

QUALITATIVE PAPER

Facilitators and barriers to implementing an acute geriatric community hospital in the Netherlands: a qualitative study

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Abstract

Background: there is a trend across Europe to enable more care at the community level. The Acute Geriatric Community Hospital (AGCH) in the Netherlands is an acute geriatric unit situated in a skilled nursing facility (SNF). It provides hospital-level care for older adults with acute medical conditions. The aim of this study is to identify barriers and facilitators associated with implementing the AGCH in a SNF.

Methods: semi-structured interviews ($n = 42$) were carried out with clinical and administrative personnel at the AGCH and university hospital and stakeholders from the partnering care organisations and health insurance company. Data were analysed using thematic analysis.

Results: facilitators to implementing the AGCH concept were enthusiasm for the AGCH concept, organising preparatory sessions, starting with low-complex patients, good team leadership and ongoing education of the AGCH team. Other facilitators included strong collaboration between stakeholders, commitment to shared investment costs and involvement of regulators. Barriers to implementation were providing hospital care in an SNF, financing AGCH care, difficulties selecting patients at the emergency department, lack of protocols and guidelines, electronic health records unsuited for hospital care, department layout on two different floors and complex shared business operations. Furthermore, transfer of acute care to the community care meant that some care was not reimbursed.

Conclusions: the AGCH concept was valued by all stakeholders. The main facilitators included the perceived value of the AGCH concept and enthusiasm of stakeholders. Structural financing is an obstacle to the expansion and continuation of this care model.

Keywords: community hospital, intermediate care, qualitative research, implementation science, older people

Key Points

- The Acute Geriatric Community Hospital (AGCH) is an acute geriatric unit providing hospital-level care in a skilled nursing facility.
- This qualitative study provides insight into facilitators and barriers to the implementation of this model of care.
- The main facilitators included the perceived value of the AGCH concept and enthusiasm of all involved stakeholders.
- Major barriers were providing hospital care in the setting of a skilled nursing facility and financing AGCH care.

Introduction

Recent European long-term care reforms have focused on ‘aging in place’ by providing more care in the community [1]. Prior to these reforms, alternative models of care like Hospital-at-Home (Hah) or outpatient management were developed to care for aging populations living in the community and to prevent functional decline, delirium and hospital readmissions [2–7]. Clinical outcomes and patient satisfaction with these models of care are similar to or better than those for conventional hospitalisation are [5, 7, 8]. Hah has been evaluated in multiple studies and has had significant uptake internationally [7–10]. A process evaluation of Hah in the United States identified strategic planning, involving stakeholders, and strong partnerships with outside vendors as key facilitators for this care concept [11].

In the Netherlands, a program has been implemented that enables aging in place, with health insurers financing alternative models of hospital care [12]. The Acute Geriatric Community Hospital (AGCH) was inspired by this program and is located in a skilled nursing facility (SNF; [6, 13]). It provides hospital-level care for older adults with acute medical conditions. Hospital-level care is treatment that is usually provided in an in-patient hospital setting, except for surgery and intensive care. Admission criteria for the AGCH are presented in Table 1 [13, 14]. Treatment at the AGCH includes a comprehensive geriatric assessment [15] and early rehabilitation [16, 17]. The AGCH model is similar to that of Hah, except care is provided in an SNF and not at home. The facilitators and barriers to implementing this model of care in this setting are still unknown.

Understanding the facilitators and barriers to implementing the AGCH is critical for the evaluation of the AGCH care concept, and will inform the implementation of similar care models. To fill this knowledge gap, our research question was: what facilitators and barriers exist to implementation of the AGCH care model? We used the theoretical model of adaptive implementation as a framework to identify these barriers and facilitators (Figure 1a; [18–20]). This model describes influencing factors, facilitators and barriers at different phases (preparation, execution and continuation) and levels (micro, meso and macro) of implementation. The micro level involves healthcare professionals, the meso level involves collaboration between care organisations and the macro level involves the legal and financial framework [18].

Methods

Study design

We conducted one-on-one semi-structured interviews with professionals and stakeholders, allowing them to fully describe their individual experiences [21]. Some participants had similar backgrounds and were interviewed in a small group. We used the consolidated criteria for reporting qualitative research, COREQ-checklist [22] to ensure all items relevant to reporting qualitative research were included

(see Appendix 3, Supplementary data are available in *Age and Ageing* online). The study protocol was submitted to the Amsterdam University Medical Centre’s, location Academic Medical Centre Medical Ethics Research Committee and the need for official approval was waived as the Medical Research Involving Human Subjects Act did not apply (file number W19_386#19.451). The local Research Code guidelines and European legislation under the General Data Protection Regulation (GDPR) were followed while conducting this research. Written informed consent was obtained from all participants.

