

Incidence and impact measurement of delirium induced by ED stay (INDEED)

Marcel Émond, MD, MSc¹⁻²⁻³, Valérie Boucher, BA¹⁻²⁻³, Philippe Voyer inf., PhD¹⁻²⁻³, Mathieu Pelletier, MD²⁻⁴, Émilie Gouin, MD⁵, Raoul Daoust, MD MSc⁶⁻⁷, Simon Berthelot, MD MSc²⁻⁸

¹Axe Santé des populations et pratiques optimales en santé, CHU de Québec Hôpital de l'Enfant-Jésus, Québec; ²Université Laval, Québec; ³Centre d'excellence sur le vieillissement de Québec, Québec; ⁴Centre Intégré de Santé et de Services Sociaux de Lanaudière, Joliette; ⁵Centre Hospitalier Régional de Trois-Rivières, Trois-Rivières; ⁶Centre de recherche de l'Hôpital du Sacré-Cœur de Montréal, Montréal; ⁷Université de Montréal, Montréal; ⁸CHUL, CHU de Québec, Québec.
Corresponding author: marcelemond1@me.com

INTRODUCTION

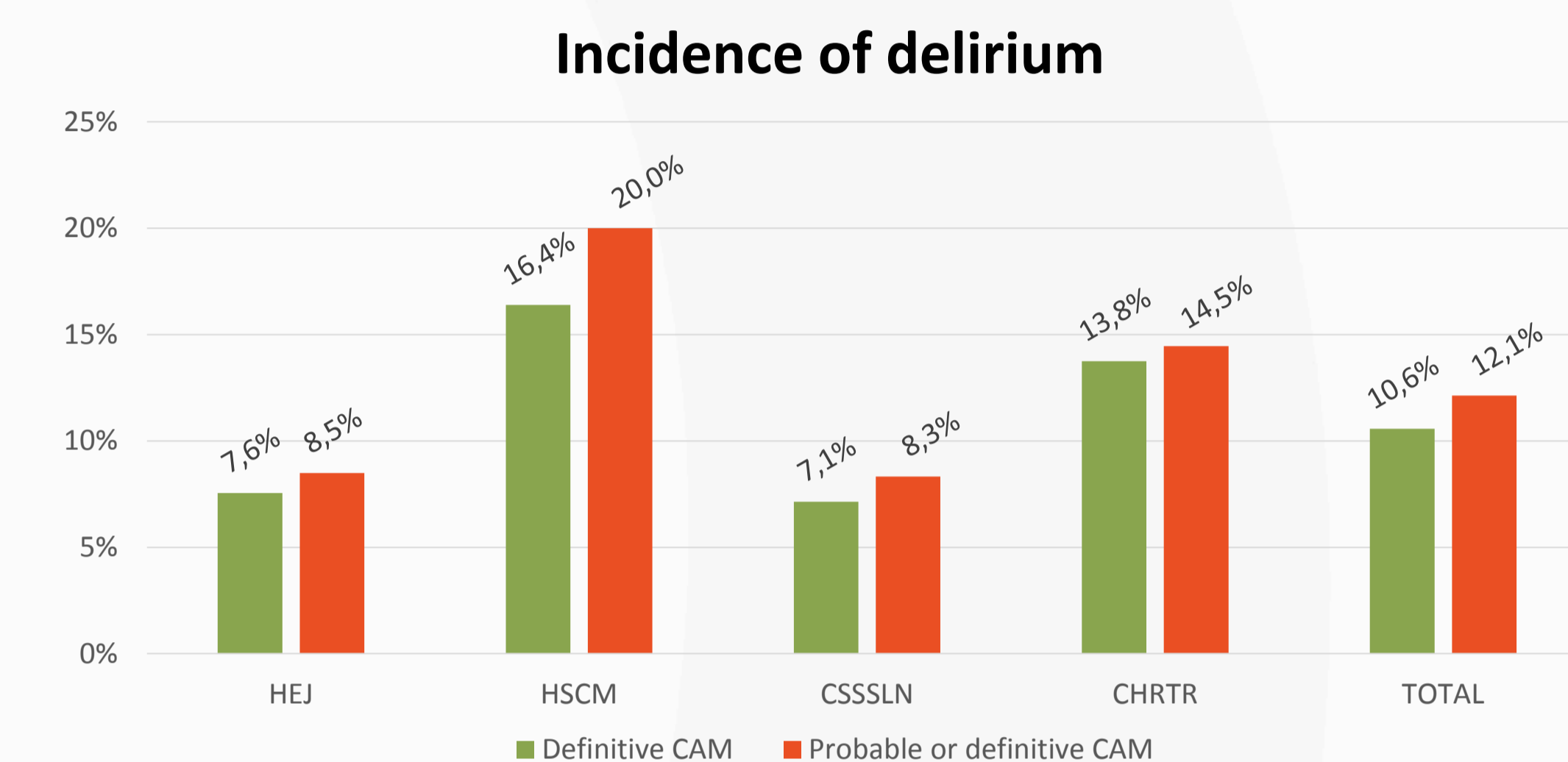
Delirium is a dreadful complication in seniors' acute care. Many studies are available on the incidence of delirium, however ED-induced delirium is less studied. We aim to evaluate its incidence and impact among admitted seniors with prolonged ED stay (≥8 hours).

