

Health service utilisation by quota, family-sponsored and convention refugees in their first five years in New Zealand

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Abstract

Objective: This study examines and compares health service utilisation patterns between New Zealand's (NZ) three main refugee groups and the general NZ population.

Methods: We used Statistics NZ's Integrated Data Infrastructure to identify quota, family-sponsored and convention refugees arriving in NZ (2007–2013). We analysed contact with primary care, emergency department (ED), and specialist mental health services for the first five years in NZ. Logistic regression models, adjusted for age, sex and deprivation, compared health service use between refugee groups and the general NZ population in years 1 and 5.

Results: Quota refugees were more likely to be enrolled and in contact with primary care and specialist mental health services in year 1 than family-sponsored and convention refugees, but differences reduced over time. All refugee groups were more likely than the general NZ population to have presented to ED in year 1.

Conclusions: Quota refugees were better connected with health services in year 1 than the other two refugee groups. The types of frontline health services accessed by refugee groups differed from the general NZ population.

Implications for Public Health: There should be systematic and equal support across all NZ regions to help refugees (regardless of visa type) navigate the NZ health system.

Key words: refugee, visa type, settlement support, health service use, linked administrative data

Introduction

Every day people around the world continue to be forced to flee their homes due to wars, persecution, human rights violations, environmental and climate issues and economic hardship.¹ Current United Nations Refugee Agency (UNHCR) estimates indicate over 80 million people are forcibly displaced from their homes including around 26 million refugees who have found, or are currently seeking, refuge in a host country.¹

Aotearoa New Zealand (NZ) is one such host country. Over 35,000 refugees have resettled in NZ since World War II.² There are three main refugee groups in NZ: quota refugees, family-sponsored refugees/migrants and convention refugees.^{3,4} As part of the UNHCR

regular refugee resettlement programme, the NZ Refugee Quota Programme has accepted around 750 refugees each year since 1987. This quota increased to 1,000 in 2018 and was due to further increase to 1,500 in 2020 but was disrupted by the COVID-19 pandemic.² There are a further 300 places per year available for former refugees to sponsor family members to come and live in NZ.⁴ Sponsored family members may be UNHCR refugees and are likely to come from a similar background as quota refugees. Finally, around 300 people each year apply for asylum in NZ, with about a third of applications granted, becoming “convention refugees”.⁵

International research suggests refugees have significant physical and mental health needs upon arrival in a host country,⁶ yet interactions with health services appear low.⁷ This health care underutilisation

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may be driven by language barriers, not knowing about healthcare entitlements and/or how to navigate a foreign health system and experience of discrimination in healthcare settings.⁷ Inadequate responsiveness to health needs may negatively impact on refugees' quality of life and their ability to integrate and contribute socially and economically.⁷ It is important that host countries have a good understanding of the health needs of refugees within their population and whether these needs are adequately addressed. Research on refugee well-being and health service use in NZ has mainly focused on quota refugees,^{8–10} with scarce research on the well-being of family-sponsored and convention refugees.¹¹

Quota, family-sponsored and convention refugees are likely to share similar backgrounds and have similar health needs.¹² Yet, these three groups receive substantially different levels of organised health and settlement support on arrival in NZ (see [Supplementary Table 1](#)).¹¹ A recent NZ primary care-based study found similar health service utilisation for family members of former refugees and quota refugees.¹³ The present study examines a substantively larger, national cohort, identifying participants through linked migration and health data including convention refugees, and compares health utilisation patterns between these three refugee groups as well as comparing health utilisation to the general NZ population.

Methods

Integrated Data Infrastructure

This study used Statistics NZ's Integrated Data Infrastructure (IDI), a large database containing anonymously linked individual-level microdata about individuals and households in NZ drawn from government and nongovernment agencies.¹⁴ Data are linked through a central "spine" that aims to capture all people who have ever been resident in NZ.¹⁴ All data are deidentified, and researchers undergo reference checks and confidentiality training as well as project approval and must access data in a secure data lab environment. Before release, all outputs must be aggregated, confidentialised and checked by Statistics NZ.¹⁵ All study data were from IDI's March 2022 refresh.

