

Demography of Asian communities living in the rohe of the Northern Region District Health Boards

Disclaimer

Information within the report may be freely used provided the source is acknowledged. Every effort has been made to ensure that the information in this report is correct.

Counties Manukau Health and the authors do not accept any responsibility for information which is incorrect, or any actions taken as a result of the information in this report.

Published in June 2022

By Counties Manukau Health Private Bag 94052 South Auckland Mail Centre Manukau City Aotearoa New Zealand

ISBN 978-1-99-116661-6

Suggested citation:

Patel M, Jaung R, Winnard D, Papaconstantinou D, Ameratunga S (2022) Demography of Asian Communities living in the rohe of the Northern Region District Health Boards.

Double vowels are used rather than macrons where appropriate in Te Reo Maaori words in keeping with the Tainui convention, as mana whenua of the Counties Manukau district.

Acknowledgements

The authors would like to acknowledge the helpful input from the Counties Manukau Health Asian Health Action & Advisory Group, Dr Gary Jackson for peer review of an earlier version of this report, and other Population Health Team members for helpful contributions.

Foreword

The need for this document was recognised by Counties Manukau Health (CM Health) before the disestablishment of the District Health Boards (DHBs)¹ was announced as part of the current health system reform in Aotearoa New Zealand (NZ). While nearly thirty percent of the Northern Region population identify with an ethnicity which is aggregated into the 'Asian' group, it is clear that the composition of this aggregated group differs substantially across the rohe. This has important implications for population and health system planning. It is also apparent that this substantial portion of the metro Auckland DHBs' populations is largely invisible in national health system planning.

Therefore, as we head into a new era in the health system in Aotearoa NZ, CM Health gifts this report to Health New Zealand, the Maaori Health Authority, and the Ministry of Health (MoH), as the starter of what we anticipate will be a rich, mana-enhancing, Te Tiriti o Waitangi-based conversation about advancing the health and wellbeing of the diverse Asian communities of Aotearoa NZ. This is about how as a nation we acknowledge diverse communities by being intentional about the data we choose to look at.

We recommend that this work is extended to include the baseline demography profile for Asian communities in the rest of the country. We recommend similar attention nationally for the populations encompassed by the MELAA group (Middle Eastern/Latin American/African) who are invisibilised in the 'Other' group in most health system data. We offer our support to establish these profiles.

This report starts from the position that Te Tiriti o Waitangi is the basis of all relationships between Maaori and non-Maaori in Aotearoa NZ. All non-Maaori have rights and responsibilities in relation to Te Tiriti o Waitangi. However, the experiences of Asian communities, like many other minoritised communities, are different from those of the Paakehaa majority. Explicitly acknowledging the existence of Asian communities and their diverse experiences and health needs is a first step in supporting mechanisms that can ensure they receive culturally safe care and are considered in population health planning.

Compiling this report has made us more aware of what is missing from its limited scope; in particular migration history is important and the politics of migration and ethnicity is complex and often related to the international history of colonisation, privilege, and disadvantage. We frequently use prioritised or aggregated ethnicity outputs as a proxy for varying health needs. This practice might be pragmatic, but can be misleading, covering layers of complexity that need to be acknowledged.

Colleagues have told us they are glad to see religion included as part of this brief report, because in some communities, the interplay between ethnicity and religious beliefs and affiliations are key drivers for many aspects of the way people live their lives. This has implications for policy settings that shape community environments as part of population health, and how health and other services are implemented. As a window into culture, languages are also relevant to population health planning as well as service implementation.

¹ The names and catchment areas of the district health boards are correct at the time of writing this report but may change following the current health system restructure.

There are many other matters relevant to our Asian communities that this report does not touch on, but which have been documented by other groups and we point to some of those sources. We also acknowledge there are other matters yet to be explored and we look forward to contributing to that mahi in the coming years.

Teenaa koutou katoa,

Dr Gary Jackson, Director Population Health

Dr Peter Watson, Acting CEO

Counties Manukau Health

Demography of Asian communities living in the rohe of the Northern Region District Health Boards

Maya Patel, Rebekah Jaung, Doone Winnard, Dean Papaconstantinou, Shanthi Ameratunga, June 2022

Summary and recommendations

This report describes the demography of Asian communities living in the rohe of the Northern Region District Health Boards to inform the planning, funding, and implementation of health services in these rohe. The information examined points to the need for attention to more nuanced health needs assessments of Asian communities locally, regionally, and nationally.

Being counted: Demography data and analysis

Summary: Based on Estimated Resident (ER) population figures for 2021, Asian communities in the Northern Region made up 64% of the Aotearoa NZ Asian population, and 28% of the total population in the Northern Region. There is a critical need to appropriately acknowledge the presence of these communities in health system planning. Census data comprise a useful source of information for this purpose when their quality can be reasonably assured. In addition to common demographic variables such as age, gender, and ethnicity, they provide information on factors such as religion, birthplace, and language. Census data are also used to derive measures of socioeconomic deprivation. Data on these aspects are presented in this report. However, since the national Census is only undertaken relatively infrequently, additional data sets need to be used to obtain timely demographic characteristics of Asian communities for health services planning.

While international standards vary across countries, the HISO Ethnicity Data Protocols for the Health and Disability Sector in Aotearoa New Zealand specify how 'Asian' is defined, and how data can be aggregated or disaggregated within this umbrella term. However, these standards are inconsistently applied in the health sector, eg, confusing distinctions between 'Asian' and 'Indian' ethnicity.

Recommendation: Routine reporting of health data for Asian communities, including that of specific ethnic groups, when possible, will help to inform planning and healthcare delivery. The use of information resources such as the derived health service utilisation (HSU) population can provide useful and timely demographic insights to aid planning and funding responsive to the specific needs of the diverse Asian communities in our region. The HISO Ethnicity Data Protocols for the Health and

Disability Sector should be consistently applied to the definition, aggregation and disaggregation of ethnic communities.

Being acknowledged: Greater recognition of diversity within the 'Asian' population

Summary: The data presented in this report disaggregates the 'Asian' ethnic grouping to demonstrate the diversity within Asian communities. The common use of that grouping leads to 'averaging' of highly variable experiences. This risks obscuring variations in the health outcomes, access to health determinants and potential inequities experienced by different ethnic groups within the aggregate category. The inappropriate assumptions of homogeneity have important implications for how the health system views and responds to Asian communities. For example, the lack of knowledge within mainstream health agencies has been implicated in the lack of attention to responsive policies and services which address the specific needs of this diverse and growing segment of Aotearoa's population. Although some progress has been made by key proponents in the Asian Health space, there is a need for significant improvements in how the differing health profiles of the Northern Region's Asian communities are understood and served by the healthcare system.

Recommendation: Our report highlights the complex nature of categorising ethnicity and identity. Increasing the capacity, capability, and responsiveness of the healthcare system and policymakers to understand the diversity which exists within Asian ethnic groups is needed. This could include routine reporting to Level 2 ethnicity categorisations, increasing analytical capability, wider use of both quantitative and qualitative approaches to highlight the experiences of underserved Asian ethnic groups and increased engagement with community-based Asian health organisations and experts to ensure that data are used appropriately.

Being heard: Responsive health services

Summary: Demography data can contribute to designing responsive services (age and gender profiles by geographic region, languages spoken, levels of socioeconomic deprivation). However, we require data that measure the performance of the health system to identify gaps in responsiveness. Limited and inconsistent data collection and storage, and exclusive use of aggregated data are barriers to gathering further insights into how the health system can become more responsive, and culturally appropriate and safe for diverse Asian communities.

Recommendation: Many health services and data sources are not designed to consider the specific needs of Asian communities, even when existing data indicate that different ethnic groups within the Asian grouping have different experiences. There is an important need to develop data governance principles that are relevant to the demography, sociocultural perspectives, and aspirations of Asian communities in Aotearoa. Culturally appropriate and safe care may include consideration of a broad range of areas including language, migration history, religious beliefs, cultural values, health beliefs, health seeking behaviours, and non-western models of health more generally. Additionally, the unique ways in which these intersect with other identities such as age, gender, sexual orientation, socioeconomic position, and visa status, require attention. Specific examples of areas for potential investment include improving accessibility to interpreter services throughout the healthcare system, workforce development in key areas such as youth and older people's mental health and strengthening the healthcare support available to those who have temporary visa status or are of refugee backgrounds.

Table of Contents

Foreword	3
Summary and recommendations	5
Table of Contents	7
List of Figures	9
List of Tables	10
Abbreviations	11
Te Reo Maaori terms used in this report	11
Introduction	12
Purpose and layout of report	12
Author positionality and understanding of Asian health in Aotearoa NZ	13
What is ethnicity?	
How is the 'Asian' population classified in Aotearoa NZ?	
Limitations of the term 'Asian'	
Data sources and definitions	17
Census data	17
How does the Census currently report ethnicity?	17
Census Usually Resident population and Estimated Resident population counts	
Census response rates	19
The 'constructed population' or 'health service utilisation population'	
Geographic boundaries	21
Data analysis	22
Ethnic composition of the Northern Region DHBs	22
Distribution	28
Population age	35
Gender	37
Population growth	39
Birthplace	41
Languages spoken	43
Employment and unemployment	45

Socioeconomic deprivation46
Children living in socioeconomically deprived areas
Religion51
Health Measures
Life expectancy53
Recent publications on Asian Health in Aotearoa NZ:
Bibliography of key texts57
Health needs analysis and other reviews of Asian health in Aotearoa NZ57
Interrogating the 'Asian' ethnic grouping57
Studies using disaggregated/detailed ethnicity data within the Asian grouping57
Research on the impact of racism on health outcomes in Aotearoa NZ58
Cultural safety with a focus on Asian health in Aotearoa NZ58
Appendices59
Appendix 1: Asian categories as defined in the MoH HISO 10001:2017 Ethnicity Data Protocols 59
Appendix 2: Highest populated areas for the overall Asian population by DHB62
Appendix 3: Highest densely populated suburbs by prioritised L2 Asian sub-groups63
Appendix 4: Age structure of the overall Asian population by DHBs in 202164
References65

List of Figures

Figure 1: Asian population figures for Aotearoa New Zealand from 1850 to 2021 Censuses (13.14)).16
Figure 2: Ethnicity question from the 2018 Census as asked online and by paper	17
Figure 3: ER Population of Asian communities by DHB in 2021	22
Figure 4: Distribution of the Asian population across the Northern Region with a focus on Aucklar	nd
Metro and Northland in 2020.	29
Figure 5: Distribution of the Chinese population across the Auckland Metro in 2020	30
Figure 6: Distribution of the Indian population across the Auckland Metro in 2020	31
Figure 7: Distribution of the Other Asian population across the Auckland Metro in 2020	32
Figure 8: Distribution of the Southeast Asian population across the Auckland Metro in 2020	33
Figure 9: Distribution of the Asian nfd population across the Auckland Metro in 2020	34
Figure 10: Age structure of the Asian population by DHB in 2021	35
Figure 11: Age structure for Asian, Maaori, Pacific People and other ethnic groupings by DHB in 2	021
	36
Figure 12: Age groups of L2 Asian ethnic groupings in the Northern Region in 2020	36
Figure 13: Gender composition within age groups of the Asian population living in the Northern	
Region in 2021	37
Figure 14: Changes in Asian populations living in the Northern Region by age group from 2011 to	
2021	40
Figure 15: NZDep figures by DHB for the Asian population in the Northern Region in 2020	48
Figure 16: Three-year average life expectancy at birth for the Level 1 Asian population, 2001–200)3 to
2018–2020	53

List of Tables

Table 1: Counting the Asian population of Aotearoa NZ: the ER population	19
Table 2: 2006, 2013, 2018 Census UR rates (%) for the Asian, Maaori and Pacific People ethnic	
groupings and 15-29 year olds	20
Table 3: ER population by prioritised ethnicity for Northern Region DHBs in 2021	23
Table 4: Asian population groups by Level 2 ethnicity (as a % of the overall ethnic group) for the	
Northern Region DHBs in 2020	24
Table 5: Asian population by Level 2 ethnicity (as a % by DHB) for the Northern Region DHBs in 20	20
	24
Table 6: Asian population by Level 3 ethnic groupings as a % of the total Asian population in the	
Northern Region DHBs in 2018	25
Table 7: Asian population by Level 4 ethnic groupings as a % of the total Asian population in the	
Northern Region DHBs in 2018	26
Table 8: Gender distribution by ethnic groupings and DHB in 2020	38
Table 9: Annual percentage change of the Asian populations from 2011 to 2021	39
Table 10: Birthplace for the UR Asian populations in 2018	41
Table 11: Level 3 Asian ethnicity by birthplace for the Northern Region in 2018	42
Table 12: Languages spoken by the 'Asian' population by age as a percentage of the total for the	
'Asian' ethnic group in 2018	44
Table 13: Workforce status for the Level 3 Asian population in the Northern Region aged 15 years	;
and over in 2018	45
Table 14: Distribution of NZDep Quintile by Asian and non-Asian ethnicity groupings living in the	
Northern Region in 2020	47
Table 15: Distribution of children aged 0–14 living in the Northern Region in 2020 across NZDep	
Quintile by Level 2 ethnicity groupings	49
Table 16: Number of children aged 0–14, living in NZDep Quintile 5 areas in the Northern Region	
DHBs in 2020	49
Table 17: Children in each Asian ethnic group in Quintile 5 as a percentage of the total children of	:
that ethnic group	50
Table 18: Religion/belief/philosophy of the Asian population (Level 1 ethnicity grouping) living in	the
Northern Region (Census 2006 to 2018 UR population)	51
Table 19: Religion/belief/philosophy identified for the Asian population (Level 3 ethnicity) in the	
Northern Region DHBs in 2018	52

