teams should be in charge to follow-up the patient.
- Short duration: The time between patients' admission and discharge is limited (e.g. discharge due to different factors: full recovery, improvement, dead, stabilization process or hospital admission). Primary care is involved in surveillance and monitoring on the medium to long-term. However, there is a "program of HAH follow-up" for complex patients after discharge from HAH units *(seguimiento programado desde las UHD)* and some patients may require more often telephone consultations and home visits by HAH units.

Source: Conselleria de Sanidad (2006)[56]

Are there HAH activities delimited within specific geographical boundaries?

AC Valencia

Each HAH unit is devoted to providing services to the area (*departamento*) where the hospital is established. Most HAH units cover 100% of the population in each area. However, some HAH units have a lower coverage rate (63 to 85%) is some health areas *("departamentos")* where the population is scattered around a large geographical area.

AC Basque country

The area of influence of the hospital establishes the geographical boundaries for HAH units. The area of influence of each hospital is determined by the organisation of the health care system in catchment area ("*area de salud"*).

Are there specific norms / conditions defined?

General context

As any other service in the hospital, HAH units must comply with the same norms (at a national and a regional level) applying to hospitals functioning. [44, 62]

The creation of HAH units is broadly dependent of two elements:

- Policy emanating from the AC health care authorities (which ensures the unit's funding and stability): The Basque country and The Valencia Autonomous communities have a proactive policy towards the development of HAH units. As a part of their policy, job openings to work in HAH units in public hospitals have been opened. The latter is specifically mentioned in the decree on the creation of the units from the AC of Valencia (Article 8). [42]
- Decisions of the hospital direction. The hospital direction may also choose to devote more resources to development of the HAH unit. This implies that specific objectives for the HAH unit are specified in the hospital strategic plan (*Plan estratégico del hospital*). The hospital strategic plan is latter submitted for approval to the health care department.

AC Valencia

As mentioned earlier, the Ministry of health of Valencia manages HAH global organization. It was established that HAH units are:

- encompassed within the hospital as another unit,
- function with teams that include one physician and two/three nurses.

The size of the unit depends on the policy of the catchment area (*departamento*) where they function as well on the policy of the hospital.

Basque country

There are no specific conditions or norms for HAH units. While each hospital direction may determine the level of resources devoted to the unit (e.g. team's size), the decisions (for a HAH unit or any other service in the hospital) must comply with the agreement included in the contract-programmes *(Contrato Programa).* In general terms, contract programs are signed between the AC health care department and the AC health care service (or health care providers) and encompass the type, amount and quality of services provided (fixed as objectives in terms of quality, quantity and activity) and the financing of services related to all activities carried out in the hospital. [41]

Table 8 – Selected data on HAH units in Valencia and in the Basque Country

	Valencia (2013)a	Basque Country (2013)b
Number of units	25	11
Public hospitals covered	23/24	11
Population coverage	96% (99% considering departments where a HAH units exist	100%
Biggest unit (number of beds)	127 Beds	
Smallest unit (number of beds)	29 Beds	

Source: [a]Conselleria de Sanidad (2013)[63];[b] Apezetxea Axtón (2014)[64]

3.3.2.2. Workforce

How is the workforce organized?

The size of the HAH unit is not subjected to specific requirements. As previously mentioned, resources devoted to the unit depend on the AC policy and the hospital strategic plan. Therefore the size of HAH unit varies from one hospital to another. For the AC of Valencia, the article 6 of the decree on the creation of the units states that the composition and size of each unit is determined by the specific characteristics and needs of the hospital and of the catchment area covered by the hospital. The composition and size of the unit must be in line with the required expertise needed to cover multiple pathologies and different types of patients.

According to the clinical guideline and procedures for HAH of 2001[62] the basic team (*unidad básica de atención – UBA*) in a hospital at home unit is composed by :

- One physician: general practitioner or internist
- Nurses

A ratio of one physician per two-three nurses is recommended. [62] According to the 2011 guidelines, at least two basic teams should belong to the unit. Each teams covers a specific geographic area. Depending on the size of the area of influence of the hospital, a team (one physician and two nurses) can visit 12 to 18 patients per day. Depending on the patient's health status and geographical dispersion of the patients, each team member visits four to six patients.

Coordination of activities resides in the hands of a coordinating physician or coordinating nurse. [65] Depending on the size of the unit, other health and social care professionals can work full-time or part time to cover HAH interventions:

- Physiotherapist
- Nurse-aids
- Social workers
- Psychologists
- Psychiatrists (mental health line)
- Paediatricians (paediatric health line)

Depending from the HAH interventions, physicians from other fields can also work part-time or full-time in the unit. In the AC of Valencia, activities in some HAH units include specific programs for paediatric patients (including palliative care for paediatric patients), for patients with mental health problems and rehabilitation programs [53, 66].

AC Valencia

The following table presents the total number of health or social care professionals working in HAH units in the AC of Valencia. Professionals are here classified according to the three lines of activities: Basic area of services (medical, post chirurgical and palliative care), paediatric care, mental health and rehabilitation. Most professionals work in the basic area of services.[49] A more detail description of the different areas of activities is provided in section 3.3.3.

Table 9 – Health care professionals working in HAH units in the AC of Valencia (2013)

Qualification	General	Adult patients (Basic area of services)	Paediatric	Mental Health	Rehabilitation
Coordinator physician	16.7				
Physician		78.3			
Psychiatrist				4.5	
Paediatrician			3		
Coordinator nurse	16.8				
Nurse		171.3	5	6.4	
Nurse aid	18.3		1.2	0.2	
Physiotherapist					3
Social worker	2.5				
Administrative assistant	13.5				
Psychologist	5 (agreements with other institutions)				
Total	73,2	249,6	9.2	10.2,1	3
Intra-hospital palliative care support physicians from HAH		5.3			
Case manager/palliative/illness nurses (associated but not a part of the units)		23.6			
TOTAL	73.2	278.1	9.2	10.2	3.0

Source: Conselleria de Sanidad (2013) [63]

AC Basque country

Table 10 – Health care professionals working in HAH units in the AC of Basque Country (data available in 2014*)

Qualification	Number of physician
Physician	41
Nurse	59
Administrative assistant	5
Psychologist	2
Total	107

*Source: *Data extracted (21/09/2014) from the information available in the home page of the HAH association (http://www.svhad.net/es/index.php)*

Are there new roles defined?

No information found.

3.3.2.3. Financing

What type of payment system applies to HAH activities?

HAH units follow the same financing principles that any unit in the hospital (both for the AC of Valencia and the Basque Country). Hospital financing depends on the policy of each autonomous community (see introduction).. The amount of the hospital budget allocated for HAH units depends several factors including:

- the size of the population covered,
- the role of the unit within the catchment area (e.g. specific responsibilities for palliative patients).

Since 2006, a catalogue of procedures is available to HAH units in Valencia. The catalogue is integrated as a part of the system of analytical accounting (Sistema de Información Económica de Atención Especializada (SIE-AE)) and aimed to establish a common measurement framework to assess the performance and cost of HAH units. [56]: After a trial period, HAH units were no longer required to use the SIE-AE system for benchmarking purposes, as coding was not always accurate and required a too large time investment from the unit's professionals. Today, the SIE is only used for cost purposes.[63] HAH unit are also integrated in the system of analytical accounting (ALDABIDE) of the Basque Country.

Analysis based on the tariff law (*Ley de tasas*) on the fees for a stay in hospital at home units

Autonomous regions have regulated official fees (*Ley de tasas*) usually in order to compensate ACs for treating inpatients from other ACs. Tariffs can either be based in AP-DRGs for inpatient process. For other, interventions in the hospital specific payments are established. These fees are published in their [67]corresponding regional Official Bulletins. Hereafter, we use these tariffs to discuss the payments for HAH interventions.[67]

AC Valencia

For hospitalization in chronic care or long-stay hospitals as well as to hospital at home unit, specific rates applied for each stay. Table 11 presents the rates for 2014. In the case of a hospital at home intervention, payment is equal the amount per stay times the number of days. The same amount is paid per independently of the number of visits. The rates do not include diagnostic and therapeutic procedures (rates for this procedures can be found in section C and E of the Law).

Table 11 – Payment for hospital stays in specific units (2004) per day

Code	Description	Euro
HS0001	Non-chirurgical stay	267.71
HS0003	Paediatric-neonatology unit	502.46
HS0106	Intensive care units, reanimation or burn unit	1.366.84
HS0108	Hospital at home unit	100.13
HS0109	Stay in medium or long-term hospital: brain damage unit	200.00
HS0110	Stay in medium or long-term hospital: nursing or subacute care unit	135.00
HS0111	Stay in medium or long-term hospital: other units (palliative care unit, long-stay unit or mental health unit)	105.00

Source: Conselleria de Sanidad, Ley de tasas (2004)[67]

Basque country

For the Basque country, "a stay per day" is defined in the tariff law for inpatient and outpatient interventions. These tariffs include board and lodging and care provided by health care professionals. The stays also include a well-defined number of therapeutic and diagnostic procedures.[68] In previous years, the amount for hospital at home was calculated as a percentage of the fee in other hospital services (40%)

Table 12 – Payment for hospital stays (2004) per day

	Hospital at home unit	Day hospital	Other hospitalization unit in the hospital
Acute Hospital.I	229.32	429.99	573.33
Acute Hospital.II	191.10	358.32	477.77
Acute Hospital.III	167.36	313.82	148.42
Medium and long-term stay hospitals	149.42	280.17	357.57

Source: Osakidetza, Ley de tasas (2004)[68]

Overall, the fee for a stay in a HAH unit is lower than the fee in a ward in the hospital.

Are there specific financial incentives/disincentives to promote/bargain these activities?

No information found.

3.3.2.4. Quality of care

Are there quality indicators defined?

Discussion of the need to develop common activity and quality indicators for HAH units in Spain is ongoing. The clinical guidelines and procedures of 2011[62] points out the need to have such indicators and provides some detailed examples based on the criteria used in some hospitals. For a detailed overview the indicators, we refer the reader to the original texts. HAH units must also produce an activity report ("*Memorias*") and send it to the health care department.

Table 13 – Example of activity indicators for HAH units

Clinical guidelines and procedures (2011)[a]
Number of visits by the different team members
Duration of the visit
Number and types of clinical procedures

Source: Clinical guidelines and procedures (2011)[62]; [b]

AC Valencia

In 2006, the catalogue of procedures for HAH units in Valencia establishes different activity indicators. Activity indicators include: [56]:

- Listing of activities for HAH interventions and detailed definitions
- Construction of common costing units
- Activity based indicators for the unit management

However, as previously mentioned the SIE-AE information system is no longer used to measures activity from HAH units. Today, activity from HAH units is measured via the SISAL information system ("*Sistema de información sobre Salud Laboral"*) which collects information from all autonomous communities. The Ministry of health from Valencia uses information from the SISAL to make the yearly activity report.[63]

AC Basque Country

In the Basque country, commonly used indicators include:[64]

- Percentage of readmissions
- Percentage of exitus (dead based on admission)

Specific quality indicators according to procedures or pathologies were not identified.

3.3.2.5. *IT services*

Are there specific IT services or information tools developed?

Each unit or hospital can define the criteria to develop IT or information tools. However, information tools are also related to the health department objectives. In both the AC of Valencia and of the Basque country, there is a clear policy towards integration of patient information.

They are two main IT programs developed in the AC of Valencia to record patient's medical records.

- "ABUCASIS" contains patient's medical records from primary care providers
- "ORION" contains patient's medical records from hospitals. The ORION system contains a specific module for HAH. Currently, 6 hospitals use the ORION-HAD module and it is expected that in 2016, the ORION-HAD module will be fully operational in all public hospitals. Access to patient data will possible from the patient's home (remote access)

3.3.2.6. *Decision support*

Are there specific guidelines defined?

Hospital at home associations are working towards the development of common guidelines for hospital at home procedures. In addition, some guidelines for home interventions were identified at a National Level. However, it is not always clear whether guidelines are used by all HAH units. Hereafter, we provide a listing of the guidelines identified.

- For enteral nutrition:
  - Guide for enteral nutrition at home in the National health system:, prescriptions and related services (2008): http://www.msssi.gob.es/profesionales/prestacionesSanitarias/publicaciones/docs/guiaNED.pdf
- For parenteral nutrition:
  - Guide for parenteral nutrition at home in the National health system: prescriptions and related services (2009): http://www.msssi.gob.es/profesionales/prestacionesSanitarias/publicaciones/docs/guiaNPD.pdf
- For the informal caregiver
  - Caregivers guide: Nursing work group of the Spanish Society of Hospital at home (SEHAD) (2014): http://www.sehad.org/guiacuidador/
- For pneumonia
  - Guidelines for the management of community-acquired pneumonia in the elderly patient (2013): http://www.sehad.org/docs/consenso-NAC-anciano.pdf

The clinical recommendation and guidelines of 2011 for hospital at home (*Hospitalización Domiciliaria: Recomendaciones Clínicas y Procedimientos*)[54] provide recommendations on (http://www.sehad.org/bibliografia.html) :

  - Medical processes (*Proceso Médicos*),
  - Chirugical process (*Procesos quirújicos*),
  - Palliative Care (*Cuidados paliativos*),
  - Wound care (*Cuidado de los pacientes con heridas*),
  - Informal caregivers (Los cuidados informales en la HAD),
  - Parenteral treatment (Tratamientos parenterales),
  - Home artificial nutrition (*Nutrición artificial domiciliaria*)
- Chronic obstructive pulmonary disease (COPD)
  - Acute COPD and Hospital at home (2009): http://www.sehad.org/docs/bibliografia/capitulo_epoc_hado_sehad.pdf
  - Management of exacerbation of COPD in hospital at home: http://www.fesemi.org/documentos/1355828486/publicaciones/protocolos/exacerbacion-epoc/capitulo-5.pdf
- Diagnostic and interventions for nursing activities in the community
  - http://www.san.gva.es/documents/246911/251004/V.4964-2006.pdf

3.3.3. *How are routine hospital at home interventions planned, provided and coordinated?*

Which pathologies are covered?

HAH interventions are not focused on a specific pathology but towards providing a range of services that substitute those available in an acute hospital (page 22)[62]. Patients with acute and chronic conditions and palliative patients may benefit from HAH interventions.

AC Valencia

According to a 2013 report on HAH activities in the AC of Valencia, three main line of services currently exist.

- Basic area of services (medical, post-surgical and palliative care).
- Paediatric care
- Mental health
- Rehabilitation

In 2012,42% of patients in HAH units receive palliative care.

Table 14 – Basic statistics of HAH units in Valencia (2013) [a]

	Basic area of services	Paediatric care	Mental health	All
Number of HAH units with this line of activities	24	2	6	-
Capacity (places per day)	1352	38	46	1436
Discharges	37 886	995	799	39 680
Discharges as % of all discharges in hospitals	-	-	-	9.6%
Type of patients (numbers/%)				
• Medical patients	-	-	-	19 137 / 49%
• Post-surgical patients	-	-	-	2 726 / 7%
• Palliative patients	-	-	-	17 018 / 42%
• Mental health patients	-	-	-	799 /2%

Source: Conselleria de Sanidad (2013)[63]. [a]In 2012, activities in the rehabilitation line of services were not yet fully organized

Is there a specific plan of care for the patient? Who is responsible for this plan?

AC Valencia

Each patient admitted in HAH must have a treatment plan including:

1. Management, assessment and admission of the patient *(Gestión, valoración y admission de propuestas*). Patient assessment can take place in the hospital or in the patient home.
2. Social aspects of the process (*Intervención social*). Includes assessment of the patient environment and information to the patient and family on needs relating to HAH
3. Establishment of the type of function that the HAH provide (*classic hospitalization/day hospital or outpatient consultation*) (see details hereafter).
4. Process in case of emergency (see details in 3.3.4)
5. Process for pharmaceuticals and devices: Preparing all steps ensuring continuity of care relating to devices and pharmaceuticals
6. Discharge or transfer to other units: Depending on the patient, discharge preparation would require the contact with other health care providers
7. After discharge, there is a “program of HAH follow-up” for complex patients (advanced chronic care patients or palliative care patients) managed by HAH units (*seguimiento programado desde las UHD*). These patients require scheduled telephone consultations and, if necessary, home visits by HAH units.

For a detail description of each step, we refer the reader to the clinical and procedures guidelines (2011) (pages 25-30).[62]

Which formal services and support are delivered?

There is not a formal definition of which services or interventions can be provided by HAH units. However, the working of HAH units in Valencia and the Basque Country aims at providing (as much as possible) all the services existing in the hospital. As such, functions of HAH (type of activities) are classified into three categories: classic hospitalization, day hospital and outpatient consultation (see Table below):

Table 15 – Function at hospital at home units

Type of hospital process	For who	Objective	Discharge (2011)
Hospitalization	Follow-up and provision of complex care usually provided in the hospital settings for patients requiring acute care, for chronic patients in an acute episode, post-chirurgical patients and end-of-life patients who have a severe decompensation.	Obtain best results in the shortest time possible, with less complications and efficient use of resources	64%
Day hospital:	For patients requiring a complex diagnostic or therapeutic procedure for no more than 2-3 days (e.g. chemotherapy, parenteral nutrition)	Maintain longer clinical stability and improve quality of life	20%
Outpatient consultation:	For stable patients requiring a clinical or analytical diagnostic that lasts 1-2 days.	Provide support to Primary care in management of complex cases	14%

Source: Clinical guidelines and procedures (2011)[62], Conseilleria de Sanitat (2013)[63]

Event though, no formal definition of activities or interventions for HAH units exist, the catalogue for hospital at home procedures (*Catálogo de Procedimientos de Hospital a Domicilio*)[56] provides a listing of different activities that are usually performed in HAH units (see Appendix 1). Data concerning these activities were not available.

How are care coordinated? Who is responsible of the care coordination?

Coordination between the different actors of the HAH (see 3.3.2.2) depends on the coordinating physician and coordinating nurse, who play a major role in the functioning of the structure. Usually, the coordinating role does not include providing care patients.

3.3.4. In case of emergency, how is acute response provided?

Who is responsible?

It is not clear that one single health professional or institution is responsible for a response in case of emergency. However, a specific process in case of emergency is established in the care plan (see details hereafter).

Is there a specific process?

HAH units should ensure continuity of care twenty-four hours a day, seven days a week and 365 days a year. However, not all units ensure a permanent liaison and the emergency unit in the hospital or the community

emergency services (not related to the hospital) ensures the care continuity from 22:00 PM until 8:00AM. Coordination procedures ensuring to provide up-to-date information to patients in HAH units as well as to the emergency unit health care professionals are established (page 29). [62] Visits to patients' homes take place from 8-15:00 PM. From 15:00PM to 22:00PM a team ensures basic services in a rapid response in case of emergency. In most cases, the team's nurse is the first point of contact (by telephone) and will most likely be the first person to visit the patient's home. On the nurse requirement, the unit's physician may also visit the patient. Visits from the unit's staff depends on their time planning. [62]

A visit from a physician or a nurse from the HAH unit is considered an emergency if:[56]

- the visit was not programmed in the care plan,
- aims at providing a solution for an unexpected clinical event,
- arises usually at the demand of the patient, the family or another health care professional and between 8:00 AM and 10:00PM.

Emergency protocol can be briefly summarized as follows:

- The hospital emergency unit and the community emergency services outside the hospital are informed about the patient admitted to the HAH unit.
- from 8:00 AM until 3:00 PM, the patient contacts the HAH unit,
- from 3:00 PM until 10:00 PM, the patient contacts the HAH unit via a specific telephone number (duty numer "móvil de guardia"),
- from 22:00 PM until 8:00AM: the patient contacts either the emergency department in the hospital or the community emergency service (Centro de Información y Coordinación de Urgencias) that coordinate all emergency care services not related to the hospital.

In some cases, a patient admitted to a hospital emergency unit (22:00-08:00) may remain under observation until that a health care professionals from the HAH unit assesses her/his condition. If the patient returns home, the episode is considered as a part of the events included in the "hospital at home interventions".

3.3.5. How are patients and families supported?

Are they specific measures for patient empowerment?

