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Author manuscript

*Am J Emerg Med.* Author manuscript; available in PMC 2017 June 01.

Published in final edited form as:

*Am J Emerg Med.* 2016 June ; 34(6): 1163–1164. doi:10.1016/j.ajem.2016.02.074.

## Patient Treatment in Emergency Department Hallways and Patient Perception of Clinician-Patient Communication

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### Keywords

ED hallway care; crowding; clinician-patient communication

### To the Editor

In the setting of high patient volumes and boarding times across many emergency departments (EDs), clinicians are increasingly tasked with the challenge of managing patients in non-conventional care areas.[1] The use of hallway care areas, locations where patients are in close proximity to one another with little or no structural partitions separating them, has increased.[2–3] Several negative consequences of ED hallway care have been noted, including patient perceptions of compromised care [4] and poor infection prevention practices among staff.[5] However, the impact of hallway care on clinician-patient communication has not been studied. Clinician-patient communication is an important aspect of care associated with decreased patient anxiety and patient satisfaction. [6] Clinician-patient communication may be particularly important for patients evaluated for potentially life threatening conditions such as acute coronary syndrome (ACS). Our study examined the association between hallway care during ED evaluation for ACS and patients' perception of clinician-patient communication. We hypothesized that hallway care would be associated with poorer perception of clinician-patient communication compared to patients receiving care in curtained or divided rooms.

This study was conducted as part of an ongoing observational cohort study of patients presenting to the ED for evaluation of suspected ACS, the REactions to Acute Care and Hospitalization (REACH) study. 500 patients were enrolled at a single site urban academic

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**Meetings:** To be presented at the Society for Academic Emergency Medicine Annual Conference New Orleans, LA May 22, 2016 (accepted for oral presentation)

medical center ED. English and Spanish speaking patients were eligible if they had a provisional diagnosis of “probable ACS” by the treating ED physician. Exclusion criteria included ST elevations on electrocardiogram, psychiatric intervention, or unavailable for 1-year follow. Research assistants recorded patient locations in the ED at study enrollment. Hallway areas were defined as treatment spaces located in open corridors (as opposed to treatment spaces that were partitioned by walls or curtains). Participants’ perceptions of clinician-patient communication were measured with the Interpersonal Processes of Care (IPC) Survey,[7] an 18-item questionnaire assessing aspects of interpersonal processes. Items assess communication style, type of information conveyed between clinician and patient, and patient-clinician shared decision making. The IPC contains three subscales evaluating “hurried communication”, “empathy/respect” and “discrimination”. In addition to excellent psychometrics across a number of studies in multiple countries [8–9], the IPC has been associated with multiple objective indicators/outcomes of communication including length of doctor-patient relationship.[10] Cronbach’s  $\alpha$  for the IPC in this study was .84. Medical severity was assessed with the GRACE index [11] while medical comorbidities score were calculated with the Charlson comorbidity index.[12]. Final hospital discharge diagnosis was also examined in the study based on review of the medical record by two board-certified physicians.

Multiple linear regression was used to test whether patients managed in hallway beds reported worse perceived clinician-patient communication. The model adjusted for patient age, sex, hospital discharge diagnosis (confirmed ACS versus non-ACS), GRACE score, and Charlson comorbidity index. Characteristics for the 500 individuals are presented in Table 1.

Multivariate modeling found that only hallway care was associated with worse perceptions of clinician-patient communication ( $\beta = -0.11$ ,  $p = 0.016$ ) (see Table 2 for model with overall IPC score). Multivariate model examining domains within the IPC revealed Hallway Care associated with worse communication scores in the domain of hurried communication ( $B = .152$ ;  $p < .001$ ), and empathy/respect ( $\beta = -.132$ ,  $p < .004$ ) while not associated with the discrimination domain ( $\beta = -.062$ ,  $p < .171$ )

We found hallway care associated with worse patient perceptions of clinician-patient communication. Our study is the first to document the association of hallway care with clinician-patient communication. Challenges in clinician-patient communication may be especially significant for acute medical conditions such as ACS where poor communication may be associated with increased risk for adverse psychological outcomes [13]. Recognizing the association between communication and hallway care may identify patients who may benefit from additional psychosocial support and help improve aspects of clinician-patient communication across a wide range of care environments in the ED.

This was a single-site study limited to ED patients presenting with ACS symptoms, so findings may not be generalizable to different patient populations or clinical locations such as inpatient (vs. ED) hallway.[14] Additionally, we were unable to determine the impact of length of time spent in a hallway-care area on our outcome as participant location was documented only once at study enrollment. We also assessed patient perception of clinician-patient communication rather than measure actual quality of communication between patient

and provider. Future work may make use of other techniques such as structured interviews to capture these important aspects of quality of clinician-patient communication.

Hallway care may negatively impact patient perceptions of clinician-patient communication. Awareness of this association is important in understanding the experience of patients cared for in busy emergency departments and should help guide further research on ED crowding.

## Acknowledgments

**Grant:** This work was supported by grants HL117832, HL123368, and HL128310 from NIH/NHLBI.

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**Table 1**

Patient Characteristics Hallway vs Curtain/Divided Room

Group Statistics					
	ED Room Type	N	Mean	Std. Deviation	Std. Error Mean
Age at enrollment**	hallway bed	76	55.43	13.114	1.504
	curtain divided room	418	60.40	12.536	.613
Male Sex	hallway bed	76	58%	.497	.057
	curtain divided room	418	53%	.500	.024
Hispanic Ethnicity	hallway bed	76	66%	.684	.078
	curtain divided room	418	62%	.683	.033
GRACE Risk Score**	hallway bed	76	81.61	26.823	3.077
	curtain divided room	415	92.82	29.102	1.429
Charlson Comorbidity Index**	hallway bed	76	1.20	1.592	.183
	curtain divided room	418	1.94	2.170	.106
Confirmed ACS	hallway bed	76	.28	.450	.052
	curtain divided room	418	.34	.474	.023

**Table 2**

Multivariate Model of Predictors of Patient's Perceptions of Patient-Physician Interactions (N=500)

Characteristic	Beta	P-value
Room Type: Hallway	-0.11	0.016
Gender	0.021	0.655
Ethnicity	-0.05	0.918
Age	0.12	0.880
Charlson Comorbidity Index	-0.02	0.711
Global Registry of Acute Cardiac Events (GRACE) Score	0.017	0.846
Confirmed ACS on Discharge	-.111	0.380

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