Setting

The AGCH is located in an SNF. Geriatricians provide daily patient care together with a team of nurses and nurse practitioners. Patients are transferred to the AGCH after being admitted to the emergency department (ED) of a general/university hospital. The admission criteria are presented in Table 1 [13, 14] and the goals and interventions of the AGCH are presented in Table 2. The AGCH was developed by three parties: a university hospital, a community care organisation and a health insurer. These parties operate in the Dutch healthcare system, which aims to provide universal access to healthcare while allowing ‘managed’ competition between care organisations [23].

Research team

The interviews and analysis were conducted by MER and WVM. MER is a PhD candidate with training in qualitative research. Student WVM is a 6th-year medical student trained by MER in qualitative research. BMB and RF are senior researchers who oversaw the design and conduct of the study. RF is an internist working at the ED and AGCH. BMB is also the creator of the AGCH concept was not involved in conducting interviews or analysing the data until the final phase of the data analysis. MR is a geriatrician working at the ED and AGCH and was, together with BMB and RF, involved in recruiting study participants.

Participants

Participants were eligible for participation if they were involved in the design and implementation of the AGCH, were previously or currently working in the AGCH and/or were key figures with professional knowledge of the AGCH. A purposive sampling method was used to obtain participants with different professional backgrounds. Participants were recruited from the AGCH, ED and university hospital via email and following a presentation of the research plan at an AGCH group meeting. Other professionals and stakeholders were approached by email.

Data collection

The interviews were conducted by MER and WVM between November 2019 and July 2021, which was 1–3 years after

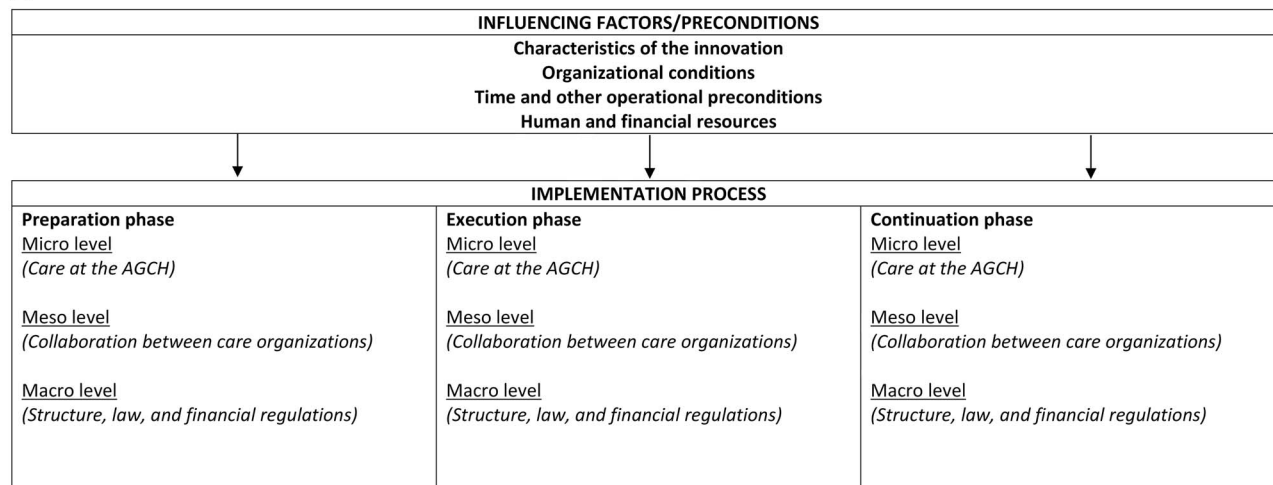
Facilitators and barriers to implementing an acute geriatric community hospital

