CORRESPONDENCE

Numerical Parameters and Quality Indicators in a Medical Emergency Department

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A Multitude of Non-specific Complaints

Indicators to determine the quality of services in a medical emergency department are most welcome. In order to determine whether they are fit for purpose, comparisons are required. The example of the emergency department of an urban hospital in northern Germany (Fischer/Konitzer; ZfA, abstract 93) shows four times the number of patients/year and the same ratio of further treatment given on an inpatient basis (2/3) and outpatient basis (1/3).

The behaviors we observed with regard to referrals and self admissions to the emergency department increased the volume of patients by 20% in the past 5 years, and the trend is upwards. The composition of patients increasingly resembles that of the case distribution seen in primary care practice according to Braun: 20% of unspecific diagnoses (syncope, thoracic pain, chest pain, breathing difficulties, etc) make for 80% of consultations (Pareto function). The primary care “low prevalence” approach relies primarily on “watchful waiting” rather than on the “avoidable dangerous course” approach (the demand for a diagnosis) as the relevant instruction for action vis-à-vis such a multitude of non-specific complaints (1).

Translating epidemiology that applies to primary care to the previously “high prevalence” environment of the medical emergency department results in more intense workloads: complaints/symptoms that are allocated to “watchful waiting” become subject to maximum levels of investigations.

This shift of emergency department epidemiology may superficially lead to “poorer quality.” The diagnostic agreement (DA) falls with rising occasions of service misuse, if in the event complaints that were initially categorized as serious turn out to be less than serious. The diagnostic efficiency (DE) then falls because of the lower DA and the time consuming investigation of the presenting complaint.

The DA and DE thus require epidemiologically based corrective factors in order to do justice to the epidemiology of emergency departments modeled on primary care settings. Correcting misallocated patients may actually require the participation of primary care doctors in the emergency department (2).

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In Reply:

Fischer und Konitzer’s comments relating to the epidemiological contextualization of quality indicators while considering the low prevalence and high prevalence of potential pathologies represent a further partial aspect in assessing the diagnostic quality of a medical emergency department. They also reflect the core problem of accuracy in making or excluding a diagnosis and the dependence on the prevalence of pathology.

The increasing use of medical services in emergency departments has been confirmed by several German federal states, is based on different underlying motivations, and is also a consequence of the professionalization process of interdisciplinary emergency departments in Germany.

The quality indicators we presented in our study described the diagnostic agreement (DA) of admission and main hospital diagnosis and their relation to the length of stay in the emergency department (DE). We looked merely at the diagnoses that justified admission on the one hand and that were confirmed or negated by further inpatient treatment on the other hand. Epidemiological contextualization is not required for such a study of inpatient diagnoses. Rather, quality indicators provide an opportunity to identify diagnostic groups from low-prevalence conditions (for example, aortic dissection, porphyria) that are underrepresented compared with other diagnostic groups—for example, from high-prevalence conditions (atrial fibrillation, acute coronary syndromes)—and are therefore diagnosed too late or not at all. In this context, individual measures to optimize processes in the diagnostic approach in a medical emergency setting may then be evaluated on the basis of the changed indicators (DE, DA).

Something that would be of interest in this context is the question of whether for outpatient treatment in an emergency department, the need for stepwise diagnostic evaluation is confirmed as a consequence of the Bayesian theorem, in analogy to approaches in primary care medicine (for example, watchful waiting). To our

knowledge, quality indicators for outpatient treatment of cases in an emergency department do not currently exist.

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Conflict of interest statement

The authors of both contributions declare that no conflict of interest exists according to the guidelines of the International Committee of Medical Journal Editors.