Potentially Preventable Hospitalisations*

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Potentially Preventable Hospitalisations (PPHs) are conditions where hospitalisation is believed to be avoidable through provision of timely and adequate non-hospital care (1). PPH separation rates may therefore be useful as indicators of the availability and quality of non-hospital care.

To reflect the objectives of primary care, PPHs are grouped into three broad categories (1,2):

1. Vaccine-Preventable conditions – conditions where vaccine is widely available (influenza, certain types of bacterial pneumonia, tetanus, diphtheria, whooping cough, measles, mumps, rubella, certain types of bacterial meningitis, hepatitis B and polio).

2. Acute conditions – conditions for which prompt treatment can reduce morbidity and pain and lead to fewer hospitalisations (dehydration/gastroenteritis, pyelonephritis, perforated/bleeding ulcers, cellulitis, pelvic inflammatory disease, ear nose & throat infections, dental conditions, appendicitis with generalised peritonitis, convulsions and epilepsy, and gangrene).

3. Chronic conditions – conditions for which effective management can reduce deterioration and hospitalisation (asthma, congestive cardiac failure, diabetes complications*, COPD, angina, iron deficiency anaemia, hypertension, nutritional deficiencies and rheumatic heart disease).

The ten most common admissions for PPHs* in Queensland are shown in Figure 1. Diabetes complications* accounted for the greatest frequency of admissions, occurring approximately 2.5 times more frequently and accounting for approximately 1.8 times as many bed days as the next most frequent condition. Conditions with longer stays such as COPD and congestive cardiac failure accounted for a relatively large proportion of resource usage. Dental conditions were ranked third highest, although accounted for the least number of bed days.

Figure 2 shows the differential of separation rates for all PPHs* by socioeconomic advantage/disadvantage (SEIFA Index of Socio-Economic Advantage/Disadvantage (ABS 2001)) for total Queensland, and by remoteness (Accessibility/Remoteness Index of Australia (ARIA) (ABS, 2006)) within Indigenous and non-Indigenous populations. Separation rates for the most disadvantaged SEIFA quintile were almost double those of the most advantaged SEIFA quintile, with a clear gradient between these extremes. PPH* rates were much higher within Indigenous persons than in non-Indigenous persons, and the rate of PPH admissions increased with increasing remoteness. For Indigenous persons, PPH* separation rates in remote/very remote areas were more than double those in major cities, with a clear increase between inner and outer regional areas. For non-Indigenous persons, separation rates in major cities and inner and outer regional centres were all very similar; however, rates in remote/very remote areas were approximately 25% higher than major cities and regional areas.

Because not all PPH admissions are completely preventable, interpretation should focus on variations in admission rates for these conditions rather than absolute rates. Additionally, caution is advised in the use of PPH admissions as indicators of sub-optimal primary care; it is recommended that the PPH indicator be used to identify possible problems – which should be subject to further investigation (2).

Figure 1. Frequency of Admission and Bed days for Top 10 potential preventable hospitalisations* – Queensland persons, 2007/2008

Rank	PPH	Number admitted	Bed Days
1	Diabetes complications	33063	163434
2	COPD	12717	92933
3	Dental	11573	13413
4	Dehydration/Gastroenter	10548	26297
5	Angina	10497	25315
6	Pyelonephritis	9962	44537
7	Congestive cardiac	8529	62699
8	Cellulitis	7992	35444
9	Ear, nose, and throat	7668	12507
10	Asthma	7001	16099

Figure 2. Age standardised rates of potentially preventable hospitalisations* by SEIFA for total Queensland and by ARIA for Indigenous and non-Indigenous persons, 2007/2008
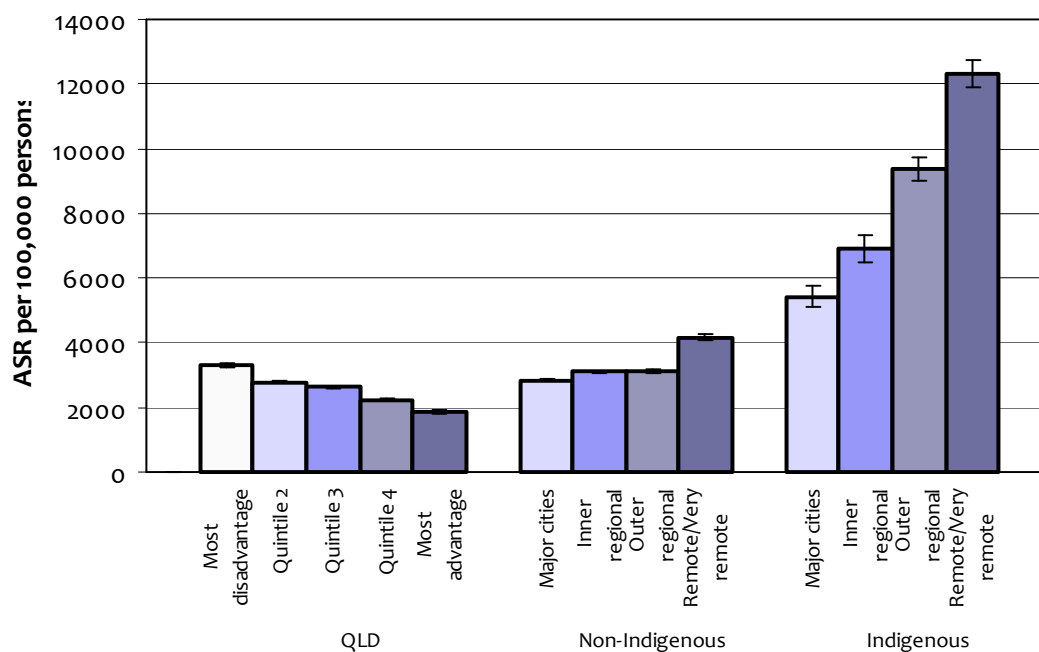
1. Australian Institute of Health and Welfare. *Australian Hospital Statistics 2006-07*. Canberra: AIHW 2008.
    For a list of included conditions and ICD codes see http://www.aihw.gov.au/publications/hse/ahs06-07/ahs06-07-x01.xls (Table A1.9)

2. Department of Human Services Victoria. *The Victorian Ambulatory Care Sensitive Conditions Study: Preliminary Analyses*. Victoria: Public Health Division 2001.

* Hospital separations for renal dialysis (Z49) are included as a diabetes complication in the national definition of PPH as defined in (1) but have been excluded from the results reported here due to inconsistency in the way this diagnosis is coded in Queensland hospitals.