Study population

Visa decisions and border movement data from the Ministry of Business, Innovation and Employment (MBIE) were used to identify quota, family-sponsored and convention refugees who arrived in NZ between 1 July 2007 and 31 October 2013 and were also included in IDI's spine. This period was chosen to align with start dates of datasets covering key health services and allowed at least five years of follow-up data.

Quota and family-sponsored refugees arrive in NZ on a resident visa and typically have not previously lived in NZ: the first date of arrival in NZ on this visa was therefore selected as their index date (start of five-year follow-up).

Convention refugees often have lived in NZ for some time before applying for/receiving "refugee or protected person" status, and thus could have entered NZ on a range of different (nonrefugee related) visas. Hence, selecting their first date of arrival as the index date for the five-year period would not necessarily capture their first five years of living in NZ with refugee status. For this group, the date their application for "refugee or protected person" status was accepted ("the decision date") was therefore selected as the index date.

Comparison population

In addition to comparing health service use between refugee groups, health service use patterns in years 1 and 5 for each of the three refugee groups were compared to the general NZ population service use patterns. We used IDI's Estimated Resident Population (IDI-ERP)¹⁶ as the comparison population. The IDI-ERP aims to capture the resident population of NZ in a given year and includes all individuals with records of activity between 30 June of a selected year and 1 July of the previous year within key administrative datasets (tax, health, education) and excludes individuals who had died or emigrated (had spent more than 6 out of the 12 months overseas). Years 1 and 5 were chosen to explore both the initial period of the refugee settlement process and longer-term patterns compared to the general population.

For year 1 (refugees' health service use over the years 2007 to 2014), we selected the IDI-ERP 2011 as the comparison population. This meant health service use for the general NZ population was analysed over the period 1 July 2010 to 30 June 2011; this being the midpoint of the 2007 to 2014 period. For year 5, health service use for refugees was measured over the years 2011 to 2018, so the IDI-ERP 2015 (measuring health service use between 1 July 2014 and 30 June 2015) was selected as the comparison population for this year.

Sociodemographic information

For all study members, basic sociodemographic information was derived from IDI's personal detail table, which collates demographic information from across the IDI, including age (0–14, 15–49 and 50+ year olds), sex (female and male), source ranked ethnicity (Asian, European, Middle Eastern, Latin American or African (MELAA) or Other) and date of death (if applicable). Nationality on passport at time of application for refugee status was derived from MBIE's visa decision and border movement data (for the three refugee cohorts only).

Socioeconomic deprivation was defined using NZ Deprivation 2013 Score (NZDep2013);¹⁷ an area-based measure of deprivation (based on meshblocks, small areas containing around 30–60 dwellings¹⁸), grouped into quintiles from 1 (least deprived) to 5 (most deprived). Individuals were assigned to meshblocks using addresses from the IDI's address notification table. We used the first address recorded after the index date for the three refugee groups thereby excluding the Te Āhuru Mōwai o Aotearoa - Māngere Refugee Resettlement Centre (MRRRC) address for quota refugees (quota refugees spend their first weeks in NZ in this location for an orientation programme (see [Supplementary Table 1](#) for more details)). For the general NZ population, the most recent address location recorded in or before the selected year was selected.

Health service utilisation

For each of the refugee cohorts, we examined contact with a range of health services for each of their first five years in NZ. For the general NZ population, this analysis examined the period 1 July 2010 to 30 June 2011 (for year 1 comparison) and 1 July 2014 to 30 June 2015 (for year 5 comparison).

Primary care

The Primary Health Organisation (PHO) Enrolment collection provided data on whether individuals were enrolled with a general practitioner (GP) practice and had seen their GP at least once for a consultation. This collection is a record of all people enrolled or registered with a

Table 1: Sociodemographic profile for quota, family-sponsored and convention refugees at the index date.