Table 1. Criteria for admission to the AGCH

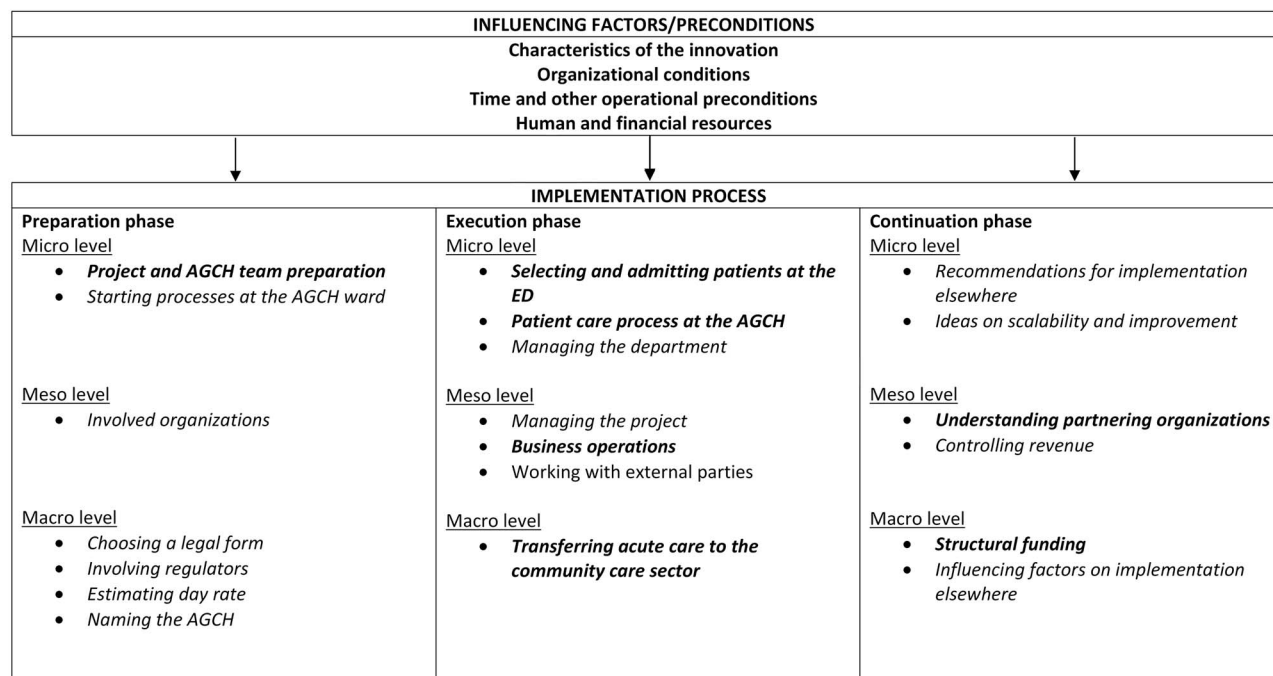
Criteria, which should be met upon assessment at the emergency department.

- (i) Acute medical problems in older patients that require hospitalisation, e.g. acute events such as pneumonia, exacerbation of chronic conditions such as heart failure, or minor acute events in very frail patients.
- (ii) Hemodynamic stability.
- (iii) No need for complex diagnostic testing such as CT or MRI scans during admission.
- (iv) Return to previous living situation expected in 14 days.
- (v) Geriatric conditions e.g. delirium, cognitive impairment, falls and/or functional impairment.

A



B



Key themes are presented in **bold**. AGCH= Acute Geriatric Community Hospital, ED= Emergency department

Figure 1. (A) Theoretical model of adaptive implementation applied to the AGCH context [18–20]. (B) Theoretical model of adaptive implementation applied to the AGCH context, including themes that emerged in the analysis [18–20]. Key themes are presented in bold. AGCH, Acute Geriatric Community Hospital; ED, emergency department.

Table 2. The intervention elements

Goal of the AGCH	Intervention
Identify medical conditions, geriatric syndromes and care needs Prevent functional decline	Comprehensive geriatric assessment [15] Early rehabilitation [16, 17] through bidaily physiotherapy and function-focused care (ref); adapted environment with single rooms and open hallways that allow mobilization
Prevent delirium and falls	Multi-component intervention [24] including: - Single rooms; - Limited number of care professionals to reduce overstimulation; - Continuous non-contact heart, respiration and position monitoring (Early Sense™) [25]; - Improving orientation through calendars, clocks and photos of loved ones; - Family involvement and rooming-in.
Improve patient handover to primary care and prevent readmissions	- Involve family during admission by organising meeting within 24 h after admission and before discharge [26]; - Warm handovers (via telephone) to primary care provider (GP and/or home intermediate care organization and/or physiotherapist) [27]; - Send discharge letters within 24 h after discharge [28]; - Provide medication in a medication sachet for the first post-discharge week.
Improve patient and caregiver experience of admission	- Family involvement through frequent meetings with medical team [26]; - Extended visiting hours (10 am–8 pm); - Eating-in or rooming-in with admitted partner of family member.

the AGCH had opened. Interviews were performed in-person at the AGCH or by video-call from home (during the coronavirus disease of 2019, COVID-19 pandemic).

The interview guide was drafted based on literature on implementation of geriatric care models [11,20,29]. In the pilot phase of the interviews, we used the implementation framework described by Grol and Wensing [30]. However, this framework did not fit well to the levels and phases of implementation because it did not distinguish between micro-, meso- and macro-level factors. Therefore, we continued with data collection using the adaptive implementation framework, which fitted better to our setting [18].

The guide was discussed in the research team prior to the first pilot interview. After three pilot interviews, the guide was reviewed and adjusted—new questions were added and some questions were simplified. The guide was also modified for each stakeholder group. The general interview guide can be found in [Appendix 2](#), Supplementary data are available in *Age and Ageing* online.

Questions were added during the study on the chronology of events and phases of implementation. We tried to reduce the risk of time biases during the COVID-19 pandemic. All but two interviews were audio-recorded and no interviews were repeated. The audio-recorded interviews were transcribed verbatim and anonymized. Field notes were made during and after the interview to capture the participants' impressions and thoughts. We used two methods of member checking: a summary was given at the end of each interview and these interview summaries were returned to participants. Participants' comments on the summaries were included in the analysis.

