

Appendix

Appendix Table 1: STrengthening the Reporting of OBServational studies in Epidemiology (STROBE) statement.

	Item No.	Recommendation	Page No.
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	3, 4
Objectives	3	State specific objectives, including any prespecified hypotheses	4
Methods			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations and relevant dates, including periods of recruitment, exposure, follow-up and data collection	5, 6
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	5, 6
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders and effect modifiers. Give diagnostic criteria, if applicable	5
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	5
Bias	9	Describe any efforts to address potential sources of bias	6
Study size	10	Explain how the study size was arrived at	n/a
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	6
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	6
		(b) Describe any methods used to examine subgroups and interactions	6
		(c) Explain how missing data were addressed	n/a
		(d) If applicable, describe analytical methods taking account of sampling strategy	n/a
		(e) Describe any sensitivity analyses	n/a

Appendix Table 1 (continued): STrengthening the Reporting of OBServational studies in Epidemiology (STROBE) statement.

Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—e.g., numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up and analysed	7, 8
		(b) Give reasons for non-participation at each stage	n/a
		(c) Consider use of a flow diagram	n/a
Descriptive data	14*	(a) Give characteristics of study participants (e.g., demographic, clinical, social) and information on exposures and potential confounders	7, 8
		(b) Indicate number of participants with missing data for each variable of interest	7
Outcome data	15*	Report numbers of outcome events or summary measures	7–10
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95% confidence interval). Make clear which confounders were adjusted for and why they were included	7–10
		(b) Report category boundaries when continuous variables were categorised	n/a
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	n/a
Other analyses	17	Report other analyses done—e.g., analyses of sub-groups and interactions, and sensitivity analyses	n/a
Discussion			
Key results	18	Summarise key results with reference to study objectives	11
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	12, 13
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	13, 14
Generalisability	21	Discuss the generalisability (external validity) of the study results	13, 14
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	15

*Give information separately for exposed and unexposed groups.

Reference: 19) von Elm E, Altman DG, Egger M, et al. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Epidemiology*. 2007 Nov;18(6):800-4. doi: 10.1097/EDE.0b013e3181577654.

Appendix Table 2: Levels of ethnicity recording showing an example of up to Level 4 for Asian.

1	European (3)		
2	Māori (1)		
3	Pacific peoples (8)		
4	Asian (5)		
	40	Asian nfd (1)	
	41	Southeast Asian (5)	
		410	Southeast Asian nfd (1)
		411	Filipino (1)
		412	Cambodian (1)
		413	Vietnamese (1)
		414	Other Southeast Asian (8)
			41411 Burmese
			41412 Indonesian
			41413 Lao
			41414 Malay
			41415 Thai
			41416 Karen
			41417 Chin
			41419 Southeast Asian nec
	42	Chinese (1)	
	43	Indian (1)	
	44	Other Asian (4)	
5	Middle Eastern/Latin American/African (3)		
6	Other ethnicity (1)		
9	Not elsewhere included (5)		

Appendix Table 3: Comparison of National Health Index (NHI) ethnicity and human resources (HR) ethnicity at Level 1.

NHI ethnicity	HR ethnicity							
	European	Asian	Pacific	Māori	MELAA	Other	Residual	Total
Total	8,707	4,940	1,184	936	383	603	786	17,539
Number								
European	8,288	73	50	176	51	500	500	9,638
Asian	39	4,646	123	2	8	31	132	4,981
Pacific	25	70	979	19	1	12	58	1,164
Māori	81	2	15	730	0	14	37	879
MELAA	31	24	0	0	311	21	25	412
Other ethnicity	9	17	0	0	2	2	2	32
Residual categories	234	108	17	9	10	23	32	433
Percent								
European	86	1	1	2	1	5	5	100
Asian	1	93	2	0	0	1	3	100
Pacific	2	6	84	2	0	1	5	100
Māori	9	0	2	83	0	2	4	100
MELAA	8	6	0	0	75	5	6	100
Other ethnicity	28	53	0	0	6	6	6	100
Residual categories	54	25	4	2	2	5	7	100

*MELAA = Middle Eastern/Latin American/African

Appendix Figure 1: Online survey for staff ethnicity data collection.

Workforce Ethnicity

Ethnicity question

Kia ora and hello from the Workforce Development team. Waitemata DHB's organisational promise is to provide 'Best care for everyone', and one of the strategies to support this is to ensure that our workforce better reflects the diversity of the population that we serve. High quality data is important for informing efficient and effective workforce and patient care planning activities and at this time, we are seeking to know more about the ethnicity of our workforce. The current process for collecting and recording workforce ethnicity data produces good information reflecting 92.8% of the total workforce which is very high, especially compared to other DHBs in the Northern Region. However, the online Employee Kiosk tells us you are one of about 500 staff members or about 7% who have not yet indicated in the system which ethnic group they belong to so we are reaching out to you to please answer this single survey question as soon as possible. Thank you.