HAH interventions include patient and family support. The level of support and information depends from the type of intervention. [62]

Are they specific measures for informal caregivers?

HAH interventions include patient and family support. The level of support and information depends from the type of intervention. [62] However, it is not clear whether informal caregiver's burden is systematically assessed. In the AC of Valencia, informal caregivers' burden is systematically assessed.

3.3.6. Are there specific conditions for early identification or screening of patients?

How are potential candidates identified, what is the target population? What are the eligibility criteria / conditions?

Usually any physician (*facultative del área de salud*) from primary or specialized care may initiate the process leading to a HAH admission. In the AC of Valencia, the patient and his/her family, social workers can also require an evaluation to be admitted to a HAH unit. A patient is directly admitted to a HAH unit if a case manager nurse requires a HAH hospitalization.

Health care professionals from the HAH unit evaluate patient's condition and needs and determine whether a HAH intervention is appropriate. Each unit can establish the criteria needed for an HAH's admission but admission is subjected to the approval of the coordinating physician or the HAH treating physician. However, admission for HAH intervention in any unit requires that (page 23, Guidelines) [62]:

- Patient requires hospital based care.
- The patient and the informal caregiver agrees to receive care from the unit (patient signs an agreement)
- Availability of a main caregiver and of a telephone;
- Be in the area of influence of the HAH unit (*geographical criteria)*. It should take no more than 30 minutes to go from the hospital to the patient's home (or vice-versa)

Once that the unit receives an admission demand, a health care professional from the unit evaluates whether the patient can be admitted. Admission is linked to the unit evaluation of care needs and patient's clinical conditions (and to their capacity to provide the care required). No other specific requirements were identified.

Are there exclusion criteria?

They are no specific exclusion criteria (except no fulfilling minimum admission requirements e.g. absence of a main informal caregiver)

Who assess patient eligibility? When?

Patient admission in HAH, as well as his discharge, is assessed by the coordinating physician or by the treating physician. After admission, the coordinating nurse usually performs a complete patient assessment.

3.3.7. How are HAH activities integrated within the health system?

What is the link of HAH activities with primary and secondary care providers?

1. HAH and other services from the hospital

As mentioned, HAH interventions are provided as a part of the activities of the hospital. Integration of the HAH unit with other services of the hospitals depends on the hospital policy and to a lesser extent to the HAH unit's policy. [49] Link with other hospital services can be summarized as follows:

- Admission service: Admission to a HAH unit is included in a separate admission category for administrative procedures.
- Quality and management unit: Quality plan of the HAH unit must be in line with that of the hospital.
- Social service of the hospital: May provide additional support for patients and families admitted in the HAH (during the intervention and after discharge).
- Diagnostic procedures and pharmaceuticals: Patients admitted in a HAH unit have a priority access to any required diagnostic or therapeutic procedures delivered by the hospital.
- Agreements with other health care professionals from the hospital may be put in place in order to provide the best care possible in HAH units (care continuity). Health care professionals from other units must provide care to HAH patients.
- All HAH units coordinate activities with the hospitals' emergency unit and the Short-stay Unit (*Unidad de corta estancia*). HAH "beds" are attributed in priority to patients from these services in order ensure to attain objectives related to the length of stay.[e]

2. Primary care

- HAD units support primary care teams. The GP can contact the HAH unit by telephone to solve any questions relating to the patients treatment. GP and the HAH team can simultaneously visit the patient. All GPs can ask for a patient to be admitted in HAH unit

3. Other health and social care providers

- Link with other HAH units should be ensured in order to provide all relevant patient information.
- Other hospitals (chronic or long-term care hospitals). Ensure that all health care providers share the same information. It is expected that the ORION system will be operational in all hospitals in 2016.
- Assisted nursing facilities: Collaboration with facilities is also possible.

The following Table provides data on referral source to HAH units. Most patients admitted to a HAH unit come from the different units in the hospital. Admission after GP referral account for 17.5% of all admission.

[e] • Short-stay units provide care to patients with acute problems, selected from emergency units that do not require complex care provided in other acute care units as well as to patients with chronic diseases whose require to be stabilised. In the Community of Valencia, this units were created in 1995 and work in coordination with the hospital at home units. Orden de la Consellería de Sanidad y Consumo, por la que se crean las unidades médicas de corta estancia en determinados hospitales del Servicio Valenciano de Salud. L. N.° 95/4609. (May. 26, 1995).

Table 16 – Referral to HAH admission in the AC of Valencia (2013)

ER	Short stay hospital unit	Mental Health Unit	Chronic hospital	Other HAH unit or hospital	HAH patient in follow-up program	Hospital Room	Day hospital	Major ambulatory surgery	Outpatient consultation	Primary care	Assisted living facility
8.2%	4.7%	0.8%	0.2%	2.5%	27.4%	27.7%	1.6%	0.3%	7.9%	17.5%	1.1%

Source: Conseilleria de Sanitat (2013)[63]

What is the link of HAH activities with the social care providers?

HAH professionals may intervene in the contact and coordination of social care services. However, the type of contact may depend on:

- whether a social worker is a member of the unit,
- patient's participation in integrated care programs with primary and secondary care providers exist
- whether a nurse case manager is a member of the unit (*enfermeras gestoras de casos*). These nurses deal with the most complex cases (pathology/intervention) which goes beyond the expertise of social care teams.

Are there specific seamless care / integrated care programs organized with a link with the HAH activities? How are there integrated within the system and what is the link with other available structure (e.g. other home care services)?

Cooperation and integration of structures is key issue in the health planning of both the AC of Valencia and Basque Country. Both AC are working forward to integrate HAH activities with other care providers, in particular with primary care.

3.3.8. Follow-up of HAH activities – How are HAH's activities evaluated?

What is the demand for these services?

Admissions in HAH units represent has increased constantly. Following activity tables provide an overview of HAH admission in Spain.

Table 17 – Number of visits per year in HAH units

	2010	2011	2012
ANDALUCÍA	50.793	30.569	58.520
ARAGÓN	3.891	1.041	901
ASTURIAS	23.726	27.275	25.942
ILLES BALEARS	8.847	9.592	8.404
CANARIAS	18.011	19.720	19.926
CANTABRIA	19.580	20.161	20.175
CASTILLA Y LEÓN	40.734	44.846	44.657
CASTILLA-LA MANCHA	3.304	2.521	2.644
CATALUÑA	119.499	112.122	119.919
COMUNIDAD VALENCIANA	**301.816**	**323.589**	**402.621**
EXTREMADURA	0	0	0
GALICIA	75.256	75.611	83.112
MADRID	52.319	46.984	46.201
REGIÓN DE MURCIA	4.389	6.910	12.784
C. FORAL DE NAVARRA	10.902	12.053	12.462
PAÍS VASCO	**94.158**	**90.855**	**118.935**
LA RIOJA	31.974	23.299	25.411
CEUTA Y MELILLA	0	0	0

Source: http://pestadistico.inteligenciadegestion.msssi.es

Table 18 – Basic activity indicators for units in the Basque country

	Patient admission		Discharge		Stays		EXITUS		% EXITUS	
	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012
Hospital Cruces	2.563	2.248	2.578	2.236	35.079	33.209	203	183	7,87	8,18
Hospital Donostia	2.486	2.285	2.506	2.261	28.370	29.243	329	315	13,13	13,93
H. Universitario Alava	1.180	1.213	1.179	1.196	18.517	19.579	51	51	4,33	4,26
Hospital Basurto	2.094	2.095	2.090	2.104	16.504	14.670	47	27	2,25	1,28
Hospital Galdakao	566	437	555	446	10.534	9.306	90	94	16,22	21,08
Hospital Alto Deba	742	659	742	651	6.950	6.922	23	31	3,10	4,76
Hospital Bidasoa	522	766	539	755	6.878	7.443	76	74	14,10	9,80
Hospital Mendaro	851	754	847	750	16.560	22.050	77	94	9,09	12,53
Hospital Zumarraga	522	447	520	442	10.287	8.239	81	81	15,58	18,33
Total	11.526	10.904	11.556	10.841	149.679	150.661	977	950	8,45	8,76

How is the quality of care of the activities assessed?

The lack of an appropriate system to register HAH activities within the hospital settings is an important point of concern when discussing the evaluation of this type of health care services. [62] Therefore, few to no studies are available at national level. More data would allow to:

- develop benchmark studies between units,
- establish cost estimates from different perspectives: societal, hospital and patients and families,
- enhance the comparability of results of HAH alternatives versus other treatment options

Are they official evaluations? What are the outcomes?

No official evaluations at a national level were identified. At a regional level, In the Basque Country, targets in terms of quality and treatment from the different services in the hospital must be in line with the agreements in the contract-program.

In the AC of Valencia, activity and cost related of HAH units are measured once a year using information from the SISAL information system and the SIE-AE analytical accountability system. (SIE-AE). [63] These yearly evaluation exist since 1993. Large variability in the cost per stay between HAH units have been reported. According to the Department, this variability cannot be totally justify based on the activity level of the different programs. Analysis of reported cost based on the SIE was recommended.

Which problems were encountered and which solutions were taken?

In the AC of Valencia, issues of concerned mentioned in the department evaluation include:[63]:

- Differences in cost between units that cannot be attributed to the patient's complexity.
- Lack of trust between health services and discontinuity of care

AC of Valencia

The place of HAH units in the health care system of the AC of Valencia evolves from being recognised as a partner within the hospital towards being recognised as reference actor in their area of influence ("*departamento"*). Therefore in the years to come, HAH units will/should :[69]

- Become a support team for both primary and specialised care,
- Enhance substitution for hospital care (admission avoidance): higher percentage of patients coming from primary care, mental health units, assisted nursing facilities, emergency room, outpatient consultation and day hospital),
- More shared responsibilities with other health care providers for patients with complex health care needs,
- Leader in palliative care,
- More collaboration with primary care initiatives (including case manager nurses from primary care initiatives).

AC of Basque country

The place of HAH units in the health care system of the Basque Country is clearly recognized and each public hospital can provide HAH services. No more detailed information on this aspect was identified.

3.4. Netherlands

The Dutch health care system is going through a major structural reform that includes a transfer of competencies related to the coverage of health care expenses between different actors. The coming into force of the law will take place on 1 January 2015. [70]A brief presentation of the current system and the implications of the reform are presented in this section.

The Dutch health care system is divided into three compartments. The long-term care insurance[f] covers the cost for major medical risk, including dependency and high-cost treatment and it is financed through income-related contributions, supplemented by a general government revenue grant. [71, 72] Besides the long-term care insurance, municipalities

[f] Called until December 2014 Exceptional Medical Expenses Act (AWBZ) (in Dutch "*Algemene Wet Bijzondere Ziektekosten*). From 1 January 2015, the Long-term care Act ("Wet langdurige zorg (Wlz")) will replace the AWBZ.

(*"gemeente"*) play an important role in long-term care as they are in charge of providing social support.

The second compartment, regulated by the Health Insurance Act (Zvw) (in Dutch *"Zorgverzekeringswet"*), includes the basic health insurance for curative medical care (including hospital stays) and short-term care (e.g. care provided by general practitioners (GP), specialists, pharmaceuticals, etc.). Both compartments constitute the mandatory health insurance programs and provide universal coverage[g] for the population. The Zvw is financed through income-related contributions, community-rated premiums paid to the health insurer and tax revenues. Individuals are free to select the health insurer and insurers cannot refuse the application for the basic health insurance. Insurers can contract services with health care providers. [71, 72] Some responsibilities in care coverage from the first compartment are currently being shifted to the Zwv and to the municipalities.[70]

The third compartment consists of the complementary voluntary health insurance (VHI) for services not covered by the two mandatory compartments.[71, 72] Individuals participate in the cost of health care through different cost-sharing. During the last decade, structural reforms have been implemented aiming to reinforce market mechanisms though enhanced competition between health insurers and between service providers.

Primary care

General practitioner

In the Netherlands, primary care have a strong position and the GP, as gatekeeper, play a pivotal role in primary care and in the health care system in general. Even if in the past GP used to work alone, since the 1970s, group practices have become popular. The remuneration of GP is a combination of capitation fees, fee-for-services (consultation fees, contributions for activities that either increase efficiency of GP or substitute for secondary care, and compensation for out-of-hours care (mainly per hour). Some GP are salaried in GP practice or primary care centre.[71]

Home nursing care

In the Netherlands, home nursing is mostly provided by non-for-profit organisations, operating under nationally organised umbrella organisations ("*kruisverenigingen"*) and to lesser extent by independent nurses (self-employed) or by for-profit organizations. These national organisations provide all forms of nurse care. The coverage of nurse activities is currently being reorganised (under the *"verpleging en verzorging aan huis"*).[2] Until, 2014, coverage of nurse care activities was divided between the basic health insurance (Zvw) and the long-term care insurance (AWBZ). From 1 January 2015, nurse care (including coordination activities between different health and social care providers, individual coaching and prevention by the district nurse (*"wijkverpleegkundige"*)) will fall only under the Health Insurance Act (Zvw).[70] A mixed of fee-for-service, lump sum payments per patient and contracts between health insurers and care providers are used to pay for nurse care. [73]

Since 2007, the Social Support Act (WMO) (in Dutch *"Wet maatschappelijke ondersteuning"*) transferred some responsibilities from the AWBZ to municipalities in order to enhance coordination of social care and welfare assistance. [72]The WMO of 2015 extends the responsibilities of municipalities that will include, among others, personal care, domestic help, etc.

g Two groups are not covered, the persons refusing to be insured on grounds of religious beliefs or their philosophy of life and members of the armed forces[71]

Hospital financing

In the Netherlands, activity-based payments for the treatment of homogenous groups of patient combined with specific budgets for expensive medicines and highly specialised services devices are used to finance hospitals. The classification for homogenous groups of patient (*Diagnose Behandel Combinatie (DBC))* is defined as the entire range of hospital and medical specialist inpatient and outpatient activities and services related to a specific diagnosis, from the first specialist visit to the end of the care process. Different DBCs are possible during one stay while in only one payment per hospital stay for the most important diagnosis or treatment is possible. Since 2012, fundamental changes in the DBC system opened the way to the "DBCs On the way to Transparency" or DOTs *("DBC's Opweg naar Transparantie")*. The number of hospital products is reduced from about 30 000 to 4400 in the DOT system.[74] The DOT and DBC share the same objectives to: increase transparency, stability, medical recognisability and openness to innovation.

3.4.1. Historic perspective and implementation stages

The term "hospital at home" is not used as a concept in the health care literature of the Netherlands However, the Netherlands do have a long history of HAH; terms that have been used along the years are "thuishospitalisatie", "ziekenhuisverplaatste zorg" (relocated hospital care), "ziekenhuisgerelateerde thuiszorg", "transmurale zorg", "ziekenhuisvervangende zorg", "intensieve thuiszorg", "medisch specialistische zorg in de thuissituatie", "medisch specialistische verpleging thuis" and "substitutie van ziekenhuis naar huisarts".

Currently, the term "verpleging in de thuissituatie, noodzakelijk in verband met medisch- specialistische zorg" (MSVT) is used in the legalisation and insurance texts (see following sections for a more detailed description of the current legislation). [75]The provision of "hospital-based care at home" or hospital at home in the Netherlands is built around acts or interventions that required the involvement of different actors. A single and specific system that encompasses all actors or interventions is not current in place in the Netherlands.

What were the initial policy objectives? (Cost/Quality/Innovation)

Although a governmental document [76] from 1974 talked already about organizing care as close to the patient as possible, the start of hospital at home initiatives date from the early nineties and were encouraged (in word and money) by the Dutch Ministry of Health. [77] At that time there was a too strict separation between secondary and primary care and the government policy was to reform the curative secondary care and to make bridges between the two forms of care. Care had to follow the patient, care had to be "transmural".

According to a background study for the redesigning of the Dutch health care system [78], main drivers for the redesign were:

- cost containment,
- quality improvement and
- patient centred care.

In the nineties, many projects started to bridge the gap between secondary and primary care, e.g. liaison nurses were introduced in hospitals to prepare and organize hospital discharge, continuity visits of district nurses to recent discharged patients, parenteral nutrition in the home situation, forms of intermediate care like zotel, reconvalescence hospital unit, etc. The Health insurance advisory committee ("*Ziekenfondsraad"*) started in 1991 a research program on medical technology in the home situation (e.g. intravenous antibiotics [79]); accompanying this they created a special financing construction for this, named subsidiaries for hospital related home care ("subsidiëring ziekenhuisgerelateerde thuiszorg").

Also eleven hospitals founded "Stichting ziekenhuisverplaatste zorg" in 1991 and they started to deliver high tech nursing care in the home environment, such as intravenous antibiotics, complex wound care and others. All those early initiatives were funded by governmental project subsidiaries.

In 1997 the government launched a large research and development round concerning home care technology and funded 40 different projects, most of which were successfully implemented [80]; examples of HAH-projects are e.g. anticoagulant therapy, negative pressure wound care, transfusion of blood products, photo therapy, continuous positive air pressure therapy, nebulizers, parenteral nutrition, intravenous antibiotics and oxygen therapy. The frequency of home care technology was studied [81] and van Kammen studied ethical and social implications [82].

From around 1995, the community nurses organizations started to form technical home care teams ("technische thuiszorgteams") in order to concentrate medical technical care to a few community nurses to reassure they have enough experience with complex procedures or interventions. These teams are nowadays spread all over the country.

The principle of organizing care as close to home as possible, as launched in 1994 by Simons, has been enforced in the last few years [83, 84]. Drivers to do so are an ageing population with many people with chronic conditions and multi-morbidity causing an increased care demand, a changing relationship between patient and health care provider requiring more individualized care with options to choose, evolving technology making much care now possible outside a hospital structure and reducing hospital length of stay on the one side but also on the other side invent of new (expensive) diagnostic and therapeutic technologies creating a demand for more concentration of acute medical care and decrease of hospital, and finally the need to reduce the health care costs [84].

Is there a legal or formal definition for HAH?

As s specific organization for HAH does not formally exist, there is also not a clear definition of what fits to this concept. Terms use to describe the activities relating to the provision of hospital-based care at home are presented used in the last years are presented hereafter.

- The term "thuishospitalisatie" appeared in 1984 [85] and was defined as *"het behandelen en verplegen van bedlegerige patiënten thuis in plaats van in een verpleeghuis of in een ziekenhuis*" (treatment and care of bedriden patients at home instead of in a nursing home or in the hospital). The term disappeared very fast from the dutch literature.
- The term "ziekenhuisgerelateerde thuiszorg" (hospital related home care) was defined in 1996 as "thuiszorg die onmiddellijk aansluit op ziekenhuisverblijf en noodzakelijk is voor de aandoening waarvoor de opname heeft plaatsgevonden. De ziekenhuisgerelateerde thuiszorg kan tevens dienen ter vervanging of bekorting van de ziekenhuiszorg. De periode waarover een aanspraak op ziekenhuisgerelateerde thuiszorg bestaat, bedraagt maximaal 13 weken" (home care, immediate following after a hospital stay and necessary for the condition for which the hospital stay was indicated. The hospital related home care may also be intended to replace or to shorten a hospital stay. Hospital related home care can be reimbursed for a maximum of 13 weeks). In 1997, a special financing was started for this type of care, but due to administrative overload, it stayed only for one year.
- The term "transmurale zorg" (transmural care) was defined in 1995 as "Transmurale zorg omvat vormen van zorg die, toegesneden op de behoefte van de patiënt, verleend worden op basis van afspraken over samenwerking, afstemming en regie tussen generalistische en specialistische zorgverleners, waarbij sprake is van een gemeenschappelijk gedragen verantwoordelijkheid met expliciete deelverantwoordelijkheden" (transmural care encompasses individualized care agreed and tuned by specialist and generalist care professionals and where there is agreement on overall and partial responsibilities) [86].
- The term "ziekenhuisverplaatste zorg" (remote hospital care) was mentioned in the minutes of the Dutch parliament [87] in 1997 as "*Bij ziekenhuisverplaatste zorg gaat het om patiënten met een ziekenhuisindicatie. Het betreft dan ziekenhuiszorg die wordt verleend buiten de muren van het ziekenhuis, maar binnen het ziekenhuisbudget*." (Remote hospital care is care outside the hospital for patients for which hospital care is indicated and is payed from the hospital budget) Later, the term "ziekenhuisverplaatste zorg" (remote hospital care) was defined by the Health Care Insurance Board ("College Voor Zorgvzekering" (CVZ)) [88] as *"verpleegkundige zorg als onderdeel, voortzetting of afronding van een medisch specialistische behandeling waarvoor men in het ziekenhuis was opgenomen, maar die niet meer in het ziekenhuis, maar thuis wordt verleend" (nursing care, as part of, continuation or finalisation of a medical specialistic treatment, for which a patient was admitted to the hospital, but is no longer given in the hospital but at home).*
- The Dutch Health Care Authority ("Nederlandse Zorgautoriteit" (NZA)) [89] defined remote hospital care as *"medisch specialistische behandeling wanneer deze buiten de muren van de instelling plaatsvindt. Te denken valt aan (1) de verstrekking van hulpmiddelen, (2) de verstrekking van geneesmiddelen of (3) verpleging welke onderdeel zijn van een medisch specialistische behandeling.*" (Medical specialistic treatment given outside the hospital; this can be drug administration, application of devices or nursing as part of a medical specialistic treatment). Remarkably, in the CVZ-definition there is the element that

"ziekenhuisverplaatste zorg" has been preceeded by a hospital admission, while this element is not in the NZA definition.

