The experiences of clients, relatives, and care professionals from the home care team regarding the detection of deterioration prior to an emergency department admission

Preliminary findings

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Introduction

The Netherlands is facing a dual ageing trend, as the proportion of inhabitants aged 65 and over is rising, along with the number of inhabitants aged 80 and over. It is projected that by 2040, there will be over 4.8 million older people aged 65 and above and 340,000 individuals aged 90 and above, representing an increase of 55% and 191% respectively compared with 2015.
Compared with other age groups, older people make relatively frequent use of acute care, such as the out-of-hours primary care service (*huisartsenpost*, HAP) and the Emergency Department of a hospital. It is projected that by 2040, 304,000 individuals aged 85 and above will visit the ED, an increase of 143% compared with 2015, when there were 125,000 visits. The risk of an ED visit and hospital admission is highest among community-dwelling older people with increased frailty.

A qualitative study by Hoitinga et al. found that frail older people attend the ED for complaints that they had already experienced for two to four weeks prior to the visit. The escalation culminating in the ED visit often originates from something seemingly minor, such as a change in medication or a carer becoming ill.
Across several common conditions, there is consensus among care professionals that, through good (acute) care in the home setting, ED visits and hospital admissions can be prevented — the so-called *ambulatory care sensitive conditions*. These conditions can be subdivided as follows:

1. Chronic conditions, such as chronic obstructive pulmonary disease, heart failure, and renal failure;
2. Acute diagnoses, such as dehydration, urinary tract infection, and cellulitis;
3. Older people in whom acute care needs arise from the exacerbation and destabilisation of care problems in the home setting, and in whom there is no possibility of scaling up care within primary care;
4. Older people presenting with an acute care need which is, in effect, underpinned by a palliative need.

Based on previous Dutch studies and measurements, it is estimated that approximately one in five of all ED visits by older people may be avoided by intervening earlier in relation to the conditions set out above.

Admission via the ED carries risks for frail older people. Compared with younger individuals, they are more frequently admitted to hospital — the older the patient, the more frequently admission occurs. In 2020, 72% of people aged 65 and over who were admitted to hospital were admitted as unplanned admissions. In the 90+ age group, 94% were admitted to hospital unplanned. The likelihood that the frail older person experiences functional decline at home is also increased. Because aftercare is often poorly organised, 30% of frail older people re-attend the ED within one year, of whom 10% do so within one month.
Preventing acute care needs may therefore yield considerable benefit, both for frail older people themselves and for the health care system. Primary care has an important role to play in this regard.

The scientific literature highlights the following factors that are important for performing this role well within primary care:

- **Knowledge and skills of nurses and nursing assistants in primary care.** This involves in-depth knowledge of geriatric syndromes, age-related physiological changes, and the impact of chronic conditions on functional status. It also includes knowledge of common conditions such as dementia, heart failure, and diabetes [2–5].
  Knowledge of pharmacology and medication is also important, given the high prevalence of polypharmacy among older people and the risk of side effects and interactions with other medicines.
  Clinical reasoning and critical appraisal skills are likewise important, as these are required to identify service users at risk of deterioration at an early stage, preferably through the use of (validated) screening instruments to monitor frailty, such as the interRAI HC Frailty Scale or the Vulnerable Elders Survey.
  Finally, effective communication skills are important in order to obtain information from service users, families, and fellow professionals, and to educate service users about disease management, treatment adherence, and strategies to promote independence.
- **Continuity of care**
  A lack of continuity of care, in which multiple health care providers are involved with the same older person, may result in poorer knowledge of the older person and a reduced likelihood of noticing subtle changes. Within home care, work is organised in teams, the members of which have varying levels of education. A home care team typically comprises care assistants (*helpenden*), certified nursing assistants (*verzorgenden IG*), vocational-level nurses (VRN), and bachelor-level nurses (BRN).
  The heterogeneity in educational levels among home care professionals constitutes a substantial challenge in ensuring consistent, high-quality monitoring of frail older people. Qualified nurses, owing to their advanced training in assessment and clinical judgement, are generally better equipped to recognise and interpret complex physiological changes. Care assistants and certified nursing assistants, however, who often have lower formal qualifications, may lack the necessary skills to identify subtle indicators of deterioration, or to communicate their observations effectively to other members of the care team.
- **Trust between the service user (and relatives, where applicable) and the care professional.**
  A trusting relationship between the care provider and the frail older person is essential for open communication and the sharing of important information. Family members can be an important source of information about the older person's condition and about changes they have observed.
- **Interprofessional collaboration**
  Teamwork is important, and (district) nurses in home care play a crucial role in this regard: they form the link between professionals, the patient, and their families.
- **Use of care technology**
  Smart home technologies have the potential to improve various aspects of daily life for older people, including safety, health monitoring, and social interaction. It is important to take factors such as high costs, complexity, and ethical concerns regarding privacy and autonomy into account in this context [16–17].

The factors outlined above suggest that interventions aimed at reducing acute care needs may be deployed at multiple levels: at the micro level, in the contact between the service user (and family) and the home care team; at the meso level, in collaboration within the home care team and with, for example, the general practitioner; and at the macro level, by professionalising the care professionals within the home care team and deploying care technology to monitor the service user's situation at home.

Research in the Netherlands on how a home care team, the service user, and their relative(s) can best work together in this regard is scarce. Gaining insight into the perspectives of each party involved on collaboration in care, in order to anticipate acute situations where possible, represents a valuable first step.

