

Measuring Equity of Clinical Pharmacy Service Provision at Regional and Rural Hospitals in North Queensland

Sanja Mirkov, BPharm, PGDipPH¹; Rhondda Jones, BScBInfTech, PhD²; Alexander Ison¹, BPharm; Allan Wilesmith; Jason Black, BScPharm(Hons), ClinDipPharm^{1,2}

¹Pharmacy Department Cairns and Hinterland Hospital and Health Services, ²James Cook University, ³Casemix and Clinical Costing Department, Cairns and Hinterland Hospital and Health Service

Aim

- To evaluate equity and coverage of clinical pharmacy service provision at regional and rural hospitals in North Queensland

Background

Provision of medication action plan (MAP) and discharge medication record (DMR) is associated with reduced medication-related harm¹⁻³

- Age is one of the prioritisation criteria for service provision
- The difference in life expectancy at birth between First Nations and non-Indigenous peoples^{6,9}
 - 8.6 years (males), 7.8 years (females)
 - North Queensland: 17 years

Measures of equity of service provision should take in consideration the difference in life expectancy⁵

Method

- Develop a dashboard for clinical pharmacy key performance indicators
 - 8 hospitals, 59 wards
 - Electronic medical records available at the regional hospital only
 - Paper-based medication charts and prioritisation tool
- Conduct a retrospective 12-month period prevalence study
 - Inclusion criteria: overnight stay
 - Statistical analysis: Chi², logistic regression in R

Results

The proportions of MAP were higher for:

- Rural hospitals compared to the regional hospital
- Age-specific proportion of MAPs were higher for First Nations patients compared to non-Indigenous patients

	All patients* (n, %)	First Nations (n, %)	Non-Indigenous (n, %)	P (χ ²)
Medication Action Plan (MAP)				
All patients	13,818 (37.9)	2,781 (32.1)	11,014 (40.0)	<0.001 (174.2)
0-18	147 (2.8)	64 (3.5)	97 (2.5)	
19-49	1,515 (17.2)	606 (19.6)	904 (16.0)	0.001 (17.9)
50-64	3,335 (44.4)	1,180 (52.8)	2,149 (41.2)	<0.001 (85.5)
65-84	6,048 (57.5)	730 (62.6)	5,312 (57.2)	0.001 (85.5)
85 and over	2,118 (67.5)	73 (62.4)	2,044 (67.9)	
Regional hospital	10,005 (34.6)	2,176 (29.8)	7,809 (36.5)	<0.001 (107.5)
Rural hospitals	3,817 (50.6%)	603 (44.3)	3,206 (52.2)	<0.001 (28.1)
Male	7,590 (42.2)	1,329 (35.8)	6,252 (44.2)	<0.001 (85.1)
Female	6,226 (33.7)	1,450 (29.3)	4,754 (35.5)	<0.001 (62.2)
Discharge Medication Record (DMR)				
All patients	11,631 (32.7)	2,579 (30.5)	9,052 (33.7)	<0.001 (29.8)
0-18	203 (3.9)	79 (4.4)	121 (3.6)	<0.01 (105.7)
19-49	1542 (17.9)	658 (21.8)	879 (15.9)	<0.001(46.1)
50-64	2742 (37.9)	1010 (46.7)	1747 (34.4)	<0.001(97.2)
65-84	4888 (47.8)	646 (56.8)	4241 (47.0)	<0.001(38.9)
85 and over	1720 (56.6)	64 (57.1)	1651 (56.6)	
Regional hospital	9,354 (33.1)	2,218 (31.1)	7,111 (34.0)	<0.001 (20.1)
Rural hospitals	2,287 (31.3)	361 (27.3)	1926 (32.4)	0.003 (13.2)
Male	6,374 (36.4)	1202 (33.3)	5153 (37.4)	<0.001 (20.7)
Female	5,273 (29.2)	1381 (28.5)	3885 (29.7)	

*Includes patients of unknown / not stated Indigenous status

Table 1. Number and proportion of patients who received a MAP on admission and DMR at discharge by age, Indigeneity, type of hospital and gender

The proportions of MAP were lower for:

- First Nations patients aged 50 and over compared to non-Indigenous patients aged 65 and over
- Female compared to male patients

	First Nations 50 and over (n, %)	Non-Indigenous 65 and over (n, %)	P (χ ²)
Medication Action Plan (MAP)			
All patients	1981 (56.3)	7354 (59.8)	0.002 (14.1)
Male	899 (56.6)	4122 (58.7)	
Female	1082 (56.1)	3228 (61.2)	0.001 (15.3)
Discharge Medication Record (DMR)			
All patients	1720 (50.4)	5886 (49.3)	
Male	759 (49.9)	3313 (48.5)	
Female	962 (51.3)	2579(50.5)	

To account for the difference in life expectancy, the number and proportion of MAP and DMR were compared for the First Nations patients 50 and over and non-Indigenous patients 65 and over

Table 2. Number and proportion of patients who received a MAP on admission and DMR at discharge for First Nations patients aged 50 and over and non-Indigenous patients aged 65 and over

Discussion

- When adjusted for a difference in life expectancy, the proportion of MAP for First Nations patients was lower compared to the proportion of MAP for non-Indigenous patients
- Further improvements are required to achieve equity of service provision for First Nations and female patients

Take Home Messages

- New age prioritisation criteria for clinical pharmacy services
 - Non-Indigenous patients: age 65 and over
 - First Nations patients living in major cities: age 50 and over
 - First Nations patients living in regional and rural areas: age 45 and over
- Indigenous status should be available at the point of care

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