Abbreviations

Abbreviation	Meaning
Auckland Metro DHBs	Waitematā, Auckland and Counties Manukau
CAU	Census Area Unit
CM	Counties Manukau
CMDUD CM Health	Counties Manukau District Health Board, Counties Manukau
CMDHB, CM Health	Health
DHB	District Health Board
ER	Estimated resident (population)
IDI	Integrated data infrastructure
HSU	Health Service Utilisation
MELAA	Middle Eastern/Latin American/African
МоН	Ministry of Health
Nec	Not elsewhere classified
nfd	Not further defined
NHI	National Health Index
Northern Region DHBs	Northland, Waitematā, Auckland and Counties Manukau
NZ	New Zealand
NZ Dep	New Zealand Deprivation Index
NZSL	New Zealand Sign Language
Stats NZ	Statistics New Zealand
UR	Usually resident (population)

Te Reo Maaori terms used in this report

These kupu (words) can have the meanings described below, however kupu Maaori have many layers of meaning depending on who is speaking and in what context. This glossary draws on one being put together by Mana Whenua of the Counties Manukau rohe.

Te Reo Maaori	Translation to English					
Aotearoa	Maaori name for New Zealand					
Paakehaa	New Zealand European					
Rohe	Region or area of land					
Mana whenua	Iwi, hapuu and whaanau who have a relationship with and					
Maria Wileriua	authority relating to land by long association and occupation					
Taamaki Makaurau	Auckland falls inside Taamaki Makaurau - South Kaipara to the					
Tadillaki iviakaurau	southern reaches of the Maanukau Harbour					
Tainui	Tribes whose ancestors came on the Tainui canoe					
Tangata whenua	People of the land. All Mana Whenua					
Te Reo Maaori	Maaori language					
	Te reo Maaori text describing the relationship between Maaori					
Te Tiriti o Waitangi	and the Crown including articles 1, 2, 3 and the Ritenga Maaori					
	declaration (commonly referred to as the 'fourth article')					

Introduction

The Asian population is the fastest growing ethnic grouping in Aotearoa NZ. However, the health system's understanding of this significant proportion of our population is often limited by the conceptualisation of 'Asian' as a homogenised group with a singular health profile, or by approaching the analysis of the health needs of this population from a purely cultural lens. This lack of detail limits the system's responsiveness to the health profiles of different Asian communities, and denies attention to groups more likely to experience socioeconomic deprivation and health inequities.

There is no national plan or strategy that covers Asian health issues in Aotearoa NZ (1). However, the health system restructure and its attention to locality-based insights require more nuanced understandings of the characteristics of the Asian communities in any given area to inform health services which are responsive to their needs.

The new health systems structures reinforce the place of regional planning and indications are that the Northern Region DHBs — Northland, Waitematā, Auckland and Counties Manukau — will be working more closely together. To assist in the planning of health services which serve Asian communities it is important to understand as much as we can about the population who live in the rohe of the Northern Region. We note that this report does not cover the significant proportion of the total Asian population of Aotearoa NZ who live outside of the Northern region.

Purpose and layout of report

The purpose of this report is to summarise demographic information about the Asian population living in the rohe of the Northern Region DHBs. It aims to provide insights into the population's specific profiles to inform the planning, funding, and implementation of health services in these regions. This includes analyses of different Asian communities by geographic area, age, gender, and some of the social determinants.

The secondary purpose of this report is to highlight the diverse profiles of communities aggregated under the Asian ethnic grouping as well as the limitations of existing datasets for collecting useful information to inform health service provision for Asian communities in this rohe.

Although the focus of this report is to describe the Asian population from a demographic perspective, we consider the implications and potential utility of the data from a health service planning perspective. Not intending to duplicate the efforts of others, we include a list of recent Asian Health publications which offer expert commentary and recommendations which can be read alongside the current report.

We also wish to highlight the existing body of work which has identified key issues in Asian health in Aotearoa NZ, and some of these key texts are collated in a bibliography at the end of this report.

Author positionality and understanding of Asian health in Aotearoa NZ

The two lead authors of this report are of ethnicities within the Asian grouping. The following positions have also informed the approaches to the analyses included in this report.

In addition to the understanding outlined in the Introduction to this report, we approached this report with an understanding of the historical and ongoing racism experienced by Asian communities in Aotearoa NZ, including structural racism and experiences of racism when interacting with health services (2-4). Although these experiences are not routinely captured in existing datasets, they are supported by evidence from health and other fields and have informed the interpretations included here.

The authors of the report also acknowledge that although the focus of this report is the demography of Asian communities in the rohe of the Northern Region DHBs, this must be understood within the frameworks of te Tiriti o Waitangi, health equity and cultural safety.

We recognise that Asian communities in Aotearoa NZ have a responsibility to honour te Tiriti o Waitangi. However, unlike Paakehaa, Asian communities are seen as minoritised ethnicities², which adds complexity to the Tiriti relationship. Additionally, Asian communities generally do not have extensively reported health and social inequities that Pacific communities experience. The intent of this report is not to divert attention from health inequities experienced by tangata whenua, or minoritised communities, but to be tangata Tiriti³, to increase our understanding of the diverse realities of Asian communities using demographic data and to emphasise that they require their own attention and focus.

What is ethnicity?

Ethnicity is a socially constructed identifier which can include cultural, religious, and nationality elements and other characteristics (5). It can change over time, be socially assigned or self-identified, and these may be non-concordant. Ethnicity is not a determination of biological or even cultural difference but can reflect how a society perceives the ethnic group. For example, in a society where one ethnic group is considered the default or dominant group, other ethnic groups may be thought of as minor, marginal or deviations from the norm.

For Asian communities in Aotearoa NZ, this has often meant being categorised as 'ethnic minorities' and for their barriers to accessing services to be considered from the perspective of cultural, behavioural and innate biological differences from the 'norm'. This language and way of thinking is embedded in many policies and processes concerning Asian communities but is being increasingly challenged by our expanding understanding of ethnicity and racism.

² The descriptor 'minoritised ethnicities' ties in with our understanding of ethnicity being shaped by social context. This differs from the term 'ethnic minorities' which is less clear about the source of the 'minor' designation.

³ We recognise the range of meanings that tangata Tiriti holds. Although this term is sometimes used to describe all non-Maaori living in Aotearoa, the authors of this report understand tangata Tiriti as non-Maaori who live in Aotearoa through te Tiriti o Waitangi and have responsibilities within this partnership (6).

How is the 'Asian' population classified in Aotearoa NZ?

The HISO 10001:2017 ethnicity data protocols describe the standard procedures for collecting, recording, and using data on the ethnicity of people treated by or working in the Aotearoa NZ health and disability sector (7). Level 1 categories (in code order) are European, Maaori, Pacific Peoples, Asian, Middle Eastern/Latin American/African (MELAA), Other Ethnicity, and Residual Categories. Levels 2,3 and 4 provide increasingly more detailed sub-groups of ethnicities. Codes in each of the more detailed levels can be aggregated and mapped to a higher level. See Appendix 1 for categories of Asian populations.⁴

The current definition of 'Asian' used in Aotearoa NZ was constructed in 1996 by Statistics New Zealand (Stats NZ). Prior to this date, people who were Asian were either not classified, classed as 'race aliens' or 'other' or classed into ethnic categories similar to that of the present HISO L4 ethnicity categories (8).

Stats NZ defines the 'Asian' group as being made up of people with origins in the Asian continent, from Afghanistan in the west to Japan in the east and from China in the north to Indonesia in the south (9). This definition differs from those used by other 'western' states like the United Kingdom, where the word "Asian" most frequently refers to people whose ancestry is from Pakistan, Indian, Bangladesh or Sri Lanka. In contrast to the broad state-sector definition, frequent colloquial usage of the term "Asian" in NZ specifically describes Chinese and other East and Southeast Asian ethnicities (10). A full listing of the groups within the official classification Asian can be found in: <a href="https://doi.org/10.1001/jhis.com/his.co

The population line chart (Figure 1) is the best estimate of Aotearoa NZ's Asian population since the country's first census was completed in 1851. The solid line indicates the start of measuring the Asian grouping. We have added several events from the past which aid in understanding effects on demographic changes. Noticeable events include incidents of explicit structural racism.

Stats NZ is currently undertaking a consultative review of the current ethnicity standard classifications. Findings from the last report in 2019 can be found through here: Ethnicity standard classification: Findings from public consultation November 2019 | Stats NZ (11).

The use of the term Asian in the tables in our report reflects the terminology used in the source data and refers to HISO Level 1 'Asian' category. We have also used phrases such as 'Asian ethnicity grouping', 'Asian population' and 'Asian communities' when referring to the collective population covered by the report. We understand the critiques surrounding the use of the term 'Asian' and summarise some of the key points in the following section to accompany the use of this term within the report.

Limitations of the term 'Asian'

People whose ethnicity is classified under the Asian, Pacific Peoples and MELAA ethnic groupings, are in the position of being members of minoritised ethnic groups and being consistently counted using aggregated ethnicity groupings which do not reflect their identity, culture or racialised context.

⁴ In the health and disability sector, a 'super-aggregate' Level 0 grouping is sometimes used. This is not an aggregation group under the Stats NZ's classification. There is variability in the application of this Level 0 category. For example, Māori, Pacific Peoples, Asian, European/Other; or Māori, Pacific Peoples, European/Other. HISO 10001:2017 ethnicity data protocols.

Although aggregation of ethnicity data is required to generate many routinely used health analyses, we must also be aware of the limitations of this method. Data in which the Asian grouping is disaggregated reveals significant differences in health outcomes and access to the determinants of health across different ethnic groups (10). The routine and uncritical use of the 'Asian' ethnicity grouping may act as a barrier to understanding health needs and potential inequities within this group and supporting the development of culturally safe practices within the health system.

Furthermore, many people classified as Asian do not identify with the term, due to various reasons including differences in the interpretation of the term Asian. Some common ethnic groups are missing completely, eg, Gujarati, with a national signifier used instead. This may lead to the overuse of catch-all classifications such as 'Other'.

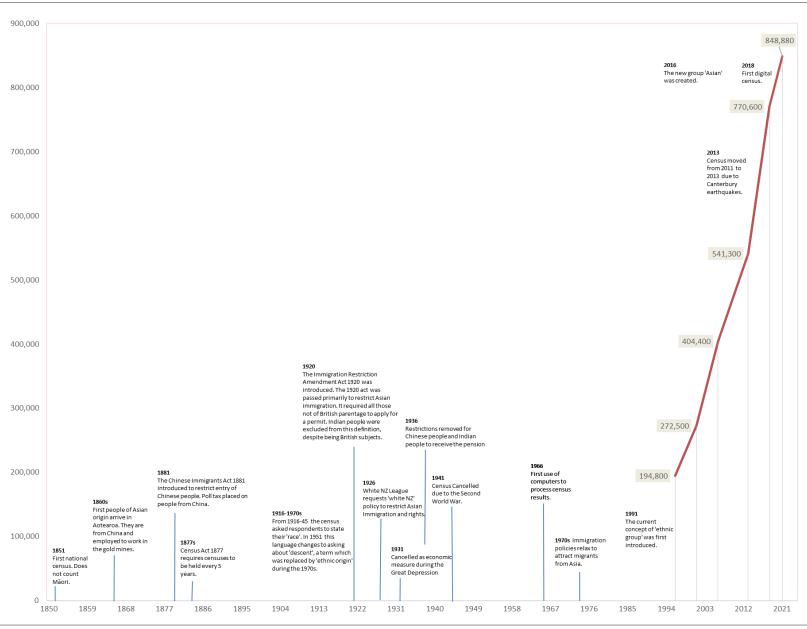
The aggregation of the Asian ethnic grouping, or ethnicities within this category, under 'Other' alongside all non-Maaori and non-Pacific ethnicities, makes data relating to diverse Asian communities (even as a broad group) even more invisible.