- Since 2010, the reimbursement for MSVT falls under the responsibility of the Zvw. MSVT is considered the same as "ziekenhuisverplaatste zorg" [88, 90]. MSVT is part of the DBCs(DOT)-product list [91]. Box 6 shows the definition of MSVT from the Dutch Healthcare Authority (2014). [92] In short, MSVT is nursing care in the home situation commissioned by and under accountability of the medical specialist (located in the hospital). So not the care itself is defined, but the person who is accountable makes it MSVT (if a GP commissions care and takes accountability, it is no longer called MSVT) [88, 93].

Box 6 – Definition for hospital in the home ("medisch specialistische verpleging thuis" (MSVT))

Er is sprake van verpleging in de thuissituatie, noodzakelijk in verband met medisch specialistische zorg, indien wordt voldaan aan elk van de volgende voorwaarden:

a. Het gaat om verpleegkundige handelingen, noodzakelijk in verband met medisch specialistische zorg, met het oog op herstel van gezondheid, of voorkomen van verergering van ziekte of aandoening zonder dat die handelingen geleverd worden aan een patiënt die verblijft in een zorginstelling op een bed waarvoor een toelating voor de functie behandeling, zoals bedoeld in artikel 3.1.1 eerste lid onderdeel c van de Wet langdurige zorg (Wlz) is afgegeven;

b. Er is een indicatiestelling aanwezig voor verpleging, noodzakelijk in de thuissituatie in verband met medisch specialistische zorg, van de medisch specialist.

De beleidsregel betreft de verpleging in de thuissituatie noodzakelijk in verband met medisch specialistische zorg. Onder "thuissituatie" wordt verstaan:

- Een woonhuis;
- Een zorginstelling zonder toelating voor behandeling zoals bedoeld in het eerste lid zoals omschreven in artikel 3.1.1 eerste lid Wlz.

De verpleging geboden in een zorginstelling zonder toelating voor behandeling kan alleen als verpleging in de zin van deze beleidsregel worden aangemerkt, voor zover deze noodzakelijk is in verband met medisch specialistische zorg en buiten het zorgzwaartepakket van de betreffende patiënt valt (beleidsregel "Prestatiebeschrijvingen en tarieven zorgzwaartepakketten").

De verpleging die noodzakelijk is in verband met thuisbeademing, palliatieve terminale zorg of intensieve kindzorg valt niet onder deze beleidsregel.

MSVT comprehends both low and high complex nursing care, making it difficult to analyse to what extent this MSVT is de facto replacing hospital care. Nursing care in the home situation prescribed by a medical specialist is not considered as MSVT in the following cases:

Palliative terminal care, domiciliary respiratory care and medical specialized care for children at home [94]. This is done since other reimbursement systems apply to these forms of care. However, it is not always clear if the MSVT or the palliative care regulation applies.

Health care insurers have developed a list of high complex nursing care and minutes related to each of these and a list of low complex nursing care that can be part of MSVT. (see 0 for details) [95, 96]Alongside with the substitution of hospital care initiated by the medical specialist, there has been enforcement of substitution of hospital care by GP care or substitution of secondary by primary care [97]. For instance, in 2014 the professional organization of GPs of the Dutch province Friesland launched a plan for care substitution [98-100], including a list of things that are currently done in hospital but that could be cared for by GPs, e.g. inserting intrauterine devices for anti-conception, small surgery, treatment of conjunctivitis and others. Substitution of care is defined in this document as "substitution is the aimed and targeted replacement of a current care function/provider by another for the same patient population and the care remains the same. It is assumed that substitution results in more efficacy with equal or better care (*Onder substitutie wordt verstaan het doelbewust en doelgericht vervangen van een (deel van een) bestaande voorziening door een (deel van een) andersoortige voorziening, waarbij de oorspronkelijke functie vervuld blijft worden en wel voor een vergelijkbare patiëntenpopulatie. Aangenomen wordt dat substitutie doelmatigheidswinst oplevert onder gelijkblijvende of*

betere kwaliteit van zorg."). The LHV assumes that care substitution will lead to great health care costs savings.

A recent knowledge synthesis demonstrated that there remains a lot of potential to replace care from the hospital into primary care [101]. This is also the expectation of the Dutch Healthcare Advisory Board [84].

So, from the early nineties many "hospital at home" closely related terms were introduced and we see different and evolving definitions during these years.

What were the implementation stages? (How did the first structures functioned and how they evolved? How were they linked to existing care providers?)

As stated above forms of hospital care at home were in the beginning all temporary projects, financed by project and research grants. Evaluations of these projects came to positive conclusions for HAH. [79-82, 102-105]

- **What were the barriers encountered during the implementation stages?**

The earlier research and implementation initiative of ZonMw concerning home care technology has been evaluated [104] From this report it appeared that frequently encountered barriers were inadequate knowledge of the technology in primary care professionals, unclear reimbursement systems, inadequate delivery of materials, too few patients making use of technology and high costs in organizing care for some technologies.

3.4.2. What requirements must be met by HAH suppliers?

3.4.2.1. Design

- Are there specific HAH facilities (e.g. separate units) or providers (e.g. teams)?

Most MSVT care is usually delivered by district nurses organizations who formed special teams "technologische thuiszorg teams" in order to concentrate HAH-care within a team that has enough experience and education to deliver HAH-care. However, HAH-care can also be delivered by hospital-based providers, pharmaceutical companies, or self-employed nurses.

- Are there HAH activities delimited within specific geographical boundaries?

In the Netherlands, a geographical boundary is not mentioned. The medical specialist prescribes HAH and usually community nursing organizations in the area of residence of the patient are contacted to deliver the requested care.

- Are there specific norms / conditions defined?

In the legal documents there are no requirements for HAH-suppliers formulated; it is only stated that MSVT has to be prescribed and falls under the responsibility of the hospital-based medical specialist.

However, insurance companies serve as "care-buyers" and each can formulate their own requirements / eligibility criteria for HAH-suppliers. For instance, the CZ-insurance company [106] states that "the care has to be given by a nurse, of at least level 4 and registered in the national register of individual healthcare professionals (BIG). The nurse need also to have the required education and competency related to the condition for which the care is needed; the nurse must also ensure the continuity of care (*De zorg dient verleend te worden door een, in het BIG register opgenomen, verpleegkundige (tenminste niveau 4) en altijd onder verantwoordelijkheid van een medisch specialist. In verband met de aandoening waarvoor de verpleegkundige zorg nodig is, beschikt de verpleegkundige over voldoende bekwaamheid (bijvoorbeeld door periodieke (bij)scholing en instructiebijeenkomsten) en waarborgt de verpleegkundige de continuïteit van de vereiste zorg.*"). Besides requirements for the individual provider, CZ formulated also requirements for district nurse organizations with regard to HAH-provision. In return, most district nurses organizations formulated extra requirements for the nurses that are part of the "technologische thuiszorgteams", with regard to needed experience and education.

3.4.2.2. Workforce

How is the workforce organized (FTE, competencies, Are there specific qualification / specific training required? Are there new roles defined?)

Most home care nursing organizations deliver MSVT; most of them have hereto a specialist team of nurses; there are no formal requirements to make part of such a specialist team. However, the district nursing organizations ask for nurses that have prior experience in a hospital environment with advanced techniques.

MSVT has to be prescribed by a hospital medical specialist, and so he is accountable for the start of MSVT, but that does not mean he is also accountable for the delivery of it [107].

References to other health care professionals involved in the organization or delivery of MSVT were not found.

3.4.2.3. Financing

What type of payment system applies to HAH activities?

In the Netherlands, there is blurred picture of the financing for a complete episode of hospital at home, as usually payment is fragmented the different actors and supplies required during the intervention.

Remuneration for the medical specialists as well as some pharmaceuticals and devices is integrated in the activity based payment system of the hospital (DBCs(DOT) payment system). However, pharmaceuticals may also be purchased in the community pharmacy.

In 2009, the Health Care Insurance Board ("College Voor Zorgvzekering" CVZ) made up a decision tree to make a distinction on whether the financing of devices used at home falls under the hospital DBCs(DOT)-payment.[108] In 2012, a second report, updated the decision tree and provided further clarifications on the integration of devices used at home in the review purchasing practices and payment for devices used at home in the hospital DBCs(DOT)-financing. [108, 109]

The current policy makes it possible that the payment for nurse care (MSVT) is directly invoiced to the patient or to his insurer. Separate nomenclature codes currently exist to differentiate the payment for MSVT when it is performed by a staff from the hospital or by a community nurse. [92] In practise, health insurers purchase MSVT mostly from community nursing organizations and not from the hospital.

MSVT payment takes the form of a fee-for-service that varies according to the duration of the intervention but that is capped to a maximum amount per hour of 82,41 euro per hour, regardless the technique or complexity of the MSVT, as long it is ordered/initiated by hospital medical specialist [110].

In some cases, specific DBCs(DOT) cover an entire range of hospital and medical specialist's resources required for some home care interventions. In this case, MSVT payment is be included in the specific DBCs(DOT) (e.g. home dialysis).

Are there specific financial incentives/disincentives to promote/bargain these activities?

In the past there were many project subsidiaries to finance and promote transmural care. In order to incentive HAH in the Netherlands, in 2010 the reimbursement of MSVT was transferred from the long-term care insurance to the basic health care insurance, as it is considered curative care. As a consequence, reimbursement of MSVT was set under the same level that hospital care. [92, 110, 111] Currently, it is not clear to what extent this is an incentive for HAH.

3.4.2.4. Quality of care

Are there quality indicators defined?

There are no specific quality indicators related to MSVT. All providers of MSTV have to confirm to general requirements for quality in health care as stated in the *"Kwaliteitswet Zorginstellingen*" [112].

The Health Care Inspectorate has the authority to check the quality of care, and for instance did so in 1999 with regard to the safety of infusion pumps used in the home care setting [102]. Also the Inspectorate may visit organizations and have a special look at the MSVT-care [113].

3.4.2.5. IT services

- Are there specific IT services or information tools developed?

No specific information regarding use of specific IT services or information tools was found.

3.4.2.6. Decision support

Are there specific guidelines defined?

No specific information regarding use of specific guidelines was found.

3.4.3. How are routine hospital at home interventions planned, provided and coordinated?

- Which pathologies are covered?

Provision of MSVT is not linked a specific pathology, all can be included under the responsibility of the medical specialist.

- Is there a specific plan of care for the patient? Who is responsible for this plan?

There are no generic descriptions for care plans or services. Care can be coordinated by different persons or organizations; however a hospital based medical specialist has always to take final accountability. In the Netherlands, no specific requirements concerning coordination of care were found. Coordination is usually provided by the technological nurse's team of the community nursing organization.). From 2015 onwards, the role of the district nurse will be reinforced as they will be in charge of coordinating activities between different health and social care providers (e.g. the general practitioner, a medical specialist or social worker).[70]

- Which formal services and support are delivered?

The type of technologies provided in MSVT-care by the technological teams of the district nursing organizations are varied; e.g. wound care, infusion and intravenous injections of diverse medications, transfusion of blood products, pain treatment modalities, palliative care, catheter care or parenteral nutrition (see Table 30 and Table 31).

3.4.4. In case of emergency, how is acute response provided?

Who is responsible? Is there a specific process?

In the Netherlands, the medical specialist from the hospital is responsible for the care provided to a patient during a HAH intervention, as such the medical specialist may organize a plan to respond to an emergency. However, no reference to a standardized emergency plan during the HAH intervention was found.

3.4.5. How are patients and families supported?

- Are they specific measures for patient empowerment?
- Are they specific measures for informal caregivers (attention on follow-up of care)?

No specific information regarding MSVT and patient empowerment or support for informal caregivers was found.

3.4.6. Are there specific conditions for early identification or screening of patients?

- How are potential candidates identified, what is the target population?
  - What are the eligibility criteria / conditions?
  - Are there exclusion criteria?
  - Who assess patient eligibility? When?

No specific information regarding HAH eligibility or exclusion criteria was found.

3.4.7. How are HAH activities integrated within the health system?

What is the link of HAH activities with primary and secondary care providers?

1. Hospital

The medical specialist prescribing MSVT works in a hospital. No references were found with respect to the other services. Sometimes, MSVT can be delivered by hospital based care professionals, pharmaceutical companies or independent nurses.

The hospital social services (e.g. transfer nurse) may also provide support to the patient, as they may ensure that MSVT is provided after being discharged from the hospital.

In the Netherlands, the provision of pharmaceuticals and devices requires to combine different arrangements including to sign conventions with a community or a hospital pharmacy or both. Pharmaceutical companies or wholesalers may also be contacted when requiring a specific pharmaceutical. Overall, the type of arrangement between the HAH and a third party depends on the type of pharmaceutical or device that is required.

2. Primary care providers

As stated above, MSVT is mostly given by special nurse teams organized by a district nursing organization, and in this way it is integrated within the district nursing health care system. In many regions, hospitals and district nurse organizations have made up cooperation documents, together with the insurance companies that buy the MSVT.

3. Are there specific seamless care / integrated care programs organized with a link with the HAH activities? How are there integrated within the system and what is the link with other available structure (e.g. other home care services)?

No specific information regarding use specific seamless care was found.

3.4.8. *Follow-up of HAH activities - How are HAH"s activities evaluated?*

- What is the demand for these services?

Some, mostly early, HAH-initiatives have been evaluated extensively. [79-82, 102-105].

Actual numbers on the extent of MSVT in the Netherlands could not be obtained. However, Hollestelle et al. made some ramifications (e.g. 1000 patients for home ventilation in 2005; 1600 patients in 2005 with negative pressure wound therapy, 25000 expected in 2009 for home infusion pumps, 26000 expected in 2009 for CPAP; 37000 expected in 2009 for home oxygen therapy).

- How is the quality of care of the activities assessed?

See before

- Are they official evaluations? What are the outcomes?

See before

- Which problems were encountered and which solutions were taken?

The earlier research and implementation initiative of ZonMw concerning home care technology has been evaluated [104] From this report it appeared that frequently encountered barriers were inadequate knowledge of the technology in primary care professionals, unclear reimbursement systems, inadequate delivery of materials, too few patients making use of technology and high costs in organizing care for some technologies.

Currently there is an ongoing discussion about reimbursement and legal grounds for MSVT [88, 90, 93, 94, 114-116], largely due to unclear definitions of what MSVT exactly is and the extent of the responsibilities of the medical specialist in ensuring follow-up during the intervention. In addition, the current planned transfer of responsibilities between the different health care compartments renews questions on how to reimburse high and low complexity interventions. Several actors have also pointed out the complexity of purchasing pharmaceuticals and devices. Recent consultations of stakeholders pointed out that it is still a matter of discussion what is the best strategy for purchasing required supplies for home care interventions. [109]

3.5. France

Three main regimes make up the French statutory health insurance (SHI): the general regime, the agricultural regime, and social regime for the self-employed. Apart from these, there also exist very specific regimes. [117]

In 2004, the Union of the national sickness funds (*"l'Union nationale des caisses d'assurance maladie, UNCAM"*) was created, grouping the three main health insurance regimes. UNCAM fulfils several roles:

- It oversees the policy,
- it defines the field of reimbursable services,
- it fixes the reimbursement amounts.

SHI covers, under the various schemes, almost 100% of the resident population and fund three quarters of total health spending. The coverage for outpatient and inpatient care differs.

Covered outpatient care is detailed in three official lists:

- Procedures for health care professionals,
- list of reimbursable drugs (*"liste des spécialités pharmaceutiques remboursables; LSPR"*),
- list of reimbursable medical devices and health materials (*"liste de produits et prestations remboursables; LPP"*).

Primary care

Home nursing care

In France, the statutory health insurance reimburses nursing technical acts *("acte médical infirmier" (AMI)*) and nursing care (*Actes infirmiers de Soins (AIS))* prescribed by the physician and provided by independent nurses (*Infirmiers Diplômés d'Etat Libéraux* (IDEL)), non-for-profit organizations of nurses (*Centre de soins infirmiers CSI)* or by home nursing care services (*service de soins infirmiers à domicile (SSIAD)).* Independent nurses work often in collaboration with the SSIAD. SSIADs can arrange provision of technical nursing, personal care as well as domestic aid. While SSIAD are financed by the statutory health insurance, authorization for new SSIAD places is delivered by the regional committee of the social and medico-social

organization (*Comité régional d'organisation sociale et médicosociale (Crosms)).* SSIAD provide care to people over 60 years old and people with disabilities. SSIAD are medico-social facilities and can be public or private, for-profit (±1%) or non-for-profit entities. Domestic aid can also be provided by personal assistants and other domestic aid services (*"services d' Aide et d'Accompagnement à Domicile (SAAD*)").[118]

The financing of the SSIADs is based on a daily fixed price per place (capitation system) that encompasses expenses relating to nurse care time, salaries for the service employees, travel costs, required medical supplies and other general services. The fixed price per place does not vary with the patient's socio-economic characteristics or their health status. Additional services provided to patients by the SSIAD are separately financed by the health insurance. The payments for nurse acts delivered by independent nurses and by the CSI takes the form of fee-for-service.

General practitioners

In France, 68% of all GPs are self-employed and those who are salaried most often work in hospitals. Self-employed physicians are paid by patients on a fee-for-service basis for the services they provide. Most GPs work is private practices. However, more group practices and to lesser extent multidisciplinary practices are seeing the light of day in the two decades[117]

Hospital financing

In France, the activity-based payment *("Tarification à l'activité" (T2A))* was established at a national level and applies to acute care in hospitals. The classification into homogenous groups of patient (*Groupe Homogène de Malades (GHM)*) was imported and adapted from the third Diagnosis-related group (DRG) version of the United States Health Care Financing Administration (HCFA-DRG).

Positive lists are applied for procedures paid outside the DRG system. There is a specific list for drugs (*"liste des spécialités agréées aux collectivités; LSAC"*) and special lists for expensive and innovative drugs and devices that can be paid in addition to the DRG tariffs (*"liste des produits et prestations pris en charge en sus des prestations d'hospitalisation"*). Medical devices in this list are also included in the LPP.[74]

3.5.1. Historic perspective and implementation stages

This first point aims at having an overview of the historic context in which HAH were developed

What were the initial policy objectives?

The following objectives have been cited:[119-121]

- Avoiding or reducing hospitalization, as other alternatives to hospitalization;
- Respond to the impact of the increase of the aging of the population and of chronic diseases;
- Improve the comfort of patients within good care conditions and respond to the increasing demand of the population to receive care at home.

Is there a legal or formal definition for HAH?

In the public health code, HAH structures are defined along with other alternatives to hospitalizations :[119]

HAH is defined as a health facility that allows to give:[122]

- at the patient home,
- and for a limited period (revisable according to the evolution of the patient state),
- continuous and coordinated medical and paramedical care. The distinction between HAH care and other home care is done according to their complexity and their frequency.

