

New migrants' access to primary healthcare services in Aotearoa New Zealand

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ABSTRACT

AIM: To explore new migrants' access to primary healthcare services in the first 10 years after arrival in Aotearoa New Zealand.

METHODS: Data come from three New Zealand Health Surveys (2014/2015, 2015/2016 and 2016/2017), which each sampled around 13,500 people, aged 15+ years, who were usual residents of Aotearoa New Zealand. Respondents who said they were born overseas were asked the first year they had come to Aotearoa New Zealand. Those who had arrived in the 10 years before their survey was completed were considered new migrants. The survey data were pooled and around 3,700 respondents were estimated to fit this category. Log-linear models, with adjustments for age, sex, ethnicity and New Zealand Deprivation Index, were used to look at last year use of primary healthcare.

RESULTS: Overall, new migrants used primary healthcare similarly to other New Zealanders. They were more likely to have comprehensive health insurance and paid more for GP visits upon arrival but acted similarly to other New Zealanders after 4 years.

CONCLUSION: Generally, new migrants—after adjusting for covariates—appear to be accessing primary healthcare services in a similar manner to other New Zealanders, on average, soon after arrival.

Due to the COVID-19 pandemic, the Aotearoa New Zealand Government closed the border to all but New Zealand citizens and permanent residents on 19 March 2020.¹ The borders remained closed, with very limited access by foreign nationals,^{2,3} until 31 July 2022 when the borders reopened fully.⁴

While the rate of new migrants arriving after the borders were re-opened was initially slow, by March 2023 there had been a net gain of 88,900 non-New Zealand citizens in the previous 12 months.⁵ In comparison, for the years 2015–2019—prior to the pandemic—the equivalent, average net gain in the March-ending years was 60,300 per year.⁵ With strong rates of migrant arrivals, equal to a 1.8% increase in the population, it is important that we understand how migrants use health services in order to ensure that there is adequate and equitable service provision.

It is widely reported in literature that new migrants arrive with a “healthy immigrant effect”, whereby migrants are seen to be in “good health” at the time of migration and tend to have better health status than those locally born, but that their health then deteriorates over time.^{6–8} Explanations for their relatively good health statuses are partly because of “health screening” during the migration process and partly a consequence

of “migrant selection”, as immigrants tend to be those who are young, reasonably educated and have a successful business and professional background, particularly those who are in the “skilled migrant” category.⁹ The subsequent deterioration in health has been attributed to problems with access to health services, including cultural and language barriers, lack of health insurance and lack of knowledge of the health system. Local health service providers may also be unfamiliar with some illnesses and may not have the trained staff to deliver culturally sensitive health services.¹⁰

In Aotearoa New Zealand, language and lack of knowledge of the Aotearoa New Zealand health system have been found to be barriers to appropriate healthcare.¹¹ Other barriers, as reported by health service providers, include cultural differences in assessment and treatment, lack of cultural competency among health professionals, stigma associated with health issues, concerns about lack of confidentiality, transport difficulties and cost issues.¹² This may be even more evident for refugees, who may come to Aotearoa New Zealand with long-term physical and psychological effects from escaping conflict and persecution and, as a result, have different needs and barriers to accessing care.¹³

Immigration requirements stipulate that a

medical certificate and a chest X-ray (with some exceptions) for adults staying in Aotearoa New Zealand for more than 12 months be provided as part of the visa application procedure.¹⁴ These requirements mean that new migrants have had a recent, thorough medical check in the country they are applying from or, if applying for a long-term visa while in Aotearoa New Zealand, have had a medical check locally. In addition, refugees or asylum seekers arriving in Aotearoa New Zealand enter via the Māngere Refugee Resettlement Centre where they are screened for a range of health conditions and are referred, where necessary, to primary or secondary health services.^{15,16} The Refugee Health Screening Service provides each person with information about the Aotearoa New Zealand health system, and with medical records, and also assists with transfer to primary healthcare in the area of settlement.^{15,16} Therefore, we would expect that new migrants would 1) be healthy, and 2) have some experience in accessing healthcare services, primarily within their country of origin.

Our expectation would be that the possible difficulty in accessing a new health system and lower health need would mean that new migrants would access primary healthcare services less often initially but over time would increasingly resemble how other New Zealanders access these services. This paper set out to see if this expectation holds by exploring how new migrants use primary healthcare services in the first 10 years after arrival.

Methods

Te Manatū Hauora – Ministry of Health (MoH) has been running continuous, yearly, cross-sectional surveys about New Zealanders' health and health service use since 2011.¹⁷ Each survey runs from July in one year until the end of June in the next. The data in this study are sourced from three New Zealand Health Surveys (NZHS), NZHS 2014/2015, NZHS 2015/2016 and NZHS 2016/2017.¹⁷ These three consecutive surveys were chosen because they reported information about key variables on migration in an identical and more informative way.

Each survey contains approximately 13,500 respondents aged 15 years or older. Anyone in a household who was not a New Zealand citizen or resident but who intended to stay in Aotearoa New Zealand for 12 months or more was in the sample frame (personal communication: in an

email from the Health Survey Team, Ministry of Health, 1 March 2019, on behalf of the Health and Disability Intelligence Group, HDI@moh.govt.nz; now healthsurvey@health.govt.nz).