An example of an ethnicity classification which is currently a contentious issue in Aotearoa NZ is the classification of people of Fijian Indian community, particularly the implications for prioritised ethnicity output in Aotearoa NZ. While arguments relating to this debate are beyond the scope of this report, what is clear is that ethnic numeration and classification are inherently social constructs and procedures, influenced by the politics of identity, nationality, immigration policies, relations between ethnic groups, and histories of colonisation, among other factors (12).

Although the HISO ethnicity data protocols provide guidance for the categorisations of ethnic groups in Aotearoa, the definition or ethnic groupings within the category 'Asian' can vary in the numerator and denominator. For example, some analyses from the health sector present data suggesting Asian and Indian as two separate and mutually exclusive categories. This incorrect assumption can lead to an incorrect rate calculation and limit the quality and interpretation of data relating to Asian populations in such an analysis.

Ethnicity is complex, changeable, and socially constructed. Although it is useful for informing health service planning in a broad sense, we must be aware of its limitations and the complex social and political context within which many ethnic identities exist. Understanding this complexity and acknowledging the different health profiles and experiences of specific ethnic communities is important for ensuring that these communities are not invisibilised or left behind. There is also a need to consider categorisations other than ethnicity for examining the health profiles of different populations.

Figure 1: Asian population figures for Aotearoa New Zealand from 1850 to 2021 Censuses (13.14)



Source: Stats NZ 1994 to 2021 ER Population

Data sources and definitions

Census data

The Aotearoa New Zealand Census of Population and Dwellings provides an official count of how many people and dwellings there are in the country at a set point in time. Censuses in Aotearoa NZ have been undertaken since 1851, generally every five years.

This demography report draws primarily on data from the most recent Census in 2018, with the addition of data from other resources where we were not able to gather this from the Census. When interpreting these data, it was important for us to understand what the Census data does and does not tell us. Where relevant, comparisons were made with other data sources and with non-Asian ethnic groups.

How does the Census currently report ethnicity?

The ethnicity question in the census asks individuals to provide their ethnic group/s (Figure 2); it is the same question which is the standard for the Health and Disability sector. The question in 2018 was asked in English and Te Reo Maaori (15).

2018 Census English form - online Which ethnic group do you belong to? Show Help Which ethnic group do you belong to? Mark the space or spaces which Select all that apply to you. apply to you. New Zealand European ■ New Zealand European Māori Samoan ☐ Samoan Cook Islands Maori ☐ Cook Islands Maori Tongan Niuean □ Niuean Chinese □ Chinese Indian other, eg DUTCH, JAPANESE, ✓ other, eg Dutch, Japanese, Tokelauar TOKELAUAN. Please state: Please enter the ethnicity:

Figure 2: Ethnicity question from the 2018 Census as asked online and by paper

Source: Statistics New Zealand. 2018 Census: Design of forms: Statistics New Zealand; Available from: https://www.stats.govt.nz/

Stats NZ then specifies a method to reduce the responses to a maximum of 6 ethnic groups to be stored per person.

These groups can sit across any of the four levels in the HISO ethnicity data protocols (7). This data is then mainly reported as total response, sole/combination or prioritised output.

Total response

'Total response' is where people are counted in all ethnic groups with which they identify, up to six, therefore people who report more than one ethnicity are counted more than once and overall percentages exceed 100%.

Sole/combination

Respondents are allocated to a single category of sole or multiple ethnic groups. This method can capture ethnic diversity in greater detail than for total response.

For total response and sole/combination, there is currently no method by which all multi-ethnic individuals can be accurately represented, analysed, and categorised to avoid double counting.

Prioritised

Prioritised ethnicity is the most used ethnicity output form in the health system, ensuring individuals with multiple ethnicities recorded are only counted once. As each person is counted once, the sum of each ethnic group adds up to the total population count. This is considered helpful for planning purposes, but the main limitation is the dismissal of the self-affiliation of multi-ethnic participants. Additionally, the current census question does not ask people to identify the ethnic group they identify with most strongly and many people may not consider this appropriate as it may undermine their multifaceted ethnic identity. However, respondents' data are put through an externally imposed prioritisation scheme (16).

Furthermore, the ethnic identities of people prioritised to the 'Other' group are rendered invisible (which is also the case for total response output).

Census Usually Resident population and Estimated Resident population counts

There are two major types of population statistics released by Stats NZ: the Census Usually Resident (UR) population and the Estimated Resident population. The decision on which type of data are used depends on the data available and/or released by Stats NZ, and the purpose and type of analysis required.

The Census UR population count refers to the number of people who were present in their residence on the Census night or temporarily elsewhere in Aotearoa NZ and filled in a Census form. In Census 2018 there was also the addition of people who hadn't filled in a Census form but were identified through administrative sources (17) such as activity in tax, health, and education data.⁵

The UR population is then adjusted further to include data from births, deaths, and migration. This adjusted number becomes the new base ER population, and is the main figure used in official statistics and health planning purposes. This data adjustment process can take a year or more following the Census. During the time it takes for the ER figures to be published, best estimates for the ER figures can be derived from estimating the percentages of the different categories of the UR denominator applied to the previous ER population.

⁵ Details on sources of this data can be found here: https://datainfoplus.stats.govt.nz/.

In the 2018 Census, the overall UR Asian population in Aotearoa NZ represented 92% of the ER population (Table 1).

Table 1: Counting the Asian population of Aotearoa NZ: the ER population

2018 Census usually resident population count	Estimated net census undercount	Estimated number of residents temporarily overseas on census night	Population changes between from UR to ER	Demographic reconciliation	Total adjustments	Estimated resident population on 30 June 2018
707,598	24,500	29,800	11,300	-2,600	63,000	770,600

Source: Census 2018, Stats NZ

Many variables from the Census are only given in UR form. To calculate indicative absolute numbers for this report, percentages derived from the 2018 UR population data are applied to the most up-to-date ER population – in this case the 2021 ER update.⁶

Between Census years, updated ER population figures are released annually. Therefore, where 2021 ER population figures were available, these were used in preference to the Census 2018 ER population figures. Calendar years are used throughout.

Census response rates

The 2018 Census had an overall response rate which was lower than expected and highly uneven across population sub-groups. Table 2 compares response rates in Aotearoa NZ from the last three Censuses for the UR Asian ethnicity grouping (with the national population, Maaori populations and Pacific Peoples as comparisons), and those aged between 15–29 years (due to the high missed numbers and partial responses in this age group).

_

⁶ Specifically, the Stats NZ projection by DHB with four prioritised ethnic groups, for the Ministry of Health, October 2021.

Table 2: 2006, 2013, 2018 Census UR rates (%) for the Asian, Maaori and Pacific People ethnic groupings and 15-29 year olds

	2006 (%)			2013 (%)			2018 (%)		
	Individual form	Partial form	Total	Individual form	Partial form	Total	Individual form	Partial form	Total
National population response rates	94.5	0.6	95.1	92.2	1.0	93.2	83.3	4.2	87.5
Sub-group response rates									
Asian	91.0	1.1	92.7	91.7	1.6	93.3	81.7	6.1	87.8
Maaori	93.1	0.6	93.7	88.5	1.2	89.7	68.2	6.1	74.3
Pacific Peoples	92.4	1.5	93.9	88.3	2.5	90.8	65.1	8.4	73.5
15–29-year-olds	91.9	0.9	92.8	88.5	1.8	90.3	75.0	6.1	81.1

Source: Stats NZ Initial Report of the 2018 Census External Data Quality Panel available here: https://www.stats.govt.nz/assets/Uploads/Initial-Report-of-the-2018-Census-External-Data-Quality-Panel.pdf

Response rates for all ethnic groupings have decreased at each of the last three Censuses. The rate for individual forms in the overall Asian population was 81.7% at the last Census; this was just below the national population average of 83.3%.

The Initial Report of the 2018 Census External Data Quality Panel and Final report of the 2018 Census External Data Quality Panel from Stats NZ provide further details on the processes and quality of data sources that are used to calculate the ER numbers (18).

When response rates are low, there is greater reliance on alternative data sources such as birth records or data from the previous Census (19). Some of these can have different characteristics and their use implies that ethnicity is a fixed characteristic that does not change over time. Where such data are unavailable or of poorer quality for the overall ethnic group or for specific levels, there are information gaps and less reliable analyses. Details on the 2018 Census approach for detecting data errors and for filling in gaps when the characteristics of people or dwellings have not been provided on census forms can be found here: Data sources, editing, and imputation in the 2018 Census (20).

As Census response rates continue to decline for the Asian (and other) populations, it is important to consider other sources of data which can provide demographic data such as Health Service Utilisation (HSU) derived outputs.

The 'constructed population' or 'health service utilisation population'

The 'constructed population' (or 'health service utilisation' (HSU) population) is a collection of data that is derived from linkage analysis of the health system national data collections. It is used for a range of analyses at CM.

It captures the population who are accessing publicly-funded health services. Data including age, gender, ethnicity, and the area of residence is derived. The latter can be used to derive area-based socio-economic scores. It provides a useful cross-check to the sub-national population estimates used in inter-censual years.

Data from the national health system collections used for the HSU population is based on a person's National Health Index (NHI), and the ethnicity recorded in it⁷ from each time a person interacts with the health system. The NHI is then encrypted for use for planning and analytical purposes.

Limitations of data sources include the quality of information (including ethnicity data) that is collected by different healthcare providers. There is potential to improve data quality with ongoing initiatives such as the use of the Hospital and Primary care Ethnicity Data Audit Toolkits (21, 22) and increasing use of live registers and also the Integrated Data Infrastructure (IDI)⁸, all of which provide opportunities to cross-check and update data from more than one source.

When looking at ethnicity specific data, the HSU derived outputs provide prioritised ethnicity data for Level 1 and Level 2 ethnicities. Data on Level 3 and 4 ethnicities is not currently available.

Historically DHBs have received an annual, bespoke Stats NZ output from the MoH detailing the ER population for each DHB by age group and Level 0 prioritised ethnicity (four groups: Maaori, Pacific, Asian, Other), along with population projections. More granular prioritised ethnicity by age groups has not been available for local geographies other than in the UR Census population. The HSU derived outputs provide a way of providing Level 2 ethnicity data to fill this gap.

The most recent complete HSU population available at the commencement of work on this report was for the year 2020.

Geographic boundaries

The geographical boundaries used for this report are as below. They have been chosen due to their use in providing local and national level population data to date.

- DHB
- Census area unit $(CAU)^9$ an aggregation of meshblock units approximately the size of a neighbourhood with a median number of residents of \sim 2,000

⁷ The ethnicity question used is the same as in the Census. Up to 3 ethnicities are stored in most systems currently, at Level 2, with plans to move to Level 4 and 6 ethnicity fields.

⁸ The IDI is a large database collated by Stats NZ. It holds de-identified microdata about people and households. The IDI incorporates data from tax, health, education, immigration, and other government data sources including the previous censuses.

⁹ Current health system data are not yet routinely mapped to the new Stats NZ Statistical Geographies SA1 and SA2.CAU's provide the best available option for demography analysis at CMDHB at this time of writing.

Demographic data for Asian communities are often reported under the aggregate Asian ethnic grouping and sometimes within the 'Level O' European/Other categorisation. Although this is sometimes necessary due to the small size of specific ethnic groups, it also contains a number of larger ethnic groups, particularly when looking at the population of Taamaki Makaurau. One approach which is pragmatic for this population may be to use Level 2 ethnicity in the HSU outputs to separate out the larger Indian and Chinese groups for analysis.

Data analysis

Ethnic composition of the Northern Region DHBs

Of the total Asian population of 2021 in Aotearoa NZ (848,880), 64% lived in the Northern Region (Figure 3). Of the population in the Northern Region, 98% resided in the Auckland Metro DHBs (Waitematā, Auckland and Counties Manukau).

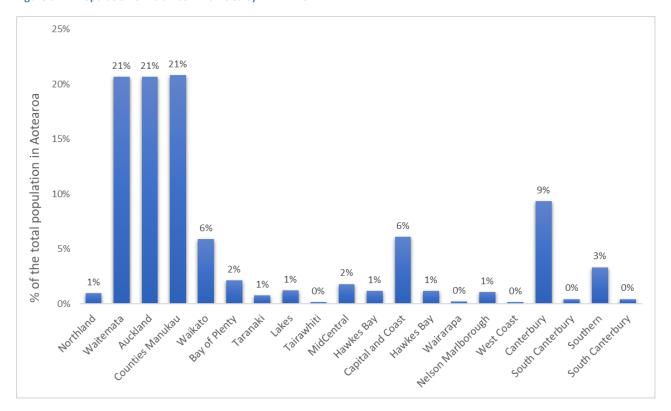


Figure 3: ER Population of Asian communities by DHB in 2021

Source: Stats NZ 2021 ER Population. Prioritised ethnicity.