HAH structures can also act in social or medico-social facilities such as care homes for the elderly in the following conditions:[122]

- a technical intervention is needed;
- the intervention does not substitute other health or medico-social interventions delivered by the facility; and
- care respect specific conditions defined for each pathology and linked to a level of complexity and intensity of care (for homes for the elderly, additional criteria have been defined, see the end of section 3.2.3).

Other alternatives to hospitalization include: [119]

- Facilities with partial day or night hospitalization, including psychiatry (providing services such as diagnostic procedures, therapeutic procedures, sequential medical treatment, functional rehabilitation treatment, or medical monitoring);
- Facilities with ambulatory anaesthesia or surgery (providing medical or surgical procedures requiring anaesthesia or the use of an operating room, in a way and for conditions that allow the patient to return to his residence the same day).

What were the implementation stages? How did the first structures functioned and how they evolved? How were they linked to existing care providers?

The first experience come from New-York in 1945 (Dr Bluestone of the Montefiore hospital) but HAH has also a long history in France:[123-125]

- 1950: First reflexions on the possibility to care patients at home, with a special focus on patients suffering from a cancer;
- 1957: Creation of the first HAH structure (within the "*Assistance Publique - Hôpitaux de Paris*");
- 1958: Creation of the first HAH structure of the Health Service of Puteaux (today the largest structure in terms of activity)
- 1970: Legal recognition of HAH (Hospital law of December 30, 1970);
- 1973: Creation of the National Federation of HAH structures *("Fédération Nationale des Etablissements d'Hospitalization A Domicile");*
- 1974: The National Health Insurance Fund set functioning rules for HAH;
- 1991: HAH is recognized as an alternative to classical hospitalization ("*Loi du 31 juillet 1991 portant Réforme Hospitalière");*
- 2000 : First description of criteria ("*modes de prises en charges*") to be considered as HAH; with frequent updates according to remarks;
- 2003 - 2005 : Begin of a proactive dynamic of generalization of HAH supply on the national territory, with the suppression of the conversion rate (previously, 2 hospital beds must be closed per one new bed in HAH), the inclusion of the development of HAHs in the regional plan of care organization ("*Schéma régional d'organisation des soins" (SROS)*) and the introduction of the activity-based payment system (*tarifications à l'activité* (T2A));
- 2007: HAH is extended to nursing homes for the elderly (with more restricted criteria than for the home);
- 2009: HAH is recognized as a hospital care facility and the title "*hospitalisation à domicile*" is protected;
- 2012: HAH is extended to every residential social or medico-social facilities (without the previous restrictions, except for nursing homes that maintain the same criteria than in 2007). The objective is to grant access to all people requiring this type of care (e.g. people with disabilities, people in precarious situations);
- 2013: Additional measures have been taken to improve the development of HAH as real substitute for a classical hospitalization and to provide a more uniform supply of HAH throughout the whole territory (see section 3.5.8).

3.5.2. What requirements must be met by HAH suppliers?

3.5.2.1. Design

Are there specific HAH facilities (e.g. separate units) or providers (e.g. teams)?

Since 2009, the title of HAH is protected and HAH structures are recognized as hospital care facilities without accommodations.[125]

Are there HAH activities delimited within specific geographical boundaries?

During the authorization process, each HAH is associated with a geographical area. In the past, there was no control of the number of HAH but since the directive of 2013, each regional health agency (*Agences Régionales de Santé* (ARS)) has defined objectives to reach in terms of number of HAH authorized per area and in terms of number of patients. ARS aim to move towards a regional capacity rate of at least 30-35 patients per day in HAH per 100 000 inhabitants. Usually, there is only one HAH structure per geographical area. However, more than one HAH structure can be authorized in densely populated areas. [124, 125]

Are there specific norms / conditions defined?

General context

HAH in France are recognized as hospital care facilities without accommodations and must therefore respond to the same norms than hospitals in terms of accreditation (by the HAS), safety and quality of care, continuity of care, control of nosocomial infections, etc.[121, 125]

Specific context

HAH must respect specific criteria such as:[126]

- Have a remote communication system, available 24h/24 7d/7 and ensure a permanent liaison between the patient, its family and the workforce of the HAH unit;
- Each HAH unit must dispose of an office to ensure its management and to implement the coordination of care and of the workforce (multiple sites are nevertheless possible);
- One medical auxiliary is needed per 6 patients (see definition of a medical auxiliary in Box 7);
- Almost half of the full-time-equivalent (FTE) workforce (except physicians) must be nurses. At least one nursing manager (*"infirmier cadre"*) must ensure the coordination of the services provided by the non-medical staff. One nursing manager per 30 authorized places is required.

Then, each HAH must define specific internal rules, in particular concerning:[127]

- The general principles of the running of medical activities;
- The qualification of the coordinating physician;
- The general organization of care and services as well as of the permanency of the staff and its coordination modalities;
- The constitution and communication modalities for the medical file of the patient (ruled by the legislation on patient medical dossier of 2002);
- The procedures for implementing the continuity of services and transfers (e.g. conventions);
- The geographical area of interventions of the HAH unit. The geographical area is firstly proposed by within the HAH project and then the ARS considers whether the area is accepted. Once that a geographical area is defined, it cannot be changed without the previous authorization of the HAH.

Prior to the first intervention of a HAH unit in a social or medico-social facility (e.g. homes for the elderlies), the HAH unit and the social or medico-social facility must sign an agreement / convention. The agreement is then forwarded for information to the ARS, the General Council of the Department and the relevant primary health insurance fund.[127]

Box 7 – Health professionals in France

Medical professionals:

- Physicians
- Midwives
- Surgery-dentists

Paramedical professionals : Medical auxiliaries, nursing aids, childcare assistants and ambulance drivers (*Auxiliaires médicaux, aides-soignants, auxiliaires de puériculture et ambulanciers*)

With medical auxiliaries that include:

- Nurses
- Rehabilitation staff: chiropodists, physiotherapists, occupational therapists, psychomotor therapists, speech therapists, orthoptists, audiologists, opticians, prosthetists, orthotists for the equipment of disabled people and dieticians (*pédicures-podologues, les masseurs-kinésithérapeutes, les ergothérapeutes, les psychomotriciens, les orthophonistes, les orthoptistes, les audioprothésistes, les opticien-lunetiers, les prothésistes, les orthésistes pour l'appareillage des personnes handicapées et les diététiciens*)
- Medico-technic staff: manipulators of medical electro-radiology and medical laboratory technicians (*manipulateurs d'électro-radiologie médicale et les techniciens de laboratoire médical*)

Minimal requirements

- One medical auxiliary is needed per 6 patients ;
- Adapter coordinator time (not specified)
- Almost half of the full-time-equivalent (FTE) workforce (except physicians) must be nurses. At least one nursing manager (*"infirmier cadre"*) must ensure the coordination of the services provided by the non-medical staff.
- One nursing manager per 30 authorized places is required.

Creation of HAH structures

As other care facilities, the creation, conversion or grouping of HAH is submitted to an authorization by the ARS. This authorization is also linked to an authorization of care activities.[119, 128]

3.5.2.2. Workforce

How is the workforce organized?

Minimum qualification and FTE per a given number of patients are required in all HAH structures (see Box 7 and section 3.5.2.1). Besides these requirements, HAH structures can propose other arrangements when introducing the authorization dossier to the ARS. After that the authorization is granted, a verification by the ARS on the size and qualification of the workforce is organized.[126]

The sharing of tasks between the general practitioner (GP), the hospital physician, and the coordinating physician (see below) varies between structures and between patients. In some structures, care are fully given by the GP while in other structures, the coordinating physician has a more important place. As information and to guide HAH structure, the tasks of the different professionals implied in HAH activities have been described in legal documents *("circulaires")*:[121, 129]

- **The coordinating physician** organises the medical functioning of the unit. He is responsible of the global management of the patient and must monitor the adequacy and the continuousness of services as well as the transmission of medical data.[126] He can either be salaried and member of the structure or be available by contract. He does not prescribe, gives no care and do not replace the GP except in cases of absolute emergency but he is responsible of the proper implementation of the treatment plan (see section 3.2.3). A description of his tasks can be found in box 2.[121, 129]

Box 8 – Task of the coordinating physician[121]

He is the referee of the structure, in accordance with professional and ethical rules in force;

He gives a signed medical opinion for any admission and discharge of patients in/from the HAH structure. The decision of admission is based on the treatment plan, developed and validated in full consultation with the prescribing physician and the GP, and according to the medico-social investigations (see section 3.2.3). The patient's discharge is made after joint decision with the GP;

He contributes to the exchange of information necessary for comprehensive and coordinated care;

He trains the healthcare team;

He maintains contacts with the self-employed physicians and hospital physicians involved in the treatment of the patient, and keep them informed;

He collaborates with social services (belonging to the structure or not);

He coordinates and participates to the evaluation of the quality of HAH services;

He participates in the strategic decisions of the structure;

He is responsible for the quality of the medical information transmitted for the T2A (see section 3.5.2.3);

He organizes medical activities of the structure. In this regard:

- He manages and coordinates all medical, paramedical and biomedical services;
- He studies and proposes relevant improvements for the equipment and functioning of the HAH;
- He proposes the medico-social orientations in which the service could be involved and defines the means needed for their implementation;
- At the request of the manager, he participates, as a medical representative of the HAH, to bodies of the institution and to the various departmental, regional or national committees on HAH;
- He fosters a drug policy in cooperation with the pharmacist and, in the absence of the latter, he may be required to manage the provision of pharmaceuticals for the structure;
- He monitors the follow-up of medical objectives and performs regular
- He establishes an annual report outlining the medical activities of the structure;
- He participates, with the manager, to the definition of the project of the structure, gives its opinion and forces proposal;
- He assists the manager in the negotiations with the regulatory bodies and ensures the maintenance of relationships with the advisory physicians (“médecins-conseils”) of the organizations of which the HAH depends.

- **The GP** is at the centre of the HAH organization. HAH is not possible without the participation of the GP (he must sign an agreement that link him to the HAH structure at the patient admission). GP are most often self-employed and chosen by the patient. They are paid by the HAH structure by a fee-for-service (FFS) system except when the HAH depends from a public hospital. In the latter case, the GP remuneration is included in the T2A payment system. It should also be noted that outside the framework of the treatment plan and of emergency, physician’s visits at the request of the patient or his family are neither supported by the HAH structure nor the health insurance. However in practise, physician’s visits during the HAH episode are still reimbursed to the patient. [128]

  The GP provides care to the patient and monitor the good follow-up of care during his visits. The GP is responsible for the diagnosis, prescriptions and can adapt treatments, if necessary. The GP may choose to contact a medical specialist after consulting with the coordinating physician. The GP is responsible, with the coordinating physicians, for the quality of information transmitted on the patient, his health and his treatment. The GP can prescribe HAH even if HAH prescriptions by the GP remains a minority. With the coordinating physician and the HAH prescriber, the GP participates in the development of the treatment plan which includes among other the number and frequency of GP visits (development driven by the coordinating physician). Finally, he participates to the decision of discharge and may request to the coordinating physician to discharge

the patient prematurely if he considers HAH is no longer adapted to the health state of the patient. [121]

- **The hospital physician** (« *médecin hospitalier* ») may be contacted during the HAH episode. In this case, the tariff of the consultation is paid by the patient who is latter reimbursed by the statutory health insurance. The consultation fee is:
  - Paid to the hospital receives, if the physician is a hospital employee
  - To the physician if he is self-employed.
- **The hospital physician may have two distinct roles:**[120]
  - A participation in the care of his own patient by: 1) Transmitting to the coordinating physician and HAH every medical information about the patient; 2)Participating to the treatment plan, with the coordinating physician and the GP; and 3)Following the patient at the hospital level and in case of rehospitalization if necessary.
  - A role of expert for some diseases that required complex treatments such as in oncology, cardiology and neurology. As expert in a specific disease for the HAH structure, he perfoms the following tasks: 1) He transmits some guidelines and treatment protocols; 2) He participates in the training of GPs and paramedical staffs; and; 3)He collaborates with the coordinating physician and the GP.
- **The paramedical staff** (*medical auxiliaries and nursing aids)* ensures both the coordination and the care of patients.[121, 129] The paramedical staff can either be salaried and employed by the structure or be self-employed and paid by the HAH structure by a fee-for-service system (FFS) based on the nomenclature of nursing acts (however negotiations between the HAH structure and the independent nurse can lead to different arrangements). In this case, they are obliged to respect the practices of the structure regarding to the plan of care, the continuity of care, the transmission of information, etc. The definition of these requirements in a contract is promoted.[121] The paramedical staffs include:
  - Nursing managers (« Les cadres infirmiers ») that are salaried employees of the HAD structure and ensure care coordination of the paramedical team with the support of the coordinating physician;
  - Nurses that implement the plan of care and communicate relevant clinical data during the management of the patient through the medical file. They can participate in the development of the plan and its reassessment. They can be salaried employee or be self-employed (paid by FFS);
  - Rehabilitation staff can either be salaried and employed by the structure or be self-employed. Nurse aids are always employed by the structure.
- **The staff of social services** of the HAH assesses the conditions of daily living in the patient home (medico-social investigation). They assess the capabilities of the social and family network to ensure HAH in suitable conditions. According to their assessment, the treatment plan can take into account additional support needs such as help for the household, with regular reassessment during the HAH stay. There are in permanent contact with the paramedical staff and are responsible for the necessary formalities with the social agencies and home care services (household, meals, etc.).[121, 129]
- **The psychologist** supports both the patient and the family (informal caregivers) according to their need. In important HAH structures, a psychologist is often part of the team but they can also be external and paid by the HAH structure by a specific FFS system *("vacation"*). Conventions with hospitals are also possible if the patient was already followed by a psychologist in a hospital to ensure the continuity of care.[121, 129]
- **The administrative team** is salaried and is responsible for the development and monitoring of the administrative and financial tasks for the patient.[129]
- **The pharmacist.** Some HAH have their own pharmacy (called "*pharmacie à usage intérieur"* (PUI), around 60%) managed by a pharmacist employed by the structure. Nevertheless, a lot of HAH did not have they own PUI (around 40%). In this case, they must sign a convention for each patient with a community pharmacy. The community pharmacist will therefore be responsible for the provision of pharmaceuticals (with the exclusion of pharmaceuticals of hospital use) and some medical devices. A specific remuneration is foreseen for a personalized pharmaceutical follow-up (e.g. participation to a coordination meeting or the delivery of a drug at the patient home). The

selection of the pharmacy is based on the patient choice (or a pharmacy close to the patient home in case of refusal of the pharmacy chosen by the patient). For pharmaceuticals of hospital use, the provision must either be done by a pharmaceutical company or by the PUI of another structure (through a convention). It should also be noted that to improve the organization and quality of care, an HAH with a PUI can also sign a convention with a community pharmacy.[130, 131]

- **The logistics team** ensure the supply and installation of the equipment necessary for the care and comfort of the patient.[129] France has defined specific providers of services and distributors for medical equipment ("*Prestataires de Services et Distributeurs de Matériel medical*"). There are two kind of staff in this sectors:[132]
  - the staff who deliver the device and the associated services ("personnel intervenant") which has followed a specific training
  - the person who is responsible of the compliance with professional standards and best practices ("*personnel garant*"). This person must be a health professional for the first three categories of medical devices (see Table 19) and have followed a specific training.

Table 19 – Type of personnel responsible according to the category of medical devices

	Category 1	Category 2	Category 3	Category 4
Type of medical device	• Infusion • Enteral Nutrition • Ventilation • Aerosol • Machines for continuous positive airway pressure • Oxygenotherapy	• Infusion • Enteral Nutrition • Ventilation • Aerosol • Machines for continuous positive airway pressure	• Ventilation • Aerosol • Machines for continuous positive airway pressure	• Medical beds • Supports for the prevention of pressure ulcers • Assistive Technology • Vehicles for disabled persons
Responsible	• Pharmacist, or • Physician + specific training	• Nurse, or • Physician + specific training	• Physiotherapist, or • Physician + specific training	• Non health care professional + specific training • Physician + specific training

Are there new roles defined?

The coordinating physician can be viewed as a new function / new role of health professionals. The level of qualification for this physician is not fixed by the law but is defined in internal rules specific to each HAH (see also section 3.5.2.1). Concerning nurses, nursing managers works in HAH structure but we do not find any mention of specific nursing roles such as advanced practice nurses or specialized nurses.

3.5.2.3. Financing

What type of payment system applies to HAH activities?

As other health care facilities, the payment system of HAH activities is done by the insurance funds ("*caisses d'assurance-maladie*") under the principles of the activity-based payment system *("Tarification à l'activité"* (T2A)), i.e. a daily tariffs according to the homogeneous group tariff *("groupe homogène de tarif (GHT)")*, set annually by decree. The classification of each day in a GHT depends on the main mode of care, the associated modes of care (if any), and the degree of dependency of the patient (according to the Karnofsky index). Without change of these parameters, the daily tariffs gradually decrease with the length of the HAH stay. This tariffs nevertheless do not cover:[121]

- GP fees in private HAH facilities (but GP payment is included in the GHT system of payment in public HAH facilities). The patient pays the fee and is latter reimbursed by the statutory health insurance;
- Fees of the self-employed medical specialists (both in public and private HAH. The patient pays the fee and is latter reimbursed by the statutory health insurance;
- Medical imaging (radiology, MRI, Scans);
- Interventions performed in day hospitals (when a patient receives care in a day hospital (e.g. for chemotherapy, dialysis or radiation), both the day hospital facility and the HAH facility receive a DRG-based payment for the same day (a payment according to the "*Groupe homogène de séjour"* (GHS)) for the day hospital and a payment according to the GHT for the HAH);
- Renal dialysis;
- Pharmaceuticals included in the list of expensive drugs reimbursed on top of tariffs ("*Les spécialités pharmaceutiques prises en charge en sus des prestations d'hospitalisation")*

Concerning every medical transport, the payment must be done by the prescriber of the transport. If the prescription of a medical transport is made by the HAH or if any medical transport is included in the treatment plan, the payment is done by the HAH facilities (covered by the T2A system).[121]

Moreover, for HAH in social or medical-social facilities, the HAH has no impact on the day price usually allocated to the social or medical-social facility but the GHT tariff is reduced (13 % in 2012) to avoid a double financing of some services by the health insurance.[124]

In general patient's co-payments are limited for the HAH intervention (coverage of 100% of HAH fees by the statutory health insurance and additional coverage by the so called *"mutuelle").* [128]

Are there specific financial incentives/disincentives to promote/bargain these activities?

The introduction of the T2A system in 2005 has a positive impact on HAH because previously the same tariff was given for every patient without taken into account the complexity of care needed. Moreover, to promote HAH in social or medico-social facilities, it was decided that HAH has no impact on the day price usually allocated to the facility. Concerning the patient, it should also be noted that HAH has no impact on the compensation for a disability ("*prestation de compensation du handicap*" (PCH)) nor on the autonomy allowance ("*allocation personnalisée pour l'autonomie"* (APA)).[121, 124]

3.5.2.4. Quality of care

Are there quality indicators defined?

Both multi-year contracts of objectives and means ("*contrats pluriannuels d'objectifs et de moyens*" (CPOM)) and the certification of HAH facilities are initiatives that contributes to the quality of care in HAH.

Each regional health agency (ARS) must define a Regional Health Project, through a specific action plan defined via the pluriannual contract of objectives and resources (*le contrat pluriannuel d'objectifs et de moyens (CPOM))* for health care services (e.g. hospitals, HAH "*établissements de*

santé"). THE CPOM provide a clear framework for the determination of services in the supply of care of the region (structuration of the health care provision) and the main rooms for improvement of their performance to ensure continuous improvement of the quality and safety of care as well as the efficiency of public spending.[133]

Moreover, as other health care facilities, each HAH must be certified by the High Authority of Health ("*Haute Autorité de Santé*" (HAS)). As part of this certification process, the HAS has decided to make the collection of quality and safety indicators mandatory. The collection is mandatory for some indicators and optional for others. For 2014, HAD are required to collect five indicators around the theme of the patient record. These indicators are related to:[134]

- The maintenance of the patient file: it is a prerequisite for the quality of care by contributing to the sharing and tracking of information between healthcare professionals taking care of the patient;
- The deadline for sending the information at the end of the hospitalization: it evaluates the coordination between the hospital and the home or the hospital and the transfer structure;
- The screening of eating disorders;
- The traceability of the assessment of pain with a scale: it is a prerequisite for a good management of pain;
- The traceability of the assessment of the risk of pressure ulcers: it allow to develop appropriate preventive measures to reduce the incidence of pressure ulcers.