METHODS

This prospective study included patients from 4 Canadian EDs. Patients were assessed by a research assistant twice a day up to 24h after ward admission. Functional and cognitive status were assessed using validated OARS and TICS-m tools. The CAM was used to detect incident delirium. Univariate and adjusted multivariate analyses were conducted to evaluate outcomes. Adjustments were made for age, comorbidity, site, APACHE and an interaction between site and incidence of delirium.

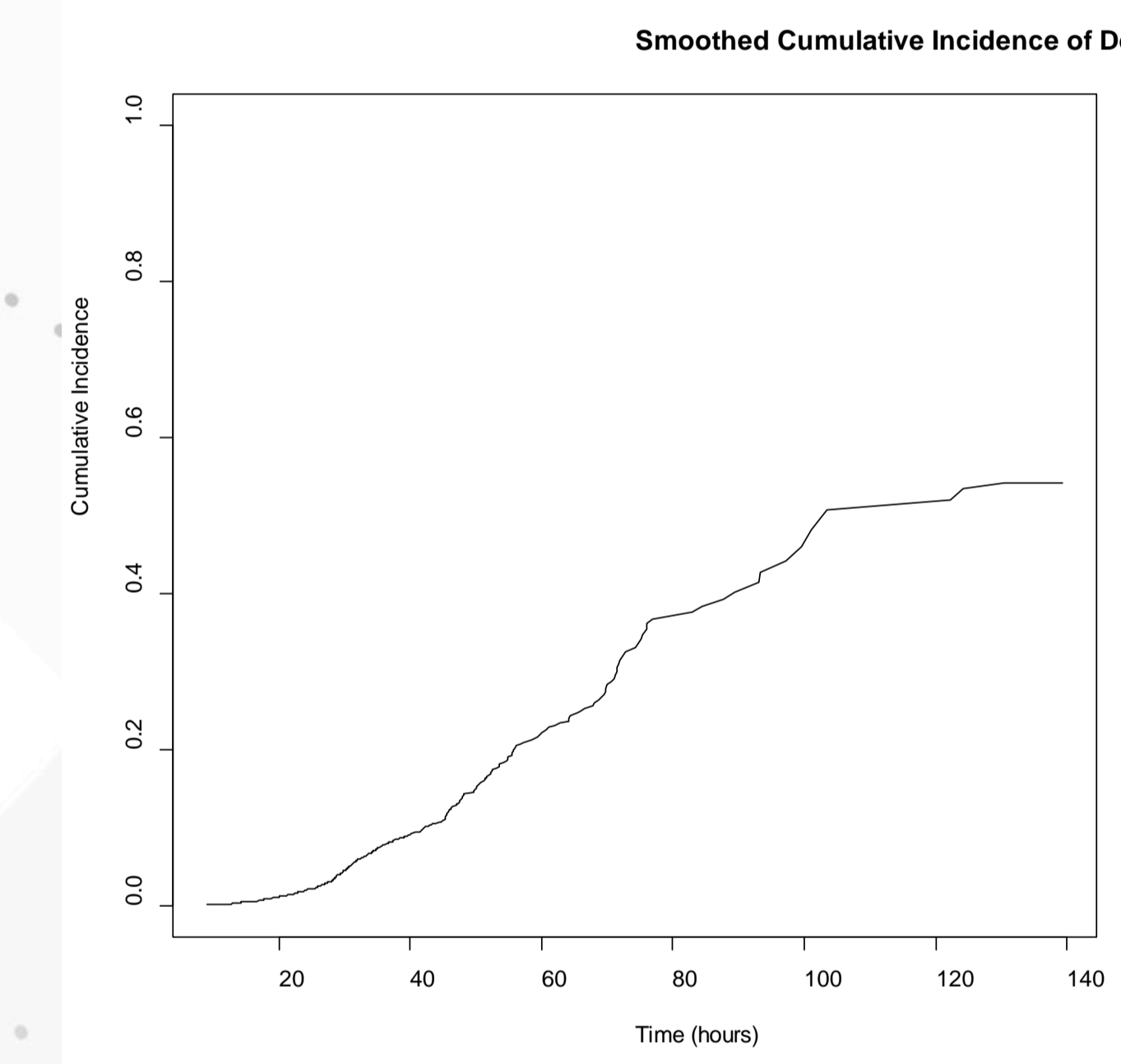
RESULTS

- 338 patients were included, mean age was 76.8 (± 8.1), 48.8% male and 17.7% were aged > 85 years old.
- The overall incidence of ED-induced delirium was 12.1%.
- Age is associated with the incidence of delirium (p<0.0001).
- Mean ED LOS varied from 30.8 to 60.6 hours. An average of 38.7 hours in the ED for patients without delirium and 45.2 hours for those with probable or definitive CAM was observed. (p=NS)
- Mean hospital adjusted LOS was significantly increased by 4.6 days in the delirious patients compared to non-delirious patient (p=0.0009).



Description of the population

	HEJ	HSCM	CSSSLN	CHRTR	Total
Age					
65-74 y/o	61	21	38	35	155
75-84 y/o	36	23	35	29	123
≥85 y/o	9	21	11	19	60
Sex					
Male	53	28	45	39	165
Female	53	37	39	44	173
OARS at baseline					
Mean (SD)	26,3 (2,0)	26,4 (2,2)	25,9 (2,6)	24,9 (2,4)	25.9 (2.4)
TICS-m at baseline (adjusted for education)					
Mean (SD)	31,9 (4,9)	32,7 (5,0)	31,6 (5,6)	29,4 (6,2)	31.4 (5.6)
Charlson					
Mean (SD)	1,9 (1,8)	1,6 (1,7)	3,1 (2,5)	1,8 (1,5)	2.1 (2,0)
APACHE II					
Mean (SD)	8,7 (3,8)	6,3 (3,6)	7,4 (2,9)	6,7 (2,5)	7.5 (3.4)