Based on 2021 ER population data for the Northern Region, 28% of people (535,760) in the Northern Region identified as Asian (Table 3). This was the second largest Level 1 group after Other (the latter group includes NZ European and MELAA).

Table 3: ER population by prioritised ethnicity for Northern Region DHBs in 2021

	Northland	Waitematā	Auckland	Counties Manukau	Total (% of the total population)
Total population	197,930	639,380	499,110	601,300	1,937,720 (100%)
Asian	8,130	175,460	175,400	176,770	535,760 (28%)
Maaori	72,830	65,850	41,550	99,070	279,300 (14%)
Pacific Peoples	4,220	47,480	56,060	134,670	242,430 (13%)
Other ¹⁰	112,750	350,590	226,100	190,790	880,230 (45%)

Source: Stats NZ 2021 ER Population. Prioritised ethnicity. Figures rounded to nearest 10. Ethnic groups in order of total NR population size (highest to lowest).

The Census does not currently provide prioritised ethnicity data for Level 2 ethnic groups however this data can be gathered from HSU derived outputs (Table 4 and 5).¹¹ In 2020 the Indian and Chinese populations were the largest ethnic groups within the Asian population in the Northern Region, each representing approximately 35% of the total Asian population. The Other Asian population represented 15% of the total population, Southeast Asian populations represented 12% and Asian nfd as 2%.

In 2020, Waitematā was home to the highest proportions of Southeast Asian, Chinese, and Other Asian groups. Almost half of the Indian population resided in Counties Manukau. Waitematā and Counties Manukau had the biggest proportions of the 'Asian nfd' group. The profile of Level 2 ethnic groups was quite different in each DHB (Table 5).

-

 $^{^{10}}$ The 'Other' group includes NZ European and MELAA ethnic groupings.

¹¹ In CM we have often used 6 ethnicities from HSU derived outputs (Maaori, Pacific Peoples, Chinese, Indian, Other Asian and Other) as a halfway solution between Level 1 and Level 2 ethnic groupings.

Table 4: Asian population groups by Level 2 ethnicity (as a % of the overall ethnic group) for the Northern Region DHBs in 2020

Population figures by ethnic group (% of the total ethnic group) prioritised ethnicity										
Ethnic group	North	land	Waite	matā	Auckl	and	Coun Manı		Total O ethnic	
Chinese	1,000	1%	64,560	38%	55,060	33%	48,250	29%	168,870	100%
Indian	2,720	2%	34,060	22%	50,050	32%	70,430	45%	157,260	100%
Other Asian	1,480	2%	29,350	41%	23,710	33%	16,970	24%	71,510	100%
Southeast Asian	1,550	3%	21,310	37%	17,060	30%	17,820	31%	57,730	100%
Asian nfd	200	2%	3,570	38%	2,440	26%	3,210	34%	9,420	100%

Source: HSU population numerator and denominator 2020, deaths not included. Prioritised ethnicity. Figures rounded to the nearest 10. Ethnic groups in order of total NR population size (highest to lowest).

Table 5: Asian population by Level 2 ethnicity (as a % by DHB) for the Northern Region DHBs in 2020

	Population figures by DHB (% of the total ethnic group) prioritised ethnicity									
Ethnic group	Northland		Waitematā		Auckland		Counties Manukau		Total %	
Chinese	1,000	14%	64,560	42%	55,060	37%	48,250	31%	36%	
Indian	2,720	39%	34,060	22%	50,050	34%	70,430	45%	34%	
Other Asian	1,480	21%	29,350	19%	23,710	16%	16,970	11%	15%	
Southeast Asian	1,550	22%	21,310	14%	17,060	12%	17,820	11%	12%	
Asian nfd	200	3%	3,570	2%	2,440	2%	3,210	2%	2%	
Total	6,950	100%	152,850	100%	148,320	100%	156,680	100%	100%	

Source: HSU population numerator and denominator 2020, deaths not included. Prioritised ethnicity. Figures rounded to the nearest 10. Ethnic groups in order of total NR population size (highest to lowest).

Census UR data provides us with a best estimate of where L3 and L4 populations resided in 2018 (Table 6 and 7).

Table 6: Asian population by Level 3 ethnic groupings as a % of the total Asian population in the Northern Region DHBs in 2018

	Northland	Waitematā	Auckland	Counties Manukau	Northern Region
Chinese	0.4%	13.9%	12.9%	10.8%	38.0%
Indian	0.6%	7.1%	11.1%	16.0%	34.7%
Filipino	0.3%	3.0%	2.1%	2.1%	7.5%
Korean	0.1%	3.3%	1.4%	0.8%	5.6%
Other Southeast Asian	0.1%	1.2%	1.1%	0.7%	3.1%
Other Asian	0%	0.6%	1.2%	0.6%	2.5%
Sri Lankan	0%	0.5%	1.2%	0.5%	2.2%
Japanese	0.1%	0.8%	0.8%	0.2%	1.9%
Vietnamese	0%	0.2%	0.4%	0.7%	1.4%
Asian nfd	0%	0.4%	0.5%	0.3%	1.3%
Cambodian	0%	0.2%	0.1%	0.6%	1.0%
Southeast Asian nfd	0%	0.3%	0.3%	0.2%	0.8%
					100%

Source: Census UR populations 2018, total response, Stats NZ. nfd= not further defined. Ethnic groups in order of total NR population size (highest to lowest). Green (lowest %) to orange (highest %).

Table 7: Asian population by Level 4 ethnic groupings as a % of the total Asian population in the Northern Region DHBs in 2018

	Northland	Waitematā	Auckland	Counties Manukau	Northern Region
Chinese nfd	0.3%	13.1%	12.0%	9.8%	35.2%
Indian nfd	0.5%	6.5%	10.5%	14.4%	31.8%
Filipino	0.2%	3.0%	2.1%	2.1%	7.5%
Korean	0.1%	3.2%	1.4%	0.8%	5.6%
Fijian Indian	0%	0.5%	0.5%	1.4%	2.4%
Japanese	0.1%	0.8%	0.8%	0.2%	1.9%
Vietnamese	0%	0.2%	0.4%	0.7%	1.4%
Asian nfd	0%	0.4%	0.5%	0.3%	1.3%
Thai	0.1%	0.4%	0.4%	0.3%	1.2%
Sinhalese	0%	0.3%	0.6%	0.2%	1.1%
Taiwanese	0%	0.3%	0.4%	0.3%	1.0%
Cambodian	0%	0.2%	0.1%	0.6%	1.0%
Pakistani	0%	0.2%	0.4%	0.2%	0.9%
Indonesian	0%	0.4%	0.3%	0.1%	0.8%
Southeast Asian	0%	0.3%	0.3%	0.2%	0.7%
nfd					
Afghani	0%	0.2%	0.4%	0.2%	0.7%
Malaysian	0%	0.3%	0.3%	0.2%	0.7%
Chinese					
Hong Kong	0%	0.2%	0.2%	0.3%	0.6%
Chinese					
Sri Lankan nfd	0%	0.1%	0.3%	0.1%	0.6%
Sri Lankan Tamil	0%	0.1%	0.3%	0.1%	0.5%
Malay	0%	0.1%	0.2%	0.1%	0.4%
Bangladeshi	0%	0.1%	0.1%	0.1%	0.3%
Burmese	0%	0.1%	0.1%	0.1%	0.3%
South African	0%	0.1%	0%	0.2%	0.3%
Indian					
Nepalese	0%	0.1%	0.1%	0%	0.3%
Cambodian	0%	0.1%	0.0%	0.1%	0.2%
Chinese					
Lao	0%	0.1%	0.0%	0.1%	0.2%
Southeast Asian	0%	0.1%	0.1%	0.1%	0.2%
nec					
Eurasian	0%	0%	0.1%	0%	0.1%
Vietnamese	0%	0%	0%	0.1%	0.1%
Chinese					
Singaporean	0%	0%	0%	0%	0.1%
Chinese					
Karen	0%	0%	0%	0%	0.1%
Punjabi	0%	0%	0%	0%	0.1%
Malaysian Indian	0%	0%	0%	0%	0.1%
Anglo Indian	0%	0%	0%	0%	0.1%
Asian nec	0%	0%	0%	0%	0%
Indian nec	0%	0%	0%	0%	0%
Indian Tamil	0%	0%	0%	0%	0%
Chinese nec	0%	0%	0%	0%	0%
Chin	0%	0%	0%	0%	0%
Sikh	0%	0%	0%	0%	0%

Bengali	0%	0%	0%	0%	0%
Mongolian	0%	0%	0%	0%	0%
Tibetan	0%	0%	0%	0%	0%
Maldivian	0%	0%	0%	0%	0%
Bhutanese	0%	0%	0%	0%	0%
Sri Lankan nec	0%	0%	0%	0%	0%
					100%

Source: Census UR populations 2018, total response, Stats NZ. nfd= not further defined. Note: rounding for confidentiality has been applied to populations under 3. Ethnic groups in order of total NR population size (highest to lowest). Green (lowest %) to orange (highest %).

In 2021, the Northern Region DHBs were home to 64% of the total population of Asian people in Aotearoa NZ. Of the total population for the Northern Region DHBs in 2021, the Asian population represented just under a third of the total population. They were the second largest major ethnic group after Other (which includes NZ European and MELAA).

The three metro Auckland DHBs had very similar sized overall populations of people who identified as one of the Asian ethnicities, but specific Asian communities were variably distributed across the rohe of the Northern Region DHBs.

Any aggregation of ethnicities can mask population distribution data, and this may have a disproportionate impact on smaller ethnic groups with specific health characteristics (eg, refugee communities). More qualitative analysis of these specific Asian communities and knowing where they are located will assist in planning where to locate targeted services.

Distribution

Mapping the Asian population allows us to see their distribution across the Northern region. This analysis used prioritised ethnicity data (denominator and numerator) from HSU derived data collections, and we mapped these figures to CAU (Figures 4 to 9). Note the values in the legends vary across maps.

In 2020, suburbs with the highest population of Asian residents per DHB (by CAU) included:

- Northland: Kerikeri, Whangarei (Woodhill, Vinetown).
- Waitematā: Henderson (Sturges North), North Shore (Target Road, Sunnynook, Pinehill, Northcross, Forrest Hill, Greenhithe, North Harbour West, Glenfield North), Hobsonville East.
- Auckland: Auckland Central West and East, Hillsborough West, New Windsor, Avondale South, Blockhouse Bay (Blockhouse Bay, Glenavon) Akarana, Lynfield North and South.
- Counties Manukau: Flat bush (Ormiston, Baverstock Oaks, Donegal Park), Takanini South, Redoubt South, Point View, Papatoetoe Central & East & North, Puhinui, Dingwall, Murvale.

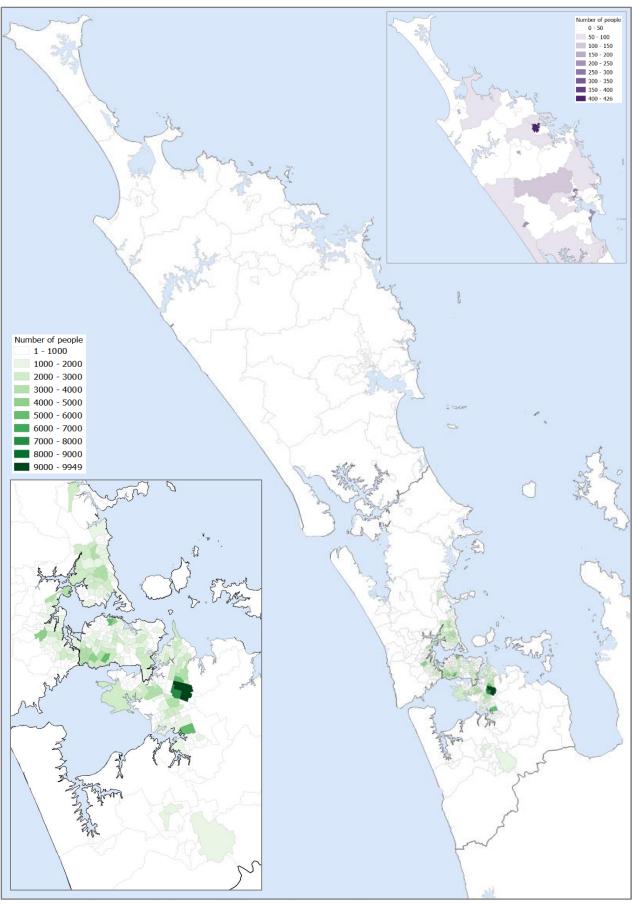
The most populated CAUs by ethnic group varied between L2 ethnic groups. Below are the three highest populated CAU's by ethnic group in 2020.