The surveys used a complex method of sampling that included oversampling Māori, Pacific and Asian peoples, but has been weighted to produce a representative sample.¹⁷ SUDAAN was used for the statistics analyses.¹⁸

Respondents who said they were born overseas were asked what year they had first arrived in Aotearoa New Zealand. For the purposes of this study, those who had arrived in the 10 years before their survey was completed were considered new migrants. Those who arrived more than 10 years before their survey was completed were categorised as old migrants and the remainder were Aotearoa New Zealand-born; together, these latter two groups were combined to form a group called other New Zealanders. The survey data were pooled and around 3,700 respondents were estimated to be new migrants and 37,000 were deemed to be other New Zealanders.

The healthcare variables of interest were primary healthcare service use and services that may substitute for other primary healthcare during the year prior to the survey. For example, pharmacy use and use of an after-hours medical centre, as well as emergency department use at a hospital, may substitute for utilising healthcare through a general practice.

Some new migrants had not been in Aotearoa New Zealand a full year and so two estimates of their health service use over the prior year were made—one estimate was their use since arrival and another estimate was what their use would be over 1 complete year.

Two further variables of interest were cost of seeing a GP on the last visit for those respondents who had seen a GP in the last year, and having comprehensive health insurance (i.e., covering day-to-day costs such as GP fees and pharmacy charges, as well as private hospital care). As these variables did not concern a span of time, no adjustment was made for those respondents who had spent less than 1 year in Aotearoa New Zealand.

The data that were available for time spent in Aotearoa New Zealand was the year of a respondent's arrival and the start and end dates that the survey was in the field. We were not able to access the actual dates of the survey interviews as these were not included in the publicly available datasets. For the 2016/2017 survey, we

calculated a first estimate for time in Aotearoa New Zealand as proxy-year = 2017–year of arrival. If someone said they arrived in 2017, then their proxy-year value was 0. If someone said they arrived in 2016, their proxy-year value was 1 but the potential time they had been in Aotearoa New Zealand before being interviewed could have been between 0 and 1.5 years—e.g., they could have arrived on 1 January 2016 and been interviewed on 31 June 2017 or they could have arrived on the 1 July 2016 and been interviewed the same day. Assuming that migrants arrived in Aotearoa New Zealand with equal probability on any day and that interviewing was equally likely on any day, we were able to work out by simulation (see Table 1) what proportion of each proxy-year a group had been in Aotearoa New Zealand for: 0, 1 or up to 10 years. All the people with proxy-year = 0 had been in Aotearoa New Zealand less than 1 year, about 6/7 of people with proxy-year = 1 had been in Aotearoa New Zealand less than 1 year, and around 1/8 of people with proxy-year = 2 had been in Aotearoa New Zealand less than 1 year. The value year that was used in modelling was the median complete year length for each proxy-year. So, for example, for proxy-year 2, 75% of respondents were likely to have been in Aotearoa New Zealand between 1 and 2 years or 1 complete year, so the value used for year in the modelling was 1. This means that around 75% of the respondents are correctly classified according to complete years but about 12.5% should have been classified with a lower year value and similarly 12.5% with a higher year value.

Under the assumptions of respondents being equally likely to arrive on any day of the year and being surveyed on any day the survey was in the field (after they arrived), we were also able to work out the respondents' average time in Aotearoa New Zealand for each proxy-year value. This “exposure” time was used as the offset in the log-linear model when calculating year-based statistics for groups where members had been in Aotearoa New Zealand less than 1 year; otherwise, it was set at 1.

Table 1 sets out the exposure time and probability of arriving X years ago for different values of proxy-year for the NZHS 2016/2017 and the value taken for year used in modelling. Similar calculations can be done for NZHS 2014/2015 and NZHS 2015/2016 so that proxy-year and year each have a similar meaning across surveys.

Each of the service use variables of interest were treated as a dependent variable with year

as the independent variable, modelled categorically, and with confounding variables: sex, prioritised ethnicity, age group, and the New Zealand Deprivation Index (NZDep).

Prioritised ethnicity is set in this order: 1) Māori, 2) Pacific people, 3) Asian, 4) Other, and 5) NZ European. Age, for the purposes of modelling, was grouped into 5-year bands but for brevity is presented in 10-year bands in the tables. The variable NZDep is constructed from census data and indicates the level of deprivation that exists in a small region. Individuals who live in that region were assigned the NZDep for their region. For the purposes of analysis, NZDep has been grouped into quintiles with a value of 1 indicating low deprivation and 5 indicating high deprivation.

The statistics of primary interest were the marginal means for each year from the log-linear models. By running contrasts on the marginal means, we could test a) if there was a linear trend over the first 10 years since arrival, and b) see if the average of the new migrants' estimates over the first 10 years since arrival is equal to the estimate for other New Zealanders. For the sake of brevity, we will call this a test of the average difference between new migrants and other New Zealanders.

Cross tabulations were undertaken on several socio-demographic variables to investigate the characteristics of new migrants, old migrants and those born in Aotearoa New Zealand. Generalised logit models were used with membership in the three migrant groups being the independent variable and each of the socio-economic variables in turn being the dependent variable. P-values for the differences in marginal means between the two migrant groups and the Aotearoa New Zealand-born group were output.

