

The quality and efficiency of care for older patients at the emergency department

Citation for published version (APA):

Brouns, S. H. A. (2022). *The quality and efficiency of care for older patients at the emergency department*. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20221215sb>

Document status and date:

Published: 01/01/2022

DOI:

[10.26481/dis.20221215sb](https://doi.org/10.26481/dis.20221215sb)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Impact paragraph

Given the ageing of the population and the anticipated increase in emergency department visits by (frail) older patients, increasing knowledge regarding their current emergency care use and their outcome is particularly relevant, since this population will increase pressure on an overstrained emergency care system. This thesis contributes to a better understanding of several aspects regarding the quality and efficiency of emergency care for older patients and to the knowledge on emergency care processes, divided in organisational and patient-related factors. In this final paragraph, a reflection on the impact of this thesis for society is given by discussing some overarching societal, economic, scientific and clinical implications.

Potential societal and economic impact

Assessing health is not only important from the patient perspective, but also from a societal and economical perspective, as this provides valuable information for healthcare insurers and other policy makers. Considering the ever-growing economic burden of healthcare in general, and the emergency department (ED) in particular, it becomes increasingly important to reflect on priorities and rational healthcare (and research) resource allocations, especially in times where healthcare expenditure is becoming increasingly restricted.

We have shown that several organisational factors, such as number of specialty consultations and number of performed diagnostic tests are associated with ED length of stay (ED-LOS) in older patients. Eventually, ineffective and inefficient emergency care will inevitably lead to increased and consequently unnecessary healthcare costs. Implementation of targeted healthcare pathways may help reduce these costs without handing in on (but likely even further improving) the quality and efficiency of emergency care. While this cost reduction is undeniably of utmost importance, such system changes will also contribute to a more positive patient experience, for example by reducing ED-LOS, prevention of treatment delay.

Another aspect that can be taken care of immediately if such as system change is at hand is the tremendous problem with shortages of staff in the entire health care system, of which emergency departments are not exempted. Monitoring tools, such as the mEDWIN, could be of value to better anticipate to patient flow and efficiently schedule ED personnel on the one hand, and by optimizing appropriateness of the clinicians attending the ED on the other hand. Recruiting internists geriatric or acute medicine, or emergency physicians, specifically trained for this complex population,

able to holistically assess multimorbid older patients presenting with frailty syndromes and non-specific complaints, may improve the emergency care process by reducing the need for multiple specialty consultations and also has the potential to optimize the diagnostic trajectory. One of the key competencies of such an acute generalist should therefore be that he/she is able to assess and provide the right care, both the diagnostic trajectory and treatment plan, at the right time and place.¹

Because of the current challenges in health care and expected overburdening of emergency care due to an ageing population, changes are inevitable in order to guarantee the quality, accessibility, and affordability of emergency care now and in the future.

Potential scientific impact

The findings of this thesis may have possible implications for future research. By assessing current emergency care use by older patients, we have identified factors for improvement in order to increase quality of care, such as triage and the efficiency of care for older multimorbid patients. To evaluate whether these improvements also have the intended effects on efficiency and quality of care (and even outcome), further research is needed. As such, a robust research infrastructure is important, including prospectively collected (real-time) data, in order to assess current quality and efficiency of emergency care, in particular for older patients. Luckily, there are now national quality registries, such as the Dutch Registry for Acute and Internal Medicine (DRAIM) and the Netherlands Emergency Evaluation Database (NEED) that provide insight into current care of the participating emergency departments. Both quality registries are set up and maintained by different physicians, i.e. internists for DRAIM and emergency physicians for NEED. As such, further collaboration between both registries, especially in order to better coordinate which data should be collected, provides an important opportunity to further improve quality and increase transparency of emergency care. In addition, the gathered data could be used to evaluate implemented health care pathways and tailoring evidence-based up-to-date guidelines regarding emergency care for older patients with multimorbidity.

Future research should focus on whether the experience level of ED personnel regarding emergency care evaluation and treatment of older patients improves efficiency, as well as patient outcomes and patient experience, in which outcome measures more suitable to the older population such as evaluation of care needs, functional decline, readmissions and hospital length of stay need to be incorporated.

Potential clinical impact

Besides the potential societal, economical and scientific impact, this thesis may have several clinical implications as well. The findings are relevant for the older patient, as well as a large variety of health care professionals, as a broad spectrum of physicians and nurses are involved in the acute care pathway of an older patient, from referral to the ED by a general practitioner or physician in a long-term care facility to hospital admission. In our opinion, two factors need special consideration.

First, understanding of the distinct needs of older patients, patterns of their emergency care use and outcome ought to be increased among health care professionals. An emergency department visits is a major event for an older patient, as it is associated with an increased risk of delirium, functional decline and mortality, and is accompanied with great worries regarding condition and outcome.²⁻⁴ By improving knowledge regarding the distinct needs, patterns of ED use and outcomes of older patients and by addressing their worries and unmet needs, the total patient experience of older patients in the ED might be improved.

Second, the current disease-oriented model in emergency care is not suitable for the older multimorbid patient with an atypical disease presentation and often nonspecific complaints. This is also illustrated by the fact that current triage methods used in the ED, such as the Manchester Triage System, lead to an underestimation of the 'real' severity of illness of older patients. Increasing the awareness of ED personnel of this phenomenon on the one hand and incorporating a more holistic approach, including cognitive and functional status, are necessary in order to improve patient outcome and experience.

References

1. Hill JD, Schmucker AM, Siman N, et al. Emergency and post-emergency care of older adults with Alzheimer's disease/Alzheimer's disease related dementias. *J Am Geriatr Soc.* May 25 2022;doi:10.1111/jgs.17833
2. Zelis N, Huisman SE, Mauritz AN, Buijs J, de Leeuw PW, Stassen PM. Concerns of older patients and their caregivers in the emergency department. *PLoS One.* 2020;15(7):e0235708.
3. Samaras N, Chevalley T, Samaras D, Gold G. Older patients in the emergency department: a review. *Ann Emerg Med.* Sep 2010;56(3):261-9.
4. Salvi F, Morichi V, Grilli A, Giorgi R, De Tommaso G, Dessi-Fulgheri P. The elderly in the emergency department: a critical review of problems and solutions. *Intern Emerg Med.* Dec 2007;2(4):292-301.