Optionally, they can also collect other indicators such as for example around the theme of the compliance of the prescription of medical imaging.

Quality indicators can also be found per HAH structure on the following website: http://www.scopesante.fr. There are classified under three categories, i.e. clinical pathway/care process, patient's rights, information (including patient satisfaction), and safety of the patients. Those which are not mandatory collected (see the required indicators above) can be missing. The HAS publishes a certification report for each HAH structure where specific objectives are mentioned and benchmark indicators are provided.

Finally, no financial incentives to promote the quality of care in HAH have been introduced (e.g. a pay-for-performance system). However, failing the HAS certification process (every 5 years) leads to a close follow-up of the HAH structure or even to withdraw the certification (the HAH then closes its doors).

3.5.2.5. IT services

Are there specific IT services or information tools developed?

To facilitate continuity of care, the exchange of information between the different actors is essential and HAH must ensure the transmission of patient information (patient files, electronically or on paper) according to safety and confidentiality requirements. Each HAH structure must also have a remote communication system allowing a continuous communication (24h/24; 7d/7) between patients, their families and the staff to ensure patient safety and care coordination.[120, 126]

Moreover, to promote HAH prescription, the Technical Agency on Information about Hospitalization ("*Agence technique de l'information sur l'hospitalisation*"(ATIH)) will analyse information available in current databases to help in the identification of hospital stays that could be shortened or that are potentially inadequate.[125]

3.5.2.6. Decision support

Are there specific guidelines defined?

Beside the certification of HAH facilities, the HAS is also currently working on the production of guidelines for HAH activities. The following guidelines have already be published:

- For chemotherapy:
  - Patient selection criteria for at-home cancer chemotherapy (2003), including criteria relating to the types of drugs and protocols that can be used for at-home chemotherapy, guidelines relating to drug toxicity, treatment plan requirements for at-home chemotherapy, and criteria prompting reappraisal of at-home treatment during chemotherapy and post-chemotherapy monitoring:
    http://www.has-sante.fr/portail/upload/docs/application/pdf/at_home_chemotherapy_guidelines_2006_11_20__12_27_55_544.pdf

- In-hospital and at-home cancer chemotherapy: a comparison of costs and organisation of care (2005): http://www.has-sante.fr/portail/upload/docs/application/pdf/chimio_eco_gb.pdf
- Relevance of the development of chemotherapy in HAH: an economic and organizational analysis (2013, update of the study of 2005) : http://www.has-sante.fr/portail/upload/docs/application/pdf/2013-11/chimiotherapie_en_hospitalization_a_domicile_-_note_de_cadrage.pdf

- For ante and post-partum care:
  - Pathological situations that could be an indication for HAH (2011): http://www.has-sante.fr/portail/jcms/c_1066375/en/situations-pathologiques-pouvant-relever-de-l-hospitalization-a-domicile-au-cours-de-l-ante-et-du-post-partum?xtmc=&xtcr=2
- For parenteral nutrition:
  - Parenteral nutrition at home: indications, prescriptions and related services (2008): http://www.has-sante.fr/portail/upload/docs/application/pdf/2008-07/rapport_nutrition_parenterale_a_domicile_2008-07-31_14-29-41_874.pdf
- For drugs:
  - Administration of drugs in HAH (2014): http://www.has-sante.fr/portail/jcms/c_1718493/fr/outils-de-securisation-et-d-autoevaluation-de-l-administration-des-medicaments-en-hospitalization-incluant-le-secteur-en-had
- For rehabilitation care:
  - Tool to support decision for the admission of patients in rehabilitation care (2013): http://www.has-sante.fr/portail/upload/docs/application/pdf/2013-10/rapport_outil_daide_a_la_decision_pour_ladmission_des_patients_en_soins_de_suite_et_de_readaptation.pdf

They also performed HTA for some technologies used at home, such as:

- Advices on medical devices for home infusion and parenteral nutrition at home (2012, update of previous reports): http://www.has-sante.fr/portail/jcms/c_1194555/fr/avis-general-prestations-associees-aux-dispositifs-medicaux-de-perfusion-et-de-nutrition-parenterale-a-domicile-10-janvier-2012-3588-avis
- Evaluation of medical devices and associated services for home oxygenotherapy (2012): http://www.has-sante.fr/portail/jcms/c_1265304/fr/evaluation-des-dispositifs-medicaux-et-prestations-associees-pour-loxygenotherapie-a-domicile?xtmc=&xtcr=4
- Evaluation of negative-pressure wound therapy, specific and limited use (2010):

  http://www.has-sante.fr/portail/upload/docs/application/pdf/2012-01/synthesis_negative-pressure_wound_therapy_evaluation.pdf
- Evaluation of medical devices for home infusion (2010): http://www.has-sante.fr/portail/jcms/c_1198113/fr/evaluation-des-dispositifs-medicaux-pour-la-perfusion-a-domicile?xtmc=&xtcr=2
- Evaluation of medical beds and accessories for patients at home who have lost their autonomy (2008): http://www.has-sante.fr/portail/jcms/c_721336/fr/evaluation-des-lits-medicaux-et-accessoires-destines-aux-patients-en-maintien-a-domicile-ayant-perdu-leur-autonomie-motrice

3.5.3. How are routine hospital at home interventions planned, provided and coordinated?

Which pathologies are covered?

HAH may be prescribed for every acute or chronic pathology if, and only if, complex care or a specific technic of care, formalized in a treatment plan, are required. The focus is therefore not on the pathology but on the care modalities and aims to avoid to deliver HAH services to patients that can be cared for by other home care services (see section 3.5.6).[121] The intensity of care as well as the continuous and multidisciplinary character of care needed allow to distinguish HAH care from other home care.[135]

Examples of diseases affecting patients in HAH are: Cancer

- Haematology
- Cardiovascular diseases
- Respiratory disorders
- Neurological disorders
- ENT disorders
- Rheumatological disorders
- Digestive Diseases
- AIDS
- Infectious Diseases
- Diabetes, etc.

Is there a specific plan of care for the patient? Who is responsible for this plan?

Each patient admitted in HAH must have a treatment plan that formalizes all clinical, psychological and social care his health state requires. At the patient admission, this plan is jointly developed by the coordinating physician (with consultation of the health care team of the HAH), the GP and the prescribing physician (if different that the GP). [120]

The assistance and support of the patient by the family is taken into account in the plan. According to the medico-social investigation of the social service, the plan can include support needs such as help for the household.[120]

This plan is then reviewed on a regular basis by the GP, in dialogue with the coordinating physician, the health care team of the HAH and, if necessary, other actors such as social services or the specialist.[120]

Which formal services and support are delivered?

Formal services can be classified in three categories of care :[120]

- Episodic care are defined as technical and complex care of patients with without a stable condition, for a predetermined period. The episode of care can be repeated frequently (chemotherapy, for example).
- Continuing care associate, for an indefinite period, more or less complex technical care, nursing care, support and maintenance of life services that can be given until the final phase. They relate to patients with a progressive disease.
- Rehabilitation at home concern patients supported for a fixed term, after the acute phase of a neurological disease, an orthopaedic disease, a cardiac disease or a polypathology.

The treatment of pain and palliative care is an integral part of care in HAH.

Modes of care, with an associated description and specific criteria required to be performed in HAH have been defined. The aim is not to specify the totality of care that can be provided in HAH but rather to distinguish the requirements under which the patient falls within a particular type of care.[120] According to comments of HAH structures, these mode of care are regularly updated. These mode of care are also used for the financing of HAH (principal and associated mode of care). The principal mode of care is the mode of care that consumes the most of resources. The associated mode of care is the second mode of care that consumes the most of resources. Up to 5 documentary modes of care can also be mentioned but are not used for the financing. The list of care modes can be found in the following Table and more details on the requirements and definitions linked to these modes of care can be found p49-89 of http://www.atih.sante.fr/sites/default/files/public/content/2417/guide_methodologique_had_version_provisoire_2014_2_0.pdf) .[136]

Since 2012, to have more medical information, principal and associated diagnostics are also recorded.[136]

How are care coordinated? Who is responsible of the care coordination?

Coordination between the different actors of the HAH (see 3.3.2.2) is primarily done by the coordinating physician, who is the key element of the medical functioning of the structure.[135]

3.5.4. In case of emergency, how is acute response provided?

Who is responsible?

The GP is responsible for ensuring the medical review. Nevertheless, in case of problem, as other hospital facilities, the HAH structure has a moral person is responsible.

Is there a specific process?

HAH structures define their specific internal rules as they want but they are all required to ensure the permanence and continuity of care, including Sundays and holidays (7d/7; 24h/24). They must have a remote communication system, available 24h/24 7d/7 and ensure a permanent liaison between the patient, its family and the workforce of the HAH unit. They must also ensure the transfer of patients, if necessary, in a health facility that continuously accept patients and provides medicine and surgery services. In cases where the HAH structure is not part of an institution providing such services, the structure must enter into an agreement with another health facility providing these services.[126, 137]

It should be noted that emergency services are not intended to supplement the HAH to ensure the continuity of care.[121]

3.5.5. How are patients and families supported?

Are they specific measures for patient empowerment?

A specific mode of care has been created for the education of the patient and of the informal caregiver (mode of care n°15, see section 3.2.3). The skills a patient or his family has to acquire will depend on the individual patient and on their treatment plan. Educational activities are tailored to each patient and adjusted over time. The aim is to position the patient and caregivers as key partners in care.[138]

An example of guidelines on patient education for chemotherapy at home can be found in Box 9.

Box 9 – Guidelines on patient education for chemotherapy at home.

"The educational programme should be started during consultations, during meetings with a nurse and during the first chemotherapy cycle, and continued throughout chemotherapy. The patient is taught by the nurse or takes part in programmes offered by the hospital structure, care network or patient association (focus group, educational programme using written material, videos, etc.).

Before starting at-home care, a nurse should assess how well the patient has mastered the skills needed to implement the protocol safely. These include recognising and managing signs of severity, complications and side-effects, handling equipment, maintaining the venous access and recognising warning signs.

Non-acquisition or partial acquisition of these skills is not in itself a reason for refusing at-home chemotherapy. Skills should routinely be reviewed in relation to protocol requirements, the presence and availability of the home care nurse, the possibility of involving the patient's family or friends (except in actual care) and of providing further education in the hospital. The working group recommended that, if the patient agrees, willing family members and friends should be asked to help in ensuring that the patient understands the care procedures and in assisting the patient with these procedures."[138]

Are they specific measures for informal caregivers (attention on follow-up of care, see recent law)?

In most cases, HAH requires an important participation of informal caregivers (family or friends). The presence of an informal caregivers is even a required criteria in some HAH. Their involvement depend of the structure but is also is more or less intense depending on the patient and the stage of the disease. In the case of palliative care, for example, the load can be heavy for relatives and a support may be necessary to avoid hospitalization or re-hospitalization. As such, in the cadre of a plan for developing palliative care, a system of support to maintain patient in end-of-life at home is provided by the health insurance fund ("*Caisse nationale de l'assurance maladie des travailleurs salariés*" (CNAMTS)). This system include financial support for

a home-health aide ("*garde malade*") and extra-legal services (nutrients and incontinence).[120]

The support of informal caregivers depends of the HAH structure but specific mode of care on "patient and family education" and "psychological or social care" have been created.

3.5.6. Are there specific conditions for early identification or screening of patients?

How potential candidates are identified, what is the target population? What are the eligibility criteria / conditions?

The patient is admitted in HAH on prescription, either at the request of the GP, after a hospital visit (outpatient) or following a stay in a health facility with accommodation. The rationale for HAH is appreciated by the coordinating physician and is subject to the approval of a GP and the consent of the patient or his family.[120] A medico-social investigation is also done to check if the home satisfy to access and hygiene criteria as well as to assess the availability of informal caregivers.[139]

HAH concerns patients (regardless of their age):[120]

- with severe pathologies, acute or chronic, progressive and / or unstable,
- that would be hospitalized in the absence of such a service.

Admission criteria are based more on the need of care of the patient and must be coherent with the legal definition of HAH (see section 1.1.1). Admission in HAH is primarily based on the burden of care required. Treatments must necessarily be complex/technical, frequent and have a multidisciplinary character (implying various health professionals). They must require both:[120]

- a coordination of care;
- a medical assessment at least weekly;
- nursing care, almost daily, or less frequent nursing care but with the need of almost daily physiotherapy interventions, which can be complemented, if applicable, by:
  - care by a nursing-aid,
  - speech and language services,
  - dietary advices,
  - psychological care,
  - occupational therapy services,
  - or social care.

Are there exclusion criteria?

Patients not allowed in HAH are patients:[120, 135]

- That need only uncoordinated care ("*soins à l'acte, non coordonnés"*);
- That need only nursing home care ("*services de soins infirmiers à domicile"* (SSIAD));
- That need only social or educational care;
- Whose health condition requires to keep them within a conventional structure of care because of the permanent and high-tech character of care they need; or
- That need only enteral or parenteral nutrition, a help for respiratory failure or renal failure (patients supported by structures specialized in this type of care) or patients in psychiatric structures.

Who assess patient eligibility? When?

Patient admission in HAH, as well as his discharge, is pronounced by the responsible of the HAH structure, after having consulted the coordinating physician and according to the authorized capacity of the structure.[126]

Prescription can be done both by a GP or by a hospital physician but most of HAH stays are prescribed by hospital physicians.[121]

The following Table provides data on referral source to HAH units. Most patients admitted to a HAH unit come from the different units in the hospital. Admission after GP referral account for 17.5% of all admission.

3.5.7. How are HAH activities integrated within the health system?

In 2009, 66.9% of patients admitted to a HAH structure came from the different units in the hospital. Admission outside of the hospital settings accounted for after GP referral account for 32.8%. [129] In the same year 61.1% of the patients returned home and the remaining to a hospital unit.

What is the link of HAH activities with primary and secondary care providers?

HAH is placed upstream hospitalization by avoiding them as well as downstream hospitalization as a transfer structure. HAH can then be followed by a comeback to home without additional care or by continuing care via other health care network (e.g. SSIAD, a hospitalization, GP, etc.).

The integration into a wide network of stakeholders show the need to reflect and clarify the relationship between the different actors in the provision of health and social care, including:[135]

- The role of each actor;
- The liaison arrangements between the various actors, including the GP;
- The procedures for re-hospitalization;
- The organization for emergency care.

The coordinating physician will coordinate every professionals implied in the care process as well as downstream and upstream structures to improve the continuity of care.[121]

The increase of collaboration and the establishment of conventions with other structures is regularly promoted in circulars but no financial incentive is given:

1. HAH and the GP

As described in section 3.5.2.2, the GP has a central role in HAH. He provides care to the patient and monitor the good follow-up of care during his visits. HAH in France is not possible without the participation of the GP.

2. HAH and hospitals

To ensure quality and continuity of care, HAH can be developed by a hospital. In all cases, HAH must sign a convention with a health care facility providing medical and surgical care.[135] These conventions must include the development of care plans, liaison arrangements, re-hospitalization and emergency care organization.[121]

The complexity of pathologies in HAH requires a strengthening of the collaboration of professionals working in HAH with specialized hospital services. Physician working in hospitals can either participate in the care of his own patient or have a role of expert for some pathologies frequently treated in HAH, such as oncology, cardiology, neurology, etc. As expert, they can provide treatment and procedure protocols and participate in the training of the HAH staff (see more details in section 3.5.2.2).[121]

To facilitate relationship between structures, some hospitals that regularly collaborate with HAH structures have designated a corresponding physician.[121]

3. HAH and medico-social facilities

HAH is complementary to home nursing services such as SSIAD, i.e. patients in SSIAD may be transferred to HAH structure if their situations worsens and conversely, HAH structure may transfer patients to SSIAD services if the patient is stabilized. Continuity of care between SSIAD and HAH must be ensured and conventions between these two structures are therefore recommended. The creation of joint structures or "platforms" offering for example both SSIAD and HAH care, with a single management are recommended in the directives for HAH (circulaire 1 December 2006).[121, 135] Collaboration between structures most often takes place between non-for-profit SSIAD and HAH. In some cases, both types of services work under the same legal entity (*entité juridique*). [118]

To stimulate HAH in social or medico social facilities (including also nursing homes), cooperation of ARS with local partners (« *Directions régionales de la jeunesse, des sports et de la cohésion sociale (DRJSCS) et Directions inter régionales de la protection judiciaire de la jeunesse (DIRPJJ), directions départementales de la cohésion sociale et de la protection des populations (DDCS/ PP) ainsi que Conseils généraux (CG) »*) is also recommended.[121]

What is the link of HAH activities with the social care providers?

The increase of collaboration and the establishment of conventions with social care providers is also recommended in circulars but again, no financial incentive is given. .[121] HAH must have agreements with social care services. However, social care reimbursement fall outside of the scope of the T2A payment.

Social care in France can indirectly be financed by National Funds for Palliative care (*Fonds National d'Action Sanitaire et Sociale de Soins Palliatifs - FNASS FNASS*) the compensation for a disability *("prestation de compensation du handicap" (PCH)*) or the autonomy allowance *("allocation personnalisée pour l'autonomie" (APA)*).[140]

Are there specific seamless care / integrated care programs organized with a link with the HAH activities? How are they integrated within the system and what is the link with other available structure (e.g. other home care services)?

Cooperation and integration of structures (e.g. the creation of joint structures or "platforms") are recommended by the ARS, but without financial incentives.

3.5.8. Follow-up of HAH activities - How are HAH's activities evaluated?

What is the demand and supply for these services?

In 2012, each department is covered by at least one HAH structure (for a total of 317 structures) and around 100 000 patients were treated in HAH (for a total of 4.1 million of days, see Table 20).[141] Even if an increase of HAH was observed from 2005, a stabilisation can observed these last years.[141]

Compared to classical hospitalization, HAH represented around 0.45% of full hospital stays in 2009.[129]

In terms of structure, HAH have different size and status. A majority of HAH are small (<30 places) and are usually attached to a health facility (private or public) while autonomous HAH are usually more important.[129]

In terms of kind of care provided, the principal modes of care in 2012 can be found in Table 21. A list of principal diagnoses can also be found in the appendix to this chapter (0).

Table 20 – Statistics on HAH supply[141]

	2007	2008	(% increase)	2009	(% increase)	2010	(% increase)	2011	(% increase)	2012	(% increase)
Number of HAH structures	204	231	13,2%	270	16,9%	292	8,1%	303	3,8%	317	4,6%
Number of days (in thousands)	2243,1	2635,6	17,5%	3144,4	19,3%	3452,4	9,8%	3714,2	7,6%	4117,5	10,9%
Number of patients	54928	70331	28,0%	84916	20,7%	95088	12,0%	97813	2,9%	103080	5,4%
Number of finished stays	85581	102668	20,0%	124392	21,2%	138397	11,3%	145065	4,8%	152815	5,3%
Average age of the patients	62,3	62,8	0,8%	63,2	0,6%	63,5	0,5%	63,8	0,5%	64,4	0,9%

Table 21 – Principal mode of care in HAH (2012)[136]

Mode of care	Number of days in 2012 (in thousands)	Evolution in the number of days
04 - Palliative Care	1 088,5	+6,3%
09 - Complex dressings and special care (complicated ostomy)	969,1	+19,5%
14 - Heavy nursing care	368,0	+45,2%
06 - Enteral Nutrition	287,9	+8,2%
03 - Intravenous therapy	197,0	+16,5%
13 - Monitoring of post cancer chemotherapy	148,4	+13,7%
01 - Respiratory Support	135,5	+3,1%
21 - Pathological post-partum	117,2	+44,3%
02 - Parenteral Nutrition	115,7	+4,5%
10 - Post surgical treatment	112,9	-28,1%
19 - Monitoring of high-risk pregnancy	112,0	+10,5%
08 - Other treatments	88,9	-30,0%
07 - Management of pain	72,1	+4,8%
05 - Chemotherapy for cancer	69,2	+7,5%
12 - Neurological Rehabilitation	59,7	+24,0%
11 - Orthopaedic Rehabilitation	56,7	-3,7%
15 - Education of the patient and / or his family	49,6	+12,3%
22 - Support for the new-born at risk	28,5	+12,0%
20 - Early come back to home after birth (until 2015)*	27,3	-10,5%
24 - Monitoring of aplasia	6,4	+16,3%
17 - Monitoring after radiation	5,8	+22,6%
18 - Blood transfusion	0,6	+0,8%
Total	4 117,6	+10,9%

How is the quality of care of the activities assessed?