Data analysis

We conducted a thematic analysis [31] using both a deductive and inductive approach and structured the analysis

using the theoretical model of adaptive implementation by Dröes and Meiland [19, 20]. Ten selected semi-structured interviews were coded separately by authors MER and WVM using an open coding approach. After discussing the codes, an initial coding structure was created. The preparation phase was defined as the phase up to 6 weeks after the AGCH opened, and the execution phase started after this. In the continuation phase, the AGCH care path was further developed and the AGCH was secured within regular care. The remaining interviews were coded by either MER or WVM using the initial coding structure. If relevant, new codes were included in the second coding structure. After all interviews were coded, MER and WVM reviewed the second coding structure and identified all relevant categories and themes. If there were not enough data to support initial categories, these categories were removed. MER and WVM agreed on a final coding structure, categories and overarching themes. MAXQDA 2020 (VERBI Software, 2019) was used for coding. Saturation was reached for each stakeholder group. The relevance of the material was checked by consulting involved professionals and by discussing the material in the research team. Changes were only made to the final coding structure if they were supported by the data.

Results

Participants

Thirty professionals responded to the group email and participated in the study (54% response rate). These included team members of the AGCH ($n = 17$), ED nurses ($n = 7$) and staff members of the geriatrics department of the university hospital ($n = 6$). Twelve key persons approached by email also participated in an interview, giving a total participant number of 42. In total, 31 one-to-one interviews, two double interviews and two group interviews were conducted.

Interviews lasted 40–70 min. We identified influencing factors or preconditions and 20 themes including barriers and facilitators to implementation in the different phases and levels of implementation (Figure 1b). The seven key themes and representative quotes are summarised in Tables 3 and 4. The barriers and facilitators shown in Table 3 were presented according to Brody *et al.* [11], and provide an overview of challenges, solutions and implications on scalability per theme.

Influencing factors and preconditions

Influencing factors and preconditions concern factors that influence the implementation process during all the phases (preparation, execution and continuation) of implementation.

Characteristics of the innovation

Support for the innovation was an important precondition for implementing the AGCH. The intervention was developed between 2016 and 2018, when the number of older adults visiting the ED was increasing. Healthcare staff noticed that older adults could not go home after visiting the ED, but that there was no better option—hospitalisation risked medicalisation and deconditioning and short-term residential care (STRC) was not available outside office hours. This, combined with the enthusiasm of the university professor (BMB) who initiated the project, facilitated development of the AGCH. Participants believed strongly that the AGCH concept had a discrete purpose and would fill a gap in geriatric care in the Dutch healthcare system. The AGCH concept is primarily defined by its location (a department providing hospital care in an SNF) and main goal (to activate and mobilise older patients during hospital admission).

Organisational conditions

The AGCH was implemented within an existing community care organisation that primarily provides chronic care. Therefore, working processes were much slower than those in the university hospital. In the Dutch healthcare system, short-term care provided by community care organisations and care provided by the university hospital are financed by care insurers through separate billing mechanisms.

Time and other operational preconditions

Designing and opening the first AGCH took ~2 years. After the AGCH had opened, geriatricians reported additional demands on their team because of on-call night and weekend shifts in the AGCH. The operational facilities of the SNF were an important factor for implementation; participants stated that the SNF had fewer resources than a hospital does.

Human and financial resources

The three organisations who initiated the AGCH concept described a strong collaboration and trust between the

executive leaders of their organisations. Changes in staffing and the lack of a project team member with experience in business operations within the community care sector also affected implementation. AGCH team disciplines and competencies also influenced implementation; participants noted that the experience and knowledge of both hospital and district nurses were important in the AGCH team. There was large variation in competency and skills among AGCH nurses. Supervising geriatricians from the university hospital were seen as facilitators throughout implementation. Nurse practitioners and physician assistants were seen as suitable for the AGCH because they closed the gap between medical and nursing care. All professionals working at the AGCH needed time to develop their professional role in this new care concept.

Concerning 'financial resources', the three partnering stakeholders agreed to share investment cost and financial risk during implementation of the AGCH. The AGCH was funded through an experimental financing structure within the Dutch healthcare system. This meant that the cost of care made by the community care organisation would be reimbursed by all Dutch health insurers based on a tariff that was negotiated between the community care organisation and the health insurers.

Facilitators and barriers to implementation in different phases of the implementation process

Preparation phase

Micro level (care at the AGCH)

Micro-level facilitators during the preparation of the 'project and AGCH team' were (i) formal preparation sessions for healthcare professionals from the university hospital and the community care organisation; and (ii) preparation sessions by geriatricians to develop and discuss working processes at the AGCH. Barriers were that formal preparation sessions were no longer continued once the AGCH had opened and that the nursing team was only hired shortly before the AGCH opened. This meant that nurses did not participate in preparatory meetings, which was seen as a disadvantage. Another barrier was that every professional looked at implementation of the AGCH from their own perspective.

