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## Aboriginal and Torres Strait Islander emergency department utilisation in south-east Queensland

Helena J King<sup>1</sup>, Raelene Ward<sup>1</sup>, Alexander B King<sup>2,3</sup>, Muntasirur Rahman<sup>2</sup>, Srinivas Kondalsamy-Chennakesavan<sup>2</sup>

<sup>1</sup>University of Southern Queensland, <sup>2</sup>Rural Clinical School, The University of Queensland, <sup>3</sup>Darling Downs Hospital and Health Services

### Introduction

Despite governments' commitments to closing the gap between Aboriginal and Torres Strait Islander people and non-Indigenous health status, it is well documented that health inequities still exist. (1,2) There is a paucity of recent information about Aboriginal and Torres Strait Islander presentations, motivation, experience and outcomes within Queensland Emergency Departments. Previously published findings showed that Aboriginal and Torres Strait Islander peoples were more likely to present to the Emergency Departments (ED), less likely to nominate a General Practitioner (GP), more likely to leave before their treatment is complete and more likely to re-attend than non-Indigenous people.(3) Findings from the Australian College for Emergency Medicine (2018) support the overrepresentation of Aboriginal and Torres Strait Islander people in ED, particularly, in very remote (50%) and remote areas (35%) (4). However, major gaps exist in understanding the number and type of presentations in the Darling Downs Hospital and Health Services (DDHHS) region of South-East Queensland.

DDHHS is the provider of public hospital and health services serving ~300,000 people spread over 90,000 km<sup>2</sup> in South-East Queensland. Aboriginal and Torres Strait Islander people make up five percent of the population, compared with four percent across the state of Queensland. (5,6) Toowoomba Hospital is the largest public hospital in the region with 18 other hospitals spread across the region offering emergency care.

### Objective

The primary aim was to describe the differences, if any, between Aboriginal and Torres Strait Islander people and non-Indigenous adults (aged 16+) presenting to the EDs of South-East Queensland in terms of age, gender, mode of arrival, insurance status, triage category, diagnosis and discharge status.

## Materials and methods

A retrospective comparison of characteristics of all presentations over a two-year period (2016 and 2017) to EDs in the 19 hospitals of the DDHHS region. After ethics clearance and approval under the public health act, relevant data for this study were obtained from Health Information Services, DDHHS. Participants (aged 16+) included all those who presented between 1<sup>st</sup> January 2016 and 31<sup>st</sup> Dec 2017. Primary diagnosis was coded using International Statistical Classification of Diseases and Related Health Problems, Australian Modification (ICD-10-AM). Patients who did not identify themselves as Aboriginal or Torres Strait Islander were considered non-Indigenous for the purposes of statistical analyses. Statistical analyses were performed using Stata (version 15.1, Stata Corporation, Tx, USA).

## Results

Overall, in the two- year study period, there were 250,742 ED presentations (from 109,516 individuals), to DDHHS EDs, an average of 343 presentations every day. Toowoomba hospital accounted for almost one third (80,375) of all these presentations, an average of 110 presentations per day, with the rest distributed across the other 18 hospitals.

Even though Aboriginal and Torres Strait Islander people form 4.9% (5) of the overall population in the DDHHS catchment area, they accounted for 12% of all ED presentations. Aboriginal and Torres Strait Islander people were significantly younger, with females presenting more often compared to non-Indigenous Australians. Also, significant differences were noticed in the mode of arrival between Aboriginal and Torres Strait Islanders and non-Indigenous adults. Aboriginal and Torres Strait Islander adults were less likely to arrive by road ambulance, air ambulance or helicopter rescue services compared to non-Indigenous adults (16.8% versus 24.1% non-Indigenous). Significant differences were also noted in triage categories, insurance status and discharge status. Aboriginal and Torres Strait Islander people were less likely to be admitted (19.8% vs. 25.8% non-Indigenous); more likely to leave prior to commencement of treatment (4.3% vs 2.7% non-Indigenous) or leave at own risk prior to completion of treatment (2.2% vs 1.4% non-Indigenous). Aboriginal and Torres Strait Islander people were over-represented in the less severe triage categories (Categories 4 and 5) (68% vs 60% non-Indigenous).

Median waiting time for commencement of treatment and the overall length of stay (LOS) in the ED are shown in Table 1. Median waiting time was significantly lower in the Darling Downs region for Aboriginal and Torres Strait Islander adults. A greater proportion of Aboriginal and Torres Strait Islander adults were seen on time compared to non-Indigenous adults (88% vs 84%) and a greater proportion of Aboriginal and Torres Strait Islander adults left the ED in under four hours compared to non-Indigenous adults. Also, the median LOS in the ED was significantly lower for Aboriginal and Torres Strait Islander adults.

Administration of medication (Z76.8) was the most common reason for ED presentations for both Aboriginal and Torres Strait Islander people and non-Indigenous Australians.

**Table 1** Time to treatment and length of ED stay

Time	Indigenous	Non-Indigenous	p
Waiting time for treatment at ED <sup>1</sup>			
Median [IQR] waiting time, minutes	5 [0-21] min	10 [0-31] min	<0.001
90 <sup>th</sup> percentile waiting time (minutes)	57 min	72 min	<0.001
Proportion seen on time (%) <sup>2</sup>	88.0%	83.5%	<0.001
Length of stay (LOS) at ED <sup>1</sup>			
Median [IQR] LOS, minutes	70 [27-152] min	102 [45 – 185] min	<0.001
90 <sup>th</sup> percentile for LOS, minutes	243 min	279 min	<0.001
Proportion leaving ED in < 4 hours (%)	89.7%	86.1%	<0.001

## Discussion and conclusions

This research expands our understanding of factors that contribute to Aboriginal and Torres Strait Islander people presenting to ED's across DDHHS hospitals across South-East Queensland. Consistent with previous findings, a greater proportion of Aboriginal and Torres Strait Islanders visit the EDs compared to non-Indigenous Australians. Whilst it is comforting to know that they are seen earlier and the proportion seen on time is greater compared to non-Indigenous Australians, this may in part be because of their over-representation in the lower triage categories. Detailed exploration of enablers and barriers needs to be undertaken for ED usage by Aboriginal and Torres Strait Islander peoples. Also, future research should explore patients' satisfaction with the quality of care delivered in the ED settings. These will facilitate closing the gap through improvement in the services provided within EDs, and improved engagement and utilisation of existing primary care services by Aboriginal and Torres Strait Islander people.

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## Presenter

**Raelene Ward** is a descendant of the Kunja people from Cunnamulla. She has been a practising nurse for the last 28 years, is a qualified Registered Nurse, Researcher and Senior Lecturer in the Bachelor of Nursing program at the University of Southern Queensland in Toowoomba. Raelene has also completed a Masters in Health and more recently a PhD in Aboriginal suicide. She has a wealth of experience, knowledge and skills in undertaking research with Aboriginal people and communities bringing into these projects well established networks and rapport with many diverse communities. Raelene continues to establish a profile in suicide prevention in Aboriginal communities producing a number of publications, including peer-reviewed journal articles, opinion pieces in the *Nursing Review*, major reports, contributing chapters in several different nursing and education texts books within Australia.