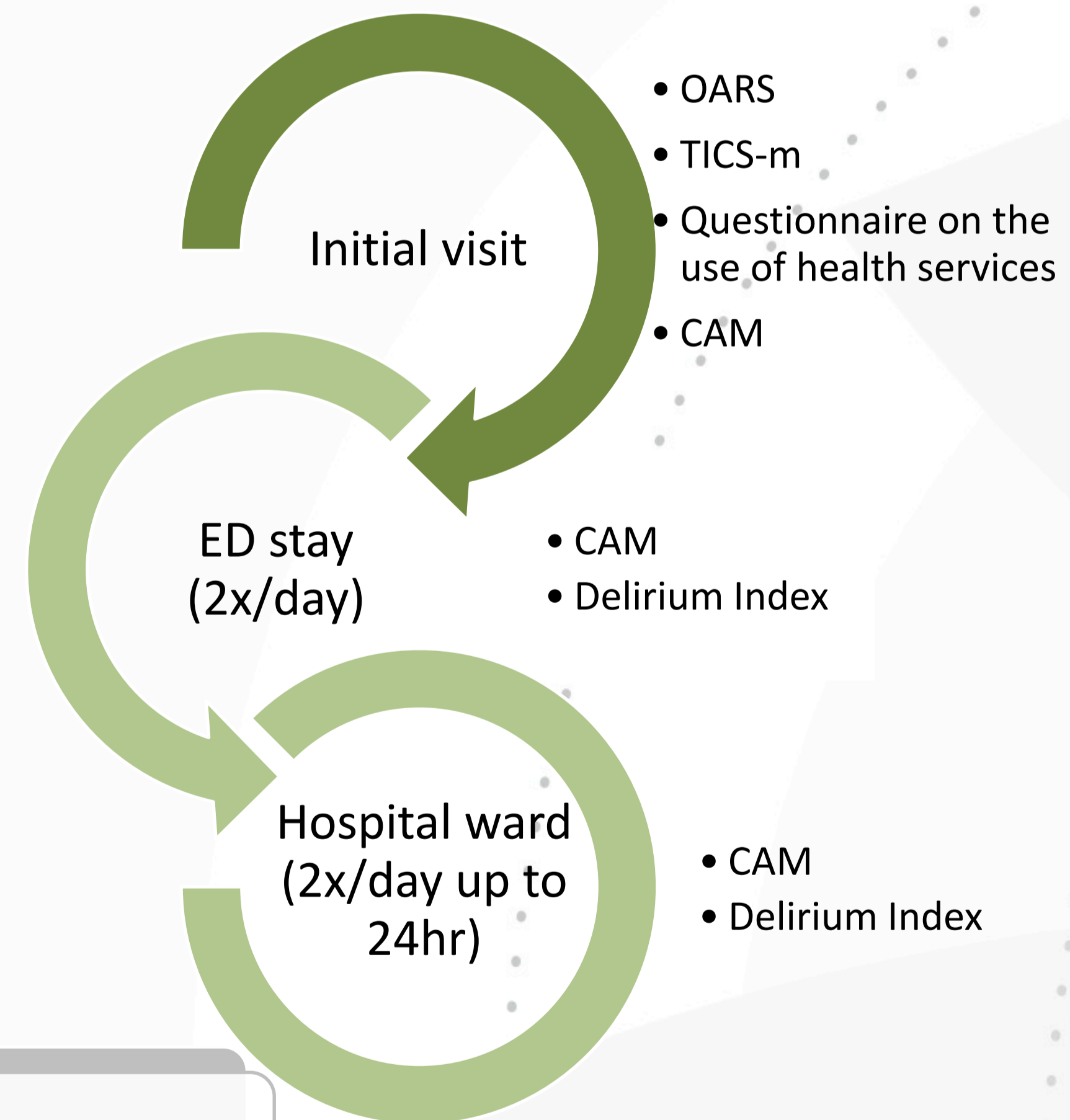


Inclusion criteria

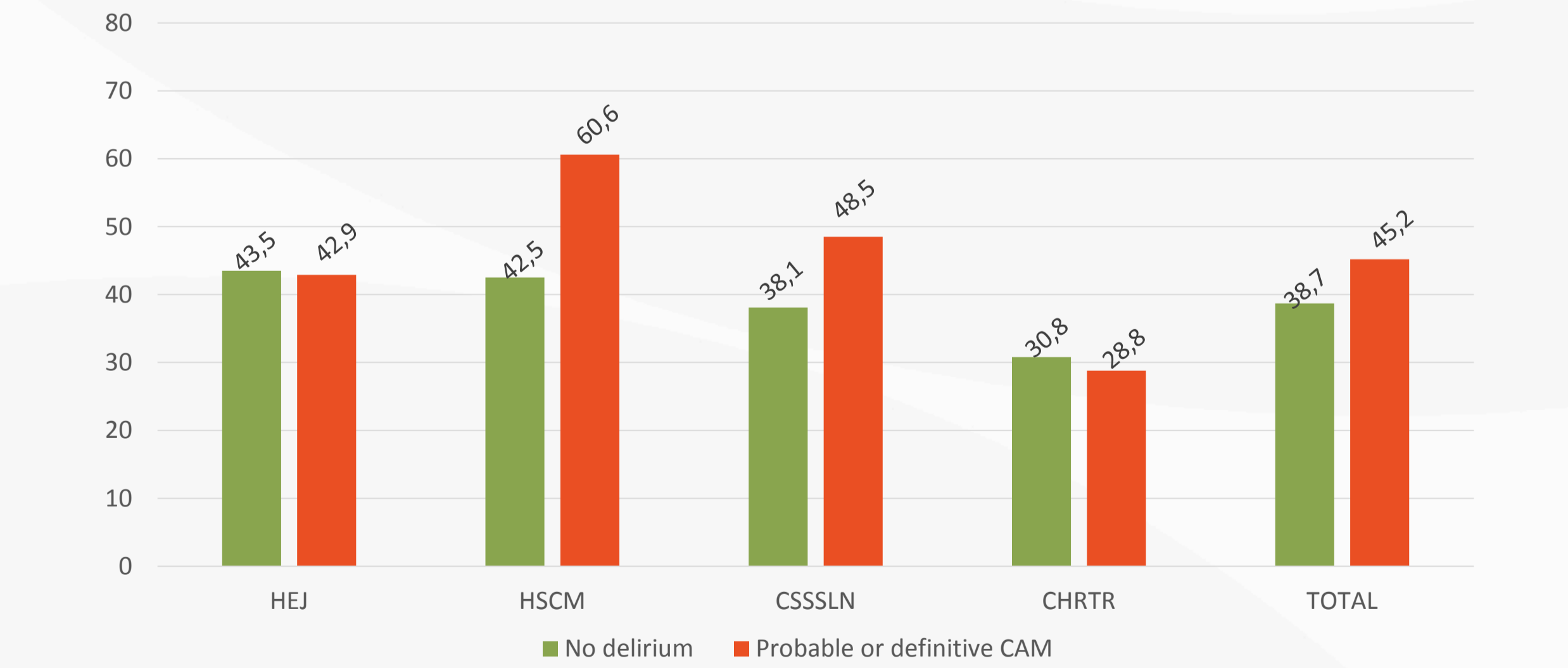
- Patients aged ≥65;
- ED stay ≥8 hours;
- Admitted to hospital ward;
- Independent/semi-independent.

