

Comparing Healthcare Associated Infection (HAI) data to Hospital Acquired Complication Infection (HAC) data to find the differences



Smuts A, S Frost

Bowral & District Hospital Infection Prevention, Ingham Institute of Applied Medical Research, Liverpool Hospital



Background

HAC data is a prominent clinical indicator with data for most Health Care Facilities (HCF) collected by clinical coders using the ICD 10 (International Classification of Diseases version 10) criteria. HAI data is collected by Infection Prevention staff using international HAI criteria. Is HAC and HAI data comparable, and what determines cases being coded correctly or missed? The accuracy and reliability of HAC data may not reflect the real world experience.

Aim

To compare HAC data to HAI data, collected and reviewed by clinicians over a 2 and a half year period in a medium size (C1) hospital (94 beds) to identify HAC data accuracy compared to HAI data and finding determinants that influence HAC collection.

Methodology

As part of normal business, HAI and HAC data was collected independently of each other and tabled at monthly HAI meetings. Cases were assessed against international criteria for HAIs and classified as True or False cases. These cases were tabled on a joint spreadsheet and compared to determine the statistical differences between HAIs and HACs. Patient documentation for each case was assessed to determine if differences could be found between cases missed, correctly identified or wrongly identified.

References

- Clinical Excellence Commission, *Quality Improvement Data System (QIDS)*.
- Prevention, C.f.D.C.a. *International Classification of Diseases, (ICD-10-CM/PCS) Transition – Background*. 2015 November 6, 2015; Available from: https://www.cdc.gov/nchs/icd/icd10cm_pcs_background.htm
- Clinical Excellence Commission, *Healthcare Associated Infection (HAI) Clinical Indicator Manual – Version 3.3 – September 2021*. 2021: Sydney

Disclosure

No disclosures or conflicts to declare

Contacts

CNC Arene Smuts—Bowral & District Hospital - Arene.Smuts@health.nsw.gov.au

Results

Table 1

During the study period 316 cases of HAIs or HACs were identified. Patients were stratified as per Table 1 and their HAI classified as one of 13 different HAIs as per Figure 1.

	N	Hospital Acquired Infection Group			p-value ²
		Overall, N = 301 ¹	Male, N = 139 ¹	Female, N = 162 ¹	
Age (yrs), Median (IQR)	301	80 (71 – 87)	81 (73 – 86)	79 (71 – 87)	0.67
Diabetes, n (%)	301	42 (14)	23 (17)	19 (12)	0.23
Chronic respiratory disease, n (%)	301	42 (14)	19 (14)	23 (14)	0.90
Chronic renal failure, n (%)	301	46 (15)	32 (23)	14 (8.6)	<0.001

¹ Median (IQR) or Frequency (%)
² Wilcoxon rank sum test; Pearson's Chi-squared test