1. Which ethnic group do you belong to? *Mark the space or spaces that apply to you*

New Zealand European

Māori

Samoan

Cook Island Māori

Tongan

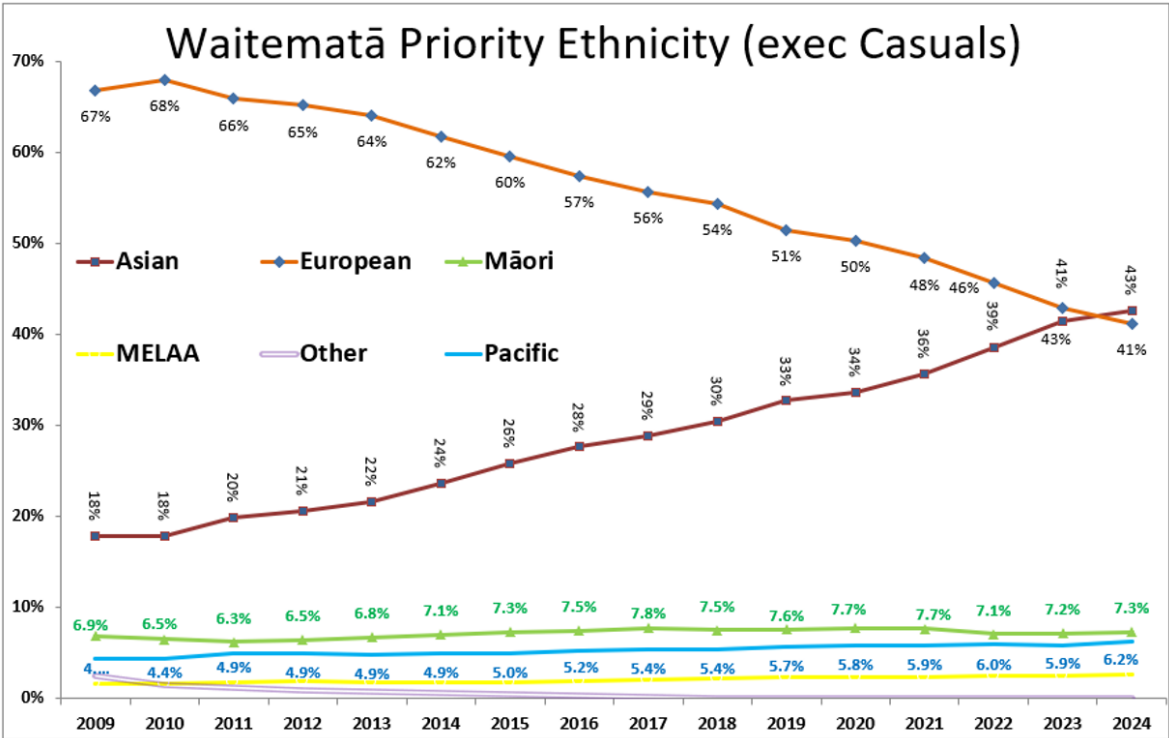
Niuean

Chinese

Indian

Other (such as Dutch, Japanese, Tokelauan). Please state:

Appendix Figure 2: Waitematā district health staff ethnicity data over time. The updated staff ethnicity data show compliance by the elimination of “Other” in 2018.



Appendix Text 1: Process detail related to Auckland and Waitematā districts' human resource (HR) systems at the time of the project

Please note, there was quality improvement activity undertaken in a parallel project, and these descriptions may not be relevant for current human resource (HR) systems data collection processes in district HR systems or Health New Zealand national systems.

At the time, the local district recruitment teams used Taleo as their recruitment system. Some of the potential employee information was entered into the Taleo system. Once an employee was hired, all the relevant documents (staff appointment form, signed letter of offer, certifications, Inland Revenue Department and Kiwisaver forms, etc.) were collected and manually sent to the Staff Service Centre team at HealthAlliance. The Staff Service Centre team used the Leader system to enter all the employee information from the manual documents received from the recruitment team. Leader was also used for payroll processing.

Within Taleo, the ethnicity question was mandatory and was stated as per the Health Information Standards Organisation (HISO) protocol. However, the process for choosing "Other" ethnicities did not comply with HISO. It required the applicant to type in the full ethnicity and click "refresh" or scroll through 236 options that were not in alphabetical order. There was no free-text option.