As the total sample contains approximately 41,000 respondents, we consider not only statistical significance but also practical significance. By practical significance, we mean that the difference between new migrants, old migrants and other New Zealanders is sufficiently large to justify consideration in policy decisions and for this purpose we consider an absolute difference of 5% (i.e., 5 percentage points) to be the threshold.

Results

Table 2 presents the socio-demographic characteristics of new migrants, old migrants and Aotearoa New Zealand-born respondents. New migrants tend to be younger, are less likely to live

Table 1: Exposure and probability of arriving X years ago for different values of proxy-year for the New Zealand Health Survey 2016/2017.

Year surveyed: 2016.5 to 2017.5	“Years since arrival” 2017–arrival year	Potential time spent in Aotearoa New Zealand (years)	Average time exposed in “last year” (years)	Probability of being in each time period										Years in Aotearoa New Zealand (for modelling)
				Time period (years)										
Stated year of arrival				0–0.5	0.5–1	1–1.5	1.5–2	2–2.5	2.5–3	3–3.5	3.5–4	4–4.5	...	
2017	0	0–0.5	0.17	1										0
2016	1	0–1.5	0.57	0.8603		0.1397								0
2015	2	0.5–2.5	0.98		0.1286	0.7488		0.1226						1
2014	3	1.5–3.5	1				0.1277	0.7511		0.1212				2
2013	4	2.5–4.5	1						0.1278	0.7501		0.1223		3
etc...														

Table 2: Socio-demographic statistic of new migrants, old migrants and Aotearoa New Zealand-born respondents.

	Immigration status							
	New migrants		Old migrants		Born in Aotearoa New Zealand		New vs born	Old vs born
	(n=3,716)		(n=6,102)		(n=31,058)			
	%	95% CI	%	95% CI	%	95% CI	p-value	p-value
Age group								
15–24	22.6	21.0–24.3	8.3	7.3–9.4	19.1	18.8–19.5	0.0003	0.0000
25–34	34.1	32.4–35.8	12.1	11.1–13.2	14.8	14.4–15.1	0.0000	0.0001
35–44	22.6	21.3–24.0	14.6	13.6–15.7	14.6	14.2–14.9	0.0000	0.8816
45–54	11.8	10.6–13.1	21.5	20.4–22.7	16.7	16.4–17.1	0.0000	0.0000
55–64	4.9	4.2–5.8	18.1	17.0–19.3	15.5	15.2–15.8	0.0000	0.0003
65–74	3.0	2.4–3.7	14.0	13.1–15.0	11.2	10.9–11.4	0.0000	0.0000
75+	1.0*	0.7–1.4	11.3	10.6–12.0	8.1	7.9–8.3	0.0000	0.0000
Sex								
Female	50.1	48.4–51.9	51.0	49.6–52.5	51.7	51.2–52.1	0.1321	0.5036
Male	49.9	48.1–51.6	49.0	47.5–50.4	48.3	47.9–48.8	0.1321	0.5036
Prioritised ethnicity (in priority order)								
Māori	0.5*	0.3–0.8	1.1	0.8–1.4	18.0	17.8–18.2	0.0000	0.0000
Pacific	6.5	5.7–7.4	12.7	11.8–13.5	3.1	3.0–3.4	0.0000	0.0000
Asian	49.7	47.6–51.7	28.4	27.1–29.7	1.4	1.2–1.7	0.0000	0.0000
Other	36.1	34.0–38.4	28.3	26.8–29.9	2.8	2.4–3.2	0.0000	0.0000
NZ European	7.2	6.2–8.4	29.5	28.0–31.1	74.6	74.1–75.1	0.0000	0.0000
New Zealand Deprivation Index Quintile								
1***	17.5	15.4–19.7	22.2	20.6–24.0	20.2	19.5–20.8	0.0398	0.0574
2	19.4	17.4–21.5	22.7	21.0–24.5	19.8	19.2–20.5	0.7341	0.0111
3	21.3	19.3–23.6	19.3	17.8–20.9	20.0	19.4–20.6	0.3002	0.5132
4	20.7	18.7–22.8	17.9	16.5–19.4	20.8	20.3–21.4	0.9178	0.0020
5***	21.1	18.7–23.6	17.8	16.5–19.2	19.2	18.5–19.8	0.2058	0.1445
Medical insurance								
Yes	34.2	32.0–36.4	36.2	34.4–38.2	34.6	33.7–35.5	0.7228	0.1209

Table 2 (continued): Socio-demographic statistic of new migrants, old migrants and Aotearoa New Zealand-born respondents.

Type of insurance (for those with medical insurance)								
Comprehensive**	66.0	62.1–69.7	46.5	43.4–49.7	47.4	45.6–49.2	0.0000	0.6330
Hospital only	26.1	22.8–29.7	42.2	39.0–45.4	43.0	41.1–45.0	0.0000	0.6430
Other	7.9	6.0–10.2	11.3	9.3–13.7	9.6	8.3–11.0	0.1682	0.1536

* Indicates that the relative sampling error of the estimate is between 0.3 and 0.5 and the estimate should be used with caution.

** Covers day-to-day costs such as general practitioner fees and pharmacy charges, as well as private hospital care.

*** 1 represents people living in the least deprived areas and 5 represents people living in the most deprived areas.

in the least deprived areas and are more likely to be of Asian or of Other ethnicity than the Aotearoa New Zealand-born. Old migrants tend to be older, and more likely to be in the lesser deprived categories compared to Aotearoa New Zealand-born. The ethnicity of old migrants is more equally distributed among Asian, European New Zealanders and Other ethnicities, with a higher representation of Pacific people compared with new migrants.

