
Trends in Infectious Disease Admissions in Queensland Public Hospitals

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The Australian Society for Infectious Disease states that antibiotic resistance and the global re-emergence of epidemic disease in the past 30 years is the looming issue for day-to-day infectious disease management in Australia^{1,2}. It called for the establishment of an antimicrobial resistance management body to deal with antimicrobial resistance and an Australian Centre for Disease Control to manage the broad range of infectious disease threats¹.

This StatBite presents the results of a trend analysis of infectious disease rates for overnight separations in Queensland public hospitals. Because Chapter 1, *Certain Infectious Diseases*, ICD-10-AM Tabular List does not include localised infections such as influenza and other acute respiratory infections³, an infectious disease separation in the Queensland Hospital Admitted Patient Data Collection was defined as an episode of care with the principal diagnosis belonging to the set of ICD-10-AM diagnostic codes for infectious disease proposed by Baker et al⁴ (see [Technical Appendix](#) for further details). Their codes to define infectious disease are a refinement of a code set developed by researchers at the Centers of Disease Control and Prevention for their studies of mortality⁵ and hospitalisation⁶ trends in the United States due to infectious disease.

The trend-line labelled “All ID” in Figure 1 shows the trend from 2004/2005 to 2011/2012 in the overnight infectious disease separation rate per 100,000 of the Queensland estimated residential population where the definition of infectious disease was according to Baker et al. The “ICD Ch.1” and “MDC 18” trend-lines were included for comparison. They show the trend in overnight separation rates for episodes of care where the principal diagnosis was from Chapter 1, ICD-10-AM Tabular List³, and the AR-DRG⁷ Version 5.0 code belonged to Major Diagnostic Category 18, Infectious and parasitic diseases, respectively. All three plots show a statistically significant upward trend, at the 5% significance level, but the “All ID” rates are six times greater than the “ICD Ch1” rates.

The Australian Hospital Statistics 2010-11⁸ published tables where the overnight separations in 2010/2011 for each Australian state are categorised by ICD Chapter and Major Diagnostic Category (MDC). Those tables show that only 2% of Queensland overnight separations have AR-DRG codes from MDC 18 and 3% have a principal diagnosis from Chapter 1 of the ICD-10-AM Tabular list.

Figure 1. Trends in the rates of overnight infectious disease (ID) separations from Queensland public hospitals for three definitions of infectious disease, 2004/2005 – 2011/2012

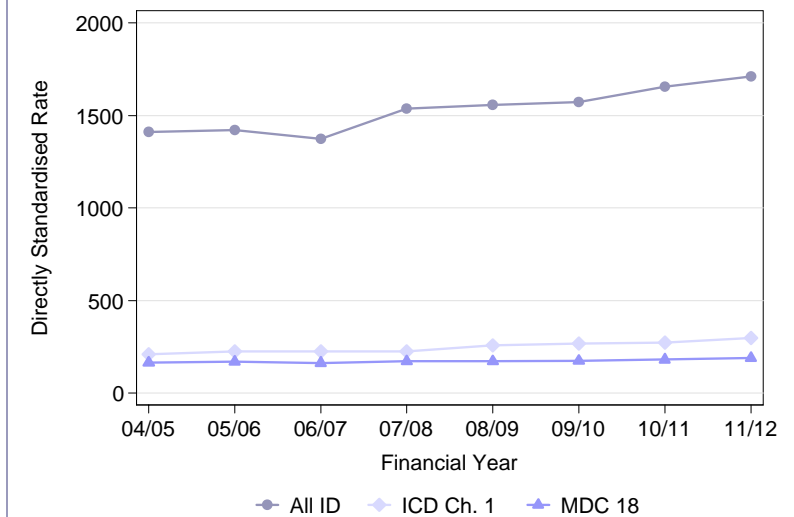


Table 1 shows that, in 2010/2011 and 2011/2012, the proportion of overnight episodes of care classified as infectious disease was approaching one in five separations. It is also noteworthy that the proportion of all separations with a principal diagnosis of infectious disease increased over time. That is, the results of this analysis suggest that, between 2004/2005 and 2011/2012, there was a substantial and increasing burden on Queensland's public hospitals because of overnight admissions with a diagnosis of infectious disease.

Further investigations of the impact of the increase in infectious disease admissions on Queensland public hospitals are planned.

Table 1. Overnight separation rates for infectious disease, as defined by Baker et al, in Queensland public hospitals, 2004/2005 – 2011/2012.

Financial Year	Infectious Disease	All Separations	Percentage
2004/05	1,412.3	8,658.7	16.3%
2005/06	1,420.5	8,556.5	16.6%
2006/07	1,372.6	8,574.6	16.0%
2007/08	1,536.1	8,919.9	17.2%
2008/09	1,558.4	8,951.9	17.4%
2009/10	1,572.2	8,901.9	17.7%
2010/11	1,654.9	8,990.5	18.4%
2011/12	1,709.3	9,416.1	18.2%

Source: Queensland Hospital Admitted Patient Data Collection (QHAPDC)

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