	Quota refugees		Family-sponsored refugees		Convention refugees	
	N	%	N	%	N	%
Sex						
Female	2241	50%	597	51%	543	43%
Male	2220	50%	573	49%	723	57%
Age group						
0-14	1512	34%	312	27%	264	21%
15-49	2574	58%	717	61%	870	69%
50+	375	8%	138	12%	135	11%
Ethnicity^a						
Asian	2691	60%	516	44%	453	36%
European	87	2%	24	2%	120	9%
MELAA	1788	40%	630	54%	693	55%
Other	36	1%	9	1%	54	4%
NZ Dep Quintile						
1 (least deprived)	36	1%	78	7%	93	7%
2	171	4%	123	11%	177	14%
3	393	9%	183	16%	282	23%
4	1008	23%	282	25%	336	27%
5 (most deprived)	2823	64%	477	42%	360	29%
Settlement region						
Auckland	1578	36%	774	68%	987	79%
Waikato	351	8%	108	9%	81	7%
Wellington	399	9%	51	4%	51	4%
Canterbury	1101	25%	174	15%	63	5%
Other ^b	1011	23%	36	3%	66	5%
Total	4461	65%	1167	17%	1266	18%

^aCohort members can have more than one ethnicity recorded in the data which means the sum of percentages can add to more than 100%.

^bOf the quota refugees who had settled in an 'Other' region, 54% had settled in the North Island, whereas this was 17% for family-sponsored refugees and 67% for convention refugees.

PHO, submitted in quarterly periods including the last date of consultation (if any) for that quarter.¹⁹ Almost all GPs in NZ are part of a PHO and can as such offer reduced costs for consultations and prescriptions medicines.¹⁹

Emergency department

The National Non-Admitted Patient Collection (NNPAC) covers selected nonadmitted secondary care events (since 1 July 2007)¹⁹ and was used to determine visits to emergency departments (ED). We also examined ED visits resulting in a hospital admission. Purchase unit codes were used to identify ED visits, and event end type codes were used to identify visits that had resulted in a hospital admission. ED visits where people did not wait to be seen were excluded. Submitting event end type codes for ED events only became mandatory from 1 July 2010.²⁰ ED visits resulting in an hospital admission were therefore only analysed for refugees who arrived between 1 July 2010 and 31 October 2013.

Specialist mental health services

The Programme for the Integration of Mental Health Data (PRIMHD; from 1 July 2008 onwards; previously the Mental Health Information

National Collection, MHINC; 2000–2008) is the national collection of publicly funded specialist mental health service contacts.¹⁹ For this study, MHINC and PRIMHD were combined (as study period spanned 1 July 2007 to 31 October 2018) to examine contact with specialist mental health services. Only data from district health boards (DHBs) were included in this analysis given the incompleteness of nongovernmental organisation (NGO) data prior to 2012.¹⁹ All types of service events that indicated direct contact with an individual, apart from written contacts, were included.

Analysis

In the first part of the analysis, health service use for each of the three refugee groups was examined and compared. For each of the five years of follow-up for the three refugee cohorts, border movement data were used to exclude refugees who had spent more than 6 months of that year outside NZ (similar to the criteria for establishing the IDI-ERP population¹⁶). For each follow-up year, we calculated the percentage in each refugee group with each outcome (enrolled with GP, seen a GP at least once, visited the ED at least once, ED visit resulting in a hospital admission and/or in contact with specialist mental health services). Logistic regression models, adjusted for age, sex, and NZDep quintile (as a categorical variable), were used to compare family-sponsored and convention refugees' health service use to quota refugees (reference group).

In part 2 of the analysis, health service use of quota, family-sponsored and convention refugees in the first and fifth year in NZ was compared to the NZ general population's health service use. Logistic regression models, adjusted for age group, sex and NZDep quintile (as a categorical variable), were run to compare health service use of each of the three refugee groups to the general NZ population (reference group).

Data preparation and analyses were performed using SAS Enterprise Guide 7.1 (SAS Institute, Cary, NC) within Statistics NZ's IDI environment. Results are presented with 95% confidence intervals (95% CI).

Results

Sociodemographic profile of quota, family-sponsored and convention refugees

A total of 4,461 quota, 1,167 family-sponsored, and 1,266 convention refugees arrived (or started living with refugee status) in NZ between 1 July 2007 and 31 October 2013 and had a record in IDI's spine (with less than six being unable to be linked to the spine). Sociodemographic characteristics of the three refugee cohorts at the index date are presented in Table 1. The quota refugee cohort was the youngest with just over a third aged 0 to 14 years. While both quota and family-sponsored refugee cohorts were evenly split by sex, convention refugees were predominantly male (57%).