Modelling

The following results are marginal means from log-linear models after adjusting for confounders. For the sake of brevity this will be assumed in the following results.

Last year general practitioner (GP) use

Respondents were asked if they had been to a GP in Aotearoa New Zealand in the last year (see Figure 1a). The orange line represents the changes in this value over time since new migrants arrived. The black dashed line represents the result for other New Zealanders. There are two values for those respondents who had been in Aotearoa New Zealand for less than 1 year—the red dot represents the proportion who had seen a doctor in the time they had been in the country, while the orange dot represents the proportion if it were observed over a year.

Overall, 79.6% (95% confidence interval [CI] 78.9–80.2%) of other New Zealanders had seen a GP in the last year. New migrants looked indistinguishable from other New Zealanders after being in Aotearoa New Zealand for 4 complete years. There was evidence of a linear trend over time for the period 0–10 complete years ($p=0.0138$) and observed in Figure 1a as an upward trend in years 1–10. Over-

all, new migrants saw the GP in the prior year less often, giving an average difference with other New Zealanders of 5.0 percentage points ($p=0.0001$).

Number of GP visits per year

Those respondents who had seen a GP in Aotearoa New Zealand in the last year were asked how many times they have visited a GP in the last year (Figure 1b). In general, new migrants appeared to visit GPs in the prior year slightly less often than other New Zealanders. The latter averaged 3.6 visits (95% CI 3.6–3.7). The average difference was significant with new migrants having 0.3 fewer visits ($p=0.0032$), but there was no evidence of a linear trend over 0–10 complete years ($p=0.4508$) for new migrants.

Cost of last GP visit

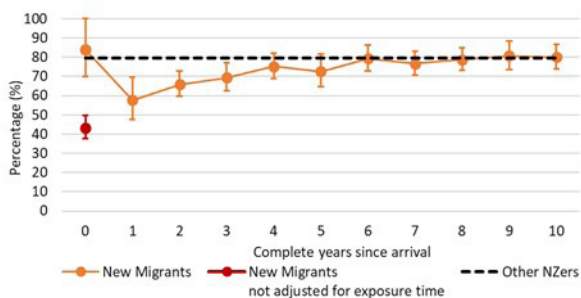
Respondents who had been to a GP in the last year were asked how much their last visit cost (Figure 1c). As this variable is not based on a full year's use of services there is no need to adjust for exposure time in Aotearoa New Zealand. The cost of the last GP visit for other New Zealanders was NZ\$34.27 (95% CI \$33.78–34.77). New migrants paid considerably more for GP visits initially (\$18.74) but, from observation, costs of visits dropped over time to correspond with costs for other New Zealanders after 4 complete years. The data for new migrants were consistent with a falling linear trend over 0–10 complete years ($p=0.0000$) and the average difference was significant, with new migrants paying \$5.74 more ($p=0.0000$).

Barriers to primary healthcare

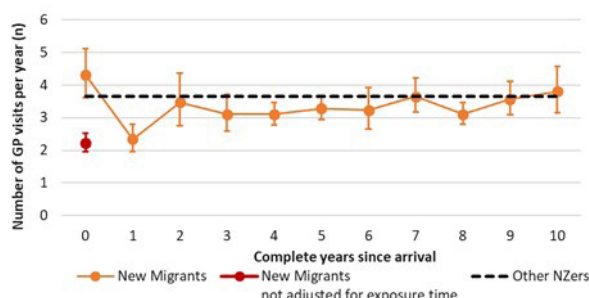
Respondents were asked if they needed to see a GP or go to an after-hours medical centre but

Figure 1: Marginal means from log-linear models, adjusted for confounders, for new migrants over time since arrival and for other New Zealanders.

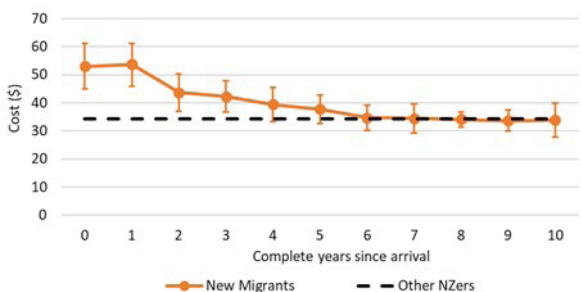
a) Last year GP use.



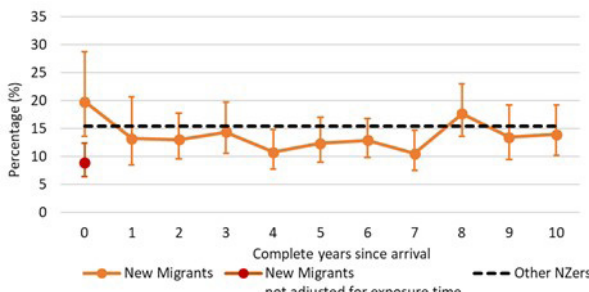
b) Number of GP visits in last year.



