CORRESPONDENCE

Patients Attending Emergency Departments

A Cross-sectional Study of Subjectively Perceived Treatment Urgency and Motivation for Attending

by Prof. Dr. med. Martin Scherer, Dr. med. Dagmar Lühmann, Agata Kazek, Dr. rer. hum. biol. Heike Hansen, and Dr. phil. Ingmar Schäfer in issue 39/2017

Manipulative Handling of Data

The authors' contribution to the topic of emergency departments and overloading them with trivial cases is very important. Yet, closer examination reveals careless and manipulative handling of the collected data (1).

Of the 6488 patients who visited the surveyed emergency departments during the observation period, 3396 patients were excluded because they required immediate or very urgent treatment (1842), had no waiting period (1047), were unable to give consent, or communicated too poorly in German or English. This means that 52% of the patients were not included in the evaluation. The excluded patient group with the „very urgent need for treatment" accounts for 28% of total patients. Yet these are exactly the „real" emergencies for which the emergency department should be primarily used. Of the remaining 1175 patients who finally answered the questions more than half estimated of their own urgency as low. This means that only one-fifth of the total group (21%) had such an assessment. In contrast, the first „key message" is that more than half of the patients who visited an emergency department rated the urgency of their treatment as low, and that their cases did not fall under the definition of an emergency. Thus, an examined subset is equated with the total. However, good statistics look different. Especially in the age of „alternative facts", we should focus on sober and honest information.

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Inadequate Statistical Evaluation

The article „Patients Attending Emergency Departments" is especially impressive for the fact that the authors grossly violate a viable study design in the selection of study participants: out of 6488 patients, 3396 patients are excluded in advance—in other words, almost half. Strikingly, the proportion of those who were very sick—that is, who were treated immediately or transferred directly to another department—is very high, at 1842. Of the remaining 3086 participants, 1043 refused to participate—which is almost every third patient, and 708 were treated before they could be interviewed (1).

In the end, only 1175 patients remained. Even in this group of less than 18% of the total patients, there were still cases that turned out to be urgent.

Nevertheless, a key message from PiNo Nord ("*Patienten in der Notaufnahme von norddeutschen Kliniken*" [patients in the emergency departments of hospitals in Northern Germany]) is that more than half of the cases of emergency department patients do not meet the definition of an emergency.

However, this cannot be concluded from the data presented. Apart from the inadequate statistical evaluation, this examination does not pose the main question in emergency treatment: Can we use emergency departments to select those patients who are very sick, possibly with life-threatening illnesses?

Every doctor who handles emergencies knows that subjective distress and objective urgency are not always congruent. Patients presenting with subjective distress do sometimes have trivial conditions—and sometimes the opposite is true, for example, feeling unwell before a heart attack.

Distinguishing between these two possibilities is the job of a specialist, and this has a price. It is the task of the health insurance funds to finance this. If this is not possible from the paid fees, the health insurers and politicians must communicate and regulate this.

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No Primary Care Physician Available

The study PiNo Nord („*Patienten in der Notaufnahme von norddeutschen Kliniken"* [patients in the emergency departments of hospitals in Northern Germany]), for which 20% of the emergency patients during the survey period were interviewed, follows the hypothesis that crowding of German emergency departments is the result of a misdirection of patients (1).

The authors' „key message" concludes that „More than half of patients … assessed their treatment urgency as low and therefore did not meet the definition of an emergency", but this cannot be deduced from the data. Instead, it is correct that, of the 20% of patients who were interviewed, slightly more than half (only 9.6%) of the emergency department patients had an overall low subjective urgency for treatment.

It is shown that an objectively high medical need for treatment can exist in all categories of subjective urgency. As 49.9% of the patients did not receive an initial triage, this is thus a non-representative selection.

The high level of subjective urgency would also be difficult to influence by better familiarity with the „116 117", especially as initial telephone contact is not suitable for general demand management (2). The reasons for low treatment urgency in PiNo Nord exist for clearly attributable reasons for presentation (trauma, skin conditions), whereby the third reason (no primary care physician available) also provides a main explanation for the other points. Patients with trauma and skin conditions are often sent to the emergency department, as care by a primary physician is frequently not possible, often simply for capacity reasons (3). This is confirmed by the testimony of 26% of respondents who were referred to the emergency department by a primary care physician or a specialist.

Thus, with the correct interpretation of these results, PiNo Nord confirms the necessity of adequately financing outpatient treatment in the emergency department, as most of these treatments could not be provided elsewhere.