Most quota refugees were of Asian ethnicity, whereas over half of both family-sponsored and convention refugee cohorts were of MELAA ethnicity. Just under a third of quota refugees were from Myanmar, 19% from Bhutan, and 12% from Iraq. Nearly a quarter of family-sponsored refugees were from Ethiopia, 14% from Vietnam and 11% from Iran. Convention refugees were mainly from Iraq (16%), Iran (14%) and China (13%).

Table 2: Study population for health service use for the total refugee cohort (arrived between 1 July 2007 and 31 October 2013) and subset of the refugee cohort (arrived between 1 July 2010 and 31 October 2013).

	Quota refugee		Family-sponsored refugee		Convention refugee	
	N	%	N	%	N	%
Total refugee cohort						
Year 1	4455	99.9%	1122	96.1%	1236	97.6%
Year 2	4443	99.6%	1110	95.1%	1209	95.5%
Year 3	4425	99.2%	1095	93.8%	1197	94.5%
Year 4	4410	98.9%	1080	92.5%	1191	94.1%
Year 5	4395	98.5%	1077	92.3%	1176	92.9%
Subset of refugee cohort (refugees who arrived between 1 July 2010 and 31 October 2013)						
Year 1	2331	99.7%	588	95.6%	582	97.5%
Year 2	2328	99.6%	582	94.6%	567	95.0%
Year 3	2325	99.5%	579	94.1%	561	94.0%
Year 4	2310	98.8%	570	92.7%	561	94.0%
Year 5	2304	98.6%	570	92.7%	552	92.5%

At the index date, more than 60% of quota refugees lived in the highest quintile of deprivation (quintile 5), compared to 42% for family-sponsored refugees and 29% for convention refugees. While just over one-third of quota refugees had settled in Auckland (36%), this was considerably higher for family-sponsored refugees (68%) and convention refugees (79%).

Health service utilisation of quota, family-sponsored and convention refugees in the first five years

Table 2 presents the number and percentage of refugees who spent at least half of a given follow-up year in NZ; only these refugees were included in the analysis of health service use in the first five years in NZ. In year 1, 0.1% of quota, 3.9% of family-sponsored and 2.4% of

Table 3: Health service use in years 1 to 5 in NZ for quota, family-sponsored and convention refugees.