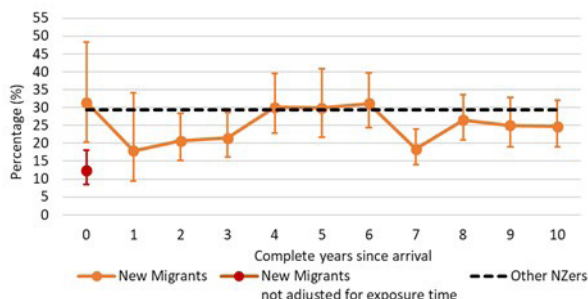
c) Cost of last GP visit.



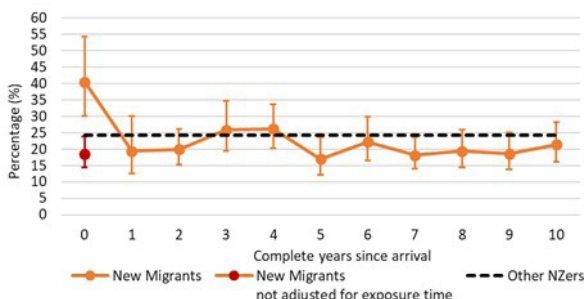
d) Barriers to primary healthcare.



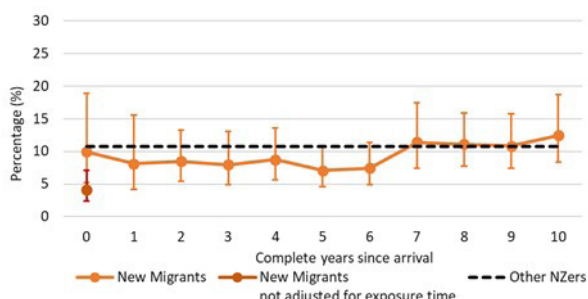
e) Last year practice nurse visits.



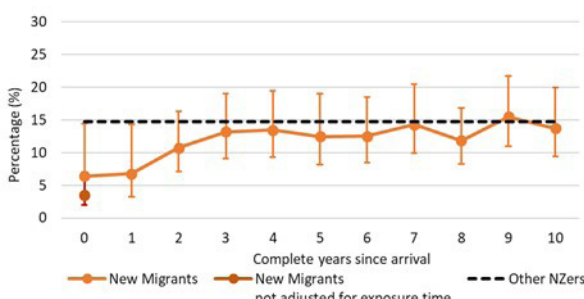
f) Last year pharmacist visit for personal health needs.



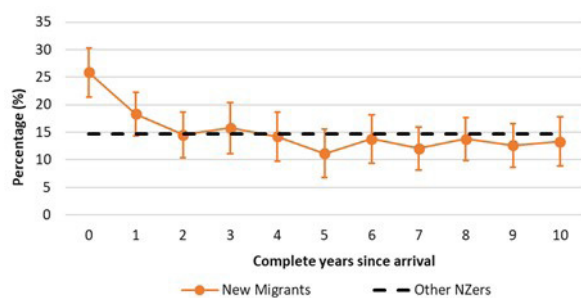
g) Last year use of after-hours medical centres.



h) Last year use of emergency departments.



i) Comprehensive health insurance cover.



did not because of the cost or because there was no available transport (see Figure 1d). From observation, new migrants were, in general, slightly less likely to face one of these barriers. For other New Zealanders, 15.4% (95% CI 14.8–16.0%) said they had encountered at least one of those barriers. For new migrants, there was no linear trend over the 0–10 completed years ($p=0.5234$). The average difference was not significant ($p=0.0687$).

Last year practice nurse use

Respondents were asked if they had seen a practice nurse, without seeing a GP, at their visit or appointment in the prior year (see Figure 1e). From observation, new migrants' use of practice nurses' services was highly variable, but when they were different from other New Zealanders they were more likely to have lesser use.

For other New Zealanders, 29.3% (95% CI 28.4–30.2%) said they had seen a practice nurse without seeing a GP at the same visit or appointment in the last year. There was no linear trend over the 0–10 completed years ($p=0.8904$) for new migrants, but the average difference was significant with new migrants 4.1 percentage points less likely to see a practice nurse ($p=0.0038$).

Last year pharmacist use

Respondents were asked if they had seen a pharmacist in the last year about their own health (see Figure 1f). From observation, new migrants were more likely to see a pharmacist in their first year in Aotearoa New Zealand but appeared similar to other New Zealanders after that. For other New Zealanders, 24.2% (95% CI 23.3–25.1%) said they had seen a pharmacist in the last year. For new migrants, there was a falling linear trend over the 0–10 completed years ($p=0.0047$); however, the trend is highly influenced by the first observation at year = 0. The average difference was not significant ($p=0.2025$).

Last year after-hours medical centres use

Respondents were asked how many times they had used an after-hours medical centre. Those who had one or more visits were deemed to have used an after-hours medical centre in the last year (see Figure 1g). From observation, the pattern for new migrants is to use an after-hours medical centre slightly less than other New Zealanders in general. For the latter, 10.7% (95% CI 10.2–11.2%) said they had visited an after-hours medical centre in the last year. For new migrants there was no linear trend over the 0–10 completed years ($p=0.1596$) and the average difference was not significant ($p=0.0875$).

