# Patient-Oriented Process Optimization In a Central Emergency Department

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## Situation Overview

The emergency departments (ED) of German hospitals have been facing increasing numbers of cases for many years.[1, 2] In 2013, more than 23 million patients were treated in German EDs, of whom about 60% were outpatients.[3, 4] Meanwhile, costs and competitive pressure increase.[4] Additionally, patients turn more and more into customers addressing their wishes and needs.[5] Patients satisfaction is closely linked to the quality claims of the hospital.[6]

## Research Questions

- Which dimensions of patient satisfaction are of particular importance for patients in an emergency department?
- How satisfied are patients who were treated in the emergency department of the respective study hospital?
- Furthermore, is there a need to improve established processes in the ED and if so, in which ways?

## Methods, Data Collection and Sample

The presented project is an empirical study with a pretest and a subsequent analysis. A validated paper-based questionnaire on patient satisfaction in hospitals was taken from literature[7] and adapted to the specific requirements of an emergency department, e.g. by adding a part that asks specifically for pain. The modified questionnaire was pretested in a small cohort and afterwards handed out to the patients.

The study population included patients who were treated in the emergency room of the examination hospital (a hospital of primary care in Hessen, Germany) during a two-week study period. An informed consent was required to participate in this survey.

## Ethical Considerations

The questionnaires were given out on the day after admission in order to avoid putting acutely ill patients under stress. As informed consent was a precondition to participate, only patients who were treated by one of the somatic disciplines (Internal Medicine, General Surgery, Traumatology) were included, but not those who were admitted to a palliative or intensive care unit or who were disoriented, confused or suffering from dementia. Furthermore, no children under the age of 14 or patients with limited knowledge of the German language were included. There are no conflicts of interest among the authors.

## Return and Patient Characteristics

A total of 184 questionnaires were issued to outpatients immediately after completion of treatment and to inpatients on the day after their admission.

The return was 60.3% (n = 111). 64.9% of respondents were female and 34.2% male (Fig. 1). The average age was 58.6 years. 79.3% of the responders were inpatients and 16.2% outpatients.

Moreover, patients were predominantly treated in Internal Medicine (56.8%, n = 63), followed by Traumatology (15.3%, n = 17) and General Surgery (9.0%, n = 10).

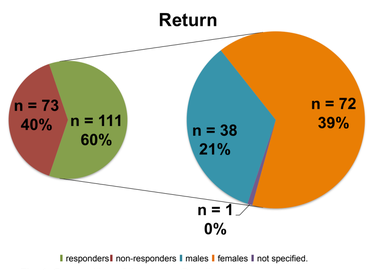


Fig. 1: Composition of the return. Own illustration.

## Relevance of Specific Dimensions

Pain management, medical care, hygiene, nursing care and smooth admittance procedures are particularly relevant for patient satisfaction in emergency departments (Fig. 2). Factors such as service at external functional units as the radiology department, short waiting times, communication with friends and family, discharge or transfer management, and the quality of patient rooms were rated as less important. In addition, catering plays a minor role for most patients in emergency departments.

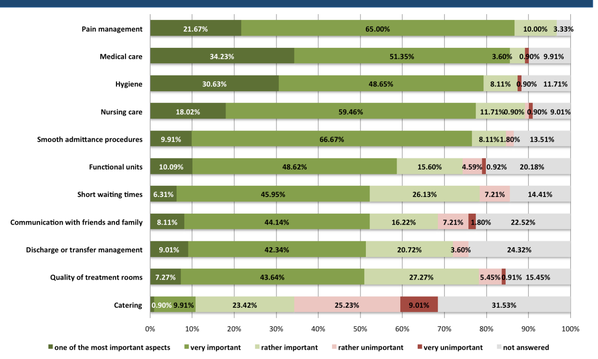


Fig. 2: Importance of various dimensions of patient satisfaction. Own illustration.

## Selected Aspects of Patient Satisfaction

As described, patients were surveyed about their satisfaction regarding various areas of care and respective waiting times. Overall, 48.5% of the interviewees rated the general **waiting times** as good or very good. Asked about the waiting times before seeing a physician, 58.0% answered that they were satisfied, while 80,0% were pleased with the waiting time to meet a nurse (Fig. 3). Only 36.4% of the interviewees stated that **physicians** had always been there in times they were needed, 48.1% indicated that this often was the case. 15.6% reported that physicians were rarely or never available in crucial situations.

74.7% of respondents stated that the **nursing staff** always or often had time for them, 15.2% indicated that this was rarely the case (never: 10.1%).