- Chinese: Ormiston, Pinehill, Baverstock Oaks
- Indian: Takanini South, Ormiston, Donegal Park
- Other Asian: Auckland Central West and East, Sunnynook
- Southeast Asian: Donegal Park, Ormiston, Auckland Central West
- Asian nfd: Ormiston, Donegal Park, Baverstock Oaks

The most highly populated and densely populated suburbs by DHB are available in Appendix 2 and 3 respectively.

The geographical distribution of Asian populations varies considerably between groups. Although our analysis using Level 2 ethnicity does provide some insights, more detailed data would enable us to map distribution of specific communities across the region.

Figure 4: Distribution of the Asian population across the Northern Region with a focus on Auckland Metro and Northland in 2020.



Source: HSU population 2020, deaths not included. Mapped to 2018 CAU by Stats NZ. DHB boundaries visible.

Figure 5: Distribution of the Chinese population across the Auckland Metro in 2020.

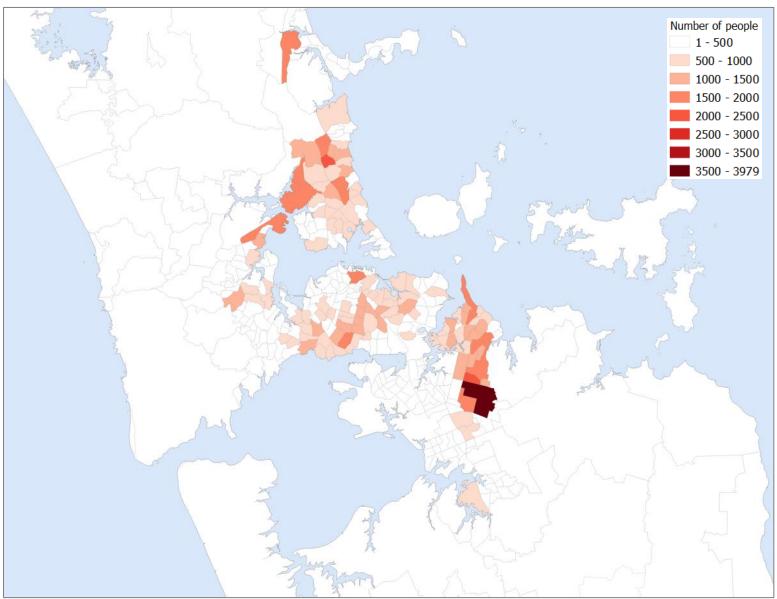


Figure 6: Distribution of the Indian population across the Auckland Metro in 2020.

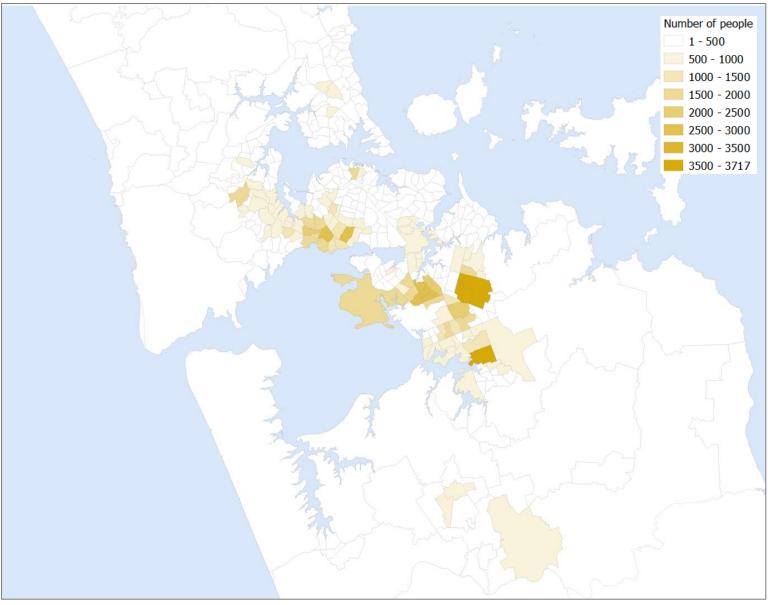


Figure 7: Distribution of the Other Asian population across the Auckland Metro in 2020.

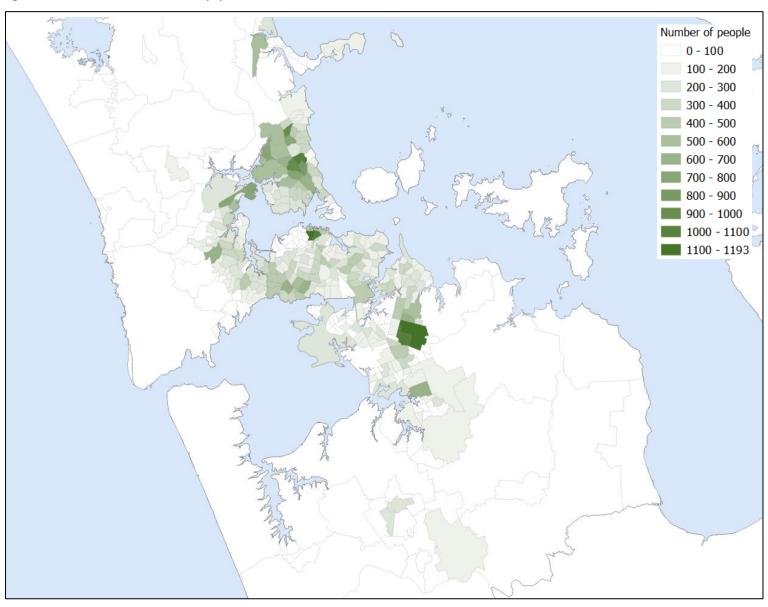


Figure 8: Distribution of the Southeast Asian population across the Auckland Metro in 2020.

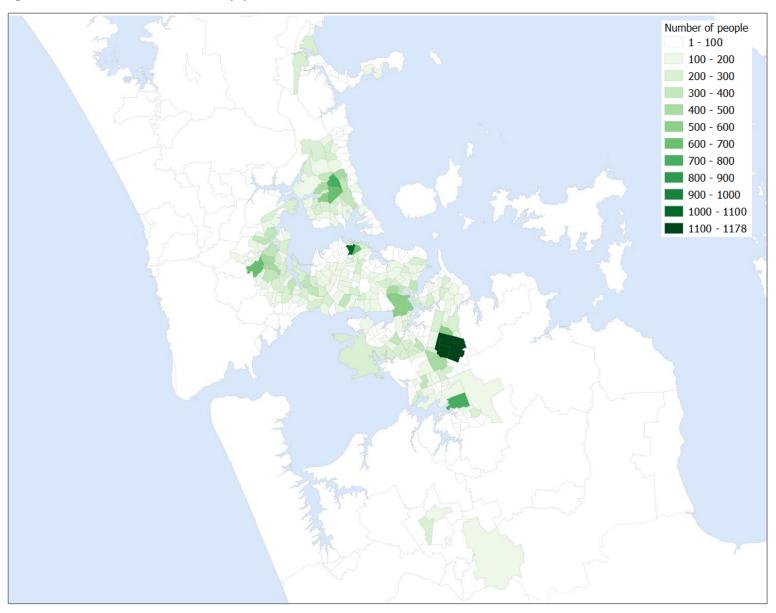
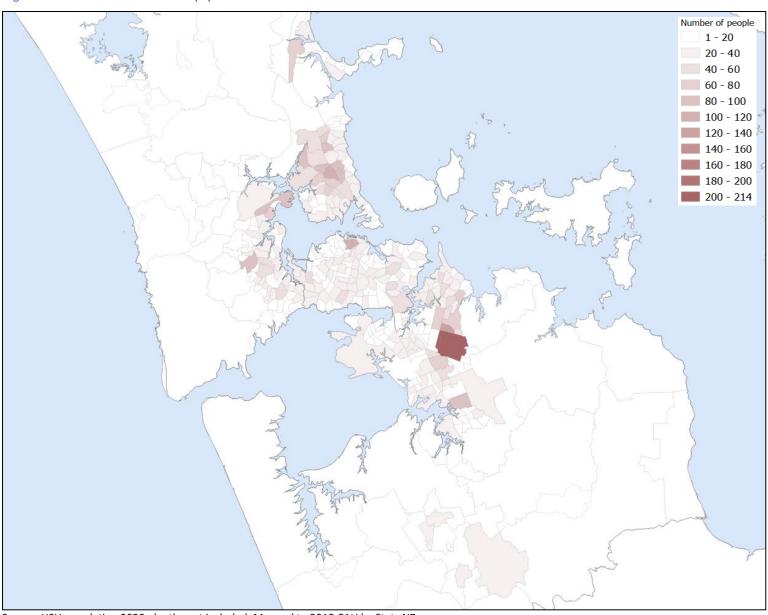


Figure 9: Distribution of the Asian nfd population across the Auckland Metro in 2020



Population age

Overall, the Asian population in the Northern Region DHBs is relatively young. Within the Asian population, those aged under 45 represented just over 70% of the Asian population in 2021 (Figure 10). See Appendix 4 for actual numbers.

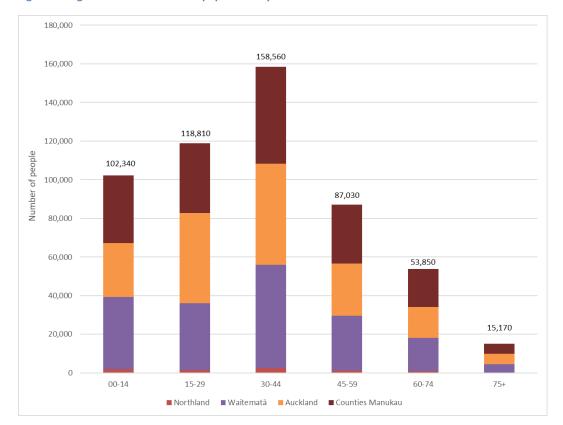


Figure 10: Age structure of the Asian population by DHB in 2021

Source: Stats NZ 2021 ER Population. Prioritised ethnicity.

When we compared the age structure of the Asian population with other L1 ethnicities (Figure 11), the Asian population contained larger percentages of those aged 20–44 years. The Asian population had similar percentages of those aged 50–84 when compared to Maaori populations and Pacific Peoples but lower percentages than for the Other (includes NZ European and MELAA) groupings.

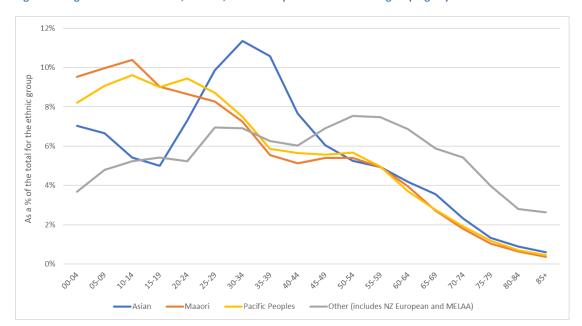


Figure 11: Age structure for Asian, Maaori, Pacific People and other ethnic groupings by DHB in 2021

Source: Stats NZ 2021 ER Population. Prioritised ethnicity.

HSU derived data allow us to look at the age structures of L2 Asian ethnic groups. There were differences in the age distributions between groups (Figure 12). In 2021, the 30–39 year age group was the largest age group for all Asian ethnic groups. This is likely to reflect the presence of students and people who had settled after completing their tertiary studies (23). The Asian nfd group has a noticeably different pattern to the other ethnic groups for those aged 25 and under. Of the Chinese population, 14% were over 65 years of age, compared to 8% for Indian and 5% for Southeast Asian.

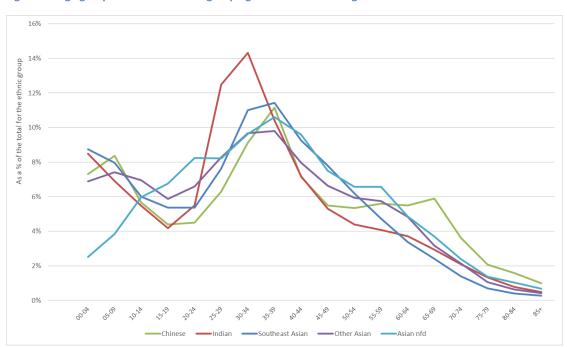


Figure 12: Age groups of L2 Asian ethnic groupings in the Northern Region in 2020

Source: HSU population numerator and denominator 2020, deaths not included. Prioritised ethnicity.

The differences in age structures of the ethnicities are a signal to consider the methods used when comparing the different ethnic groups. Age-standardisation is one method that helps compare the statistics of populations with different age structures. The usefulness of age-standardised data is determined by the quality of the data sources and the choice of the age standard (eg, an Indigenous standard, WHO, SEGI).

Gender

No national or local data sources currently provide information about gender beyond male and female categories, although this is set to change with the recent introduction of the new statistical standard for gender, sex, and variations of sex characteristics in the Census. These revised categories will be incorporated into the next Census 2023.