Before the AGCH could deliver care, several weeks were needed for the team to 'start-up various processes'. This start-up was facilitated by clear expectations of the type of care that needed to be delivered. Interviewees working at the AGCH stated that starting the AGCH during renovation of the SNF hampered the start-up. There was some collaboration between the AGCH and other wards, but the AGCH operated mostly as an island within the SNF. A frequently mentioned barrier was the layout of the department—it had two different floors and no separate office for the nursing and medical team, which participants found impractical. Participants also mentioned that adjustments necessary for

Table 3. Summary of key themes, challenges and solutions, based on Brody *et al.* [11]

Key theme	Examples of challenges	Examples of solutions	Implications for scalability
<i>Project and AGCH team preparation</i>	(i) Two or more organizations involved in implementation caused increased complexity. (ii) The team working at the AGCH was new and had a heterogeneous professional background.	(i) Plan preparatory meetings between professionals from both organizations before and during the first months after opening; plan visits to partnering organization by nurses. (ii) Hire team prior to opening and involve team members in the preparation phase; plan schooling sessions prior to opening.	(i) Hospital and community care organization must work closely together. (ii) Sufficient funds to pay AGCH team during preparation phase required.
<i>Selecting patients at the ED</i>	(i) Uncertainty of which patients could be admitted safely. (ii) Low referrals by specialists at the ED and GPs to the ED.	(i) Start with admitting low-complex patients and develop professional expertise in selecting patients. (ii) Having a geriatrician or geriatric nurse practitioner at the ED; inform primary care practitioners/GPs about the AGCH.	(i) Time is required for geriatricians to gain experience in selecting patients. (ii) Investment in 'advocating' personnel required.
<i>Patient care process</i>	(i) No hospital protocols were available at the AGCH. (ii) EHR is not suited to hospital care. (iii) Not all hospital diagnostics/services (CT scans, consulting specialists) are available. (iv) Discharge to primary care is complex and slow.	(i) Adjust and transfer hospital protocols to AGCH prior to opening and allow protocols to be exchanged between hospital and AGCH. (ii) Use a hospital EHR or develop working processes with existing EHR. (iii) Select patients with no need for complex diagnostics, ascertain that laboratory results can be available on time. (iv) Implement hospital discharge program <i>Point</i> ; develop clear guidelines with regards to discharge.	(i) Requires policy on sharing protocols and access to a hospital's internal resources. (ii) Hospital EHR can be expensive and not compatible with EHR in intermediate care; working with existing EHR may not be suited for delivering hospital-level care. (iii) Only selected group of low-complex and/or stable patients can be admitted to the AGCH. (iv) Discharge can be improved by using 'Point'; but discharge problems to other services exist nationally.
<i>Business operations</i>	(i) Sharing business operations between two organizations was difficult. (ii) Unstable admission rate to the AGCH.	(i) Develop a method and platform for sharing information on business operations frequently; do this before opening the AGCH. (ii) Accept unstable admission rate and be prepared for acute admission; keep some 'overcapacity'.	(i) Business controllers and middle management need to be involved in implementation before the AGCH opens. (ii) Allowing 'empty' beds does not fit the traditional business model of community care.
<i>Transferring acute care to the community care sector</i>	(i) Working processes of community care are too slow for delivering acute care. (ii) Hospital medication and paramedics not reimbursed within community care.	(i) Create working process allowing the AGCH to speed-up, whereas other departments continue operations as usual. (ii) Create another community care budget to fund medication that is not reimbursed; or include additional cost for medication and paramedics in day tariff.	(i) Allows the AGCH to operate quickly within 'slower' organization; however, does not improve delivery of acute care in community care sector as a whole. (ii) Negotiation with healthcare insurer required to include additional costs in a higher day tariff.
<i>Understanding partnering organizations</i>	(i) Laboratory and pharmacy partner were not used to delivering hospital care. (ii) Health professionals did not know what the AGCH was, which slowed collaboration and patient referral.	(i) Understand services that can be delivered by external partner and jointly develop guidelines for service delivery. (ii) Set up campaign to inform organizations about the AGCH concept; consider using a different name in Dutch.	(i) Many different (independent) laboratories and pharmacies exist in the Netherlands; a new collaboration is required for each new AGCH location. (ii) Variance in naming the AGCH nationally could hamper structural implementation in the healthcare system.
<i>Structural funding</i>	(i) Structural financing title does not exist yet, which hampers long-term implementation.	(i) Initiating organizations develop financing title with the help of the Dutch care authority.	(i) The AGCH care 'product' is neither a hospital care product nor a community care product, which may make it difficult to develop a financing title.

ED, emergency department; EHR, electronic health record.

care delivery were not included in the renovation, such as a medication stockroom and a system for providing oxygen. The lack of supportive services (such as cleaning) when the AGCH opened was also considered a barrier to implementation because patient turnover was much higher in the AGCH than in other departments.

Meso level (collaboration between organisations)

Facilitators on the meso level were intensive collaboration between the 'organisations' who initiated the AGCH and

visits from the university hospital quality manager. These visits provided valuable information for the project team on how to organise working processes. Additional barriers were not involving the laboratory and pharmacy in the preparation phase and not informing all physicians in the community care organisation about the AGCH.