Health service type	Quota refugee		Family-sponsored refugee		Convention refugee		Family-sponsored vs Quota refugee aOR (95% CI)	Convention vs Quota refugee aOR (95% CI)
	N	%	N	%	N	%		
Enrolled or registered with GP								
Year 1	4281	96%	912	81%	993	80%	0.19 (0.15 to 0.24)	0.20 (0.16 to 0.26)
Year 2	4305	97%	981	89%	1047	87%	0.27 (0.20 to 0.35)	0.26 (0.20 to 0.35)
Year 3	4281	97%	999	91%	1059	88%	0.38 (0.28 to 0.51)	0.32 (0.24 to 0.42)
Year 4	4257	97%	1002	93%	1068	90%	0.48 (0.36 to 0.66)	0.37 (0.28 to 0.48)
Year 5	4176	95%	990	92%	1056	90%	0.64 (0.48 to 0.85)	0.52 (0.40 to 0.68)
>= 1 GP consultation								
Year 1	4044	91%	864	77%	867	70%	0.37 (0.31 to 0.44)	0.28 (0.24 to 0.35)
Year 2	3495	79%	798	72%	888	73%	0.71 (0.61 to 0.83)	0.81 (0.69 to 0.95)
Year 3	3426	77%	804	73%	879	73%	0.82 (0.7 to 0.96)	0.87 (0.74 to 1.02)
Year 4	3408	77%	807	75%	888	75%	0.87 (0.74 to 1.03)	0.88 (0.75 to 1.03)
Year 5	3381	77%	825	77%	882	75%	0.97 (0.82 to 1.14)	0.90 (0.76 to 1.06)
>= 1 ED visit								
Year 1	825	19%	180	16%	213	17%	0.85 (0.71 to 1.02)	0.96 (0.81 to 1.15)
Year 2	756	17%	141	13%	201	17%	0.70 (0.57 to 0.85)	0.98 (0.81 to 1.17)
Year 3	825	19%	156	14%	225	19%	0.73 (0.61 to 0.88)	1.02 (0.86 to 1.21)
Year 4	756	17%	159	15%	198	17%	0.81 (0.67 to 0.99)	0.95 (0.79 to 1.14)
Year 5	804	18%	165	15%	228	19%	0.82 (0.68 to 0.98)	1.07 (0.90 to 1.27)
>= 1 ED visit resulting in hospital admission^a								
Year 1	129	6%	36	6%	27	5%	1.16 (0.78 to 1.72)	0.88 (0.56 to 1.38)
Year 2	102	4%	36	6%	36	6%	1.31 (0.88 to 1.97)	1.36 (0.89 to 2.06)
Year 3	135	6%	42	7%	36	6%	1.17 (0.80 to 1.71)	1.09 (0.73 to 1.64)
Year 4	114	5%	27	5%	24	4%	0.89 (0.57 to 1.38)	0.84 (0.53 to 1.33)
Year 5	117	5%	27	5%	42	8%	0.83 (0.53 to 1.30)	1.43 (0.97 to 2.12)
>= 1 Specialist mental health service contact								
Year 1	159	4%	9	1%	27	2%	0.17 (0.09 to 0.36)	0.55 (0.36 to 0.85)
Year 2	105	2%	15	1%	36	3%	0.51 (0.29 to 0.88)	1.08 (0.72 to 1.62)
Year 3	99	2%	15	1%	36	3%	0.56 (0.32 to 0.99)	1.28 (0.84 to 1.93)
Year 4	90	2%	12	1%	36	3%	0.57 (0.32 to 1.04)	1.50 (0.99 to 2.27)
Year 5	87	2%	12	1%	33	3%	0.53 (0.29 to 0.99)	1.40 (0.92 to 2.16)

^aThis measure was analysed for refugees arriving after 1 July 2010 only.

Table 4: Health service use of quota, family-sponsored and convention refugees in years 1 and 5 compared to the general NZ population in 2010/2011 (year 1 comparison) and 2014/2015 (year 5 comparison).

Health service type	General NZ population (2010/11)		Year 1 compared to General NZ population 2010/2011		General NZ population (2014/15)		Year 5 compared to General NZ population 2014/15			
	N	%	Quota refugee aOR ^a (95% CI)	Family-sponsored refugee aOR ^a (95% CI)	Convention refugee aOR ^a (95% CI)	N	%	Quota refugee aOR ^a (95% CI)	Family-sponsored refugee aOR ^a (95% CI)	Convention refugee aOR ^a (95% CI)
Enrolled or registered with GP	3,989,811	91%	1.79 (1.46 to 2.19)	0.29 (0.23 to 0.35)	0.28 (0.23 to 0.35)	4,162,485	91%	0.99 (0.82 to 1.20)	0.57 (0.44 to 0.75)	0.46 (0.36 to 0.59)
> = 1 GP consultation	3,356,205	77%	3.41 (2.95 to 3.92)	1.11 (0.93 to 1.32)	0.82 (0.69 to 0.97)	3,493,032	77%	0.82 (0.74 to 0.90)	0.77 (0.66 to 0.90)	0.71 (0.61 to 0.83)
> = 1 ED visit	593,844	14%	1.17 (1.06 to 1.30)	1.10 (0.92 to 1.31)	1.27 (1.07 to 1.50)	650,001	14%	0.86 (0.77 to 0.96)	0.77 (0.64 to 0.93)	1.05 (0.89 to 1.25)
> = 1 ED visit resulting in hospital admission ^b	224,430	5%	1.03 (0.81 to 1.30)	1.25 (0.86 to 1.81)	0.99 (0.64 to 1.52)	238,491	5%	0.74 (0.57 to 0.97)	0.74 (0.48 to 1.14)	1.25 (0.85 to 1.84)
> = 1 contact with specialist mental health services	107,061	2%	1.36 (1.03 to 1.81)	0.29 (0.14 to 0.60)	0.93 (0.59 to 1.47)	122,394	3%	0.54 (0.37 to 0.78)	0.33 (0.17 to 0.62)	0.89 (0.56 to 1.44)

^aThe percentage of quota, family-sponsored and convention refugees using each of the health services in year 1 and 5 can be found in Table 3.