In line with current census data collection, Figure 13 shows the proportions of male and females for the Asian population in 2021 for Aotearoa NZ. Overall female to male distributions were similar but vary across several age groups. Further research may explain these differences.

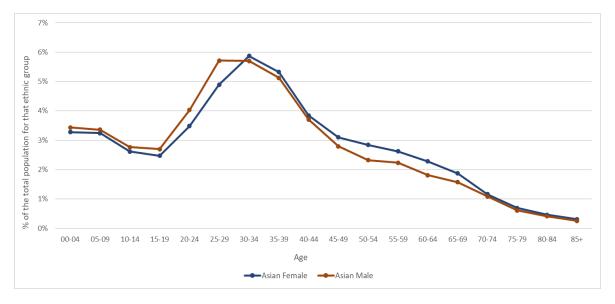


Figure 13: Gender composition within age groups of the Asian population living in the Northern Region in 2021

Source: Stats NZ 2021 ER Population. Prioritised ethnicity.

Analysis by Asian L2 ethnicities from 2020 HSU derived outputs, show variations between ethnic groups and within DHBs (Table 8). Across the Northern Region, the ethnic groups with the largest difference in distribution by gender were Asian nfd populations (female 44%, male 56%), Chinese populations (female 54%, male 46%) and Southeast Asian populations (female 55%, male 45%). The Indian and Asian nfd populations had overall more males than females.

Table 8: Gender distribution by ethnic groupings and DHB in 2020

	Gender	Northland	Waitematā	Auckland	Counties Manukau	Northern Region
Chinese						
	F	60%	54%	56%	53%	54%
	M	40%	46%	44%	47%	46%
Indian						
	F	47%	49%	48%	47%	48%
	М	53%	51%	52%	53%	52%
Other Asian						
	F	58%	53%	53%	52%	53%
	М	42%	47%	47%	48%	47%
Southeast Asian						
	F	61%	56%	55%	53%	55%
	М	39%	44%	45%	47%	45%
Asian nfd						
	F	45%	40%	47%	45%	44%
	М	55%	60%	53%	55%	56%
Total Asian						
	F	54%	53%	52%	50%	52%
	М	46%	47%	48%	50%	48%

Source: HSU population numerator and denominator 2020, deaths not included. Prioritised ethnicity. Ethnic groups in order of total NR population size (highest to lowest).

In 2021, the Asian population was relatively young with large numbers of people aged below 45. The age structure reflects the characteristics that migrants have brought with them and the age selectivity of the immigration system. The noticeable differences in age structure between ethnic groups are a good reminder to consider reporting using age-standardisation methods which allow us to better translate data for equity analysis.

An analysis of gender distribution for the Asian population showed overall female to male distributions were similar with young adults and middle-aged populations showing some differences. Further analysis of the ethnic groups within the Asian population showed several noticeable differences (eg, Asian nfd and Indian populations have greater numbers of males than females) and within the DHBs, Northland showed the greatest difference (males > females).

Improved gender data collection from 2023 will enable members of Asian communities with diverse gender identities to be correctly counted in a Census for the first time.

Given what we know about key areas of Asian health need (eg, youth mental health, cardiovascular disease in Asian communities, smoking prevalence for Asian men) (1), age and gender distribution by ethnicity is vital for informing how resources are allocated to target these issues effectively.

Population growth

Since 2011, the Asian population of the Northern region has increased by an average of 6% every year. From 2011 and 2021, the percentage growth has been greatest in Northland¹² (200%; 4,060 to 8,130) and Waitematā (192%; 91,450 to 175,460)¹³ and in the 25 to 44 age groups.

Table 9 shows annual percentage increases for each DHB between 2011 to 2021 and Figure 14 shows annual changes of population numbers by age groups.

Table 9: Annual percentage change of the Asian populations from 2011 to 2021

	2011– 2012	2012– 2013	2013– 2014	2014– 2015	2016– 2016	2016– 2017	2017– 2018	2018– 2019	2019– 2020	2020– 2021
Northland	7.1%	7.4%	7.5%	9.0%	9.0%	7.7%	6.2%	7.0%	10.1%	1.1%
Waitematā	4.9%	4.8%	7.8%	9.9%	10.0%	8.2%	6.9%	5.5%	8.7%	0.9%
Auckland	3.1%	3.2%	4.0%	5.4%	5.4%	4.4%	3.6%	3.3%	6.1%	0.0%
Counties Manukau	5.0%	5.0%	6.6%	8.7%	8.8%	7.3%	6.1%	4.3%	6.4%	0.9%
Average	5.0%	5.1%	6.5%	8.2%	8.3%	6.9%	5.7%	5.0%	7.8%	0.7%

Source: Stats NZ 2021 ER Population. Prioritised ethnicity.

The rate at which Asian populations are growing has fluctuated over the previous 10 years, with the slowest growth occurring in the 2020–2021 period. This drop off in 2020 is common to all ethnicities as Aotearoa NZ largely closed its borders due to the COVID-19 pandemic.

¹² Absolute numbers are relatively small in Northland.

¹³ Figures have been rounded to the nearest 10.

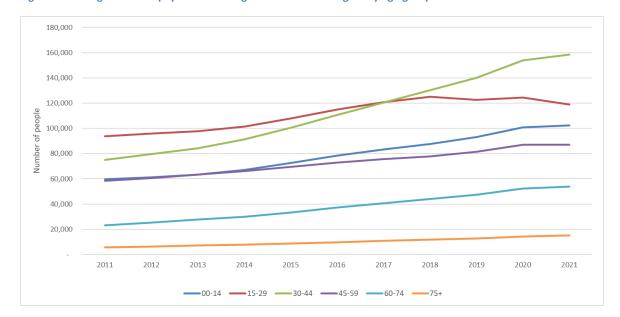


Figure 14: Changes in Asian populations living in the Northern Region by age group from 2011 to 2021

Source: Stats NZ 2011 to 2021 ER Population. Prioritised ethnicity.

Recent work by Stats NZ on population projection data has included significant changes in 2019–2021 figures which results in a departure from the 2018 population projection figures (24). Major changes are a reduction in inward migration, which has caused a reduction in overall growth. Migration growth is predicted to return to a pattern of increase by 2023/2024.

Growth of the Asian Population in the Northern region has slowed over the past five years after a period of steady increase. Immigration policies, migration flows, birth rates, housing costs and job availability, economic burdens are all potential explanations. Further data and analysis are required to understand the 'push and pull' factors that influence population movements in and out of the region and country.

Understanding which populations of ethnic groups move in or out of the region will be useful for ensuring services are accessible and appropriately resourced.

Birthplace

For the 2018 Census, data on birthplace was obtained from actual responses (84%) and the remainder from 2013 Census responses and administrative data from the IDI.¹⁴ Of the UR Asian population living in the Northern Region, 22% were born in Aotearoa NZ in 2018 (Table 10). If the prevalence is applied to the ER Asian population of 2021, this would be approximately 120,000.

Table 10: Birthplace for the UR Asian populations in 2018

	Northland	Waitematā	Auckland	Counties Manukau	Northern Region
Born in New Zealand	29%	21%	20%	25%	22%
Born overseas	71%	79%	80%	75%	78%

Source: Census UR population 2018, total response. Stats NZ.

When compared to the other L1 ethnic groups in the same region, the following proportion of non-Asian ethnicity groupings were born in Aotearoa NZ: Maaori (96%), Pacific Peoples (63%), European (77%), MELAA (22%).

Further breakdown of the UR Asian populations to L3 ethnic groups show the common regions of birth (Table 11 on the next page). For the Northern region, in 2018, the ethnic groups with the highest proportion of people born in Aotearoa NZ were as follows: Cambodian (36%), Japanese (29%), Other Asian (27%) and Vietnamese (26%). Asia was a common region of birth for all ethnicities and the Pacific Islands were the place of birth for a quarter of the Indian populations.¹⁵

Data on people born overseas by ethnic group and the length of residence in Aotearoa are not readily available without a custom extract. Data by L2 ethnicity for the 2018 UR population of CM Health was included in the 2018 Demographic profile report (25). At the time of the 2018 Census, a higher percentage of those identifying as Chinese (61%) had been living in Aotearoa NZ for 10 years or more, compared with people identifying as Indian (48%) and Other Asian groups (46%).

¹⁵ Data for the birthplaces of the Asian communities living in Fiji may also be represented in Pacific Peoples birthplace data.

¹⁴ There was information found for 1.2% of the data used for UR birthplace.

Table 11: Level 3 Asian ethnicity by birthplace for the Northern Region in 2018

	Total	New Zealand	Australia	Pacific Islands	Other Oceania and Antarctica	North- West Europe	Southern and Eastern Europe	North Africa and the Middle East	South- East Asia	North- East Asia	Southern and Central Asia	The Americas	Sub- Saharan Africa	At sea
Asian	100%	22%	0%	9%	0%	0%	0%	0%	15%	31%	20%	0%	1%	0%
Chinese	100%	24%	0%	1%	0%	0%	0%	0%	8%	65%	0%	0%	0%	0%
Indian	100%	23%	0%	24%	0%	1%	0%	1%	1%	0%	46%	0%	2%	0%
Filipino	100%	15%	0%	0%	0%	0%	0%	1%	83%	0%	0%	0%	0%	0%
Korean	100%	14%	0%	0%	0%	0%	0%	0%	0%	83%	0%	0%	0%	0%
Other Southeast Asian	100%	25%	1%	0%	0%	1%	0%	0%	71%	0%	0%	0%	0%	0%
Other Asian	100%	27%	0%	0%	0%	1%	0%	2%	2%	1%	63%	0%	0%	0%
Sri Lankan	100%	17%	0%	0%	0%	1%	0%	1%	1%	0%	78%	0%	1%	0%
Japanese	100%	29%	0%	0%	0%	1%	0%	0%	1%	67%	0%	2%	0%	0%
Vietnamese	100%	26%	1%	0%	0%	1%	0%	0%	70%	1%	0%	0%	0%	0%
Asian nfd	100%	8%	0%	0%	0%	1%	0%	1%	39%	20%	23%	1%	0%	0%
Cambodian	100%	36%	0%	0%	0%	0%	0%	0%	62%	0%	0%	0%	0%	0%
Southeast Asian nfd	100%	9%	0%	0%	0%	1%	0%	0%	80%	2%	3%	0%	0%	0%

Source: Census 2018 UR populations, total response, Stats NZ. Ethnic groups in order of total NR population size (highest to lowest).

A high proportion (78%) of the Asian population in the Northern Region was born overseas in 2018.

In the literature on Asian health, several studies note the protective influence of the healthy migrant effect, although a larger number focus on post-migration hardships such as isolation and identity alienation, deprivation, stress, and the experience of racism, all of which have a direct impact on health.

There is also a significant number of people in Aotearoa NZ who are counted as Asian who will have characteristics, health needs, identities and expectations that may be similar or very different from their migrant elders.

Although migrant status and generation impact on health and wellbeing, this information is currently difficult to ascertain from Census or HSU derived data. Given the relatively high proportion of the Asian population who have experienced migration, this is a key data gap when considering improving the health of some Asian communities and understanding differences in services which specific communities may require (26).

Languages spoken

There are three official languages in Aotearoa NZ: Maaori, English, and NZ Sign Language. The 2018 Census asked respondents to answer which languages they are able to "have a conversation about a lot of everyday things". The questions in the 2018 Census were available in English and Te Reo. 17

The Census provides the best available data on languages spoken; however, information on literacy, language confidence or the ability to have complex conversations (for example about health issues) is not available.

For the 2018 Census, data on languages spoken was obtained from actual response (84%) and the remainder from 2013 Census responses and imputation. ¹⁸

A breakdown of 2018 UR Asian populations (excluding people who were too young to talk) who were able to have a conversation in English, as percentages were: Korean (75%), Chinese (75%), Cambodian (76%), Vietnamese (78%), Other Asian (84%), Japanese (87%), Other Southeast Asian (88%), Asian nfd (89%) and 90% or over for those identified as Indian, Sri Lankan and Filipino.¹⁹

For figures on the number of people in the Northern Region DHBs who would <u>not</u> be able to have a conversation in English, if the prevalence is applied to the ER Asian population of 2021, this would be approximately 85,000 people. The pattern by age group is further analysed in the <u>CM Health Census</u> 2018 Profile (25), with higher proportions of older people able to speak the language of their country of origin but not able to speak conversational English. The languages spoken by people who were not able to have a conversation in English are not readily available.

¹⁶ Respondents can also choose "none or too young to talk".

¹⁷ Stats NZ has offered census respondents the option of paper census forms in Te Reo since the 1996 Census, and for each online census since the first in 2006.

¹⁸ Imputation for the language variable was obtained using a <u>within-household donor imputation</u>.