Exclusion criteria

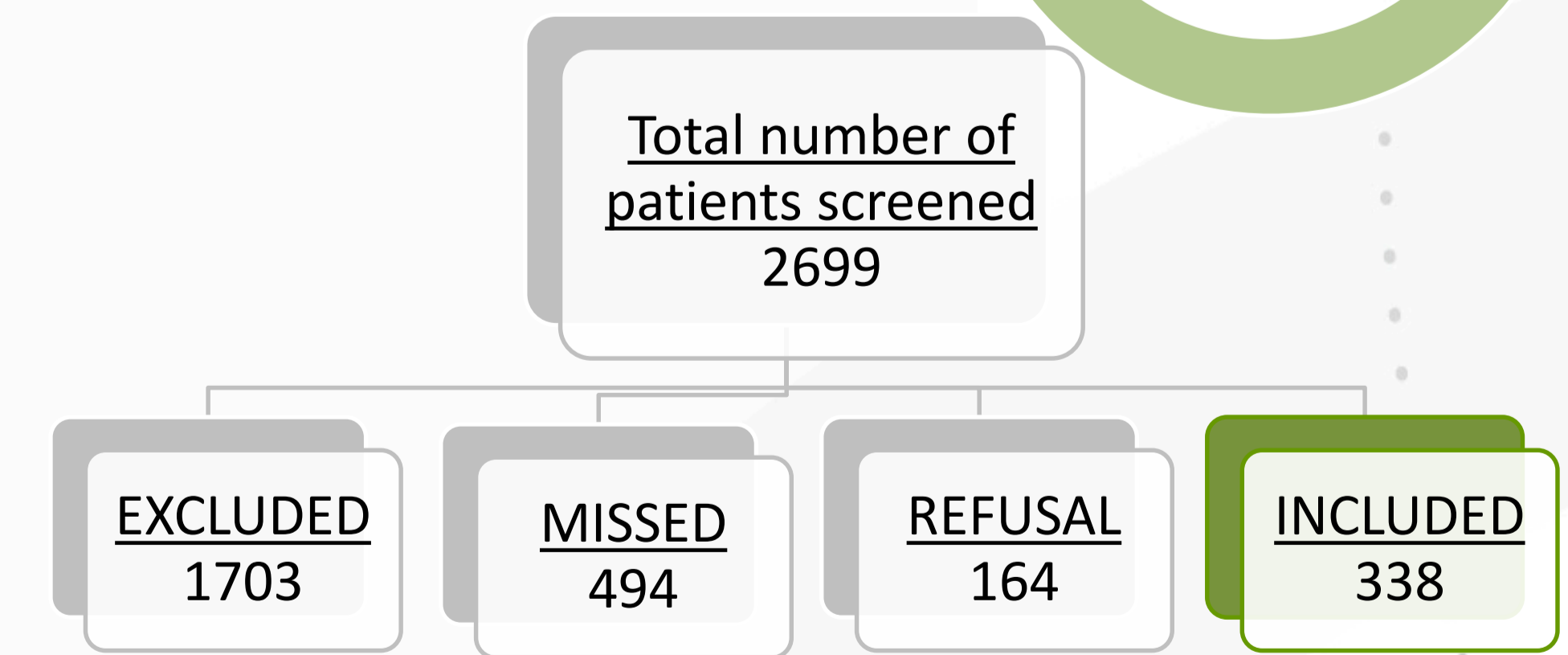
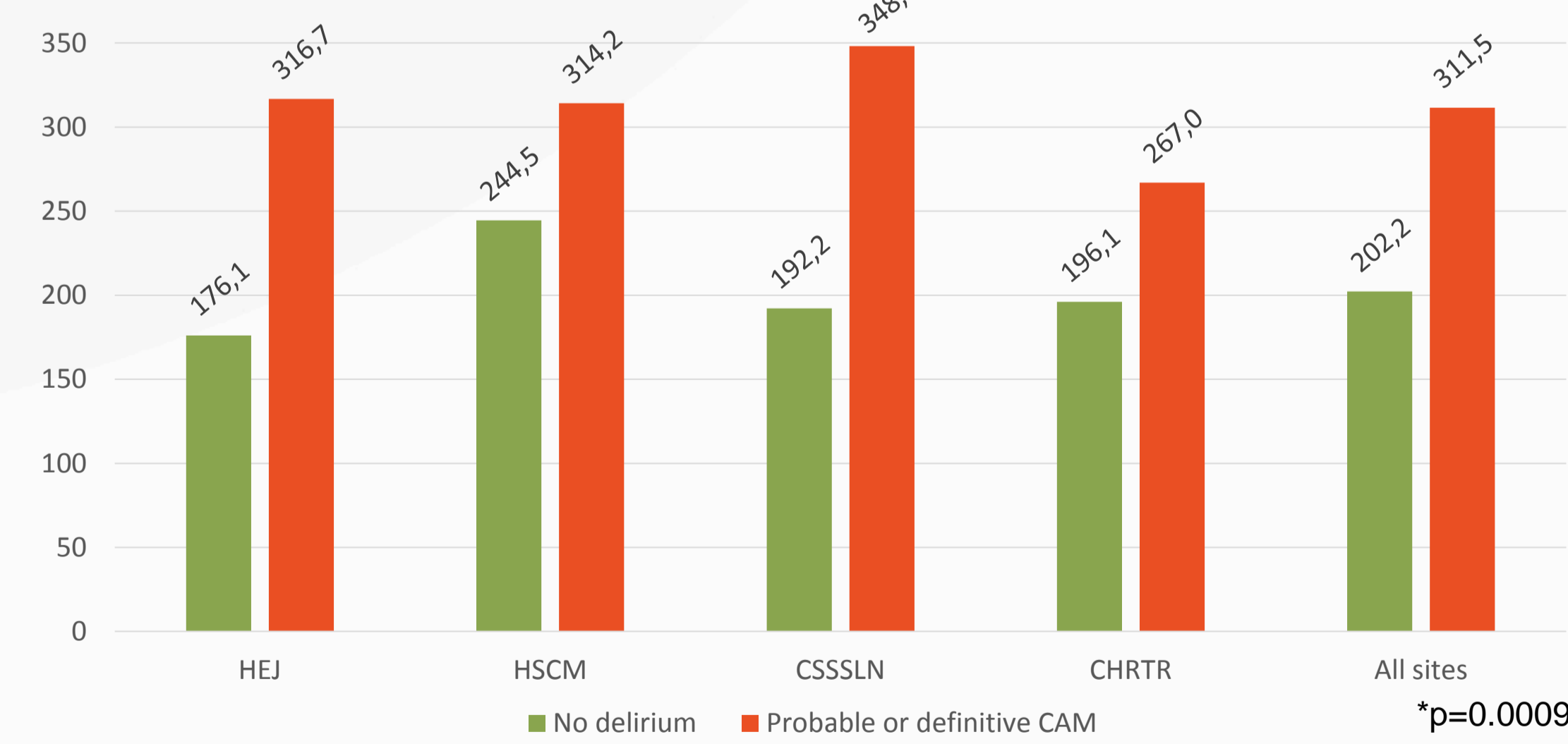
- Unstable medical condition;
- Unable to consent / to communicate in French or English;
- Present a delirium before the ED visit or at the end of the first 8 hr;
- History of psychiatric disorders.



Length of ED stay (hours)



Length of hospital stay (hours)



CONCLUSIONS

ED-induced delirium was recorded in 12,1 % of included seniors after an 8 hour ED stay. There is no statistically significant differences between patients with delirium and those without regarding the ED LOS. A statistically significant difference was observed for hospital LOS. An episode of delirium increases significantly hospital LOS by over 4 days.

Acknowledgements: We would like to thank Pierre-Hugues Carmichael for performing the statistical analyses as well as all the research assistants who participated in the recruitment of patients.