Research question

What are the experiences of clients, relatives, and care professionals from the home care team regarding the detection of deterioration prior to an emergency department admission, what is the role of each party in the run-up to admission to the ED, and which factors contributed to the admission to the ED?

Study design

This study comprises a qualitative investigation in which, retrospectively, a multiple case study is used to analyse the six to eight weeks preceding the admission of clients to an ED. Data from the electronic patient record are used to construct a timeline covering the six weeks prior to the ED admission. This timeline serves as the guiding framework for interviews with those involved, in order to map the experiences, roles, and possible contributing factors to whether or not deterioration was detected during this period. Interviews are held with clients (aged 65 or above and cognitively able to be interviewed), where applicable with relatives (also cognitively able to be interviewed), and with a number of members of the home care team who know the client well. From the home care team, at least one care assistant, one certified nursing assistant or nurse, and one district nurse are interviewed.

The topics used to analyse the EPR and to conduct the interviews are based on the factors identified in the literature on early detection within the home care team, as also outlined in the rationale. The topics may be supplemented during the course of the study with findings from earlier EPR analyses or interviews conducted within this study.

Preliminary results from the analysis of 4 cases

The preliminary results are based on the following data:

- Analysis of 4 care records, resulting in a timeline of the period prior to the ED admission and a quantitative overview of the number of care professionals, by educational background, who provided care to the client, and of the number of reports documenting these care moments;
- Analysis of 15 interviews.

Themes emerging from the analysis so far:

Clients

Clients disclose their complaints at the moment they feel trust in the care professional from the home care team. They do not wish to discuss how they are doing with every care professional. Some clients refrain from reporting complaints because they fear that, once examined, they will no longer be able to return home.

Some clients prioritise matters that are important to them over considerations regarding their own health.

"I'm not going to hospital (even though the GP says that would be wise), because I want to celebrate New Year's Eve with my son". (Client 10)

Relatives

Relatives can provide a useful complementary perspective on the client.

"We could already see for days beforehand that they were deteriorating; the admission to the ED came as no surprise to us".(relative 10)

In addition, relatives frequently organise and coordinate visits to the hospital and the general practitioner.

Home care team

A difficult balance exists between, on the one hand, the client's self-management and, on the other, the professional judgement regarding the tasks the client carries out independently.

"…She manages her blood sugar herself, but does she actually do this properly?".(District nurse 5)

District nurses assess the care to be provided and allocate it to an appropriate skill level. No standard (work instruction, measurement instrument) appears to be used for estimating the **complexity of care** and for subsequently **allocating care** to an appropriate skill level. It is unclear how — and whether — the monitoring of the complexity of the client's care is carried out, nor is it explicit how, in response to a changing care situation, the allocation of care to a skill level may be adjusted accordingly.

There is no consensus regarding what may be expected of care assistants in terms of the **early detection of deterioration** among clients. Some nursing assistants and district nurses do expect care assistants to notice changes in clients' health and well-being and to report these to the district nurse; other nursing assistants and district nurses consider that this cannot reasonably be expected of care assistants, given the training they have received.

District nurses and coordinating nursing assistants report that they do **not routinely review** their clients' care notes in the neighbourhood. They only look through the

notes when they receive a signal from colleagues working in the area. District nurses and coordinating nursing assistants state that they lack sufficient time to routinely read the care notes of all their clients.

The record analysis shows that **observations and actions are not always followed up**; for example, that daily weighing is sometimes forgotten, even though it is specified in the care plan.

District nurses indicate that they sometimes **miss communication and coordination with the general practitioner**, although, in primary care, close collaboration would in principle be essential.

Care professionals from the home care teams consider **the timeline to be a helpful** tool for analysing the trajectory preceding the ED visit. Because it provides an overview, it generates insight. It is a useful way for the team to look back on events together and to draw lessons from them.

Conclusion

Based on the preliminary findings, it may be concluded that the early detection of, and response to, health deterioration among community-dwelling older people is a complex, shared process, shaped by multiple perspectives and organisational factors.

Recommendations

1. Strengthen the relationship and the collaboration between the client, the relative, and the home care team; get to know the client, limit the number of care professionals involved with a client, and incorporate the perspective of the relative in order to establish and maintain a sound understanding of the client.
2. Engage explicitly with the client (and relative) in conversation about their continued capacity for self-management of health-related tasks.
3. Examine the existence of an instrument for assessing the complexity of, and allocating, care in the home setting, or develop such an instrument. Such an instrument would provide a rationale for the care indication and reduce variation in indications between district nurses.
4. Professionalise home care teams in the early detection of deterioration in clients' health and in how to report on this.
5. Make the reviewing of care notes by district nurses and care coordinators a compulsory part of their remit. Explore whether AI can support the concise and structured summarisation of care notes, so that routine reviewing becomes manageable.
6. Implement interventions to ensure that observations and actions in the care notes are consistently followed up. In addition to the routine reviewing of care notes referred to in the previous recommendation, consideration may be given to making use of the functionalities available for this purpose in the EPR (such as pop-up reminders). AI could potentially also be deployed in support of this recommendation.
7. Treat missed observations and/or actions as incidents, so that their analysis is incorporated into team meetings.
8. Invest in the personal and professional leadership of district nurses so as to enable a relationship of equals with the general practitioner.
9. Consider an ED admission as an incident (akin to other incidents), and discuss the circumstances leading up to the ED visit with the team. A timeline generated by AI from the client's care notes could be supportive in this regard.

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