Quality indicators specific to HAH structure are assessed but no comparisons have been found with other structures such as classical hospitals.

As part of this certification process, the HAS collect specific quality and safety indicators in HAH (see also section 3.5.2.4 for the list of indicators). For each indicator, a quality score between 0 and 100 is calculated. The higher the quality is great, the higher the score is close to 100. For each indicator, the performance target is set at 80. HAH structures are then classified into four categories :[142]

- Category A: the HAH structure exceeds the performance score of 80%;
- Category B: the HAH structure has reached the performance score of 80%;
- Category C: the HAH structure has a score lower than 80%;
- Category D: the HAH has not collected data while it was mandatory.

The 2012 study showed that the maintenance of the patient file has improved. In 2011, 57% of HAH met or exceeded the performance target of 80%. It was also showed that the computerization of the medical files improved the score. The maintenance of the patient file for patients treated in obstetrics nevertheless was atypical.[142]

The indicator on the deadline for sending the information at the end of the HAH stay (≤ 8 days) increased by 10 points (from 39% to 49%), but yet needs to be improved. The variability of results was significant (0% - 100%) and only 36% of HAH met or exceeded the performance target of 80%. There is still a room for improvement, especially for patients treated in obstetrics and palliative care.[142]

The indicator on the assessment of pain using a scale also improved, with a national average of 71% (+13 points). In 2011, 64% of HAH met or exceeded the performance objective of 80%. However, there is still a potential for significant improvement in obstetrical care.[142]

For the indicator on the monitoring of the patient weight (an indicator not anymore included in the 2014 data collection) the national average is 55% (+16 points) in 2011. Only 35% of HAH met or exceeded the performance target of 80%, the room for improvement for this indicator is therefore high.[142]

The indicator on the evaluation of the risk of pressure ulcers has improved strongly for 2 years. In 2011, the national average is 69% (+19 points) and 61% of HAH met or exceeded the performance objective of 80%. Nevertheless, a variability between HAH structures and regions remained. In addition, it was observed that, in the population at risk, the risk of pressure ulcer is usually more evaluated for the elderly than for adults.[142]

An improvement was therefore observed for all indicators over time even if room for improvement remains. Moreover, the variability of results confirms the relevance of continuing the assessment of quality indicators in HAH structures.[142]

A national survey on nosocomial infections is also currently in progress. First results showed that in 2012, 6.8% of assessed patients had one or more active infection. Among these patients, 55.9% was imported from another structure and 35.5% was acquired in the HAH (origin unknown for the rest). Moreover, 15.2% of patients were treated with at least one antimicrobial treatment. The most represented site of infections were urinary tract, skin and soft tissue infections, surgical site infection and bacteraemia / septicaemia. The three most frequent microorganisms were S. aureus, E. coli and P. aeruginosa. Finally, the most prescribed molecules were amoxicillin / clavulanic acid, ceftriaxone, cotrimoxazole, amoxicillin, ciprofloxacin. Patients were mainly treated for community-acquired infections and nosocomial infections and the reason for prescription was documented in 83.7% of cases. The authors of the survey insisted on the importance of continuing to mobilize HAH around a monitoring project of nosocomial infections.[143]

A comparison of results with hospitalizations in health care facilities with commodities can be found in Table 22 as information. Nevertheless, it was clearly stated that comparison must be done with caution because in HAH, the population was older, more fragile, and more often exposed to invasive devices. Moreover, more patients were imported from another facility with an infection.[143, 144]

Table 22 – Prevalence of infections[143, 144]

Infections	In HAH	In health care facilities with commodities*
Prevalence of patients with at least one infection	6.8%	5.1%
• **Imported from another facility**	3.8%	1.2%
• **Acquired during the stay**	2.4%	3.7%
• **Unknown origin**	0.6%	0.3%
Prevalence of nosocomial infections	7.0%	5.3%
• **Imported from another facility**	3.9%	1.2%
• **Acquired during the stay**	2.5%	3.9%
• **Unknown origin**	0.6%	0.3%

*HAH = hospital at home; *other health care facilities providing hospital services and with accommodation: classical hospitalization, short stays, rehabilitation care facilities, long term care facilities (excluded: day hospitalization; night hospitals (« hospitalisation de nuit dans les centres hospitaliers spécialisés » (CHS)), and hospitals for the elderlies (« établissements d'accueil de personnes âgées dépendantes hospitaliers » (EHPAD))).*

Are they official evaluations? What are the outcomes?

A series of guidelines (mostly on indications) as well as health technology assessments (HTA) of technologies used in HAH have been performed by the HAS (see section 3.5.2.6). HAS is also responsible for the certification of HAH and the evaluation of quality and safety indicators (see section 3.5.2.4).

The most recent official evaluation of HAH in France was performed by the "*Inspection générale des affaires sociales*" (IGAS) in 2010.

These evaluations showed that:

- In terms of cost: HAH has the characteristic to transfer a part of costs, i.e. non (para-)medical costs, to the patients/household. This is why HAH is expected to be less costly than hospitalization. The cost of a full episode of care of a patient has nevertheless not be studied and deserve to have more attention in the future. Indeed, HAH stay could be longer or could be substitute of ambulatory care or of no hospital stay, showing the need to optimise the care setting (define the best place of care according to the patient need).[129]
- In terms of quality/safety (see also section 3.5.2.4): Concerning the process (and more especially indicators related to the patient file), improvement have be done but there is yet some room for improvement possible. Concerning clinical outcome indicators, some indicators are monitored (e.g. nosocomial infections) but no direct comparison with hospital stays are done because the population in HAH was usually older, more fragile, more often exposed to invasive devices and more patients were imported from another facility with an infection.[142, 143]

Which problems were encountered and which solutions were taken?

Problems and solutions can be classified into the following themes:

1. Adequacy of the supply and geographical repartition

Even if each department in France has at least one HAH, the repartition of the supply is not balanced. There is an important variability between and within the regions.[129] In 2000, HAH were mostly concentrated in urban area (easier access and relays with other structures). The development of HAH in rural area, where the population was often more aging, was needed.[120]

The positioning of the HAH in the health system was therefore strengthened, with national strategic objectives targeting the development of HAH (going from 0.6% of the number of hospital stays with accommodation to 1.2%).[125]

A fixed objective is to move towards 30-35 patients per day in HAH per 100 000 inhabitants. To reach this objective, different measure have been taken. First initiatives were taken in the year 2003-2005 with the T2A financing, the inclusion of the development of HAHs in the regional plan of care organization and the suppression of the conversion rate (previously, 2 hospital beds must be closed per one new bed in HAH). The authorization process was also simplified and there is not anymore limit in terms of volume (HAH is excluded from the limitation in volume per territory and care activities, defined in the article D. 6121-7 of the public health code). Limits are only in terms of number of structure per geographical area.[121]

In 2013, each ARS was also asked to assess the structure of the HAH supply, to verify that the territorial coverage is constantly improving and to identify potential barriers and appropriate solutions. The adequacy of the supply must be assessed according to the following criteria:[125]

- Minimum level of activity (9000 days / year);
- The size of the population served, in light with all existing structures/plans (health plan, hospitals, medico-social infrastructure, etc.).
- To reduce inequalities in the supply, extensions and the creation of geographically dispersed sites (via antennas) were recommended.

2. Cultural barriers and the need for coordination, integration, and continuity of care

Upstream and downstream coordination are sometimes difficult. Coordination problems have been highlighted with other existing structures, such as social or medico-social facilities (including homes for the elderlies) and SSIAD services. Relationships between HAH and other structures, as well as between self-employed health care professionals and salaried within the HAH structure are also sometimes conflictual. Tensions between HAH and providers of medico technical services were also mentioned, both of them putting in doubt the costs and the quality of care of the others (their statements was nevertheless not confirmed by an economic evaluation). There is also a lack of continuum between HAH and SSIAD. Because of the current financing system, needs of some patients are too complex to be cared in SSIAD and not enough complex to be cared in HAH. [124, 125, 129] Moreover, it has been highlighted that the development of computerized system of information exchanges was not enough developed, which has a negative impact on the coordination and continuity of care.[139]

To resolve such a problem, ARS were ask to ensure the creation of synergies and collaborations between HAH and other actors and organize, where appropriate, the development of complementary responses.[125]

The need to think about the continuity of care was also highlighted. A good screening of patients upstream (e.g. identification of patients in homes for the elderly) and a good follow-up downstream (e.g. the organization of relays with outpatients services such as self-employed health care professionals, SSIADs, medico-social services for the disabled (SAMSAH), special education and home care services (SESSAD), …) is now looking for by ARS.[124, 125, 129]

The need to have a clear distinction between structures was also stressed, with the establishment of conventions between structures that explicitly describe their respective missions (example of convention: appendix 3 of http://circulaires.legifrance.gouv.fr/pdf/2013/03/cir_36720.pdf). It was also stated that support services already implied before the HAH stay should be maintained as much as possible.[124]

Finally, the need of cooperation between HAH and specialized services was also mentioned. The development of specializations in addition to a general services provided by HAH improve diversification and accessibility of the supply. However, cooperation with other specialized services should be preferred instead of development of competences within the structure to avoid the multiplication of local actors and the redundancy of services.[125]

3. Lack of information and of confidence

Prescription are mostly performed by hospital physicians (about 70% of prescription in 2011) and reasons are more related to external factors (such as the knowledge of the prescriber) than relevant factors. Some hospital physicians remain not enough informed and few services have organised a systematic screening of patients for HAH. Moreover, some GPs are reluctant to engage in HAH because of a miss knowledge of the concept, scepticism about the added-value and fear of the associated constraints. The remuneration of the GP (the tariff of one visit) is also sometimes considered inadequate in the light of the time required, more important than for other patients (longer visits and coordination time). This should nevertheless be reduced by a change in the remuneration mechanism.[139]

Because HAH admission criteria are vague and generally poorly known, prescriptions in practice depend more of the personal relationships between the prescribing physician and the HAH staff. [129 22]

The need for an increased information and trust of providers in HAH was highlighted. The following (in process) measures were therefore proposed:[125]

- A development by the ATIH of a tool that allow to identify which full hospital stays could be shortened or are potentially inadequate.

- An assessment of possibilities and conditions for positioning HAH directly downstream emergency services in hospitals
- Provision of a regional tool to hospitals about referral possibilities during a classic hospitalization
- Dialogue within institutions on the conditions for the use of services
- Consolidation of the continuity of care throughout the development of remote monitoring systems and telemedicine (financing support from the Digital Hospital Program)
- Inclusion of objectives concerning HAH prescriptions in the conventions with hospitals
- Involvement of the representatives of health professionals in the reflection about HAH development, as well as their participation in communication activities to raise HAH awareness,
- Promote stages in HAH during the physician training to disseminate knowledge of HAH in the medical profession

4. Pertinence of the mode of care in HAH and patient eligibility criteria

HAH are too often mobilized for interventions below their potential and know-how for the following potential reasons :[125]

- Prescribers are unaware of HAH abilities;
- Some HAH are not yet able to meet the needs corresponding to their mission; or
- HAH sometimes compensate some shortcomings of the system (e.g. insufficient availability of healthcare professionals, medical and social services, etc.).

It has for example be showed that an important part of obstetric care in HAH was not pertinant.[129]

To improve the relevance of HAH prescription, a continuous evaluation process on the pertinence of HAH according to guidelines done by the HAS (in progress, see section 3.5.2.6) and a diffusion of these guidelines among health care institutions has been started. A special focus is currently done on ante and post-partum (pathologic and not anymore physiologic) according to recommendations of the HAS. Early come back to home after birth will also be removed of authorized mode of care from March 2015 according to recommendations of the HAS. HAS will continue to provide guidelines about mode of care in HAH.[125, 129] Nevertheless, the initiatives remain currently insufficient and more referentials are needed.[139]

5. Financing

The net result of some HAH in rural area is negative because of the scattering of patients and the transport cost and time.[129]

Moreover, DRG tariffs were mostly calculated from costs of 3 major HAH structures and are not enough reassessed (same tariffs in 2005 and in 2010). Even if the introduction of the T2A financing has improved the development of HAH (the previous tariffs per day not adapted to patients diseases implied patient selection), control performed in 2009 showed that some problems remained. Current tariffs are largely disconnected from the quality and the costs of care, which yet maintain a risk of abuse such as patient selection. Another problem is also the important room for interpretation in the determination of the mode of care that is linked with the problem of coding practices used by HAH structure to increase revenues. New rules and the interdictions of some associations of mode of care have therefore be defined. Difficulties in the assessment of the level of dependence were also raised. Moreover, the fact that transport costs and medical devices are included in the T2A financing is considered as problematic in some HAH structure. A differentiation of payment between continuous, punctual or rehabilitation care, with more coherence between the different payment system (i.e. between (day-)hospitals, medico-social facilities, SSIAD, rehabilitation care, HAH) was also recommended.[129] Finally, as mentioned above, the remuneration of the GP is currently considered as inadequate and changes are in process.[139]

Even if the development of HAH was improved from 2005 the objective of 15000 places in 2010 was not reached.[129]

4. DISCUSSION OF POSSIBILITIES FOR THE IMPLEMENTATION OF HAH IN BELGIUM

4.1. Semi-structured questionnaire

4.1.1. In French

1. Organisation

Nous vous avons envoyé une note de synthèse présentant trois modèles alternatifs d'organisation de l'HAD. Rappel des trois modèles alternatifs.

- Quel modèle est, selon vous, le plus adapté pour développer un programme d'HAD en Belgique ? Pour quelles raisons ?
- Quelle est votre réaction par rapport aux deux autres scénarios proposés ? Quelles sont les raisons qui vous poussent à préférer le modèle retenu ? Second best acceptable ? Quelles sont les raisons pour rejeter un modèle ou un aspect d'un modèle ? Quelles qualités de ces modèles pourraient être une source d'inspiration pour le choix d'un modèle qui soit le plus approprié pour la Belgique ?

2. Rôles

a. A qui devraient revenir les rôles suivants ? (laisser à ce stade à l'interviewé la possibilité de s'éloigner du rôle repris dans le scénario)

- Prescription d'HAD
- Décision d'HAD
- Responsabilité de suivi médical du patient
- Délivrance des soins
- Délivrance des médicaments
- Mise en place des équipements techniques nécessaires (exemple : oxygénothérapie)
- Activités de la vie journalière (repas, nettoyage …)
- Coordination médicale et non médicale

b. Des programmes de formations spécifiques ou des nouveaux descriptifs de fonctions seront-ils nécessaires pour remplir ces nouveaux rôles ? Pour qui ?

c. Les Ressources Humaines sont-elles disponibles quantitativement et qualitativement pour remplir ces rôles ?

3. Nouvelles exigences pour le déploiement de l'offre

Le scénario retenu va nécessiter la mise en place :

- d'entités physiquement et/ou juridiquement distinctes : oui/non – pourquoi ?
- un statut spécifique lorsque le patient est en HAD (doit-il être différent de celui d'un patient hospitalisé: oui/non – pourquoi) ?
- d'équipes de prestataires de soins distinctes : oui/non – pourquoi ?
- de zones de couverture géographiques distinctes : oui/non – pourquoi ?
- de normes ou conditions spécifiques : oui/non – pourquoi ?
- consentement du patient et de la famille (explicitement déclarée) : oui/non – pourquoi

4. Cible

a. Pensez-vous que le programme d'HAD devrait cibler particulièrement :

- Certaines pathologies
- Certains types de patients
- Certains besoins des patients ou besoins thérapeutiques

b. Pourquoi ?

c. Des critères ou des conditions d'éligibilité ou d'exclusion devraient-ils être mis en place ? Si oui, de quel type ?

d. Qui devrait évaluer l'éligibilité du patient (et à quel moment) ?

5. Impact

Quels seraient les impacts les plus important ? spontanné - probe

- Thérapeutique

- Economique (durée de séjour, comment calculer la durée de séjour pour un patient)
- Qualité de vie du patient
- Qualité de vie de l'entourage du patient
- Meilleure intégration et continuité des soins
- Meilleure couverture des besoins
- Diminution des risques d'infections à l'hôpital

6. Difficultés et conditions de succès

a. Pour réussir l'implémentation quelles seront les difficultés les plus importantes qui risquent d'être rencontrées ? Quels sont les éléments qui pourraient faciliter la mise en œuvre ?

b. Quelles sont les conditions de succès ?

c. La planification et la gestion de la capacité apparaît comme cruciale sur base des expériences à l'étranger ? Avez-vous des suggestions sur comment l'organiser en Belgique ?

d. Ceci est également le cas pour la coordination des interventions en HAD au chevet du patient. Avez-vous des suggestions particulières à formuler à ce niveau ?

7. Financement et objectifs poursuivis

a. Comment définir le début et plus particulièrement la fin de l'HAD ?

b. Quel est le statut du patient durant la période de HAD ? un statut spécifique lorsque le patient est en HAD est-il nécessaire ? (doit-il être différent de celui d'un patient hospitalisé: oui/non – pourquoi) ?

c. Comment devrait être financée la période de HAD ?

Probe :

- Financement par « lit virtuel » justifié (comme à l'hôpital)
- Financement « forfaitaire » selon la capacité de la structure (budget de fonctionnement)
- Financement à l'acte
- Paiement groupé par épisode (bundle payment)
- Forfait par journée

d. En dehors du financement voyez-vous d'autres incitants non financiers à mettre en place pour pouvoir développer l'HAD en Belgique

e. Quels objectifs devraient être poursuivis par un programme de HAD en Belgique ? spontané – probe :

- Réduire la durée de séjour
- Eviter des admissions
- Mieux intégrer les soins
- Améliorer la qualité de vie des patients et leur donner un plus grand choix dans l'option thérapeutique à suivre
- Libérer des lits hospitaliers dans des services surchargés

8. Support opérationnel

Sur le plan opérationnel en général, cela nécessite t'il la mise en place d'outils spécifiques ?

Par exemple :

a. Certains outils ou programmes informatiques spécifiques devraient-ils être développés (e.g. DMG – versions HAH DMG)?

b. Des mesures spécifiques doivent-elles être prises pour informer le patient ou favoriser son « empowerment » ?

c. Des mesures de support aux aidants-proches ou à la famille sont-elles nécessaires ?

d. Des guidelines adaptés devraient-ils être mis à disposition ?

e. Le partage de responsabilité entre les différents professionnels de santé devrait-il être défini avec précision ?

f. Des indicateurs de qualités spécifiques doivent-ils être mise en place ?

g. Est-ce qu'une nomenclature spécifique pour l'hospitalisation à domicile doit être développée ? Si non, est-ce que la nomenclature actuelle doit être modifiée pour pouvoir être utilisée dans ce nouveau contexte?

h. Quels mécanismes doivent-ils être développés pour répondre en cas d'urgence (e.g. qui doit être contacté)?