^bThis measure was analysed for refugees arriving between 1 July 2010 and 31 October 2013 only.

convention refugees were excluded from health service use analyses, increasing by year 5 to 1.5%, 7.7% and 7.1%, respectively. A similar pattern was found for refugees who arrived between 1 July 2010 and 31 October 2013—which was the subset of the cohort that was used when analysing ED events ending in an hospital admission (see methods for more details).

Table 3 presents the number and percentage of quota, family-sponsored and convention refugees for each health service use outcome in the first five years in NZ (age- and sex-standardised percentages are presented in Supplementary Table 2). This table also presents adjusted odds ratios (aORs), adjusted for age, sex and NZDep, comparing health service use of family-sponsored and convention refugees to quota refugees in years 1–5.

The vast majority of quota refugees (96%) were enrolled or registered with a GP in the first year in NZ, versus 81% of family-sponsored (aOR = 0.19, 95% CI 0.15 to 0.24 relative to quota refugees) and 80% of convention refugees (aOR = 0.20, 95%CI = 0.16 to 0.26). For family-sponsored and convention refugees, this increased to 92% and 90%, respectively, in year 5.

While over 90% of quota refugees had at least one consultation with a GP in year 1, this reduced to 77% in year 5, comparable to family-sponsored (77%, aOR = 0.97, 95% CI 0.82 to 1.14) and convention refugees (75%, aOR = 0.90, 95%CI 0.76 to 1.06).

About one in six refugees had visited an ED at least once in year 1 (19% of quota, 16% of family-sponsored and 17% of convention refugees), and after adjusting for age, sex and NZDep, these patterns were similar across the three groups. All three refugee cohorts were similarly likely to have had an ED visit resulting in a hospitalisation in years 1–5 with around 6% of quota, 6% of family-sponsored and 5% of convention refugees having had an ED visit resulting in a hospital admission in year 1, and with this respectively being 5%, 5% and 8% in year 5 (representing about one-third of all ED visits resulting in a hospital admission).

In the first year in NZ, 4% of quota refugees had contact with specialist mental health services. Such contact was less common for family-sponsored (1%; aOR = 0.17, 95%CI 0.09 to 0.36) and convention refugees (2%; aOR = 0.55, 95%CI 0.36 to 0.85). While the percentage in contact with specialist mental health services reduced over time for quota refugees, it increased for convention refugees. By year 5, there was some evidence for higher odds of having contact with specialist mental health services for convention than quota refugees in our study data, but the confidence interval indicated uncertainty about whether this truly reflects an underlying different pattern of utilisation for these groups (aOR = 1.40, 95%CI 0.92 to 2.16).

Health service use refugee cohorts compared to general NZ population

Table 4 presents the number of individuals and corresponding proportion of the general NZ population in contact with various health services in the period 1 July 2010 to 30 June 2011 (for year 1 comparison) and 1 July 2014 to 30 June 2015 (for year 5 comparison). The table also presents ORs (adjusted for age, sex, and NZDep) of health service use of quota, family-sponsored and convention refugees in years 1 and 5 in NZ compared to the general NZ population.

In year 1, quota refugees were more likely to be enrolled with a GP (aOR = 1.79, 95% CI 1.46 to 2.19) than the general NZ population,

whereas enrolment was less common than the general NZ population for family-sponsored (aOR = 0.29, 95% CI 0.23 to 0.35) and convention refugees (aOR = 0.28, 95% CI 0.23 to 0.35). While quota refugees were more likely to have seen their GP in the first year in NZ than the general NZ population (aOR = 3.41, 95% CI 2.95 to 3.92), in year 5, they were less likely to have seen their GP (OR = 0.82, 95%CI 0.74 to 0.90).