Last year emergency department use

Respondents were asked if they had used a public hospital in the last year and, if so, whether they had used the emergency department (see Figure 1h). The figure shows that new migrants use the emergency department less than other New Zealanders initially and then increase to a similar threshold. For other New Zealanders, 14.7% (95% CI 14.1–15.3%) said they had used an emergency department in the last year. For new migrants there was a rising linear trend over the 0–10 completed years ($p=0.0022$) and the average difference was significant with new migrants being 2.8 percentage points less likely to use the emergency department ($p=0.0005$).

Comprehensive health insurance

Respondents were asked if they had medical insurance and, if so, what type: 1) comprehensive insurance, which was explained as covering day-to-day costs such as GP fees and pharmacy charges, as well as private hospital care, 2) hospital-only coverage, and 3) other. Figure 1i shows the proportion of new migrants with comprehensive insurance since arrival. From observation, new migrants are more likely to have comprehensive insurance initially but decrease to lie just under the

threshold for other New Zealanders. Of the latter, 14.6% (95% CI 14.0–15.2%) said they had comprehensive insurance. For new migrants there was a falling linear trend over the 0–10 completed years ($p=0.0000$) and the average difference was not significant ($p=0.6104$).

Discussion

In this analysis, several variables showed a significant statistical difference between new migrants and other New Zealanders, but it is also useful to consider their meaning pragmatically. For last year GP use, nurse use and emergency department use, the absolute difference was 5% or less, and for the variable “number of last year GP visits” the difference is only 0.3 visits. For these cases, there is statistical significance but for practical purposes we would consider the difference insignificant. This leaves only the cost of the last GP visit that is both statistically and practically significant.

There were also variables that showed a significant linear trend over the 0–10 complete years. These five variables were last year use of GPs, pharmacists and emergency departments, as well as cost of last GP appointments, and comprehensive health insurance. For “last year use of GPs”, the first point is influential, but the trend is still significant when the first point is removed. For “last year use of pharmacists” and “comprehensive health insurance”, our judgement is that the trend is generally flat but that the first point is influential, inflating the estimate of the linear trend over 10 years. The last visit cost of GPs appears to have a strong negative trend.

The first point in the “last year pharmacist visit” graph (Figure 1f) is larger than all the rest of the series and it’s reasonable to assume that this is a real effect rather than an anomaly. That new migrants make greater use of pharmacists when they first arrive in Aotearoa New Zealand could be because 1) new migrants may be expecting to be able to buy drugs over the counter at a pharmacy that are only available by prescription, and 2) the pharmacy could be a source of free information that helps them begin navigating the health system. It is worth noting that in 2020, 36% of practising pharmacists in Aotearoa New Zealand were Asian. This may indicate that Asian migrants feel more comfortable initially approaching someone they perceive to have a similar cultural background.¹⁹

The first point in the “comprehensive health

insurance graph” (Figure 1i) is also larger than all the rest of the series and it is likely to be a real effect as some migrant groups are required to come to Aotearoa New Zealand with comprehensive health insurance.

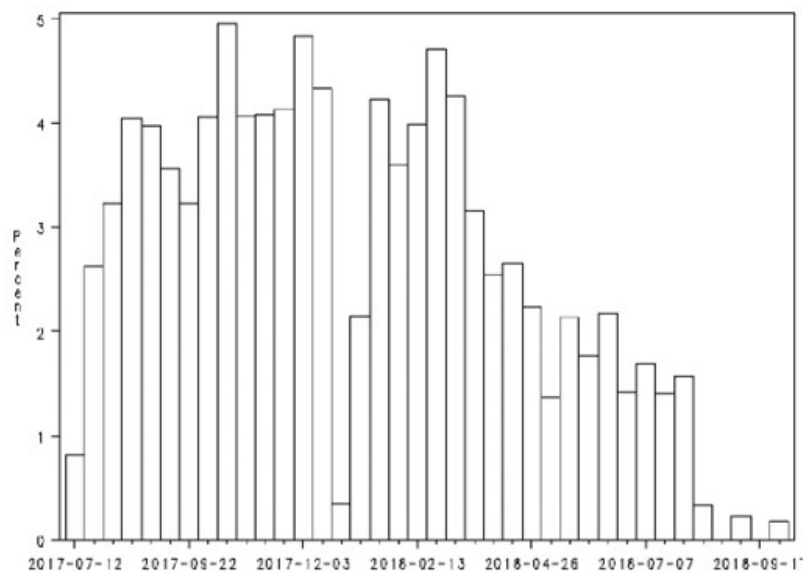
New migrants showed little difference compared to other New Zealanders in the variable “barriers to primary care”, where these barriers were cost of service and access to transport. However, there may be other barriers for new migrants that other New Zealanders do not have, such as language barriers, health literacy barriers, different expectations of health services, perceived cultural sensitivity/competence of health providers and lack of knowledge of the Aotearoa New Zealand health system.^{11,12}

For the variables we looked at, new migrants appear to use primary healthcare services in a similar manner to other New Zealanders and, where there are differences, new migrants tend to look similar to other New Zealanders relatively quickly. This would seem to be at odds with the “healthy immigrant effect”, which would posit that new migrants would use fewer primary healthcare services as they have less need. In earlier work on mortality, modelling showed that newly arrived Asian, Pacific and European/Other immigrants have a pattern of mortality advantage over their Aotearoa New Zealand-born ethnic peers, which dissipated with increasing time spent in Aotearoa New Zealand.²⁰ However, the pattern was less evident for Pacific people and the relative risks associated with their differing lengths of time in Aotearoa New Zealand were not significantly different when compared to their Aotearoa New Zealand-born ethnic peers.²⁰ This is consistent with a Canadian systematic review that found duration of stay and country of origin adjusted the strength of the “healthy immigrant effect”.²¹