¹⁹ Dataset: Ethnic group (detailed total response — Level 3) and languages spoken by sex, for the census usually resident population count, 2006, 2013, and 2018 Censuses (RC, TA, SA2, DHB). Ethnic groups in order of lowest percentage to highest percentage.

Of the largest L3 groups that answered the 2018 Census question about languages:

- 29% of the Indian population spoke Hindi²⁰ and 13% spoke Punjabi
- 39% of the Chinese population spoke Mandarin²¹, 21% spoke Yue, 20% spoke Sinitic
- 55% of the Filipino population spoke Tagalog.

The data does not show if these languages are their only spoken language.

The <u>CM Health Census 2018 Profile (25)</u> drew on a customised extract on languages to provide a subgroup analysis of languages spoken by ethnic group and age for the largest four Asian ethnic groups in CM Health.

The number of Asian people who can speak Te Reo and NZ Sign Language had increased since the last Census. The largest numbers of Te Reo and New Zealand Sign Language (NZSL) speakers were within the Chinese (Te Reo 609, NZSL 594) and Indian populations (Te Reo 618, NZSL 468).

In 2018, more than half of people within the Asian grouping were multilingual, with 57% of the UR population able to speak two or more languages compared to 17% for UR non-Asian ethnicities. For three and more languages this was 13% for Asians and 2% for non-Asian ethnicities (27). Table 12 provides the percentages of people who were able to speak one or more languages by age. In 2018, 60% of Asian people aged 15–64 years were able to speak two or more languages. The 30–64 age group had the highest proportion who were able to speak three or more languages (16%) and four or more languages (3%).

Table 12: Languages spoken by the 'Asian' population by age as a percentage of the total for the 'Asian' ethnic group in 2018

	under 15	15–29	30–64	65 and over
One language	8.9%	10.8%	18.7%	4.2%
Two languages	7.4%	12.7%	22.3%	2.3%
Three languages	0.7%	3.2%	6.0%	0.6%
Four languages	0.0%	0.4%	1.2%	0.1%
Five languages	0.0%	0.1%	0.3%	0.0%
Six languages	0.0%	0.0%	0.1%	0.0%

Source: Census 2018 UR population, total response. Stats NZ.

In 2018, more than half of people within the Asian grouping are multilingual. However, from a health service and planning perspective, it is significant that many of the Asian population would have difficulties accessing English-only services or information. Our analysis here has been done with the acknowledgement that people can speak many languages but may not identify with the common ethnic group from where the language originated. Additionally, many people may understand a language but may not speak it with confidence.

Although it is vital information, it is not possible to ascertain the languages for which

_

²⁰ The language commonly spoken in countries including India, Fiji, Nepal.

²¹ Mandarin is a group of Sinitic languages natively spoken across most of northern and southwestern China.

interpreters/translated materials are most required without a customised data extract.

Employment and unemployment

For the 2018 Census, data on employment was obtained from actual response (approximately 82%)²² and the remainder from imputation. The table below shows data on employment status for level 3 Asian ethnicity groupings in 2018.

Table 13: Workforce status for the Level 3 Asian population in the Northern Region aged 15 years and over in 2018

	Employed Full-time	Employed Part-time	Unemployed ²³	Not in the Labour Force ²⁴	Total % for that ethnicity
FEMALES					
Asian	42%	16%	4%*	37%	100%
Chinese	36%	15%	4%	45%	100%
Indian	49%	15%	4%	31%	100%
Filipino	59%	16%	4%	22%	100%
Korean	35%	20%	4%	40%	100%
Other Southeast Asian	39%	17%	5%	38%	100%
Japanese	37%	23%	4%	36%	100%
Sri Lankan	41%	18%	6%	35%	100%
Other Asian	27%	15%	8%	50%	100%
Vietnamese	38%	19%	5%	38%	100%
Asian nfd	46%	20%	4%	29%	100%
Cambodian	36%	16%	5%	44%	100%
Southeast Asian nfd	52%	21%	3%	23%	100%
MALES					
Asian	59%	11%	4%*	26%	100%
Indian	66%	12%	3%	19%	100%
Chinese	50%	10%	4%	36%	100%
Filipino	70%	12%	3%	15%	100%
Korean	53%	14%	4%	29%	100%
Other Southeast Asian	52%	12%	6%	30%	100%
Sri Lankan	65%	11%	4%	20%	100%
Other Asian	54%	13%	7%	26%	100%
Asian nfd	63%	14%	3%	20%	100%
Vietnamese	51%	13%	6%	30%	100%
Japanese	54%	14%	4%	28%	100%
Cambodian	53%	12%	4%	31%	100%
Southeast Asian nfd	71%	12%	3%	14%	100%

²² Percentages vary for each input. For further information see here: https://datainfoplus.stats.govt.nz/item/nz.govt.stats/ab229e2c-1ff2-44fc-b6be-d2479cd4e690

²³ Refers to working aged people, who are available to work and actively seeking work.

²⁴ Includes any person aged 15 years and over who is neither employed or unemployed. Examples include: attending educational institutions, retired, permanently unable to work due to physical or mental disabilities, have personal or family responsibilities, such as unpaid housework and childcare. Stats NZ DataInfo+

Source: Census 2018 UR population 2018, total response. Stats NZ. In order of total NR Level 3 ethnic grouping size (highest to lowest).

The latest June 2021 Stats NZ data reports the overall unemployment rate was 3.6% for the Asian population (28).²⁵ This was slightly below the overall rate for Aotearoa NZ (4.0%) and less than that in 2018 for the Asian population (females 4.3% and males 3.9%). Data for non-Asian ethnic groups in June 2021 were: Maaori (7.8%), Pacific Peoples (7.8%) and European (3.1%).

It is important to acknowledge that underemployment, a phenomenon that is widely acknowledged for new migrant Asian communities, is not currently measured in routinely available statistics for any ethnic group.

We note that workforce participation includes dimensions other than employment including underemployment and quality of work, and that the age distribution within each ethnic subgroup should be considered when interpreting employment rates by ethnicity. Given that Asian people in Aotearoa NZ are exposed to the highest prevalence of racism exposure in the workplace (2), work is a determinant of health for which the collection of more data by ethnicity is warranted.

Socioeconomic deprivation

Area-level socioeconomic deprivation can be measured by the New Zealand Deprivation Index (NZDep). NZDep uses information such as income, employment, educational qualification, and house ownership from census meshblock data to create a deprivation scale ranging from 0 to 10 which can then further be categorised to Quintiles. The Quintile scale ranges from 0 (least socioeconomically deprived) to 5 (most socioeconomically deprived). For this report NZDep was primarily sourced from Primary Health Organisation data in the HSU population.

NZDep is a relative measure, and 'all things being equal', 20% of each population group should be in each Quintile, however this is not the case for several ethnic groups. Table 14 shows the populations of L2 Asian ethnic groups and Maaori, Pacific Peoples and Other (as L1) groups as percentages in each ethnic group by Quintile.

^{*} The unemployment rate to 1dp was 4.3% for Asian females and 3.9% for Asian males.

²⁵ Total response ethnic groups

Table 14: Distribution of NZDep Quintile by Asian and non-Asian ethnicity groupings living in the Northern Region in 2020

L2 ethnic group	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Asian	19%	24%	21%	20%	16%	100%
Chinese	29%	29%	21%	13%	7%	100%
Indian	12%	19%	21%	27%	22%	100%
Other Asian	18%	25%	23%	19%	16%	100%
Southeast Asian	12%	20%	23%	23%	22%	100%
Asian nfd	20%	25%	22%	18%	16%	100%
Maaori	8%	11%	14%	20%	46%	100%
Pacific Peoples	4%	8%	11%	20%	58%	100%
Other*	29%	26%	20%	14%	10%	100%

Source: HSU population numerator and denominator 2020, deaths not included. Prioritised ethnicity. NZ Dep based on meshblock NZDep 2013. Asian L2 groups represented in order of ethnic grouping size (highest to lowest).

*Other includes NZ European and MELAA ethnic groupings.

In 2020, just over 72,000 of Asian people were living in Quintile 5 areas in 2020 (in the most socioeconomically deprived areas) – this represented 16% of the total Asian population.

In contrast to the distribution for the overall Asian group, there were variations in the distributions across Quintiles by Level 2 prioritised ethnicity. Indian and Southeast Asian groups were considerably less likely to be in Quintile 1 (12% for each) and somewhat more likely to be in Quintile 4 (27% and 23%, respectively) and Quintile 5 (22% for each). Asian populations in Quintile 5 (as a number and percentage of the total population of that ethnicity) were: Indian (34,850, 22%), Southeast Asian (12,730, 22%), Chinese (12,630, 7%), Other Asian (11,140, 16%) and Asian nfd (1,470, 16%).

Notwithstanding the variations evident within the Asian ethnic groups, these variations are considerably less than the striking over-representation of Maaori populations and Pacific Peoples living in Quintile 5 areas (46% and 58%, respectively).

Figure 15 shows the spread of the Asian population across DHBs varied, with a 'bimodal' pattern for CM DHB, highest concentration in Quintile 1–3 for Waitematā DHB, Quintile 2–4 for Auckland DHB and increasing from 1–5 for Northland DHB.

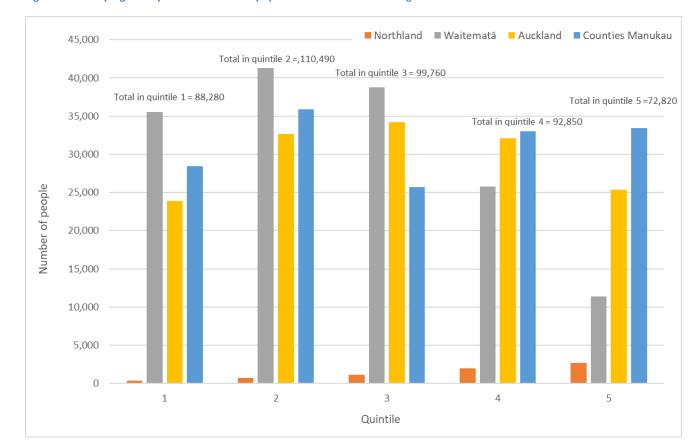


Figure 15: NZDep figures by DHB for the Asian population in the Northern Region in 2020

Source: HSU population numerator and denominator 2020, deaths not included. Prioritised ethnicity. NZ Dep based on meshblock NZDep 2013.

Children living in socioeconomically deprived areas

Percentages of children aged 0–14 in each ethnic group by Quintile in 2020 are shown in table 15. Overall, percentages for Asian ethnic groups were similar to that for all age groups combined in Table 14. Within the Asian groupings, the greatest differences in percentages between people of all ages and children aged 0–14 were within the Chinese populations and Asian nfd populations.

Table 15: Distribution of children aged 0–14 living in the Northern Region in 2020 across NZDep Quintile by Level 2 ethnicity groupings

L2 ethnic group	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Asian	20%	24%	21%	20%	15%	100%
Chinese	32%	31%	20%	12%	5%	100%
Indian	11%	18%	20%	28%	23%	100%
Other Asian	18%	24%	24%	19%	16%	100%
Southeast Asian	12%	20%	23%	23%	22%	100%
Asian nfd	18%	25%	19%	21%	17%	100%
Maaori	8%	11%	14%	20%	48%	100%
Pacific Peoples	4%	7%	10%	19%	61%	100%
Other*	31%	26%	20%	13%	9%	100%

Source: HSU population numerator and denominator 2020, deaths not included. Prioritised ethnicity. NZ Dep based on meshblock NZDep 2013. Asian L2 groups represented in order of ethnic grouping size (highest to lowest).

*Other includes NZ European and MELAA ethnic groupings.

In 2020, there were just under 15,000 Asian children aged 0–14 identified as living in Quintile 5 areas (most socioeconomically deprived areas) in the Northern Region DHBs. Figures by Level 2 ethnicity vary for each ethnic group as seen in Table 16.

Table 16: Number of children aged 0–14, living in NZDep Quintile 5 areas in the Northern Region DHBs in 2020

L2 ethnic group	Northland	Waitematā	Auckland	Counties Manukau	Northern Region
Asian	590	2,470	4,040	7,560	14,650
Indian	280	890	1,530	4,750	7,450
Southeast Asian	130	550	760	1,380	2,820
Other Asian	110	500	940	820	2,370
Chinese	60	490	790	480	1,810
Asian nfd	10	30	30	130	190
Maaori	12,880	3,290	3,610	16,630	36,410
Pacific Peoples	540	3,520	7,980	30,470	42,510
Other*	2,960	2,470	2,780	3,780	11,990

Source: HSU population numerator and denominator 2020, deaths not included. Prioritised ethnicity. NZ Dep based on meshblock NZDep 2013. Asian L2 groups represented in order of ethnic grouping size (highest to lowest). Figures rounded to the nearest ten. *Other includes NZ European and MELAA ethnic groupings.