9. Planning de mise en œuvre en Belgique

a. Pensez-vous que notre pays est mûr à vivre ces évolutions ? Où se situent les facteurs de résistance et les leviers les plus importants ?

b. Quelles seraient les étapes principales d'une mise en œuvre ?

c. La mise en œuvre doit-elle être envisagée dans un horizon de :

- Un an à 3 ans
- De 3 à 5 ans
- De 5 à 7 ans
- Plus de 7 années

10. Check list pour les projets pilotes

a) Qui a pris l'initiative pour développer ce projet et quels étaient les objectifs initiaux au? (question finale dans quelle mesure ces objectifs ont été atteints)

b) Pouvez-vous nous dire lequel(s) des scénarios correspond le plus à la structure de votre projet ?

c) Pouvez-vous décrire comment est financé votre projet aujourd'hui?

d) Quelles sont vos activités principales (e.g. soins oncologiques, perfusions intraveineuses, services non-médicales) ? La coordination est-elle assurée par quelqu'un dans votre projet ?

e) Patient :

- Choix du patient
- Statut : hospitalisé (oui/non)
- Référant (prescripteur)/ éligibilité /Suivi médical /sortie de l'HAD:
- Ticket modérateur : (oui/non)

f) Est-ce que les données du patient sont encodées dans un fichier spécifique ?

g) Disponibilité d'un dossier éléctronique du patient ; si disponible – partagé avec qui ? Qui a accès ?

h) Avez-vous déjà fait une démarche d'évaluation de la qualité/coûts/satisfaction du patient, et de (l'impact sur) la durée du séjour (en HAD, en HAD + hospitalisation classique)?

4.1.2. In Dutch

1. Organisatie

We hebben u op voorhand een synthese nota gestuurd met drie mogelijke modellen voor de organisatie van HAH. Korte presentatie/opfrissing van de drie alternatieve modellen.

- Welke van deze drie modellen is volgens u het meest aangewezen om een HAH programma te ontwikkelen in België? Om welke redenen?
- Wat is uw reactie op de twee andere scenario's die worden voorgesteld? Wat zijn de redenen om het model een voorkeur te geven? Wat is voor u de tweede beste keuze? Wat zijn de redenen om een model af te keuren t.o.v. een ander model? Welke karakteristieken van de voorgestelde modellen zou een bron van inspiratie kunnen zijn om een model te kiezen die het meest aangewezen is voor België?

2. Rollen

a) Aan wie kunnen onderstaande rollen toegekend worden? (laat in dit stadium de ondervraagde de mogelijkheid afstand te nemen van de rollen zoals beschreven in het model)

- voorschrijven van HAH
- beslissing tot HAH
- verantwoordelijkheid voor de medische opvolging van de patiënt
- zorgtaken
- geneesmiddelen afgifte
- bezorgen nodige technische materiaal (vb zuurstoftherapie)
- dagdagelijkse huishoudactiviteiten (maaltijden, poetsen, …)
- coördinatie van medische en niet-medische zorgtaken

b) Zijn er specifieke opleidingsprogramma's of nieuwe functiebeschrijvingen nodig voor het invullen van deze nieuwe rollen? Voor wie?

c) Is er voldoende kwalitatief als kwantitatief personeel beschikbaar om deze rollen in te vullen?

3. Nieuwe eisen om het aanbod uit te rollen

Het gekozen scenario brengt met zich mee:

- fysieke en/of juridisch gescheiden entiteiten : ja/nee – waarom?
- een specifiek statuut voor de patiënt in HAH is (moet deze patiënt anders bekeken worden ten opzichte van een ziekenhuispatiënt: ja/nee – waarom?)
- aparte teams van zorgverleners : ja/nee – waarom?
- aparte indeling van geografisch gebied : ja/nee – waarom?
- specifieke normen of voorwaarden: ja/nee – waarom?
- toestemming van de patiënt en de familie (expliciet vermeld) : ja/nee – waarom?

4. Doelgroepen

a) Denkt-u dat een HAH programma zich specifiek moet richten tot:

- bepaalde ziekten
- specifieke types patiënten
- specifieke behoeften van de patiënt of specifieke medische behoeften

b) Waarom ?
c) Moeten er toelatings- of exclusie criteria vastgelegd worden? Zo ja, welke?
d) Wie zal er evalueren of een patiënt in aanmerking komt of niet (en op welk moment)?

5. Impact

Welke zouden de belangrijkste impacts zijn ? spontaan - eerlijk

- therapeutische
- economische (verblijfsduur, hoe verblijfsduur van een patiënt bepalen)
- levenskwaliteit van de patiënt
- levenskwaliteit van de familie van de patiënt
- verbeterde integratie en opvolging van de zorg
- betere toediening van zorgen
- verminderde kans op ziekenhuisinfecties

6. Moeilijkheden en voorwaarden voor succes

a) Wat zijn de belangrijkste problemen die zich kunnen voordoen om succesvol te implementeren?
b) Wat zijn de elementen die de toepassing van HAH kunnen vergemakkelijken?
c) Welke zijn de voorwaarden voor succes?
d) Op basis van ervaringen in het buitenland, lijken planning en capaciteitsmanagement cruciaal.
e) Heeft u suggesties over hoe men dit in België kan organiseren?
f) Dit is ook het geval voor de coördinatie van HAH interventies aan het ziekbed.
g) Heeft u specifieke suggesties op dit niveau ?

7. Financiering en doelstellingen

a) Hoe de start en vooral het einde bepalen van HAH?
b) Welk statuut heeft de patiënt gedurende HAH? Een specifiek statuut voor de patiënt in HAH ? (moet deze patiënt anders bekeken worden ten opzichte van een ziekenhuispatiënt: ja/nee – waarom?)
c) Wat met financiering tijdens HAH?

Probe:

- financiering “virtueel bed’ (zoals in het ziekenhuis)
- ‘forfaitaire’ financiering volgens de capaciteit van de structuur (operationeel budget)
- financiering per behandeling
- financiering per episode (bundel betaling)
- forfait per dag

a) Zijn er, buiten financiering, nog andere niet-financiële stimuli die zouden kunnen helpen om HAH in België te ontwikkelen.
b) Welke doelstellingen van het HAH programma moeten worden nagestreefd in België?

Spontaan - probe:

- Verblijfsduur beperken

- Opnames vermijden
- Betere integratie van zorg
- Verbeteren van de levenskwaliteit van de patiënt en meer keuze bieden in de te volgen behandeling
- Vrijgave van ziekenhuisbedden in overvolle diensten

8. Operationele ondersteuning

Algemeen, operationeel gezien, denkt u dat het nodig is om specifieke hulpmiddelen te beschikken?

Bijvoorbeeld :

a) Ontwikkelen van specifieke informatica toepassingen (vb GMD-versie HAH)?
b) Specifieke maatregelen om de patiënt te informeren of zijn "empowerment" te bevorderen?
c) Ondersteuningsmaatregelen voor de zorgverleners of de familie?
d) Ter beschikking stellen van aangepaste richtlijnen?
e) Nauwkeurige definitie van de verdeling van de verantwoordelijkheid tussen de verschillende zorgverleners?
f) Vastleggen van specifieke kwaliteitsindicatoren?
g) Opstellen van een specifieke nomenclatuur voor HAH? Indien nee, moet de huidige nomenclatuur aangepast worden zodat deze ook in de nieuwe context kan gebruikt worden?
h) Welke mechanismen ontwikkelen om te reageren op noodsituaties (vb wie contacteren)?

9. Planning en uitvoering in België

a) Denkt u dat ons land klaar is voor deze evolutie? Wat zijn de weerstandsfactoren en de belangrijkste hefbomen?
b) Welke zijn de belangrijkste stappen voor een implementatie?
c) Moeten we een uitvoering zien binnen:

- 1 à 3 jaar
- 3 à 5 jaar
- 5 à 7 jaar
- meer dan 7 jaar

10. Checklist voor bestaande initiatieven

a) Wie nam het initiatief om dit project te ontwikkelen en wat waren de oorspronkelijke doelstellingen? (laatste vraag in hoeverre deze doelstellingen zijn bereikt)
b) Kunt u ons zeggen welk(e) scenario(s) het best aansluit bij de structuur van uw project?
c) Kunt u beschrijven hoe uw project vandaag gefinancierd wordt?
d) Welke zijn uw hoofdactiviteiten (vb kankerzorg, intraveneuze infusen, niet-medische diensten)?
e) Gebeurt de coördinatie door iemand uit uw project ?
f) Patiënt :

- Keuze van de patiënt
- Statuut : opgenomen (ja/nee)
- Voorschrijver/in aanmerking komen/medische monitoring/ontslag uit HAH
- Remgeld: (ja/nee)

a) Worden de patiëntengegevens gecodeerd in een specifiek bestand ?
b) Beschikbaarheid van een electronisch patiëntendossier ; indien beschikbaar – met wie gedeeld? wie heeft toegang?
c) Maakte u reeds een kwaliteitsbeoordeling van het proces / de kosten / de tevredenheid van de patiënt, en (de impact op) de duur van het verblijf (in HAH en HAH + ziekenhuisopname)?

4.2. Background note given before interviews

4.2.1. Une définition commune

L'hospitalisation à domicile consiste à fournir au domicile du patient des soins qui autrement auraient dû être délivré par un hôpital aigu lors d'une hospitalisation.

L'HAD permet donc de réduire, de raccourcir ou de remplacer des séjours à l'hôpital. Elle peut concerner des malades de tous âges – enfants, adolescents, adultes – et des pathologies multiples tant aigues que chroniques comme la cancérologie, les traitements post-chirurgicaux complexes,...

Cinq éléments différenciateurs essentiels dans l'organisation de l'HAD

1. Quel est le principe de base d'organisation de l'HAD ?
2. Qui fait la prescription ?
3. Qui a la responsabilité principale pour le suivi médical du patient en HAH ?
4. Qui fournit les soins au domicile du patient ?
5. Qui assure la coordination ?

4.2.2. Trois scénarios alternatifs d'organisation

SCENARIO 1

Le modèle « hospitalocentrique » (Hospital-based program)

1. Organisation

L'HAD est organisée dans une structure toujours directement liée à l'hôpital. Il s'agit de l'extension d'une unité médicale hospitalière existante ou d'une nouvelle unité médicale directement dépendante de l'hôpital.

2. Prescription et décision d'HAD

La prescription d'une HAD peut être réalisée par un médecin généraliste ou un médecin spécialiste qu'il soit ou non rattaché à l'hôpital. Mais au final c'est le médecin de l'unité médicale de l'hôpital qui décide si le patient peut être admis en HAD.

3. Responsabilité de suivi médical du patient

L'examen et le suivi médical du patient en HAD est réalisé par un médecin de l'unité d' HAD de l'hôpital. La responsabilité finale appartient à ce médecin même si une collaboration avec le médecin généraliste ou le médecin spécialiste est possible.

4. Délivrance des soins

Le plan de soins et la coordination des soins sont réalisés par le staff de l'unité d'HAD de l'hôpital. Les soins sont généralement prodigués par des infirmières rattachées à l'hôpital.

5. Coordination

Le rôle de coordination dans l'HAD et est souvent séparé du rôle de prestataire de soins. Le coordonnateur remplit les procédures administratives, revoit le planning des activités planifiées et peut dans certains cas gérer le plan de soins. Cette fonction est assumée ici par un médecin ou une infirmière dépendant de l'unité de HAD de l'hôpital.

SCENARIO 2

Le modèle « mixte » (Mixed model)

1. Organisation

Dans ce second modèle l'organisation n'est plus basée sur une structure directement rattachée à l'hôpital mais sur un modèle mixte faisant intervenir à la fois les acteurs internes à l'hôpital et les acteurs externes à l'hôpital. L'organisation est centrée autour des actes et des interventions qui requièrent l'implication des divers acteurs.

2. Prescription et décision d'HAD

Le médecin spécialiste de l'hôpital est le prescripteur : c'est lui qui décide de l'hospitalisation à domicile. Le généraliste peut référer un patient vers le spécialiste pour déterminer si la prise en charge peut se faire en hôpitalisation à domicile.

3. Responsabilité de suivi médical du patient

Habituellement le prescripteur est également en charge du suivi médical du patient pendant l'hospitalisation à domicile. Ainsi le médecin prescripteur et le médecin qui assure le suivi médical sont identiques.

4. Délivrance des soins

Dans ce modèle mixte la délivrance de soins est assurée par du personnel extra-hospitalier. Le personnel de soins ne provient pas de l'hôpital mais des ressources disponibles au sein du bassin de soins.

5. Coordination

C'est le médecin spécialiste qui est responsable de la délivrance de l'HAD. La rôle de coordination peut parfois s'effectuer au travers de l'organisation de soins infirmiers à domicile ou du personnel de l'hôpital (e.g service social, infirmière relais) mais n'est pas spécifique à l'HAD.

SCENARIO 3

Le modèle « indépendant » (Standalone community based model)

1. Organisation

Dans ce troisième modèle, les structures d'hospitalisation à domicile sont basées sur des structures standalone qui disposent d'un modèle d'organisation et de ressources propres. Il s'agit d'établissements de santé à part entière soumis aux mêmes obligations que les établissements hospitaliers.

2. Prescription et décision d'HAD

La prescription d'une HAD peut être réalisée par un médecin généraliste ou un médecin spécialiste qu'il soit ou non rattaché à l'hôpital. La décision d'HAD nécessite l'accord du responsable de l'établissement d'HAD après avis du médecin coordonnateur et l'accord formel du médecin traitant.

3. Responsabilité de suivi médical du patient

La responsabilité du suivi médical du patient est généralement confiée à un médecin généraliste de préférence celui du patient ou à un médecin spécialement dédicacé par la structure d'HAD.

4. Délivrance des soins

La très grande majorité de soignants appartiennent à la structure d'HAD et sont directement employés par ces structures. Toutefois des contrats de sous-traitances ou des accords de coopération sont parfois conclus avec le médecin généraliste qui fait le suivi médical du patient ou avec du personnel soignant ou infirmier indépendant

5. Coordination

Le rôle du coordonnateur médical est intégré à la structure de HAD et est souvent séparé du rôle de prestataire de soins. Le rôle est explicitement défini dans des documents légaux et la présence d'un cadre infirmier est souvent requise. Ce dernier doit avoir une expertise dans le domaine du management (p.e. suivi une formation spéciale délivrée par un institut reconnu).

4.3. Summary of the results of the workshop

Table 23 – Options for financing of HAH – including the medical and the non-medical care

Option	Lump sum payment	Fee for service	Mix of both systems
Short description	HAH would be paid based on a flat rate. The flat rate level could be based on the complexity of the case and would be shared among the service providers.	Each specific service performed would be paid based on a nomenclature number.	Part of the services for HAH would be paid with a flat rate; services not included in the flat rate would be paid per performed service.
Advantages	• Buget 'under control' • Striving for quality • Feasible at short term • Simple; no need for lists (pathology / care services) • Stability of the finances • Amounts are fixed within the budget • Foreseeable expenses • Guaranteed budget-neutral • Continuity of care	• Patient-oriented care • Transparency; registration of what is being done • Push out of the hospital	• Advantage of both systems • Better sharing between the actors • Remuneration of those who work more • Financial advantages stimulates the underperformed acts
Disadvantages	• In the pocket • Patients being split up in groups • Lack of transparency related to payment for which services • Complex in terms of monitoring which services are being provided	• Does not promote multi- / pluridisciplinary work • Risk of budgetary escalation • Difficult to keep the expenses under control • Provision of more services in order to get more money	• Provision of more services in order to get more money • Difficult to define criteria for what is in flat rate and what under nomenclature • Organisation of distribution channels: medical file and medication.
Comments, conditions, barriers • New structures (may) cost extra money	• It should not be the hospital that manages the budget • Actual costs differ depending on the pathology	• Which costs for the patient ?	• Total cost should not be higher • Requires change of the law

	• Adaptation of the complementary insurance system • What about the medication?	• Is non-medical care included in the flat rate? • Who is responsible for the budget? GP? Specialist? • Can the patient manage the budget (and buy in care)? • Shared responsibility for budget management? Will impact on the decision for or against HAH • Condition: should not be more costly for the patient • Definition of what is included in the flat rate	• Who is responsible for the budget? GP? Specialist? • Can the patient manage the budget (and buy in care)? • Shared responsibility for budget management? Will impact on the decision for or against HAH

Table 24 – Options for the role of the GP in the medical follow-up of the patient in HAH

Option	Patient's GP with support of a specialised home care team	GP grouping with multi-disciplinary team	Specialist with the GP
Short description	Model based on present system used for palliative care; GP needs to register; gets a training; GP accepts to adapt 'service concept' for these patients, mainly in terms of availability and communication	Model based on the availability of a team around a group of GPs, ensuring availability of GP as well as possibility for GP to delegate to specialised nurses and even paramedics. Only GP (groups) guaranteeing a multi-disciplinary approach could be in charge of HAH and GPs who followed an ad hoc training.	Model whereby responsibility lies with the hospital specialist who may delegate or share responsibilities with the GP. A necessary condition is that both physicians agree at the start of the HAH.
Advantages	• Speed of decision-making • Global Medical Dossier is crucial • The GP is the central point, where the patient's information is centralised • The GPs know the functioning of this model (through the palliative care) • Trust facilitates the link • The contact with the medical specialist is facilitated • The responsibility for the medical follow-up is well defined • No intervention by a hospital team → the particularity of the GP is maintained (empathy; calm) • Good for the continuity; the GP knows a patient's history • Known and 'wanted' team	• Easier to manage: partners • More GPs = more time available • Easier for the GP of tomorrow • Less constraints in terms of availability • The group favours joint work	• Competence for technical acts • Clarity of the roles • Safety of the patient, within the definition of when the patient may leave the hospital • Responsibilisation of the medical specialist • The 'aura' of the specialist
Disadvantages	• Conditions regarding availability may exceed what is realistically possible • The GP must be present and reachable • Workload	• Diluted responsibilities • No 'fixed' GP anymore • Less calling upon a specialist • Do not create 'mini hospitals'	• Availability of the specialist • Less experience • The GP being out of the loop

	• Responsibility in case of problems • Mental burden • Decreasing number of GPs • Attitude of younger GPs with regard to working hours • We are not ready for this; GPs in a solo practice cannot take on this role		
Comments, conditions, barriers	• Condition: definition of HAH → limited in time; shortening of hospital stays • Condition: informal caregivers must be available • Condition: remuneration for the GP • Coordination with other partners is indispensable • GP must have help from a coordinator	• Condition: good coordination • Structure that is a model beyond HAH	• The specialist must share his/her power • The GP must be willing to take up the responsibility

Table 25 – Options for overall coordination of care – both medical and non-medical care

Option	"Case manager"	GP grouping with multi-disciplinary team	Coordinating nurse with coordinating physician	First-line homecare organisation
Short description	A case manager function is envisaged for chronic patients with complex needs. This same function could take on the responsibility of coordinating the complex care needs of patients in HAH.	Model based on the availability of a multi-disciplinary team around a group of GPs. A staff member of such group could take on the coordination role for the complex needs of HAH patients.	Duo team with specialised nurse and a physician who share the coordination. This physician is not the patient's GP, who has a supportive role.	Coordination could be taken up by first line homecare organisations that can offer a combination of nursing and non-medical care.
Advantages	• One person to address • Clarity who is in charge • No discussions	• Proximity to the patient • Centralisation of the medical dossier • Multi-disciplinary • Encourages GPs to organise themselves into groups	• Strength of different perspectives	• Such organisations exist
Disadvantages	• Consensus must be reached (on the creation of this case management function for chronic diseases)	• Accessibility; availability • Need to create an additional function for the coordination	• Creation of a new entity • Solo work • Dilution of the tasks / and who does which tasks? • Incomplete care (intervention of other professions?)	• Discussion about who may or may not do this • Fragmentation of the landscape • Local and easily accessible care?
Comments, conditions, barriers	• Case manager is not specialised • How is the link with the hospital / specialist ensured? • Complexity	• How is the link made between first and second line of care? • Risk to exclude patients • Complexity	• Risk that one of the two dominates • How is the link with the hospital / specialist ensured? • Risk to exclude patients • Complexity	• Condition: regional cooperation • Condition: choice of the patient • Profit or not? • How is the link with the hospital / specialist ensured?