Macro level (structure, law and financial regulations)

A macro-level facilitator was meetings between both organisations' legal teams during the preparation phase,

Table 4. Representative quotes per key theme

Project and AGCH team preparation	<i>'You have to be aware that it is a different way of working than what you are used to. A step-by-step guide to make everything clear and a formal implementation plan to identify accountability is strongly recommended and is important I think [. . .] I think that it just needs to be clear what the goal is, because there are just so many different goals at the AGCH.'</i>
Selecting patients at the ED	<i>'You really have to be careful that you admit the right patient, it is a real challenge and much more difficult than I anticipated. The longer you work here [at the AGCH], the more problems you run across when you admit a patient with an unclear diagnosis because you have limited ability for diagnostics etc. compared to the hospital. This is something that I previously underestimated, it is more difficult than you think to admit the 'right' patients to the AGCH. You should not admit patients who lack social support or should go to long-term care. So, this is a challenge, but we are getting better at it.'</i>
Patient care process	<i>'The nursing home electronic health system really sucks, especially if you are trying to deliver acute medical care and treatment.'</i>
Business operations	<i>'What I find complicated is that there are so many changes through the years, people who come and go, on the side of the community care organization on the side of the hospital, that is the way it is. The format that we use for presenting [business information] has only just been developed. And all the different payment places that we use, that does not help either. The community care organization pays a part, there is the transitional care [government] subsidy, the health insurer pays a part, and the university hospital pays a part. Despite the enthusiasm for the project, it is not always possible to work everything out together.'</i>
Transferring acute care to the community care sector	<i>'I think we had to deal with many teething problems [. . .], changes in personnel, getting the basics of providing hospital care in the community organized, that just takes so much time, and it takes more time than you think when you are writing the concept up.'</i>
Working with external parties	<i>'The paramedics thought we were a nursing home. They would just say: well, I am not going to bring a patient from a nursing home to the hospital, this patient should be transported by his mother or son.'</i>
Structural funding	<i>'Only then you really have to accept the cost price of a product and say that the product is expensive yes. Look at my Miele washing machine, yes, it is expensive, but it lasts 15 years, but over time it is a cheap washing machine. You have to look at the AGCH this way, it is an expensive product, but in the end when looking at the total cost trajectory of a frail older person, it is a cheaper solution.'</i>

which helped in 'choosing a legal form'. Another facilitator was 'involving regulators' such as the Dutch care authority (Nza) early on in the preparation phase, which helped in designing an experimental payment title for the AGCH. The enthusiasm of the partnering healthcare insurer helped involve regulators, which helped in creating an initial financing title.

A macro-level barrier was 'estimating the day rate for the AGCH' because the AGCH was a new concept and the exact daily expenses were unknown. Another barrier was the former name of the AGCH 'Buurtziekenhuis' (community hospital) because using the Dutch word for 'hospital' did not fit with the national policy of exchanging in-hospital care for care closer to home.

Execution phase

Micro level (care at the AGCH)

Micro-level facilitators and barriers were experienced when 'selecting and admitting patients at the ED' during the execution phase. When the AGCH started admitting patients, there was uncertainty among geriatricians on which patients could be admitted safely—geriatricians wanted to select the 'right' patients and prevent acute unplanned transfers back to hospital. A further barrier was that most patients were not referred by other specialists.

Facilitators for selecting the 'right' patients were admitting low-complex patients and having access to different diagnostics at the ED. Creating a steady flow of admissions was facilitated by informing other specialists about the AGCH and having a geriatric emergency care nurse specialist act as an 'ambassador' for the AGCH at the ED. Another

facilitator was an ambulance service that transferred patients from the ED to other care organisations, which decreased waiting times for transfer to the AGCH.

A barrier to selecting and admitting patients was that laboratory services at the AGCH were not operating frequently. Furthermore, patients who should have been admitted to STRC were referred to the AGCH. The true barrier here was the unavailability of STRC during out-of-office hours. Another barrier was that few low-complex patients that geriatricians had expected to admit to the AGCH presented at the university hospital ED. This may have been because general practitioners (GPs) were used to referring older patients with low-complex problems to other hospitals. Another barrier was that it was difficult to recruit patients from a second university hospital ED that was added as referring hospital because other projects were recruiting patients from this ED. A new and unexpected barrier was the COVID-19 pandemic; the AGCH was not suited to admitting patients infected with SARS-Cov2.

Micro-level facilitators of the 'patient care process' involved the home-like environment of the AGCH, flexibility of professionals and ongoing education of the AGCH team. The discharge process was facilitated by 'Point'—a software interface used by hospitals to communicate with primary care providers. Barriers to the 'patient care process' were (i) the absence of protocols, (ii) no direct access to hospital services such as consulting specialists and more complex diagnostics, (iii) an electronic health record (EHR) that was not suited to hospital care, (iv) the high administrative and housekeeping burden, (v) insufficient skills in the nursing team and (vi) unclear discharge pathways. The EHR and electronic prescribing

program were designed for providing residential care and were not well suited for acute care settings. Also, the university hospital used a different EHR, which made it impossible to share information directly. A solution to the high administrative and housekeeping burden was hiring medical secretaries and nursing aides. Some stated that a high level of nursing competency was required and that not all team members had sufficient skills, such as placing IV catheters. Structured communication between nurses and doctors was also important. There were also many barriers to successful discharge, such as knowledge gaps within the team and unclear discharge pathways. These barriers increased the amount of time spent arranging discharge.