All three refugee cohorts were more likely to have had an ED visit in year 1 compared to the general NZ population, though this evidence was clearer for the quota and convention refugee groups (eg, aOR for quota refugees compared to general NZ population = 1.17, 95% CI 1.06 to 1.30) with a less precise estimate for family-sponsored refugees (aOR = 1.10, 95%CI 0.92 to 1.31). In year 1, there was not enough evidence to determine whether any refugee cohort was more likely to have had an ED visit ending in a hospital admission than the general NZ population: for example, for convention refugees, the observed findings were potentially compatible with relatively large differences in either direction (aOR = 0.99, 95% CI 0.64 to 1.52). A similar pattern was seen for ED events ending in hospitalisation in year 5 (eg, for convention refugees relative to the general NZ population: aOR = 1.25, 95%CI 0.85 to 1.84). Quota refugees were, however, less likely to have an ED presentation resulting in a hospital admission than the general NZ population in year 5 (aOR = 0.74, 95% CI: 0.57 to 0.97).

In the first year in NZ, quota refugees were more likely to have had contact with specialist mental health services than the general NZ population (OR = 1.42, 95%CI 1.07 to 1.89), but by year 5, the association was in the opposite direction (OR = 0.54, 95% CI 0.37 to 0.78). Family-sponsored refugees were less likely to have been in contact with specialist mental health services than the general NZ population in years 1 and 5, whereas there was no strong evidence for a difference in contact with specialist mental health services for convention refugees relative to the general NZ population in the comparison years, with the observed data compatible with relatively large differences in either direction (eg, year 1 aOR = 0.93, 95% CI 0.59 to 1.47).

Discussion

Main results and interpretation

We found substantial differences in key health service utilisation measures both across the three groups of refugees (quota, family-sponsored and convention refugees) and for these groups compared to the general NZ population. Generally speaking, quota refugees had higher health service utilisation in their first year than other refugees; while by year 5, these differences were no longer so apparent. In their first year in NZ, quota refugees generally used health services more than the general NZ population, while family-sponsored and convention refugees used services less than the general NZ population. By year 5, all three refugee groups were less likely to use most health services than the general NZ population.

More specifically, family-sponsored and convention refugees were less likely to be in contact with primary health care in their first year in NZ than quota refugees. This is expected given that quota refugees receive settlement assistance in the first 12 months in NZ from NZ Red Cross²¹ and other agencies, including help to enrol and make appointments with a local GP practice. In addition, health screening upon arrival for quota refugees (which the other two

refugee groups do not systematically receive) could have led to increased primary care use early on in the first year, due to the need for follow-up of health conditions identified by the screening. While observed differences in primary healthcare enrolment/contact across the three refugee groups reduced over time, all three groups were less likely to have been in contact with their regular GP than the general NZ population in year 5 (adjusted for core sociodemographic factors). A recent NZ study¹⁰ identified primary healthcare costs as a barrier to visiting the GP for many quota refugees: while Red Cross NZ often helped refugees enrol with a GP practice closest to their newly settled home, this was not necessarily a “very low cost access” (VLCA) provider. In addition, interpreter services are not systematically and equally funded across regions in NZ.^{10,22} Sometimes, refugees have to fully or partly cover this cost themselves,¹⁰ an added cost and potential barrier for accessing primary healthcare services. It could be expected that family-sponsored and convention refugees are experiencing the same cost and language barriers when it comes to primary health care. A recent qualitative NZ study on perspectives of GPs providing care to refugees offered additional insights into why refugees perhaps use primary care services less than the general NZ population.²³ In this study, concerns were raised about the “fit” of NZ’s current model of mainstream general practice (eg, short consultations, inconsistent access to and/or use of interpreter services, and the lack of established referral pathways to connect refugees to services outside of the health system) to address complex healthcare needs of refugees.²³ Quota, family-sponsored and convention refugees had similar patterns of making an ED visit in year 1, with higher proportions visiting ED than the general NZ population. There was no strong evidence that ED events were more likely to result in hospitalisation for refugees than the general NZ population, though the small number of events observed meant that estimates were relatively imprecise, and the study data potentially compatible with large differences by group. In line with our findings, a 2003 NZ study documented how a disproportionately high number of refugees presented at ED locations in Auckland with both urgent and nonurgent health issues.²⁴ Most refugee families were not familiar with the system of general practice in NZ and needed more support in deciding when to use primary health versus emergency services.²⁴ In addition, refugees experienced cost and language barriers in accessing primary health care, which resulted in them seeking help at the ED instead.²⁴ The findings of the current study suggest that the increased presentation of refugees at EDs reported in the early 2000s has persisted, especially during the early years in NZ, and is a similar issue for all three refugee groups.