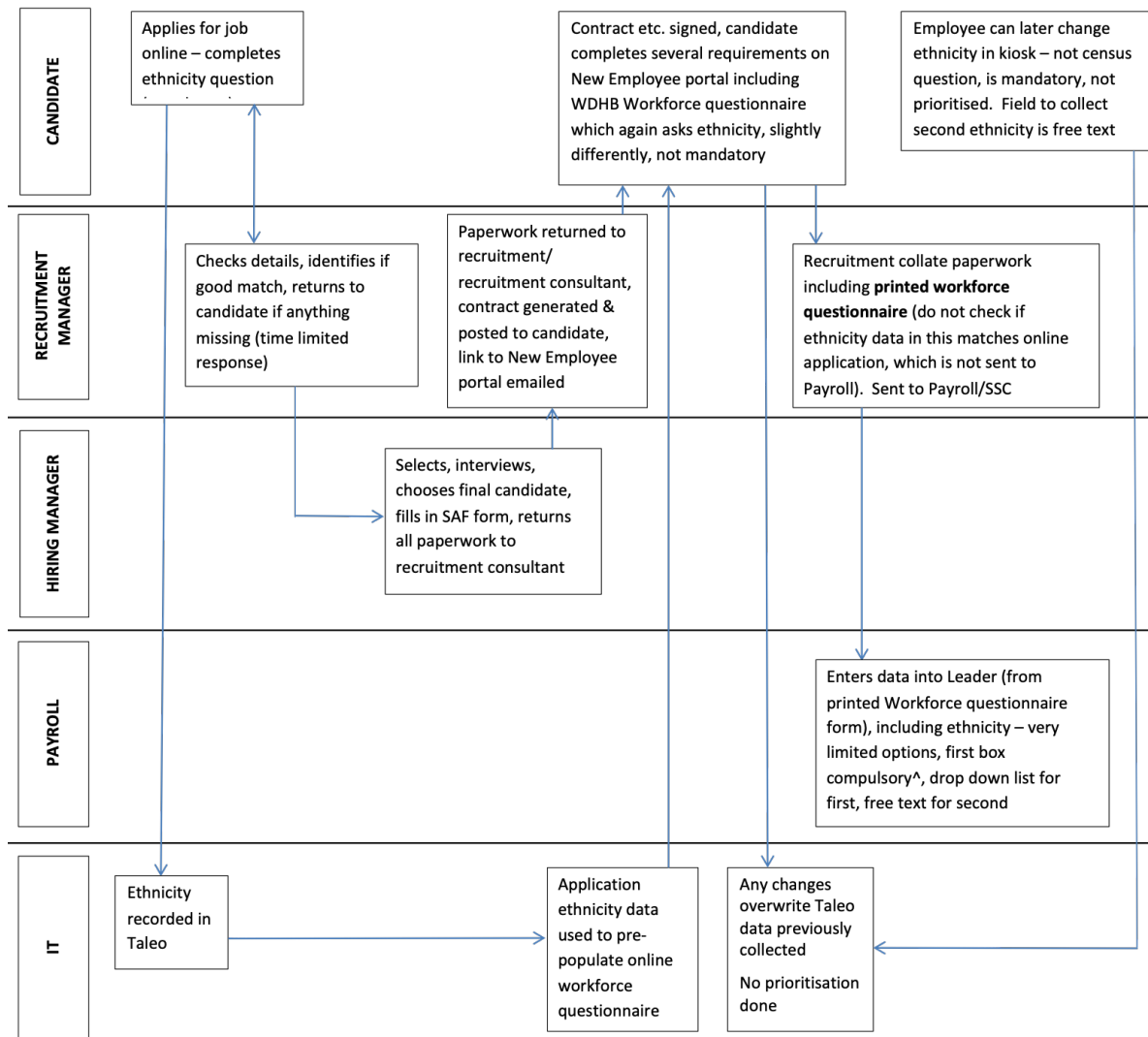
Successful applicants were asked about their ethnicity again at the time of onboarding via a workforce questionnaire which was pre-populated with the data captured in Taleo. However, in the questionnaire the ethnicity question was not mandatory, so previous data could be deleted, and the ethnicity question was not asked as per the

HISO protocol. The options for recording "Other" ethnicities were the same as for Taleo. This questionnaire was then printed out by the recruitment team and sent with the other onboarding documents to the Staff Service Centre. This information was then entered into Leader by admin staff. Leader had very limited options for capturing ethnicity, with only two fields: one with a drop-down box to select from, which was mandatory, and another free-text option, labelled "Alternate". Any information input here overwrote the Taleo data previously captured. No prioritisation of ethnicities was available that was consistent with the HISO standards where there are limited data collection fields. Staff employed various methods for entering data where more than two ethnicities were recorded, usually entering additional ethnicities with commas between them in the free-text field.

Additionally there was a third system, Employee Kiosk, that employees could use to access information about their payslips, leave, etc., and record information about themselves, such as contact phone number, emergency contact, etc. This also held information about ethnicity which the employee could update. There was no "question" associated, just a mandatory field called "Ethnicity" with a drop-down list to choose from and an additional free-text field labelled "Other Ethnic Group". Kiosk data were pre-populated from the Leader data; employees could overwrite these fields, but this did not update Leader, which was used for workforce reporting. Many employees were not aware of this part of Employee Kiosk and generally only used it for leave or payslip review.

The map below (Appendix Figure 3) illustrates this process.

Appendix Figure 3: Workflow for ethnicity data recording within human resources (HR) systems during the project.



[^]data entry rule is to enter ethnicities in exactly the order they are entered by the employee, no prioritisation undertaken by data entry staff, no data entered beyond 2 (as no facility to capture)