One area where new migrants use primary healthcare services differently is with the cost of GP services. The high cost could be because they may not meet, or do not realise they meet, the eligibility requirements for government-funded healthcare or they may not have the means to shop around for a lower-cost alternatives.²² In a study that explored the barriers perceived by Asian migrants to navigating the Aotearoa New Zealand health system, eight out of nine participants reported difficulty in finding out about consultation costs.¹¹

Having comprehensive health insurance may

Figure 2: Interview dates of respondents in the New Zealand Health Survey 2017/2018 (personal communication: in an email from the Health Survey Team, Ministry of Health, 27 February 2019, on behalf of the Health and Disability Intelligence Group, HDI@moh.govt.nz; now healthsurvey@health.govt.nz).



mean that new migrants choose a primary care service for reasons other than cost. It is worth noting that as the probability of having comprehensive life insurance decreases, the cost of GP visits decreases. However, we do not know why new migrants used these primary healthcare services; it is possible that the initial high cost could be the result of having more expensive needs at that time.

The strength of this analysis is that it is able to draw on a large pool of respondents who are new migrants by combining three large population surveys.

A limitation in this study is that it is cross-sectional rather than longitudinal i.e., we did not follow the same individuals over 10 years. Therefore, the results rely on the assumption that the characteristics of the new migrant group remain relatively consistent over time. A further limitation is that we cannot assume that people who come to Aotearoa New Zealand as new migrants now will act in the same way as those who arrived prior to the borders closing. Compared to the new migrant group in the survey, migrants who arrived in the year ending March 2023 were more likely to be older, mainly due to there being a lower proportion of those aged 15–24 (23% vs 20%, respectively), and a higher proportion were male (50% versus 53%).⁵ Comparing ethnicities between survey results and migrants arriving now is more

difficult. The survey reported prioritised ethnicity and the March 2023 year-end migration report was based on citizenship and had different ways of grouping people, but among groups where a comparison seemed reasonable, it showed there were similar proportions of Pacific people (7%) who were in the new migrant group in the survey and those with Pacific citizenships (8%) migrating in the year prior, and slightly more Asian peoples (50%) than those with Asian citizenships (47%).⁵

The modelling relied on information taken at the time of the survey. On arrival, new migrants may be more likely to move for work and education, which may mean their NZDep scores may not be as stable compared to other groups. Also, broad categories were used for the ethnic groups. There is the potential that results could change if finer groupings were used.

The most crucial limitation of this analysis is not having access to the exact dates that migrants arrived in Aotearoa New Zealand nor when they were interviewed for the survey, which leads to two sources of error. The variable year that is used in the modelling has some degree of misclassification where for proxy-year values greater than 1, around 12.5% of the year values are under-estimated and a similar amount over-estimated, leaving around 75% correctly classified. However, if any 3-year points are nearly linear then the misclassification for the middle point has little

effect. The other issue is that the time new migrants have spent in Aotearoa New Zealand has to be estimated and this “exposure” has to be applied at the group level.

To investigate this further, the MoH provided a histogram of interview dates for the 2017/2018 survey (see Figure 2). The interview dates look reasonably uniform from mid July to early March, excluding the Christmas and New Year holiday season, and then drop away after that with some interviews after 1 July. If this pattern is replicated in all the surveys analysed here, the assumption of a respondent being equally likely to be interviewed on any day the survey was in the field may not be correct. However, more respondents with observations early in the new year are balanced

out by some respondents after 1 July in terms of estimating average exposure.

Conclusion

After considering statistical and practical significance and adjusting for covariates, we found that new migrants in the survey used primary healthcare resources in a similar way to other New Zealanders fairly soon after arriving in Aotearoa New Zealand. They initially paid more for their last visit to a GP than other New Zealanders, but after 4 completed years in Aotearoa New Zealand new migrants paid similar amounts to other New Zealanders.

COMPETING INTERESTS

Nil.

