Atlas of Healthcare Variation: Methodology | Health service access

June 2020

General points

- Data is not presented where the number of people responding to a question was less than 30. This is to preserve confidentiality.
- People were assigned to the district health board (DHB) where they live.
- Patient demographic details (age, ethnicity and gender) are collected from the national enrolment service (NES) database and is also collected in the survey. In this Atlas domain, patient-reported demographics are used. Those with missing demographic details are excluded from the analysis.
- People are able to self-report multiple ethnicities. Ethnicity data presented uses prioritised ethnic group (Māori, Pacific peoples, Asian and Other).
- The question response and scoring methodology is presented in Appendix 1.
- The Atlas domain presents both weighted scores and responses. The scores show the weighted average of all responses out of 10 for a DHB. For all questions, a higher score is better. Responses shows how the percentage of people by age, gender and ethnicity answer each question.

Age-standardised scores

- Age-standardised scores are shown on a separate tab in the Atlas. Age standardisation allows comparison between ethnic populations who may have different underlying age structures.
- Standardisation was done on the weighted scores rather than raw data.
- The reference population used was the World Health Organization standard population. This was selected as the most appropriate because different groups are being compared with each other. This is also in line with the standardisation method of the New Zealand Health Survey.

Data source: National primary care patient experience survey

Survey responses are self-reported or completed on behalf of someone else (approximately 1.5 percent of responses are completed on behalf).

Privacy

- All responses to the survey are voluntary and anonymous unless responders choose to provide their contact details because they wish to talk to someone at their general practice. All notices and correspondence relating to the survey make this clear.
- Each survey has a unique identification which enables line-by-line analysis of responses. When the patient data extract is imported to the national system, a number is assigned to each line of information. Neither the national survey nor the reporting process requires patient-identifiable information to be held in the database. Patient contact information is needed only initially to allow email and text correspondence to be addressed individually. Once each survey is closed, all identifiable information is deleted from the system. Demographic information is retained only to enable a comparison from time-to-time of who is not responding to the survey. The survey provider is required to host the database within Aotearoa New Zealand and strict privacy and security protocols are maintained. Routine system penetration tests are run to maintain security.
- A Privacy Impact Assessment has been completed and reviewed by the Privacy Commissioner. This is available at: www.hqsc.govt.nz/our-programmes/health-quality-evaluation/publications-and-resources/publication/3068/.

Survey testing and validation

The survey tool was adapted following international development and was cognitively tested for use in primary care in Aotearoa New Zealand. Details of this testing are provided here: www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/patient-experience/primary-care-patient-experience/survey-development/.

Indicator 1:	**Was there ever a time when you wanted health care from a GP or nurse but you couldn't get it?**
Response options	Yes, no (tell us why)
Denominator	Those who answered the question
Analysis	By year: 2018, 2019 Ethnicity: Māori, Pacific peoples, Asian, Other Age: 15–24, 25–44, 45–64, 65–74, 75 and over. Gender: F, M
Scoring	Yes=0; no=10
Commentary	**Description:** This is an over-arching question on the ability of people to receive health care from their GP or nurse when they want it. **Why is this important?** An answer of 'yes' to this question highlights unmet need for GP or nurse care, however there are many reasons for this response. Free-text responses to this question indicate the most common reasons include appointment availability and time till next appointment – patients report waiting 1–3 weeks for appointments. Other issues around appointment availability related to ability to see their usual doctor at short notice, the wait time for the appointment once they reached the clinic and clinic hours not being compatible with work hours. This was particularly an issue when patients urgently wanted care. Cost and transport were reported less frequently. **What questions might the data prompt?** • A low score in this question may highlight unmet need. It is recommended you review patient comments as to why they weren't able to get health care when they wanted it. • What are the common reasons your patients cited for not being able to get health care? • Which of these can you modify? Can you work with consumers to co-design a better system?
Note	In the survey this question comes after the question on cost, which may explain why the percentage of people answering 'no' is lower than the question on cost. The question wording uses 'ever' rather than the previous 12 months, which is the typical period for the survey questions.