Only a small fraction of all three refugee cohorts were in contact with specialist mental health services during their five years in the study cohort. While quota refugees were more likely to be in contact with specialist mental health services in year 1 than the general NZ population, this pattern was reversed by year 5 with lower utilisation than the general population (again, measures of association were somewhat imprecise). International research suggests that while refugees experience significantly higher rates of common mental health disorders (eg, post-traumatic stress disorder, depression and anxiety) than general populations,²⁵ mental health services are often underutilised by this group.²⁶ Major barriers causing underutilisation of these services included language, lack of awareness, stigma and negative attitudes by providers.²⁶ The findings of this research are in

line with international literature about underutilisation of mental health services among all refugee subgroups, highlighting the importance of offering ongoing, easily accessible and culturally appropriate mental health care to all three refugee groups in NZ.

Strengths and limitations

Key strengths of this study included the comprehensive nationwide cohort (almost 7,000 refugees), unique access to linked longitudinal migration and health data, and the ability to compare outcomes with the general NZ population using the same linked data sources. However, the absolute number of observed events could still be small for many outcomes (eg, ED visits resulting in an admission) which means that estimates of differences were sometimes imprecise, with wide confidence intervals covering important differences in either direction. This may be remedied in future research with larger cohorts, though a balance needs to be maintained between having a substantial cohort size for the refugee groups and having a relatively well delimited study period that does not obscure trends over time.

If access to health care fluctuated over the time period of this study (2007 to 2018) this will have been captured in the health service utilisation rates of the three refugee groups, but not necessarily in the general NZ comparison population for whom health service use was only measured during two periods (2010 to 2011, and 2014 to 2015). However, the percentage of the general NZ population using primary health care, ED and specialist mental health care services appear stable between 2010/11 and 2014/15, suggesting large fluctuations in healthcare access over this period are unlikely.

Finally, we were unable to fully access data on NGO provision of mental health services. The vast majority of organisations in NZ that offer specialised mental health services to refugees (eg, Refugee as Survivors, Red Cross Refugee Trauma Recovery) are NGOs, and data on their service provision could not be included in this study as NGO data in PRIMHD was incomplete prior to 2012.¹⁹ This means we have likely underestimated contact with specialist mental health services for all three refugee cohorts. However, if this is similarly underestimated for quota, family-sponsored and convention refugees, this would not change estimated differences in use of mental health services between the three refugee groups.

Future research implications

Recent changes mean refugees in a few NZ regions can now access free or low copayment primary healthcare services in the first 10 years in NZ, regardless of their visa type.²⁷ Future research should investigate whether this resolves differences in use of primary health care services between refugee groups, and compared to the general population, and whether this also reduces ED presentations for refugees in their first years in NZ.

Conclusion

It is encouraging that quota refugees are well connected with key health services in their first year, and that family-sponsored and convention refugees develop better connections with primary health care services over time. Providing family-sponsored and convention refugees with the same level of government-organised settlement and health support currently offered to quota refugees may help these groups access appropriate health services where needed. In addition, free or subsidised primary care visits for all three refugee

groups could reduce nonurgent presentations to ED. While some regions have introduced free or low-cost primary care visits for refugees regardless of visa type, NZ would benefit from a consistent nationwide approach wherein all refugees receive equal support regardless of where they settle. Finally, primary care should be sufficiently resourced to enable a tailored and adequate response to complex health needs of refugees.

Disclaimer

These results are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure (IDI) which is carefully managed by Stats NZ. For more information about the IDI please visit <https://www.stats.govt.nz/integrated-data/>.

Ethics

This study received ethics approval from the University of Otago Ethics Committee (HD19/078).

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Conflicts of interest

The authors have no competing interests to declare.

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Appendix A Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.anzjph.2023.100064>.