



# Do ED and hospital crowding affect admissions from the ED?

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## Background

Crowding in the emergency department (ED) and in hospital wards is an increasing problem in Sweden. Despite this, there is no standardized Swedish definition of crowding. Crowding, including holding/boarding, is known to threaten patient safety and quality of care. It is unknown if crowding also affects ED physicians' decision-making.

## Results

There was no correlation between the admission rate from the ED and the inflow of patients to the ED ( $r = 0.124$ ; Fig. 1) or the daily number of external patients (i.e. patients admitted to wards other than planned due to lack of hospital beds) ( $r = 0.063$ ; Fig. 2). Despite a weak positive correlation between the hourly number of patients present in the ED and the number of admissions ( $r = 0.480$ ), there was no correlation between the hourly number of patients in the ED and the admission rate ( $r = 0.129$ ; Fig. 3).

## Conclusion

ED physicians' decisions to admit patients to in-hospital care did not seem to be affected by ED or hospital crowding. However, since crowding threatens patient safety and quality of care, a standardized definition of crowding is important. We propose the development of a Swedish crowding tool that calculates the degree of crowding and suggests measures to be taken.

## Method

This retrospective study at Skåne University Hospital in Lund included 17,245 patients presenting to the ED's internal medicine and neurology sections from Jan 1 to Aug 31, 2009. Using linear regression analysis, we assessed the correlation between various crowding factors and the admission rate, i.e. admissions to in-hospital care per ED patient.

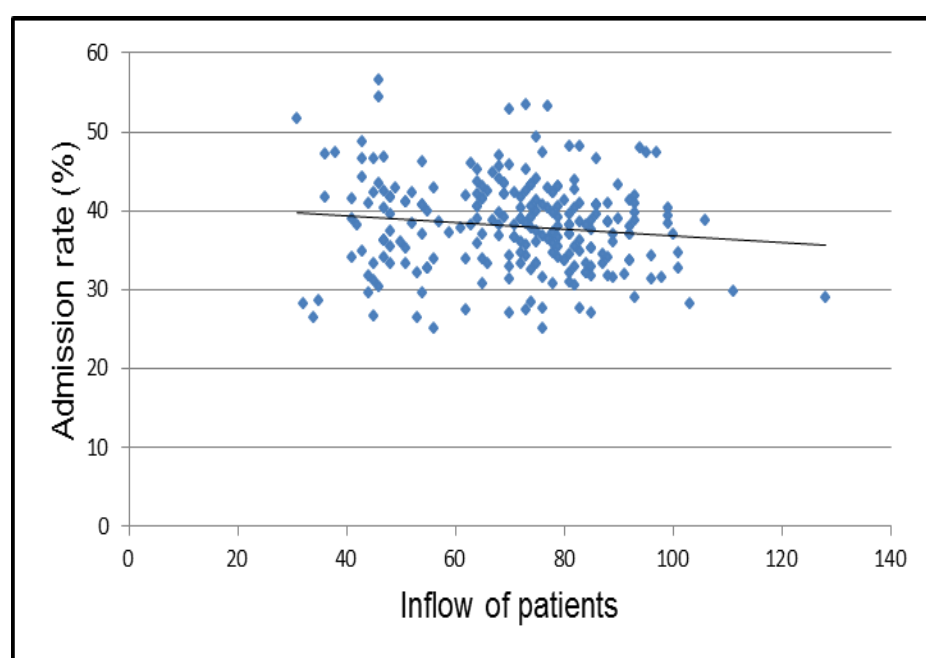


Fig. 1

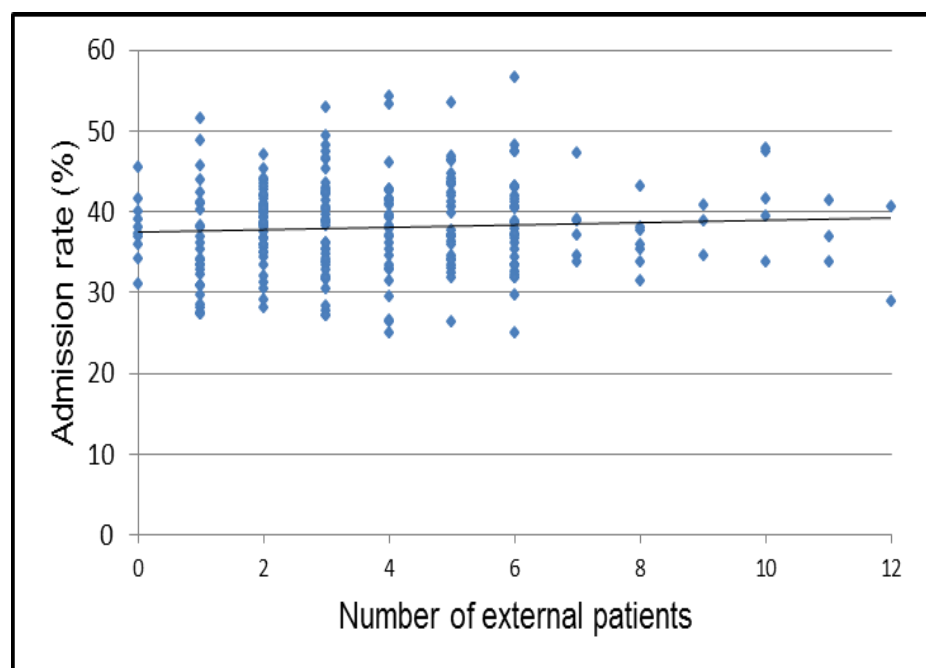


Fig. 2

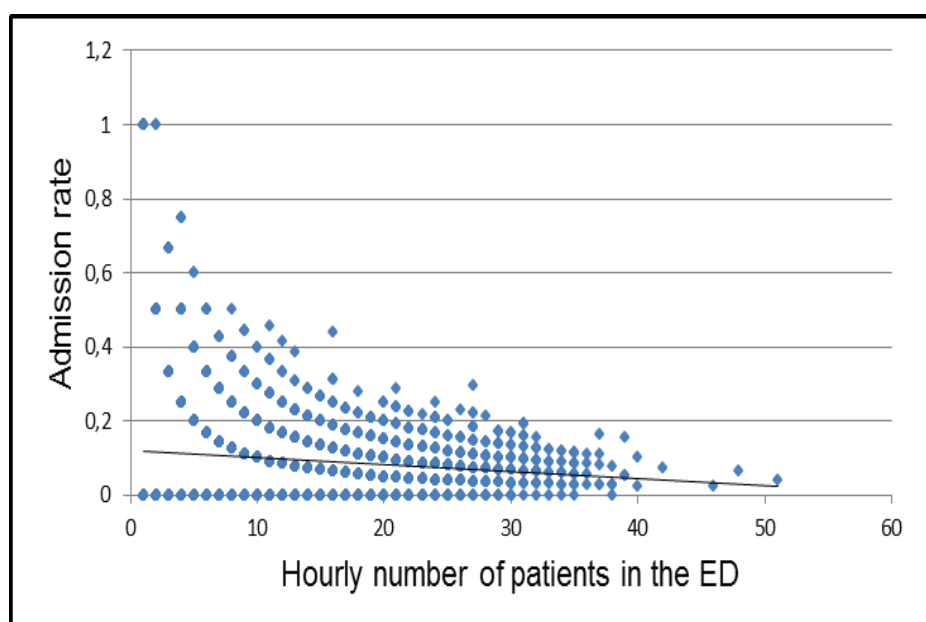


Fig. 3