Indicator 2:	**In the last 12 months was there a time when you did not visit a GP or nurse because of cost?**
Response options	Yes, no
Denominator	Those who answered the question
Analysis	By year: 2018, 2019 Ethnicity: Māori, Pacific peoples, Asian, Other Age: 15–24, 25–44, 45–64, 65–74, 75 and over Gender: F, M
Scoring	Yes=0; no=10
Rationale	New Zealand Health Survey (2018/19): In the past 12 months, was there a time when you *had a medical problem but* did not visit a GP because of cost? 13.4 percent
Commentary	**Description**: The question seeks to quantify unmet need for primary care due to cost in a cohort of patients who are able to access primary care to some extent. Affordability is a combination of service cost and related expenses such as cost to get there, childcare and opportunity cost, such as time off work. Poor access to primary care is associated with inadequate prevention and management of chronic diseases, delayed diagnoses, incomplete adherence to treatments, overuse of drugs and technologies, and coordination and safety problems.[1] Delaying primary care can lead to more serious illnesses and hospital admissions.[2] **Why is this important?** The results from this survey align with other reports such as the New Zealand Health Survey, which reports 13 percent of people not accessing their GP due to cost in the year and the Commonwealth Fund survey (2017) where New Zealand ranks third-worst of the 11 countries surveyed with 17 percent of New Zealanders reporting a cost-barrier to care. **What questions might the data prompt?** • Which population groups in your area are delaying important care? • Does your population know how to access relevant subsidies and low-cost access practices? Is community services card information visible at practices? • What is the impact of rurality? • What impact does this have on emergency department presentations and acute demand? 1. Schneider EC, Sarnak DO, Squires D, et al. *Mirror, Mirror 2017: International Comparison Reflects Flaws and Opportunities for Better U.S. Health Care.* Commonwealth Fund. July 2017. URL: www.commonwealthfund.org/. 2. Milne BJ, Parker K, McLay J, et al. 2015. Primary health care access and ambulatory sensitive hospitalizations in New Zealand. *J Ambul Care Manage* 38(2):178–87. DOI: 10.1097/JAC.0000000000000057.

Indicator 3:	**Could you tell us why cost stopped you from seeing a GP or nurse?**
Response options	• The appointment was too expensive • The cost to travel was too expensive • I couldn't afford to take time off work • Other (free text) Respondents could give multiple responses.
Denominator	Total number of responses (people who answered yes to the question 'In the last 12 months was there a time when you did not visit a GP or nurse because of cost?')
Analysis	By year: 2018, 2019 Ethnicity: Māori, Pacific peoples, Asian, Other Age: 15–24, 25–44, 45–64, 65–74, 75 and over Gender: F, M
Scoring	Not scored
Rationale	New Zealand Health Survey (2018/19): In the past 12 months, was there a time when you had a medical problem but did not visit a GP because you had no transport to get there? 2.8 percent Unmet need due to cost: 13.4 percent
Commentary	**Description**: Affordability is a combination of service cost and related expenses such as cost to get there, childcare and opportunity cost, such as time off work. Appointment cost was the most common reason, followed by the cost of taking time off work and transport cost. In the free-text responses, patients reported not being able to afford the cost of the appointment and prescription. Being on a benefit, pension or low income was commonly noted, as were health issues. Some reported their health issue prevented them working, or that other family members' health issues took priority. **Why is this important?** Poor access to primary care is associated with inadequate prevention and management of chronic diseases, delayed diagnoses, incomplete adherence to treatments, overuse of drugs and technologies, and coordination and safety problems.[1] Delaying primary care can lead to more serious illnesses and hospital admissions.[2] **What questions might the data prompt?** • Which population groups in your area are delaying important care? • Does your population know how to access relevant subsidies and low-cost access practices? Is community services card information visible at practices? 1. Schneider et al 2017, *op.cit.* 2. Milne et al 2015, *op. cit.*

Indicator 4:	**Has cost stopped you from picking up a prescription?**
Response options	Yes, no
Denominator	Total number of responses (respondents who reported they took medication regularly)
Analysis	By year: 2018, 2019 Ethnicity: Māori, Pacific peoples, Asian, Other Age: 15–24, 25–44, 45–64, 65–74, 75 and over Gender: F, M
Scoring	Yes=0; no=10
Rationale	New Zealand Health Survey (2018/19): In the past 12 months, was there a time when you got a prescription for yourself but did not collect one or more prescription items from the pharmacy or chemist because of cost? (Yes, no, don't know, refused). 6.6 percent responded 'Yes' in 2017/18 has changed to 5.3 percent in 2018/19.
Commentary	**Description:** This question asks whether cost has stopped people from picking up a prescription. **Why is this important?** This highlights patients who have paid the appointment cost but have not been able to afford the medicine cost. This is a missed opportunity to receive a medicine deemed by a prescriber as likely to have clinical benefit. Further research to determine which medicines people are not getting dispensed is required, although it is likely that some of these reflect barriers to long-term condition management and have been highlighted in other Atlas domains such as gout, asthma and diabetes. **What questions might the data prompt?** • How are DHBs and primary health organisations working to deliver a model of care that can help people better afford primary care and prescriptions? For example, DHBs funding the cost of asthma preventers to reduce emergency department admissions. • Do you know which pharmacies in your area are offering zero prescription fees?