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Unclear Group Formation

The article concludes that more than half of patients do not fall within the definition of a medical emergency due to their low subjective urgency for treatment (1).
I cannot share this conclusion from the data presented, based on two reasons:

Calculation process. Of 1175 patients, 54.7% have a self-reported treatment urgency from 0 (no urgent need for treatment) to 5 from a scale up to 10 (very urgent, acute mortal danger)—that is, 643 patients. There was a collective of 6488 patients during the observation period. 643/6488 patients is 9.9%. Thus, taking into account all patients during the observation period, I conclude that less than 10% of patients stated that their treatment urgency was from 0 to 5.

Group formation. It should be noted that the rating scale ranged from 0 to 10, yet it was classified as low up to 5, and as high starting from 6: „Patients themselves estimated how urgently they needed treatment by using a numerical rating scale from 0 to 10; subsequently the subjectively perceived treatment urgency was categorized into two groups: low—*i.e.*, 0–5; and high—*i.e.*, 6–10. „ The „low" category ranges from 0 to 5—that is, it contains six possible choices for the patients, while the „high" category only has five possible choices. An „urgent" rating that would consequently be between „not urgent" and „very urgent"—that is, at 4, 5, or 6 points—was not offered. Did the patients know which group their score was in, or did they perhaps assume that a score of 5, the middle of the scale, was „urgent"? If they did not know, I do not think that it is feasible to retrospectively form the two groups. What exactly did the rating scale look like? After all, the majority of patients chose the value 5. A comparison with the triaging by clinical staff does not fit, because the grouping was „urgent", „normal", „not urgent", and „not specified". Thus, there are doubts as to whether the 18% (1175/6488) of the patients who submitted a rating were even sure about into which rating group their estimations would fall.

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In Reply:

We are pleased about the lively discussion and the comments that our article has had in Deutsches Ärzteblatt and subsequently in a number of subject-specific and general publication media—they are proof of a high level of interest and the topicality of the subject matter (1). However, the correspondences also show that there are four aspects that need to be clarified.

- The contributions from Möckel and Schmiedhofer, von Stuckrad, Swalve-Bordeaux, and Waldeyer-Sauerland all agree that the first key message of our article cannot be derived from the data. They use the total number of patients registered in the emergency departments during the observation period (N=6483) and point out that ultimately, only about 10% of this group in the survey report a low subjective treatment urgency. This calculation included the 5308 patients who did not comment on their subjective urgency, as they were for the most part not included in the survey. In addition, the commentators reformulate the study question using their own interpretation: it was not the intention of the

study to make statements about the total population of patients in emergency departments. Rather, it aimed to describe walk-in patients in emergency departments, who make a rational decision to visit the emergency department but who, at least theoretically, have other choices. This is only the case for patients who are conscious, responsive, and not at an immediate risk of death, and who can dedicate the necessary cognitive attention to their decision. Patients for whom the hospital determined immediate or very urgent need for treatment, those with severe functional impairment in hearing, vision, or speech, and those with a—restrictively defined—high level of symptom burden were excluded not only for ethical and research methodological reasons, but also because the research question did not address this group. Whether the patients who were excluded from our study solely for methodological reasons (for example, short waiting times because of low patient numbers, no possibilities for communication due to lacking language skills, etc.) or who were not willing to participate differ from the study population in terms of their subjective treatment urgency cannot be determined based on the available information.

- In the correspondence of Dr. Waldeyer-Sauerland, the question about the validity of the measurement of subjective treatment urgency is raised, especially because patients were offered a numerical rating scale but not defined categories. By definition, only the end positions 0 and 10 use defined categories on the numerical rating scale, but not the intermediate categories, and patients had to choose an integer value. The high popularity of the answer category „5“ is most likely due to the respondent's convenience on the one hand (you do not have to think about it) and social desirability on the other hand (if you do not know what you want, the middle is least susceptible to criticism). Patients who could not decide or did not want to decide how urgently they needed to be treated were included in the „non-urgent“ patient group, where we felt they belong. Patients did not know, based on their self-report, whether they would be classified as urgent or non-urgent patients. This was deliberately chosen as a methodical approach to patient „blinding“ in order to avoid strategic responses.

- We also find it regrettable, as stated in the correspondence by Prof. Möckel and Dr. Schmiedhofer, that only about half of the interviewed patients at the time of the survey had an initial assessment of treatment urgency by the hospital staff, and we were therefore very cautious in our interpretation of any agreement between subjective and professional assessment of urgency.

- The proposed interpretation from Prof. Möckel and Dr. Schmiedhofer, that primary care physicians „refer“ patients with trauma / skin injuries and low subjective urgency to emergency departments, cannot be concluded from the published results, as correlations at the aggregate level cannot be used to conclude relationships at the individual level.

Finally, we are pleased that our study provides many suggestions for a potentially meaningful reorganization in emergency department care. But our results certainly do not show the only possible „silver bullet“.

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Conflict of interest statement
All authors of the contributions declare that no conflict of interest exists.