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SHORT REPORT

Disposition disparities in an urban tertiary emergency department

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Abstract

Objective: To explore disparities between Māori and non-Māori patients with respect to triage acuity and disposition based on presenting complaint.
Methods: This was a retrospective review of 5788 (n = 594 Māori, n = 5194 non-Māori) ED visits in February 2021, extracted from the hospital data warehouse.
Results: Māori were triaged similarly to non-Māori but were less likely to be admitted compared to non-Māori: relative risk 0.87 (0.78, 0.97), $P = 0.008$.
Conclusion: Māori were less likely to be admitted for similar presenting complaints, despite similar triage acuity. Further research is required to determine the reasons for this apparent inequity.

Key words: *emergency medicine, ethnicity, indigenous health, inequities, Māori.*

Introduction

Indigenous health disparities have been observed worldwide, persisting across high, lower-middle and low-income countries.[1] Minority groups, including indigenous patients, are more frequent users of EDs,[2,3] have longer wait times, treatment delays, fewer analgesics offered, and are more likely to leave ED before being seen.[2,4] Time pressured environments are thought to exacerbate existing biases.[5] In New Zealand (NZ), indigenous Māori make up approximately 17.1% of the population and have been shown to have inequitable health outcomes when presenting to ED.[6] However, the causes of these disparities are not known. The aim of this audit was to determine whether there are differences in ED processes for Māori and non-Māori patients by exploring chief presenting complaint (CPC) with respect to triage category and disposition from ED based on diagnoses.

Methods

This was a retrospective chart review in the month of February 2021 at an adult (>14 years) urban tertiary referral centre with approximately 76 000 presentations annually. This audit did not meet the threshold for health and disabilities ethics committee review and was approved by the Auckland District Health Board Research Review Committee under the low-risk pathway.

Data source

All ED presentations are coded with a CPC and diagnosis using the Systematic Nomenclature for Medicine – Clinical Terms (SNOMED-CT). CPC coding occurs on arrival to ED and the diagnosis is a mandatory field in the electronic assessment and discharge summaries in our department. These data are sent automatically to the hospital's data warehouse. Patient demographics, CPC triage category and disposition were extracted from the data warehouse.

Results

There were 5788 ED presentations. Of those, 10.3% (n = 594) were Māori and 89.7% (n = 5194) were non-Māori. There was no difference in triage category assignment overall (Table 1).

Māori were less likely to be admitted than non-Māori: 227/594 (38.2%) *versus* 2281/5194 (43.9%, relative risk 0.87 [0.78, 0.97], P = 0.008). There was a trend to reduce admission rates for Māori for most categories of CPC (Table 2).

Discussion

Although overall triage acuity was similar, we found that Māori were less likely to be admitted compared to non-Māori across most chief presenting complaints. It may be that Māori present with less severe illness (perhaps reflecting inequity in access to primary care), although this was not reflected in triage category assignment in our study. It may be that

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TABLE 1. *Triage category based on ethnicity*

Triage category	Māori, % of Māori $n = 594$	Non-Māori, % of non-Māori $n = 5194$	Total, % of total $n = 5788$	Overall % Māori	*P*
1	20, 3.4%	204, 3.9%	224, 3.9%	8.9%	0.797
2	109, 18.4%	1028, 19.8%	1137, 19.6%	9.6%	
3	257, 43.3%	2242, 43.2%	2499, 43.2%	10.3%	
4	191, 32.2%	1569, 30.2%	1760, 30.4%	10.9%	
5	17, 2.9%	151, 2.9%	168, 2.9%	10.1%	

$X^2 = 1.667$, $df = 4$, $P = 0.797$.

TABLE 2. *Disposition based on chief presenting complaint and ethnicity*

Chief presenting complaint category	Admitted	Discharged	Self-discharge	Transfer	Total	% Admitted	Difference in % admitted*
Māori	227	331	28	8	594	38.2%	−5.7%
Cardiovascular	25	24		1	50	50.0%	−4.4%
Dermatology	10	24	4	1	39	25.6%	−1.8%
Environmental		1			1	0.0%	−33.3%
Gastrointestinal	46	43	6		95	48.4%	−6.0%
Genito-Urinary	10	7	1		18	55.6%	6.7%
Head/Neck	3	18	1		22	13.6%	−5.7%
Mental health	2	26	4	1	33	6.1%	−2.6%
Miscellaneous	20	16	3		39	51.3%	0.2%
Musculoskeletal	9	30	2	1	42	21.4%	−6.7%
Neurology	19	22		1	42	45.2%	−1.6%
O&G	22	4	2		28	78.6%	2.4%
Ophthalmology		2			2	0.0%	−4.3%
Respiratory	28	23	1		52	53.8%	−7.8%
Toxicology	1	13			14	7.1%	−3.0%
Trauma/Injury	32	78	4	3	117	27.4%	−2.2%
Non-Māori	2281	2714	176	23	5194	43.9%	
Cardiovascular	435	354	10	1	800	54.4%	–
Dermatology	94	220	24	5	343	27.4%	–
Environmental	1	2			3	33.3%	–
Gastrointestinal	511	400	27	1	939	54.4%	–
Genito-Urinary	84	84	3	1	172	48.8%	–
Head/Neck	25	96	7	1	129	19.4%	–
Mental health	10	97	7	1	115	8.7%	–
Miscellaneous	210	179	22		411	51.1%	–
Musculoskeletal	70	168	10	1	249	28.1%	–
Neurology	222	236	13	3	474	46.8%	–

(*Continues*)

TABLE 2. *Continued*

Chief presenting complaint category	Admitted	Discharged	Self-discharge	Transfer	Total	% Admitted	Difference in % admitted*
O&G	118	33	4		155	76.1%	–
Ophthalmology	2	43	2		47	4.3%	–
Respiratory	214	124	9		347	61.7%	–
Toxicology	7	61	1		69	10.1%	–
Trauma/Injury	278	617	37	9	941	29.5%	–
Grand total	2508	3045	204	31	5788	43.3%	–

*Māori minus non-Māori.

Māori are less likely to be offered or less likely to accept admission. The Examining ED Inequities study[6] found that Māori presenting to ED in NZ are more likely to die within 10 days of ED discharge and this was also true of our ED despite Māori having similar times to assessment and being less likely to experience Access Block (https://eedi.co.nz/results/auckland-dhb/). Clinical decision making may be influenced by health providers' ethnic bias.[7] Māori were reported to be almost 10 times more likely to experience racial discrimination in social settings than non-Māori, including from a healthcare professional.[8]

Limitations

The current findings are based on descriptive data and have not been adjusted for potential confounders, so they may only be considered hypothesis generating.

Conclusion

Further research is required in order to determine the cause of reduced admission rates for Māori in our ED and whether this is linked to worse outcomes.

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Author contributions

PJ: study concept, data curation, data analysis, data interpretation, manuscript review and overall responsibility; JH: study concept, data collection, data interpretation, draft manuscript; HB: data collection, data interpretation, manuscript review: IR: study concept, data interpretation, manuscript review (indigenous); RK: data collection, data interpretation, manuscript review; DH: data collection; data interpretation, manuscript review (indigenous).

Competing interests

PJ is a section editor for *Emergency Medicine Australasia*.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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