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REFERENCES

- Office of the Minister of Health, Office of the Minister for Economic Development, Cabinet. Future Border Settings: People Movement and Reconnection with International Markets [Internet]. 2020 [cited 2023 May 16]. Available from: <https://covid19.govt.nz/assets/Proactive-Releases/proactive-release-2020-october/B32-PAPER-AND-MINUTE-FUTURE-BORDER-SETTINGS-PEOPLE-MOVEMENT-AND-RECONNECTI....pdf>
- NZ Herald. Covid 19 Omicron scare: DJ Dimension, the UK artist at centre of New Zealand's Omicron storm, speaks out [Internet]. 2021 [cited 2023 May 16]. Available from: <https://www.nzherald.co.nz/nz/covid-19-omicron-scare-dj-dimension-the-uk-artist-at-centre-of-new-zealands-omicron-storm-speaks-out/N4YJF3EPGUPTCI2SBRARLDOCPA/>.
- Johnston N. New Zealand welcomes back Australian travellers as it reopens its borders [Internet]. Sky News; 2022 [cited 2023 May 16]. Available from: <https://news.sky.com/story/new-zealand-welcomes-back-australian-travellers-as-it-reopens-its-borders-12589012>.
- New Zealand Immigration. New Zealand border fully reopening by July 2022 [Internet]. 2022 [cited 2023 May 16]. Available from: <https://www.immigration.govt.nz/about-us/media-centre/news-notifications/nz-border-fully-reopening-july-2022>.
- Stats NZ | Tatauranga Aotearoa. International migration: March 2023 [Internet]. 2023 [cited 2023 May 16]. Available from: <https://www.stats.govt.nz/information-releases/international-migration-march-2023/>.
- McDonald JT, Kennedy S. Insights into the 'healthy immigrant effect': health status and health service use of immigrants to Canada. *Soc Sci Med*. 2004 Oct;59(8):1613-27. doi: 10.1016/j.socscimed.2004.02.004.
- Argeseanu Cunningham S, Ruben JD, Narayan KM. Health of foreign-born people in the United States: a review. *Health Place*. 2008 Dec;14(4):623-35. doi: 10.1016/j.healthplace.2007.12.002.
- Maskileyson D. Health trajectories of immigrants in the United States: Does income inequality of country of origin matter? *Soc Sci Med*. 2019;230:246-255. <https://doi.org/10.1016/j.socscimed.2019.04.032>.
- Tse S, Hoque M E. (2006). Healthy immigrant effect- triumphs, transience and threats. In: Tse S, Hoque M E, Rasanathan K, Chatterji M, Wee R, Garg S, Ratnasabapathy Y, editors. Prevention, protection and promotion. Proceedings of the Second International Asian Health and Wellbeing Conference. 2006 Nov 11; Auckland, New Zealand. p. 9-18.
- Kanengoni B, Andajani-Sutjahjo S, Holroyd E. Setting the stage: reviewing current knowledge on the health of New Zealand immigrants-an integrative review. *PeerJ*. 2018 Aug 23;6:e5184. doi: 10.7717/peerj.5184.
- Xiang V, Parackal S, Gurung G, Subramaniam RM. Asian migrants navigating New Zealand primary care: a qualitative study. *J Prim Health Care*. 2023 Mar;15(1):30-37. doi: 10.1071/HC22132.
- Mehta S. Health needs assessment of Asian people living in the Auckland region [Internet]. Auckland, New Zealand: Northern DHB Support Agency; 2012 [cited 2019 Oct 14]. Available from: <https://www.countiesmanukau.health.nz/assets/About-CMH/Performance-and-planning/health-status/79875e5978/2012-health-needs-of-asian->

- people.pdf.
13. Sherif B, Awaisu A, Kheir N. Refugee healthcare needs and barriers to accessing healthcare services in New Zealand: a qualitative phenomenological approach. *BMC Health Serv Res.* 2022 Nov 3;22(1):1310. doi: 10.1186/s12913-022-08560-8.
 14. New Zealand Immigration. Who needs an x-ray or medical examination [Internet]. 2019 [cited 2019 Jul 5]. Available from: <https://www.immigration.govt.nz/new-zealand-visas/apply-for-a-visa/tools-and-information/medical-info/when-you-need-an-x-ray-or-medical-examination>.
 15. Rungan S, Reeve AM, Reed PW, Voss L. Health needs of refugee children younger than 5 years arriving in New Zealand. *Pediatr Infect Dis J.* 2013 Dec;32(12):e432-6. doi: 10.1097/INF.0b013e3182a11526.
 16. Poole GE, Galpin G. Prevalence of victims of torture in the health screening of quota refugees in New Zealand during 2007-2008 and implications for follow-up care. *N Z Med J.* 2011 Jul 8;124(1338):18-24.
 17. Manatū Hauora – Ministry of Health. New Zealand Health Survey [Internet]. Wellington, New Zealand: Manatū Hauora – Ministry of Health; 2019 [cited 2019 Jul 5]. Available from: <http://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/surveys/current-recent-surveys/new-zealand-health-survey>.
 18. Research Triangle Institute. SUDAAN language manual, release 9.0. Durham, North Carolina: Research Triangle Institute; 2004.
 19. Pharmacy Council | Te Pou Whakamana Kaimatū o Aotearoa. Workforce Demographic 2020 [Internet]. 2020 [cited 2023 Jun 23]. Available from: <https://pharmacycouncil.org.nz/wp-content/uploads/2021/03/Workforce-Demographic-Report-2020.pdf>.
 20. Hajat A, Blakely T, Dayal S, Jatrana S. Do New Zealand's immigrants have a mortality advantage? Evidence from the New Zealand Census-Mortality Study. *Ethn Health.* 2010;15(5):531-547. <https://doi.org/10.1080/13557858.2010.496479>.
 21. Vang ZM, Sigouin J, Flenon A, Gagnon A. Are immigrants healthier than native-born Canadians? A systematic review of the healthy immigrant effect in Canada. *Ethn Health.* 2017 Jun;22(3):209-241. doi: 10.1080/13557858.2016.1246518.
 22. Te Whatu Ora – Health New Zealand. Guide to eligibility for publicly funded health services [Internet]. 2019 [cited 2019 Oct 14]. Available from: <https://www.health.govt.nz/new-zealand-health-system/eligibility-publicly-funded-health-services/guide-eligibility-publicly-funded-health-services>.