Proactive care programs in the emergency department: effectiveness and feasibility

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CHAPTER 8

| English summary

The Emergency Department (ED) is visited by a broad variety of patients of all ages when they experience an acute health problem. Generally, patients are receptive to help and education in the ED and may be open to acknowledge their behavior or their physical impairments as a causative factor for the ED visit. This makes the ED a potentially suitable setting for the detection of hazardous behavior and physical or social frailty, and for subsequent patient education and initiation of further support.

In the last decade, an increasing number of Dutch EDs have started programs within existing ED care to detect patients at risk for certain health problems. These patients are offered additional care and targeted interventions, aimed at improving their care in the ED and/or initiating follow-up after discharge. These programs can be considered as proactive care programs, as patients at risk are proactively detected and treated. This is in contrast to reactive care, which is provided in response to the patient's acute health problem.

In this thesis, the effectiveness and feasibility of two proactive care programs that were implemented in the EDs of Haaglanden Medical Center (HMC) in The Hague are evaluated, in order to contribute to the optimization of emergency care.

In the first part of this thesis, we evaluated a program focusing on screening and intervention for hazardous alcohol use in adult ED patients.

In **chapter 2**, the implementation and effect of routine screening and subsequent interventions for hazardous alcohol use on alcohol consumption in ED patients were examined. During the one-year study period, more than half of the consecutive 41,900 ED patients aged 18 years and older were screened for hazardous alcohol use during triage, using the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C). Of the screened patients, 10% had an elevated AUDIT-C score. According to the study protocol, all these patients should receive an information leaflet and a brief, motivational intervention from a trained ED nurse or physician. However, less than half finally received an intervention. Of them, two-thirds received an information leaflet only and about a third received both a leaflet and a motivational intervention. Less than half of the patients with an elevated AUDIT-C score were available for telephone follow-up three months after ED discharge. Of the patients who did not receive any intervention, a third either reduced or stopped their alcohol consumption in the three months after ED discharge. These percentages were higher in patients who had received an information leaflet, a motivational intervention, or both. Male sex, an alcohol-related ED visit, and ED presentations for any form of intoxication, head injury, gastro-intestinal bleeding, or a wound were associated with hazardous alcohol use.

As we found that almost half of the ED patients were missed with routine screening for hazardous alcohol use in the ED, we investigated in **chapter 3** whether patient-and staff-related factors caused screening failures. We also examined whether unscreened patients had risk factors for hazardous alcohol use. For this study, we used data from the alcohol screening and intervention study in chapter 2. Only the first ED visit of each patient during the study period was included in this study. Of the 28,019 included ED patients, two-thirds underwent routine screening for hazardous alcohol use. Of the unscreened patients, the majority were not screened for staff-related reasons and only a quarter for patient-related reasons, (i.e., refusal or not being able to cooperate). Strikingly, patients with risk factors for hazardous alcohol use were less often screened than patients without risk factors. The highest prevalence of risk factors was found in patients unable or unwilling to cooperate.

In the second part of this thesis, we examined the effect of telephone follow-up after ED discharge for community-dwelling older patients on health-related outcomes.

In **chapter 4**, we described a systematic review of the literature to evaluate the effect of telephone follow-up for patients aged 65 years and older on health-related outcomes, compared to control interventions or standard care. Only two high-quality, controlled trials met the review selection criteria, including a total of 2120 patients. No demonstrable benefits of telephone follow-up were found on ED return visits, hospitalization, acquisition of prescribed medication, and compliance with follow-up appointments. However, the majority of the eligible patients were not reached or refused to participate.

We also conducted a large pragmatic randomized controlled trial, presented in **chapter 5**, in which we investigated the effect of telephone follow-up on unplanned hospitalizations and unplanned ED return visits within 30 days of ED discharge. In this study, community-dwelling patients aged 70 years and older were divided into two groups: patients who visited the ED in odd months received a telephone follow-up call (intervention group), and patients who visited the ED in even months received a satisfaction survey call (control group) within 24 hours after ED discharge. More than a third of the eligible patients were not called and a third were not reached by ED staff after a maximum of three calling attempts, mainly due to a shortage of ED nurses. Finally, a third of the 9836 eligible patients were reached and consented to participate. We found no statistically significant difference in the rate of unplanned 30-day hospitalization and/or ED return visits between the intervention group and the control group. Additionally, the telephone follow-up intervention showed no beneficial effect within the subgroups, divided by age, sex, living condition, and degree of crowding in the ED at discharge.

To understand why many post-ED discharge interventions fail to reduce unplanned ED return visits, we investigated the association between patient and index ED visit characteristics and unplanned ED return visits in community-dwelling patients aged 70 years and older in **chapter 6**. In addition, we investigated the reasons for unplanned ED return visits in these patients. For this study, we used observational data from control group patients of the pragmatic randomized controlled trial, described in chapter 5. Of the 1659 control group patients, 222 (13.4%) had at least one unplanned ED return visit within 30 days after ED discharge. We found several patient and ED visit characteristics that were associated with unplanned ED return visits. The majority of patients returned for medical reasons, being either related to the same illness of the index ED visit, or a new complaint. ED return visits for patient-related reasons were less common. In addition, patients with three or more unplanned ED return visits returned most often for problems related to the same illness of the index ED visit.

Chapter 7 constitutes the general discussion, methodological considerations, clinical implications of the main findings and future perspectives. Although we hypothesized that the two proactive care programs, evaluated in this thesis, would be effective, we were not able to demonstrate a clear patient benefit. Moreover, feasibility of the proactive care programs was limited, as many eligible patients were not reached, due to both staff-related and patient-related reasons. The findings suggest that detection of patients at risk may be feasible in the ED, but performing extra interventions by ED staff in addition to routine care is not feasible and has not been proven effective. Additional interventions could be better performed outside the ED at a later stage. This requires good collaboration between the involved organizations. Moreover, better coordination of care for patients at risk could be the key to improving the quality of care and well-being of these patients and could also contribute to reducing the pressure on emergency care.

The findings in this thesis emphasize the value of scientific evaluation of healthcare intervention programs in the ED, including those that appear clearly favorable from the outset. More research concerning ED processes, interventions and characteristics of ED patients is needed in order to optimize the organization and quality of ED care and to make informed future policy choices.