On the micro level, ‘managing the department’ was facilitated by having a dedicated department manager and nurse manager. Other facilitators were improving working processes within the AGCH team and the flat hierarchy within the team. This allowed professionals to influence how work was done in the AGCH. Barriers to managing the department were the time needed for the social transition of district and hospital nurses and the time needed to hire and train new nurses. Moreover, because patient turnover was much higher in the AGCH, the community care organisation had to continuously change its operations, logistics and billing for the AGCH. On some occasions, it was not clear whether the community care organisation or the university hospital was responsible for facilitating new care processes.

Meso level (collaboration between organisations)

During the execution phase, meso-level facilitators were ‘managing the project’ with involved stakeholders; sharing costs between the university hospital and community care organisation; working with GPs and the pharmacist visiting the AGCH each week for a medication review. Managing the project was facilitated by regular meetings between (i) AGCH management and the university hospital and (ii) management and executive leadership from the university hospital, the community care organisation and the health-care insurer.

Barriers on the meso level were the running of ‘business operations’ by two organisations, the project being unknown to some GPs, and working with ‘external partners’ that were not used to providing hospital-level care. The AGCH investment costs were higher than the project team expected and the running of ‘business operations’ by both the community care organisation and the hospital was complex.

Some external partners such as GPs did not know what the AGCH was because of its name—the Dutch name ‘WijkKliniek’ (neighbourhood clinic) does not imply what kind of care the AGCH delivers. Another important barrier was that the laboratory could not meet the hospital-level needs of the AGCH. For example, laboratory results would only become available at the end of the day. The pharmacy partner was used to working in primary care rather than hospital care, and was not able to follow

some hospital pharmacy protocols or provide certain medication.

Macro level (structure, law and financial regulations)

A facilitator in ‘transferring acute care to the community care sector’ was that the transfer of low-complex patients to the AGCH was in line with the university hospital policy of transferring low-complex patients to other care organisations. Barriers were that the set daily rate for the AGCH was too low and that not all the hospital care and medication was reimbursed based on the experimental financing title that had been designed. This meant there was no specific funding for a dietician, occupational therapy and speech therapy.

Continuation phase

Micro level (providing care at the AGCH)

Supporting nurses and relying on nurses’ expertise were micro-level facilitators for continuing and implementing the AGCH elsewhere. Writing an implementation plan with goals for the AGCH before opening and considering the barriers experienced by the AGCH team was recommended when opening the AGCH (the first of its kind in the Netherlands).

On the micro level, participants had five distinct ‘ideas on how the AGCH concept could be improved and scaled-up’ in the continuation phase: (i) implementing a nurse-led hospital where a nurse practitioner would manage care instead of a physician [32], (ii) having an older people’s physician [33] supervise care instead of a geriatrician, (iii) better integrating AGCH care with community nursing care, (iv) admitting patients directly from primary care without transferring them to the ED and (v) admitting patients primarily from general hospitals instead of university hospitals. Facilitators and barriers to these five ideas are shown in Table 1 of the Appendix, Supplementary data are available in *Age and Ageing* online.

Meso level (collaboration between organisations that provide care)

Meso-level facilitators to continuing the AGCH concept elsewhere were ‘involving and understanding external parties’ at an early stage. It also helps if the external parties have experience delivering hospital care and are well informed about the AGCH’s goals and working processes. Another facilitator was having involved professionals observe the working processes of the university hospital and community care organisation before opening the AGCH. Furthermore, clear agreements on how administrative information should be shared between partnering organisations will facilitate transparency and help in ‘controlling revenue’. Barriers on the meso level concerned ‘controlling revenue’ because of the high investment cost for the community care organisation. Expenses for the AGCH are much higher than for STRC, which makes it more challenging for financial

controllers and administrative leadership of the community care organisation to manage and control revenue.

Macro level (structure, law and financial regulations)

Macro-level facilitators are creating a 'structural financing title' for AGCH care and informing healthcare insurers about the AGCH concept. If structural financing were in place and reimbursement for admissions were possible, it would be possible for other hospitals and care organisations to invest in new AGCHs. Current options for creating a structural financing title have benefits and limitations. Also, in the Dutch healthcare system, any cost that may be saved after AGCH admission in the post-acute phase is not returned to the community care organisation but is saved by the healthcare insurer.