Figure 1

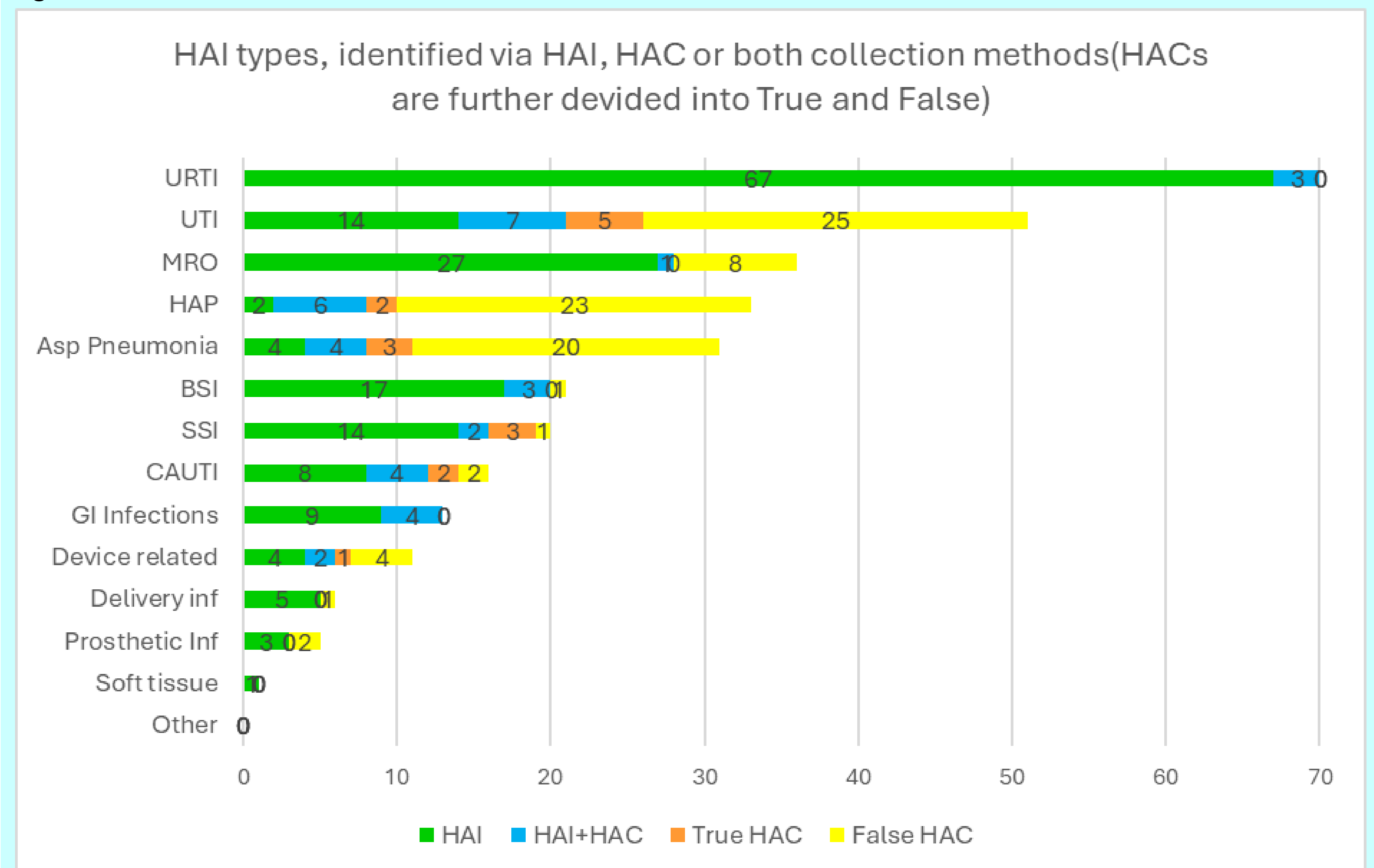


Figure 2.

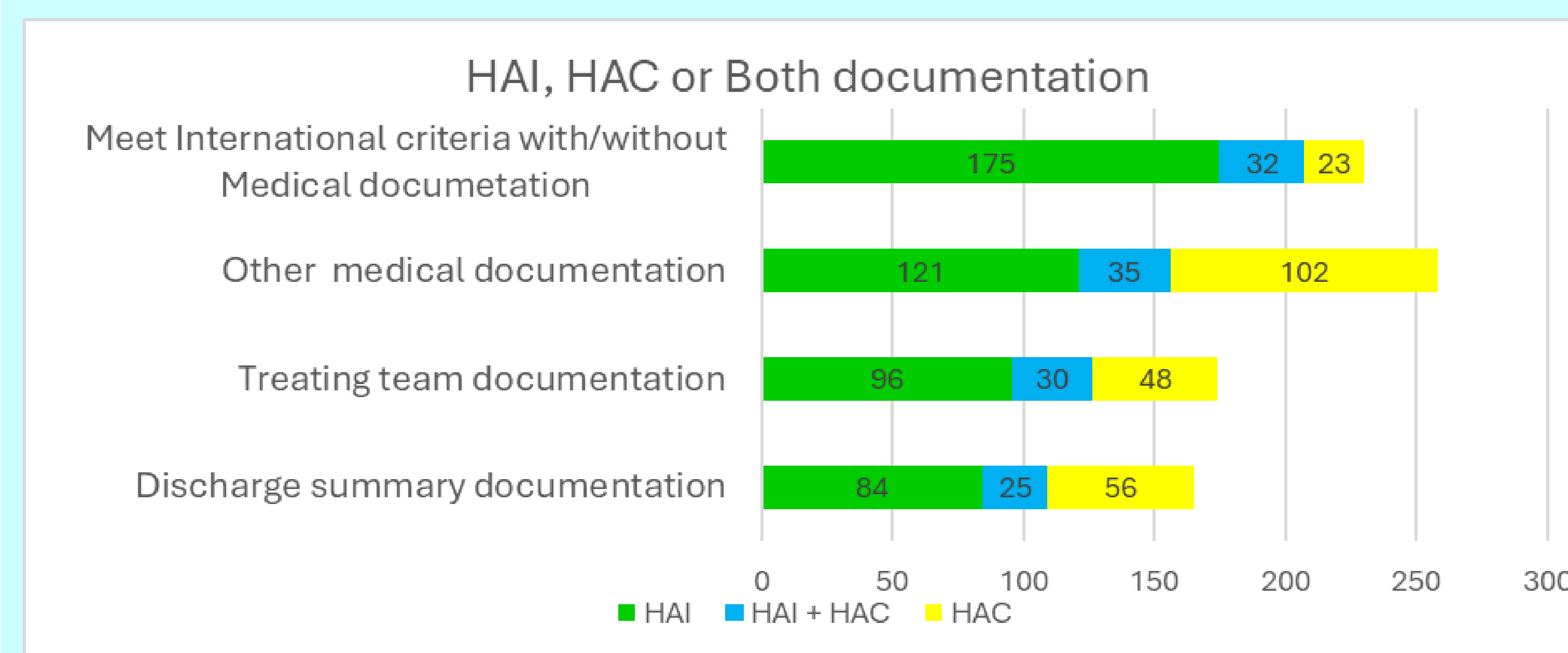


Figure 2 show whether these cases had medical documentation of a healthcare associated infection

Conclusion

Based on two and a half years' surveillance data of both HAIs and HACs, it was found that two thirds (65%) of reported HACs for all infection types does not meet the minimum international criteria to classify them as health care associated infections.

The remaining true HAC cases excludes 175 true HAI cases, and therefore under represents the true HAI burden of the facility by 76%

Further more it was found that medical documentation were lacking for both HAI and HAC cases, with only 47% of true cases documented in the Discharge summary.

37 to 45% HAC cases not meeting minimum international criteria for a health care associated infection had some type of medical documentation present declaring it as a health care associated infection. The rest of the HAC cases not meeting international HAI criteria had no medical documentation or other data present to justify their classification as a HAC.

The accuracy of HAC data would benefit from an improvement in medical documentation during the patient stay as well as in the discharge summary.