Furthermore, 74.8% of the patients felt that their stay in the ED was reasonably long, 20.2% said it was too long.

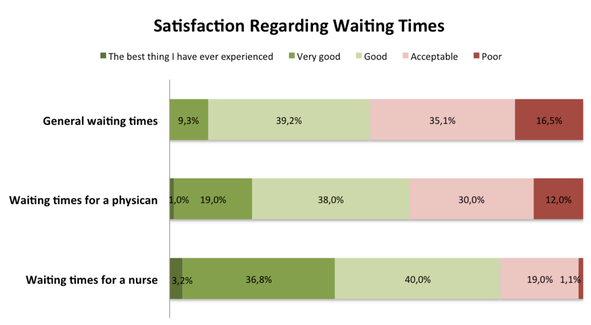


Fig. 3: Patient Satisfaction Regarding Waiting Times. Own illustration.

The average **dwell time** in the ED was 4:14 hours over all departments. Furthermore, in this sample, there was a medium negative correlation between patient age and overall satisfaction (r = -0.319).

If the patients complained about **pain**, they had to wait on average 6:05 minutes for a first pain medication (min = immediately, max = 60 min). When **patients expressed pain**, nurses took action always immediately in 69.8% of the cases, often immediately in 20.9% and rarely immediately in 9.3. 76.0% of the interviewees said the **efficacy of the pain management** was good or even better, whereas 24.0% rated it as acceptable or poor (Fig. 4).

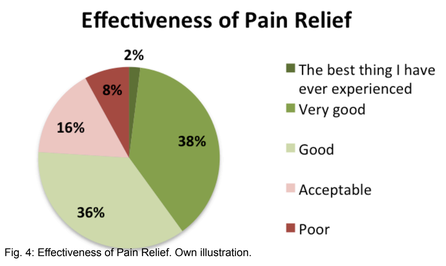


Fig. 4: Effectiveness of Pain Relief. Own illustration.

## Patient-Centric Recommendations for Practical Implementation

This study identifies pain management as a **core process for optimization** in the ED. Based on these results and to improve patient satisfaction during the treatment in the ED in general, the standardized processes in the study hospital are being revised and optimized. As a first and most important step, the **triaging nurse** now always raises important patient parameters including their current pain level via Numerical Rating Scale (NRS). In addition, according to the requirements known from literature[8], a **structured pain management** is established and currently implemented by nurses and physicians. A **continuous improvement process** including re-evaluations is initiated so that further results will follow soon.

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## References

(1) SVR (2014). *Bedarfsgerechte Versorgung – Perspektiven für ländliche Regionen und ausgewählte Leistungsbereiche.* Sachverständigenrat zur Begutachtung der Entwicklung im Gesundheitswesen.
(2) Beivers, A. & Dodt, Ch. (2014). Ökonomische Aspekte der ländlichen Notfallversorgung. *Notfall+ Rettungsmedizin*, 17(3), 190-198.
(3) Schöpke, T., Dodt, Ch., Brachmann, M., Schnieder, W., Petersen, P.-F. & Böer, J. (2014). Statusbericht aus deutschen Notaufnahmen. *Notfall + Rettungsmedizin*, 17 (8), 660-670.
(4) Deutsche Gesellschaft Interdisziplinäre Notfall- und Akutmedizin e.V. (DGINA) (2013). *Positionspapier der Arbeitsgruppe Ökonomie der Deutschen Gesellschaft Interdisziplinäre Notfall- und Akutmedizin (DGINA e.V.) zur Finanzierung der ambulanten Notfallversorgung in Notaufnahmen.* URL: http://www.dgina.de/modules/download_gallery/dlc.php?file= 157.
(5) Köster, C., Wrede, S., Herrmann, T., Meyer, S., Willms, G., Broge, B. & Szecsenyi, J. (2016). *Ambulante Notfallversorgung. Analyse und Handlungsempfehlungen.* AQUA – Institut für angewandte Qualitätsförderung und Forschung im Gesundheitswesen GmbH.
(6) Kooperation für Transparenz und Qualität im Gesundheitswesen (2000). *KTQ-Leitfaden zur Patientenbefragung.* DKVG.
(7) Zinn, W. (2010). *Patientenzufriedenheit: theoretische Grundlagen-Besonderheiten der Messung-potentielle personengebundene Einflussfaktoren.* Ed. Winterwork.
(8) Mackway-Jones, K. & Krey, J. (2011). *Ersteinschätzung in der Notaufnahme: das Manchester-Triage-System.* Huber.