Discussion

Summary

The key facilitators to implementation of the AGCH concept were perceived value of and enthusiasm for the AGCH. Key barriers were providing hospital care in an SNF and financing the AGCH care. Key micro-level facilitators included organising preparatory sessions, starting with low-complex patients, team leadership, a flat hierarchy, a positive attitude of professionals and ongoing education of the AGCH team. Key barriers were difficulties selecting patients at the ED, the lack of protocols, the administrative burden, an EHR that was not suited for hospital care, the department layout and working processes at the SNF, which were designed for chronic care.

Some factors were both facilitators and barriers. For example, having both district and hospital nurses in the team was a facilitator because of the combined expertise but was also a barrier because not all team members had the same level of knowledge and skills. A meso-level facilitator was the strong collaboration between the university hospital and the community care organisation. Meso-level barriers were that the AGCH concept was unknown to many external partners and that sharing business operations between organisations was complex, leading to a substantial financial loss in the first two years after opening. Macro-level facilitators were the sharing of investment costs by partnering stakeholders and the involvement of regulators. Barriers were the lack of a structural financing title and the transfer of acute care to the community care sector, which led to some care not being reimbursed. Stakeholders found implementation of the AGCH complex and demanding but were convinced that implementation was feasible and that the AGCH intervention was valuable to older patients.

Comparison with existing literature

Brody *et al.* [11] also reported that it was important for the Hah to invest in internal and external partnerships before

starting the intervention. Similar barriers included uncertainty about patient eligibility and the EHR not meeting the needs of the Hah team [11]. The Hah and the AGCH also had issues with financing and billing care. For Hah, these were mostly related to the absence of a method that would assess how much each organisation should receive for the care they provided. For the AGCH, these issues were that some treatments were not reimbursed by the experimental financing title.

Creating structural funding when implementing new care models is challenging [11, 20]. The experimental financing title that was created for the AGCH was an important facilitator for implementation. At the same time, AGCH care was more expensive than expected and any costs that were saved in the post-acute care phase by preventing readmission were not returned to the community care organisation that had invested in AGCH care. This is known as the 'wrong pockets problem' [34] and is not specific to the Dutch care system; it can occur in any care systems that do not have integrated financing [35].

Participants also mentioned the importance of the overall attitude in the team and the enthusiasm of the stakeholders, which affect the willingness of the professionals/stakeholders to fully engage in the implementation process [36]. The enthusiasm of stakeholders may be explained by the perceived value and 'relative advantage' of the AGCH [18,37]. Compared with in-hospital care for older adults, many stakeholders described how the AGCH would be better suited to providing care for older patients, both on the patient level (better outcomes) and the system level (expectation of lower societal costs).

Strengths and limitations

A strength of this study is the purposive sampling to recruit participants, which ensured the sample was representative and enough data was obtained. However, the heterogeneity of interviewees' backgrounds complicated our analysis. Another limitation was that not all interviewees were involved in the implementation from the start and that some interviews had to be conducted via video-call because of the COVID-19 pandemic. However, this made it easier to arrange interviews. Furthermore, although the framework of adaptive implementation [18] allowed us to analyse our data in a structured manner, other conceptual frameworks have been developed more recently [38]. However, we do not think that using these frameworks would have changed our findings. Finally, it may not be possible to generalise some of our findings to the implementation of other AGCHs or care models [39]. For example, the problems we encountered concerning the department layout could be specific to the SNF.

Implications for science, practice and policy

Further research should focus on facilitators and barriers to implementing AGCHs elsewhere, particularly in rural areas. When implementing an AGCH, practitioners and local

policy makers should consider the facilitators and barriers reported here. A formal stakeholder analysis and analysis of potential facilitators and barriers before implementation could also help [30,40]. This is especially important because our study shows that implementing an AGCH in the Dutch healthcare system is more complex than was expected. Furthermore, training and educating the nursing team at the start of implementation will assure sufficient knowledge of acute and geriatric care and will ensure that all nurses have the necessary skills. Policy makers involved in regulating and funding hospital and community care in the Netherlands should consider the regulatory and financial barriers to providing hospital care closer to or at home. Providing hospital-level care for low-complex patients outside the hospital does not happen overnight, and does not automatically reduce costs because investment is required. At the same time, the demand for care out-of-office hours and/or for acute geriatric care will increase as more older adults are living at home for longer [12]. This warrants a holistic approach both at the patient and healthcare system level, which means STRC availability and resources in community care need to be improved. Patient needs rather than service availability should be the leading factor when selecting patients for admission to either a STRC or AGCH ward [41]. Continued research into cost-effectiveness of the AGCH is warranted. AGCH costs should be lower or equal to conventional hospitalisation and the AGCH should achieve similar or better outcomes.

Conclusion

This qualitative process evaluation shows that implementing an AGCH is feasible in the Netherlands. The most important facilitator to implementation was the perceived value of the AGCH concept. Major barriers were providing hospital care within the community care sector and financing AGCH care. These insights may be helpful for implementing an AGCH elsewhere and for developing solutions for these barriers during the preparation phase of implementation. This will support working processes and operations during the execution phase.

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