Table 26 – Options for nursing services for patients in HAH

Option	Independent of the model	Dedicated HAH nursing team	Homecare nursing team	Mixed model
Short description		Model based on a separate (independent of hospital) and dedicated nursing team for HAH	Model building on a team from first line homecare, ensuring appropriate training of the staff to take on this additional care tasks	Dedicated team from hospital for heavy pathologies. First line homecare with appropriate training for other pathologies / interventions requiring HAH
Advantages	• Better cooperation between the GP and the nursing team	• Independence, no external steering • Uniformity; standardisation • Well trained and concentrated on HAH (techniques)	• Continuity • Expertise in home care and coordination of home care (Decree of Walloon and Brussels regions)	• Better allocation of human resources • Supports the continuity: hospital – HAH – home • Breaks the dichotomy between first and second line of care • Possibility of training of the primary care team by the hospital partner • Involvement of a hospital nurse for rare techniques
Disadvantages		• Difficult coordination and continuity • Demands new structures • Lack of continuity with the primary care team	• How will around the clock and 7/7 surveillance be organised?	• Creation of two types of nurses
Comments, conditions, barriers	• The free choice of the patient (and his/her entourage) to enter into HAH or not must be ensured • How will the communication between the primary care team and the hospital be organised? • There are few care providers with expertise in chronic diseases. This will create practical problems. • Condition: availability of medical equipment and medication	• How will the coordination between hospital and team be organised? • What about the medical dossier and the medication? • Requires a high level of expertise of the care team	• Condition: training of primary care team under the auspices of the hospital • Condition: possibility to contact the hospital in case of problems (for patient; for care team) • Risk to have problems with medication	• Condition: collaboration with independent nurses requires a certain capacity • Unclear group structures • How should this be organised within the hospital: which nurse; continuity in the hospital; workload for the nurses?

5. STAKEHOLDER CONSULTATION: PRESENTATION OF RECOMMENDATIONS

Recommendations emanating from the report were presented to stakeholders in a meeting that took place on the 4th of May 2015. Invited stakeholders included representatives of: i) federal and federated authorities; ii) sickness funds; iii) patients associations; iv) first line of care, including physicians scientific association and unions as well as home nursing care providers and coordination structures; iv) hospital organizations; v) medico-social organizations; vi) pharmacists; and vii) the industry. About half of all invited stakeholders attended the meeting. After the meeting, the slides with the recommendations were sent to all stakeholders and comments were received until the 8th of May. The names and institutions of people having participated or sent comments are listed in the colophon. People who were invited but who did not participate or send comments are not listed. All comments addressing a specific recommendation were discussed simultaneously, and when appropriate, recommendations were amended. The following section summarizes some points that were discussed during the meeting or pin-pointed out in the documents sent to the KCE team.

5.1. Recommendations to launch pilot-project

A narrower definition for HAH and a clear limit with home care

Even if most stakeholders agreed with the fact that the definition of HAH must be flexible to allow different models to be tested, some others had concerns about a too large definition. According to them, a narrower definition is required to allow:

- a successful evaluation that is not truncated by the heterogeneity in the projects;
- that only projects that will provide services beyond what is already covered by home care services are selected. Stakeholders are of the opinion that home nursing services in Belgium already provide "complex care" at home to some patients and therefore that pilot projects should not include these services.

The difficulty to have a clear definition for HAH as well as how to define the limit with home care was highlighted in the report (including when the HAH stay ends). The pilot projects will provide the opportunity to build a definition for Belgium that will reflect the needs of the healthcare system. As example, criteria and guidelines used in the investigated countries can be found in sections 3.x.2.6 (decision support), 3.x.3 (how are routine hospital at home interventions planned, provided and coordinated), and 3.x.6 (Are there specific conditions for early identification or screening of patients) of this supplement.

According to some stakeholders, the following distinction can be made:

- *« Soins infirmiers à domicile : prise en charge ponctuelle et / ou régulière sur la journée ne nécessitant pas de surveillance continuelle ou de matériel spécifique*
- *Soins à l'hôpital :*
  - *soins et surveillance infirmière 24 h / 24 ou*
  - *surveillance médicale rapprochée / situation nécessitant une intervention médicale rapide ou*
  - *nécessitant des soins ou du matériel hautement technique ne pouvant être réalisé hors structure hospitalière*
- *Soins en HAD : soins et surveillance en continu, nécessitant des prises en charge de longue durée et / ou du matériel médical spécifique. »*

It was also highlighted both during and after the meeting that a lager barrier to provide complex care at home is that some interventions only have a financing framework when performed in the hospital.

Validated tools

Eligibility criteria are linked to the intensity of care needed and the need to use validated tools (e.g. BelRAI) to assess this intensity of care was highlighted.

Quality and safety of care

Stakeholders also insisted on the need to have a permanent monitoring of the safety and quality of care during pilot projects.

Ethical committee

They were discussion on the need or not of the implication of an ethical committee.

5.2. Recommendations for actors implied in HAH

During the meeting, seldom was it raised that different models of care delivery may see the light of the day in Belgium. Nevertheless, in the comments received after the meeting, some proposed amendments to the recommendations were more linked to a specific model of healthcare delivery. Into some extent, this reflected the preferences of different parties on the type of models for care delivery that should be implemented for HAH and that were more clearly stated during the face-to-face interviews. These type of ammendements were not introduced, as one aim of the pilot projects is to provide insight in how different models of care delivery can be adapted to provide HAH in the Belgian context. No model has currently be proved to be better than another.

The following points were also raised:

- Concerning the evaluation of the patients, **clinical**, but also **social** and **familial aspects** were considered as important, as well as the respect of the **patient and family choice / preference / rights**.
- The care plan must also include "**social services**" and logistic aspects (therefore the term "plan de prise en charge" instead of "plan de soins" was preferred). This means also that a general coordination between social and care services is needed. The need for coordination and collaboration with other existing structures was also highlighted.
- The description of **roles and responsibilities** must be clearly stated. A physician must be responsible of the medical follow-up. The responsible of the follow-up of the medical patient file must also be stated. For some stakeholders, the role and responsibilities of the **patient**, the **community pharmacist** and the **industry** in HAH programs must also be investigated.
- Discussions on the concepts "**multidisciplinary**", "**pluridisciplinary**", or "**interdisciplinary**" teams were also raised. Finally, the term "multidisciplinary team" was chosen.
- In the emergency plan, a **permanence** 24h/24, 7d/7 must be insured.
- Finally, **patient and familly information** on HAH implication as well as **their education and empowerment** were considered as essential by some stakeholders.

5.3. Recommendations for the system

Concerning the recommendations for the system, the following points were highlighted:

- Stakeholders agreed with the necessity of defining a regulatory framework around HAH, with **quality and safety** norms as well as the definition of **responsibilities, and delegation rules**. The need for an adaptation of rules concerning **drug delivery** was also highlighted.
- In terms of training, beside continuing education programs, the importance of a **training with people of the field** (collaboration with the hospital sector, creation of exchange platforms) was mentioned.
- The role of the case manager was also considered as essential but should be supported by existing coordination structures.
- Some insisted on the need for a transparent and objective financing system, with objectives related to the quality of care and adapted to the workload/consumption of ressources.
- An attention to the cost for the patients must also be done, including the question of "hospital insurance". The information of patients about these costs is also important. Moreover, discussions on the problem of **drug** reimbursement will be needed to prevent it differs depending on the patient's status and the organization of the drugs supply (ambulatory or hospital).
- Investments in IT tools (including telemedicine) will be needed.
- Concerning the need for a permanent monitoring of the quality of care, some stakeholders were also interested by a list of indicators and a description of safety processes. This was nevertheless out-of-scope of this study but references towards quality indicators and safety processes defined in investigated countries can be found in sections 3.x.2.4 (quality of care) of this supplement.
- Finally, some insisted on the need to harmonize different projects (HAD, chronic care, care pathways, financing of hospitals). The need for negotiations between federal and federated authorirties and for an harmonization between health and social policies was also highlighted.

APPENDIX 1. SPAIN

Table 27 – Procedures at HAH units in Valencia provided by nurses

Administration of packed red blood cells	Administración de concentrado de hematíes
Administration of platelets	Administración de plaquetas
Administration of intravenous medication	Administración de medicación intravenosa
Ostomy care and management of collectors	Cuidados de la ostomía y manejo de colectores
Blood cultures	Hemocultivos
Nursing care of up to 20 minutes	Cuidados de enfermería de hasta 20 minutos
Pulmonary Rehabilitation	Fisioterapia respiratoria
Active listening and emotional support by nurse	Escucha activa y apoyo emocional por la enfermera
Managing access to social care by the nurse	Gestión de ayuda social tramitada por la enfermera
Simple wound care	Cura simple
Complex wound care	Cura compleja
Electrocardiography ECG	ECG
Infuser application	Aplicación de infusor
Channelling a peripheral central venous access by nurse	Canalización de vía venosa central por acceso periférico por enfermera
Access and maintenance of central venous catheter (CVC) permanent	Acceso y mantenimiento de catéter venoso central (CVC) permanente
Permanent access and maintenance of central venous catheter (CVC) by a Paediatric UHD	Acceso y mantenimiento de catéter venoso central (CVC) permanente (UHD pediátrica)
Parents training for maintenance and heparinization of CVC (Paediatric UHD)	Adiestramiento a los padres para mantenimiento y heparinización de CVC permanente
Chemotherapy <2 hours	Quimioterapia < 2 horas
Chemotherapy 2 - 5 hours	Quimioterapia 2 – 5 horas
Chemotherapy> 5 hours	Quimioterapia >5 horas

Table 28 – Procedures at HAH units in Valencia provided by physicians

Channelling a peripheral central venous access by a physician	Canalización de vía venosa central por acceso periférico por médico
Active listening and emotional support by the physician	Escucha activa y apoyo emocional por el médico
Home mechanical ventilation (parameters adjustment)	Inicio de ventilación mecánica (adaptación de parámetros)
Changing parameters of mechanical ventilator	Cambio de parámetros del ventilador mecánico
Spirometry	Espirometría
Measuring static pressure	Medición de presiones estáticas
Adaptation assisted cough equipment (Cough Assist)	Adaptación al aparato de tos asistida (Cough Assist)
Capnography	Capnografía

Table 29 – Procedures at HAH units in Valencia provided by physicians or nurses

Paracentesis	Paracentesis
thoracentesis	Toracocentesis
arthrocentesis	Artrocentesis
Channeling central venous access for Central	Canalización de vía venosa central por acceso central
Skin biopsy	Biopsia cutánea
Change PEG	Cambio de PEG
Change of suprapubic catheter	Cambio de catéter suprapúbico
Lumbar puncture	Punción lumbar
Manual removal of fecaloma (desopilación)	Extracción manual de fecaloma (desopilación)
Puncture of seroma	Punción de seroma

APPENDIX 2. THE NETHERLANDS

Table 30 – List of low complexity interventions

De medisch specialist in het ziekenhuis blijft nadrukkelijk verantwoordelijk en heeft de zorg niet overgedragen aan de huisarts. NR	Handeling	Aantal zorgminuten
Controle lichaamsfuncties		
1	Aanleggen van vochtbalans/controle en/of ingrijpen op vochtbalans	15
2	Controle huid/vochthuishouding/uitscheiding urine/faeces	10
3	Temperatuur meten/pols tellen/controle ademhaling/controle gewicht/bloeddruk meten	10
4	Bloedsuiker prikken (bijvoorbeeld t.b.v. dagcurve)	10
Wond- en/of stomaverzorging		
5	Verzorging wonden en de niet-intacte huid rondom onnatuurlijke lichaamsopeningen	15
6	Wondverzorging	30
7	Zalven van niet-intacte huid	10
8	Aanleggen druk/steunverband na wondverzorging per plaats	15
9	Decubitus: risico bepalen, preventieplan op- en bijstellen	20
10	Advies m.b.t. preventieve maatregelen geven	10
11	Stomaverzorging (6 wkn: excl. instructie zelfzorg max 45 min/wk)	20
12	Start V.A.C. therapie	45
13	Volg wondbehandelingen V.A.C. therapie	30 – 45
Ondersteuning bij uitscheiding		
14	Manueel faeces verwijderen	15

15	Inbrengen rectum canule	15
16	Klysma geven (hoog)	30
17	Klysma microlax	15
18	Katheteriseren (eenmalig)	15
19	Katheter inbrengen (verblijfs)	30
20	Blaasspoelen via nog aan te brengen katheter	20
21	Spoelen nefrostomiecatheter	20
Medicatie		
22	Toedienen te prepareren medicatie via injecteren (of via een reeds aangesloten infuus)	20
23	Subcutane medicatietoediening via de pomp	45
24	Transparenterale voeding toedienen in aangesloten systeem	30
25	Injecteren (fraxiparine/insuline is zelfzorg (of AWBZ) en geen MSVT)	10
overig verpleegkundig handelen		
26	Compressief zwachtelen een been	15
27	Compressief zwachtelen twee benen	25
28	Zuurstof toedienen	10
29	Inbrengen neussonde	30
30	Uitzuigen trachea, mond/keelholte	20
31	Verwisselen van de buitencanule	30
32	Bronchiaal toilet (sprayen NaCl)	15

Table 31 – List of low complexity interventions

Hoog complexe verpleging betreft voornamelijk infusietherapie thuis. NR	HANDELING	AANTAL ZORGMINUTEN
1.	Inzetten / starten pomp (morfine, antibiotica, dormicum)	60
2.	Intraveneuze medicatietoediening of aansluiten medicatie	30
3.	Verzorging pomp / wisselen cassette en lijnen	45
4.	Prikken perifere naald (o.m insuflon)	30
5.	Toediening antibiotica of chemo, aanwezigheid bij gehele gift	90 – 180
6.	Inbrengen peritoneaal sonde (PEG, Mickey, supra-pub.)	45
7.	Aansluiten of afsluiten easypump	45
8.	Infuus, PAC aanprikken en aansluiten medicatie / vocht	60
9.	PAC hepariniseren of flushen	30 – 45
10.	Medicatie afsluiten en verwijderen gripper	30
11.	Verzorging TPV, PAC, CVC, PICC lijn en spoelen bloedtransfusie	45
12.	Voorbereiding bloedtransfusie (ophalen bloed, aanprikken)	60
13.	Aanwezigheid bij inloop bloedtransfusie per zak	60
14.	Afsluiten en materialen retour lab	60
15.	TPV wissel incl. verzorging lijnen / insteekopening	45
16.	Intra-thecale medicatie toediening / wissel bacteriefilter	60
17.	Oplossen / bereiden medicatie	30

APPENDIX 3. FRANCE

Appendix 3.1. Modes of care in France (full reproduction in French)[136]

Table 32 – Mode of care in HAH

Mode of care	As principal mode of care	As associated mode of care	As documentary mode of care
00 – No associated mode of care	-	X	-
01 - Respiratory Support	X	X	X
02 - Parenteral Nutrition	X	X	X
03 - Intravenous therapy	X	X	X
04 - Palliative Care	X	X	X
05 - Chemotherapy for cancer	X	X	X
06 - Enteral Nutrition	X	X	X
07 - Management of pain	X	X	X
08 - Other treatments	X	X	X
09 -Complex dressings and special care (complicated ostomy)	X	X	X
10 - Post surgical treatment	X	X	X
11 - Orthopaedic Rehabilitation	X	X	X
12 - Neurological Rehabilitation	X	X	X
13 - Monitoring of post chemotherapy	X	X	X
14 - Heavy nursing care	X	X	X
15 - Education of the patient and / or his family	X	X	X
17 - Monitoring after radiation	X	X	X

18 - Blood transfusion	X	X	X
19 - Monitoring of high-risk pregnancy	X	X	X
20 - Early come back to home after birth (until 2015)*	X	X	X
21 - Pathological post-partum	X	X	X
22 - Support for the new-born at risk	X	-	-
24 - Monitoring of aplasia	X	X	X
25 - Psychological or social care	-	X	X
26 - Intravenous therapy, only one daily pass	-	-	X
27 - Education of the patient and / or his family for patients under 18 years old	-	-	X
28 - Psychological or social care for patients under 18 years old	-	-	X

*X: possible; - not allowed; *will not anymore be possible from March 1, 2015.For HAH in homes for the elderly, only the following principal and associated modes of care are allowed. Principal mode of care: 03, 04, 05 (not if orally delivered), 07, 08, 09, 18, 24 and Associated modes of care: 01, 02, 03, 04, 05 (not if orally delivered), 06, 07, 08, 09, 11, 12, 14, 18, 24*

The full list of conditions and requirements related to these mode of care can be found in French here:
http://www.atih.sante.fr/sites/default/files/public/content/2417/guide_methodologique_had_version_provisoire_2014_2_0.pdf

Appendix 3.2. Prinicipal diagnosis of patients in HAH in 2013

Code	Libellé	Nombre de journées	%
L89	Ulcère de décubitus et zone de pression	260 739	6,0
C34	Tumeur maligne des bronches et du poumon	171 272	3,9
C50	Tumeur maligne du sein	133 058	3,0
L97	Ulcère du membre inférieur, non classé ailleurs	122 681	2,8
C18	Tumeur maligne du côlon	87 828	2,0
R26	Anomalies de la démarche et de la motilité	85 450	2,0
C71	Tumeur maligne de l'encéphale	81 909	1,9
C61	Tumeur maligne de la prostate	61 289	1,4
C25	Tumeur maligne du pancréas	60 779	1,4
I83	Varices des membres inférieurs	56 004	1,3
Z48	Autres soins de contrôle chirurgicaux	54 865	1,3
G81	Hémiplégie	54 839	1,3
G82	Paraplégie et tétraplégie	54 685	1,3
G35	Sclérose en plaques	53 871	1,2
C79	Tumeur maligne secondaire de sièges autres et non précisés	52 385	1,2
G12	Amyotrophie spinale et syndromes apparentés	51 931	1,2
Z51	Autres soins médicaux	51 056	1,2
J96	Insuffisance respiratoire, non classée ailleurs	50 691	1,2
I64	Accident vasculaire cérébral, non précisé comme étant hémorragique ou par infarctus	47 186	1,1
C20	Tumeur maligne du rectum	47 108	1,1
C16	Tumeur maligne de l'estomac	45 395	1,0
C90	Myélome multiple et tumeurs malignes à plasmocytes	44 538	1,0
I70	Athérosclérose	43 089	1,0
C78	Tumeur maligne secondaire des organes respiratoires et digestifs	42 002	1,0
T81	Complications d'actes à visée diagnostique et thérapeutique, non classées ailleurs	41 895	1,0
I50	Insuffisance cardiaque	41 398	0,9
E10	Diabète sucré insulino-dépendant	41 274	0,9
Z39	Soins et examens du post-partum	39 095	0,9
G20	Maladie de Parkinson	38 781	0,9
C56	Tumeur maligne de l'ovaire	37 739	0,9
R13	Dysphagie	36 482	0,8

L98	Autres affections de la peau et du tissu cellulaire sous-cutané, non classées ailleurs	34 686	0,8
C67	Tumeur maligne de la vessie	31 727	0,7
P07	Anomalies liées à une brièveté de la gestation et un poids insuffisant à la naissance, non classés ailleurs	31 143	0,7
E43	Malnutrition protéino-énergétique grave, sans précision	30 819	0,7
C92	Leucémie myéloïde	30 639	0,7
S72	Fracture du fémur	29 794	0,7
Z93	Stomies	29 037	0,7
G30	Maladie d'Alzheimer	28 493	0,7
M86	Ostéomyélite	28 060	0,6
F00	Démence de la maladie d'Alzheimer (G30.-)	27 866	0,6
C15	Tumeur maligne de l'oesophage	27 711	0,6
R53	Malaise et fatigue	27 049	0,6
C22	Tumeur maligne du foie et des voies biliaires intrahépatiques	25 652	0,6
Z94	Greffe d'organe et de tissu	24 972	0,6
I63	Infarctus cérébral	24 888	0,6
O90	Complications puerpérales, non classées ailleurs	24 158	0,6
Z74	Difficultés liées à une dépendance envers la personne qui donne les soins	23 822	0,5
L02	Abcès cutané, furoncle et anthrax	23 066	0,5
Z89	Absence acquise d'un membre	22 916	0,5

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