Indicator 5:	**Have you been involved in decisions about your care and treatment as much as you wanted to be?**
Response options	Yes; yes, to some extent; no
Denominator	Those who answered the question
Analysis	By year: 2018, 2019 Ethnicity: Māori, Pacific peoples, Asian, Other Age: 15–24, 25–44, 45–64, 65–74, 75 and over Gender: F, M

Scoring	Yes=10; yes, to some extent=5; no=0
Commentary	**Description**: This question asks whether patients were involved as much as they wanted to be in decisions about their care and treatment. **Why is this important?** Being involved in decisions about care and treatment as much as is wanted, is a critical component of ensuring patients accept practitioner's advice. **What questions might the data prompt?** • Have local young people been asked how they would like to be involved in decisions about their care and treatment? Are there groups you could engage with? • If young people feel less involved in their care and treatment, might their understanding of their treatment plan also be impacted?

Indicator 6	**Does your GP or nurse spend enough time with you?**
Response options	Yes, always; yes, sometimes; no
Denominator	Those who answered the question
Analysis	By year: 2018, 2019 Ethnicity: Māori, Pacific peoples, Asian, Other Age: 15–24, 25–44, 45–64, 65–74, 75 and over Gender: F, M
Scoring	Yes, always=10; yes, sometimes=5; no=0
Commentary	**Description**: This question asks whether patients report their GP or nurse spends enough time with them. **Why is this important?** Analysis of survey responses find scores for this question correlate strongly with scores for questions on kindness and understanding, and being treated with respect. This suggests this question is a good marker for the quality of the interaction. That is, patients who report their GP or nurse spends enough time with them also report they are treated kindly and with respect. Spending enough time acknowledges the patients' effort of attending the appointment, ensures they have enough time to explain their symptoms and for their diagnoses and treatments to be properly explained. **What questions might the data prompt?** • How can this be changed? Research shows that health care practitioners often interrupt patients when they are telling their story.[1] If health care practitioners just listen, most people don't talk for long and report feeling having been listened to. • What is the role of patient health status and multi-morbidity on reporting their GP or nurse spends enough time?

	• Are there focus groups of young patients to understand why they have a less positive experience? Do you need to co-design a better way to engage young people? Do younger patients have a greater need for longer consultation times or do they access different types of medical centre? • Is there a correlation with length of time with the same GP or nurse? 1. Phillips KA, Ospina NS. 2017. Physicians Interrupting Patients. *JAMA* 318(1): 93–94. DOI: 10.1001/jama.2017.6493.
Discussion	Spending enough time correlates well with the GP or nurse overall score, suggesting it is a good marker of the interaction.

Indicator 7:	**You said you did not always follow the instructions when you took the medication. Please tell us why.**
Response options	Cost, I experienced side effects, I forgot, I felt better, other
Denominator	Respondents who reported they did not always follow the instructions when taking medication
Analysis	By year: 2018, 2019 Ethnicity: Māori, Pacific peoples, Asian, Other Age: 15–24, 25–44, 45–64, 65–74, 75 and over Gender: F, M
Scoring	Not scored.
Commentary	**Description**: Eight percent of people report not always following the instructions when they took their medicine. This ranged from 17 percent of 15–24-year-olds, with around 5 percent of people aged 65 years and over not following instructions. **Why is this important?** The response to this question highlights that medicines are not always considered acceptable by patients. Acceptability refers to the ability of health services to create trust, so patients are sufficiently informed and engaged to accept the medicines prescribed. Sixty-eight percent of patients report forgetting as the primary reason, however side effects was the reason for a quarter of respondents. Free-text comments highlight the many facets that inform an individual's decision of taking medicines. Some people simply do not like taking medicine and attempt to minimise intake as much as possible. Others report self-medicating, taking higher doses than recommended, find dosing regimens difficult to follow or are challenged in finding the right dose to manage pain. **What questions might the data prompt?** • What support do young people need to enable them to take their medicine as prescribed?

	• 'I forgot' is the most common answer; is this an indication the medication wasn't explained sufficiently, or the patient didn't understand why it was prescribed? • To what degree do responses reflect the quality of the interaction between prescribers and their patients? • *Choosing Wisely* has resources for patients and practitioners to help with decisions around medicines, such as understanding what happens if they don't take the medicine.

Appendix 1: Responses and scoring method

Question scoring

All answers are assigned a value based on the Picker scoring methodology[1] (eg, 10=excellent, 0=poor; 10=yes, always, 5=yes, to some extent, 0=no).

Responses that selected 'not applicable' are excluded.

In this Atlas domain, users can alternate between viewing responses and scores. Responses allows users to view differences in response by age, ethnicity and gender.

Score calculation

The question scores are calculated by adding the 'score calculation' of all responses and dividing by the total 'number of responses'. Below is an example of how a score is calculated for a question.

Survey question: Has cost stopped you from seeing a specialist doctor?

Response option	Number of responses	Percentage of respondents	Score assigned	Score calculation
No	350	87.5	10	3,500
Yes	50	12.5	0	0
Total	**400**			**8.75 (3,500/400)**

Weighting

Weighting of scores for this Atlas domain uses the population structure who attended primary care in each DHB and compares this with the sample structure (ie, those who responded to the survey). This creates a co-efficient that is applied to the results of the survey. This then increases or decreases a particular score and provides a weighted result. This approach is distinct from standardisation. We are not seeking to compare DHBs with each other using this method. Rather we are seeking to weight so results accurately reflect the views of a representative local population who attend primary care inside a DHB.

Weighted scores for individual questions at each DHB gives different values to responses effectively reflecting how many patients of a different age, gender and ethnicity each respondent is representing. The more over-represented a particular group among the responders, the fewer total patients each responder represents and thus the response is down-weighted and vice versa.

[1] www.cqc.org.uk/sites/default/files/20151125_nhspatientsurveys_scoring_methodology.pdf

Appendix 2: Age and ethnicity of respondents, by question

Question: Was there ever a time when you wanted health care from a GP or nurse but you couldn't get it?

Age (years)	Ethnicity				
	Māori	Pacific peoples	Asian	Other	Total
All	**7,105**	**2,163**	**4,461**	**70,966**	**84,695**
15–24	587	179	268	2,483	3,517
25–44	1,861	759	1,898	9,988	14,506
45–64	3,159	908	1,588	24,686	30,341
65–74	1,142	224	536	20,798	22,700
75–84	319	77	145	11,095	11,636
85+	37	< 30	< 30	1,916	1,995

Question: In the last 12 months was there a time when you did not visit a GP or nurse because of cost?

Age (years)	Ethnicity				
	Māori	Pacific peoples	Asian	Other	Total
All	**7,152**	**2,181**	**4,512**	**71,205**	**85,050**
15–24	594	182	271	2,509	3,556
25–44	1,882	773	1,926	10,044	14,625
45–64	3,174	911	1,607	24,789	30,481
65–74	1,141	225	536	20,855	22,757
75–84	322	75	145	11,094	11,636
85+	39	< 30	< 30	1,914	1,995

Question: Can you tell us why cost stopped you from seeing a GP or nurse? (People can select multiple responses so this is the number of responses not respondents)

Age (years)	Ethnicity				
	Māori	Pacific peoples	Asian	Other	Total
All	**1,988**	**619**	**1,010**	**12,138**	**15,755**
15–24	319	80	74	1,168	1,641
25–44	860	319	574	3,971	5,724
45–64	690	178	305	4,661	5,834
65–74	100	< 30	44	1,720	1,893
75–84	< 30	< 30	< 30	562	604
85+	< 30	< 30	< 30	56	59

Question: Have you been involved in decisions about your care and treatment as much as you wanted to be?					
Age (years)	**Ethnicity**				
	Māori	**Pacific peoples**	**Asian**	**Other**	**Total**
All	**6,972**	**2,053**	**4,319**	**70,601**	**83,945**
15–24	560	157	248	2,402	3,367
25–44	1,808	708	1,817	9,817	14,150
45–64	3,108	880	1,562	24,499	30,049
65–74	1,137	218	525	20,809	22,689
75–84	321	75	141	11,148	12,018
85+	38	< 30	< 30	1926	1672
Question: Does your GP or nurse spend enough time with you?					
Age (years)	**Ethnicity**				
	Māori	**Pacific peoples**	**Asian**	**Other**	**Total**
All	**5,970**	**1,658**	**3,555**	**61,983**	**73,166**
15–24	524	135	221	2,273	3,153
25–44	1,639	613	1,529	9,131	12,912
45–64	2,625	679	1,265	22,021	26,590
65–74	898	159	410	17,777	19,244
75–84	253	60	108	9,233	9,654
85+	31	< 30	< 30	1,548	1,613
Question: Has cost stopped you from picking up a prescription?					
Age (years)	**Ethnicity**				
	Māori	**Pacific peoples**	**Asian**	**Other**	**Total**
All	**5,355**	**1,449**	**2,900**	**58,649**	**68,353**
15–24	336	83	151	1,748	2,318
25–44	1,213	411	999	6,993	9,616
45–64	2,497	690	1,146	19,662	23,995
65–74	994	188	461	18,370	20,013
75–84	285	63	121	10,140	10,609
85+	30	< 30	< 30	1,736	1,802