Table 17 represents the children in each Asian ethnic group living in Quintile 5 as a percentage of the total children of that ethnic group.

In 2020, the largest L2 Asian ethnic group of children in the Northern Region living in Quintile 5 were the Indian population with 7,450 children who represented 23% of the total number of Indian children aged 0–14 in the Northern Region DHBs. By DHB, 31% of Indian children in Counties Manukau and 42% in Northland were living in Quintile 5 (Table 17).

For other ethnic groups, 22% (=2,820) of all Southeast Asian children were in Quintile 5. Although the absolute numbers are much smaller, proportions were lower for the Asian nfd group (17% = 190) and Other Asian (16% = 2,370), and much lower for Chinese children (5% = 1,810).

For most L2 Asian ethnic groups, Northland is home to the greatest percentages of children (by ethnic group) living in Quintile 5. In contrast, Waitematā is home to the lowest percentages for all ethnic groups.

Table 17: Children in each Asian ethnic group in Quintile 5 as a percentage of the total children of that ethnic group.

L2 ethnic group	Northland	Waitematā	Auckland	Counties Manukau	Northern Region
Asian	36%	7%	15%	22%	15%
Indian	42%	12%	17%	31%	23%
Southeast Asian	35%	11%	22%	32%	22%
Other Asian	34%	8%	20%	23%	16%
Chinese	27%	3%	8%	5%	5%
Asian nfd	17%	7%	15%	25%	17%

Source: HSU population numerator and denominator 2020, deaths not included. Prioritised ethnicity. NZ Dep based on meshblock NZDep 2013. Asian L2 groups represented in order of ethnic grouping size in the Northern Region (highest to lowest).

Mapping data to CAU, the highest populations of children experiencing severe deprivation in 2020 resided in Counties Manukau DHB and Auckland DHB. The highest numbers for each DHB were:

Northland: Vinetown, Woodhill, Kaitaia West, Kaikohe, Dargaville, Kerikeri, Regent, Whau Valley, Mairtown, Tikipunga West.

Waitematā: Fairdene, Kingdale, Lynnmall, Henderson South, Waimumu North, Kelston Central, Starling Park, Ranui Domain, Henderson North, Parrs Park West.

Auckland: Auckland Central West, Walmsley, Otahuhu West, Auckland Central East, Akarana, Mt Wellington South, Fairburn, Tamaki, Otahuhu North, Waikowhai East.

Counties Manukau: Manurewa Central, Takanini South, Kohuora, Papatoetoe West, Homai East, Papatoetoe East, Mangere South, Takanini North, Weymouth East, Puhinui South.

Our analysis demonstrates that significant numbers of Asian community members in the rohe of the Northern region DHBs experienced socioeconomic deprivation in 2020, including many children within these communities. There is significant variation between the Quintiles of Asian sub-ethnic groups which are further masked if aggregated to the 'Asian' grouping. We also see that some communities (Counties Manukau DHB and Auckland DHB, Indian and Southeast Asian ethnic groups)

are disproportionately impacted.

Our findings run counter to the assumption that all Asian communities are generally privileged and do not require social support, reiterating the need for these data to be disaggregated into smaller ethnic groupings. Failing to examine where socioeconomic deprivation is located within the Asian ethnicity grouping or disregarding this data due to there being more socioeconomically deprived populations in other ethnic groups risks exacerbating the deprivation experienced by significant numbers of Asian children and their families.

Religion

Faith communities can be important places of engagement in relation to well-being issues and can inform what culturally safe and appropriate health care looks like (29). Religious beliefs can have a major influence on the way people live their lives (30). For the 2018 Census, data on religion was obtained from actual responses (83%) and the remainder from 2013 Census responses and imputation. The table below shows the number of people who identified as Asian in the Northern Region DHBs and were affiliated with the most common religions/beliefs/philosophies between 2006 and 2018.

Table 18: Religion/belief/philosophy of the Asian population (Level 1 ethnicity grouping) living in the Northern Region (Census 2006 to 2018 UR population)

	2006	2018	Change from 2006 to 2018
No religion	69,180	160,130	131%
Christian ²⁷	65,290	110,610	69%
Hinduism	43,980	80,920	84%
Islam	14,770	28,480	93%
Buddhism	25,370	27,560	9%
Sikhism	6,130	24,080	293%

Source: Census 2018 UR population, total response.²⁸ Stats NZ. Listed in order of highest numbers in 2018. Figures rounded to the nearest 10.

2

²⁶ In the 2013 Census, the question listed major religions and included an inset box for Christians to identify their denomination. The 2018 Census question enabled all respondents to give whatever level of detail they chose- this change in design reflected some advocacy for a question that collects information at the same level of detail for all religions rather than focusing on Christianity.

²⁷ Note Christian is aggregated from the Census 2018 religious groups Christian nfd, Adventist, Anglican, Baptist, Catholicism, Evangelical, Born Again and Fundamentalist, Jehovah's Witnesses, Latter-day Saints, Methodist, Pentecostal, Presbyterian, Congregational and Reformed, Other Christian religions.

²⁸ Respondents could write multiple answers to the religion question. If more than one religion was reported, each response up to a maximum of four responses was counted. For respondents who provided more than four religions, more detailed responses was prioritised over vague or residual responses. Stats NZ DataInfo+

In 2018, approximately a third of the Asian population in the Northern Region DHBs identified themselves as having no religion. If the prevalence is applied to the ER Asian population of 2021, this would be just under 200,000 people. The proportion of people who identified with having no religion had more than doubled in size from 2006 to 2018 (+131%). Within the Asian groups in 2018, more than half Vietnamese, Chinese and Japanese communities identify in this group.

The table below shows a breakdown of religion/belief/philosophy for L3 UR populations in 2018.

Table 19: Religion/belief/philosophy identified for the Asian population (Level 3 ethnicity) in the Northern Region DHBs in 2018

	No religion	Christian ²⁹	Hinduism	Islam	Buddhism	Sikhism
Asian	35%	25%	18%	6%	6%	5%
Chinese	71%	17%	0%	0%	6%	0%
Indian	7%	14%	49%	11%	0%	15%
Filipino	5%	92%	0%	0%	0%	0%
Korean	36%	59%	0%	0%	2%	0%
Other Southeast Asian	18%	27%	1%	13%	35%	0%
Other Asian	7%	6%	9%	71%	2%	0%
Sri Lankan	7%	23%	19%	4%	45%	0%
Japanese	74%	10%	0%	1%	8%	0%
Vietnamese	51%	17%	1%	0%	27%	0%
Asian nfd	22%	42%	7%	14%	13%	1%
Cambodian	26%	7%	1%	1%	57%	0%
Southeast Asian nfd	16%	58%	3%	5%	15%	1%

Source: Census 2018 UR population, total response. Stats NZ. Asian L3 groups represented in order of ethnic grouping size (highest to lowest). Religion/belief/philosophy represented in order of most common to least common (right to left).

This analysis demonstrates one dimension of the diversity within the Asian ethnicity grouping and the need to think beyond stereotypes when providing culturally appropriate care to these communities.

In a practical sense, this analysis can inform how chaplaincy services within a hospital could be organised to meet the needs of the Asian population. It also identifies a structural bias within the data collection process, as Hinduism and Islam are aggregated into single categories, while Christianity is expressed with more nuance.

²⁹ Note Christian is aggregated from the Census 2018 religious groups Christian nfd, Adventist, Anglican, Baptist, Catholicism, Evangelical, Born Again and Fundamentalist, Jehovah's Witnesses, Latter-day Saints, Methodist, Pentecostal, Presbyterian, Congregational and Reformed, Other Christian religions.

Health Measures

This report does not attempt to provide an array of health measures for Asian communities, instead focusing on demography. Life expectancy is provided here as a summative measure of influences on mortality across the life span, as an introduction to a section pointing to other publications and sources of information about health and wellbeing for Asian communities.

Life expectancy

When comparing three-year average life expectancy over the period 2018–2020 for the Level 1 ethnic groups in Aotearoa NZ, the Asian population has the highest life expectancy at 87.7 years, closely followed by Other (includes NZ European and MELAA) (82.9 years), Pacific Peoples (77.8 years) and Maaori with the lowest (76.4 years) (31).

When comparing the DHBs in the Auckland region³⁰ from 2001 to 2020, Asian populations in Waitematā DHB had overall the highest life expectancy average, followed by Auckland DHB and Counties Manukau DHB. See Figure 16 below.



Figure 16: Three-year average life expectancy at birth for the Level 1 Asian population, 2001–2003 to 2018–2020

Source: Singh, H, Papaconstantinou D, Jackson G (2021) Life Expectancy and Mortality in Counties Manukau (2020 Update) (31).

A further analysis in age structures of sub-populations may describe some of the differences within the Asian population. However, as life expectancy analysis is dependent on large denominator sizes this may affect already smaller numbers of people in disaggregated ethnic groups and age groups within these, as well as low density populated areas (eg, CAUs in Northland).

³⁰ Northland's Asian population size makes it difficult to derive meaningful life expectancy figures.

Beyond the demographic data presented in this report, some key health measures that would be useful for informing our understanding of the health of specific Asian communities in the Northern region include:

- Diabetes and cardiovascular disease
- Mental health
- Immunisations (children and adults)
- Healthcare utilisation
- Health at different points in migration history
- Impact of racism on patient experiences
- Influence of intersectional identities on health status

Asian populations generally have the highest life expectancy of the L1 ethnic groups. The 'healthy migrant effect' is likely to explain this observation to some extent as immigration policies include health requirements and bar entry for people with some health conditions (31). However, analysis may be limited by small population numbers such as those in disaggregated ethnic groups and low-density populated areas.

Although the focus of this report is the Asian population, we wish to highlight the inequities experienced by Maaori populations and Pacific Peoples as reflected in this indicator and reiterate the need for the health system to be oriented towards Tiriti responsibilities and health equity which support Maaori populations and Pacific Peoples to thrive whilst being responsive and culturally safe in its approach to Asian populations. Additionally, we note that equity considerations exist beyond ethnicity and socioeconomic deprivation.

Analyses using more detailed ethnicity data and age stratification may unmask hidden inequities within the Asian grouping.

Recent publications on Asian Health in Aotearoa NZ:

This section introduces a selection of recent Asian Health publications which highlight key health issues, provide context and offer timely recommendations that should be read alongside the demographic analysis offered in the current report.

Title	Author (Publication Year)	Purpose	Key findings or recommendations
Asian Public Health in Aotearoa New Zealand	Wong Sally F. (2021) (1)	To provide an overview of the Asian public health in Aotearoa with recommendations to address Asian health needs at both strategic & operational levels	-Asian communities are exposed to high levels of racism -Disaggregated analysis reveals variation in the prevalence of health conditions -Mental health is an area of concern in terms of health outcomes and access to care -Healthcare utilisation is low Recommendations -Develop a national Asian health plan -Increase targeted services and strengthen the Asian health workforce -Increase accessibility and ability of health services to engage Asian communities -Improve data collection, analysis and reporting
East Asian, South Asian, Chinese And Indian Students In Aotearoa: A Youth19 Report	Peiris-John R, Kang K, Bavin L, Dizon L, Singh N, Clark T, Fleming T, & Ameratunga S. (2021) (33)	Highlights the health and wellbeing findings for Asian students living in Aotearoa from the Youth19 Rangatahi Smart Survey	-'Asian' aggregated reporting can mask important differences by ethnic group. This report used: East/South Asian and also reported Chinese and Indian groups separatelyMost participants reported positive feelings about school, health, wellbeing and life satisfaction -A significant proportion of participants experienced racism

			-Mental health was a concern, particularly for female participants -South Asian participants were more likely to experience poverty* -East Asian participants were less likely to access health services and more likely to report depressive symptoms* *compared to European or other Asian peers
Recommendations on the health system reform for Asian and ethnic communities in Aotearoa	Asian Health Reform Advisory Group and Asian caucus of the Public Health Association (2022) (34)	Provides system-level recommendations for improving the health of Asian communities in Aotearoa	Recommendations -Develop a national level strategy and regional implementation plans to improve the health of Asian and other minoritised ethnicity groupsAsian and Asian-subgroup data must be collected, analysed, researched, and reported following an agreed standard -Invest in Asian health research -Set up dedicated Asian/minoritised ethnic community health divisions with commissioning powers

Bibliography of key texts

Health needs analysis and other reviews of Asian health in Aotearoa NZ

- 1. Chiang A, Simon-Kumar R, Peiris-John R. A decade of Asian and ethnic minority health research in New Zealand: findings from a scoping review. The New Zealand Medical Journal (Online). 2021 Sep 17;134(1542):67-83.
- 2. Gala G. Health needs assessment for Asian people in Counties Manukau. Counties Manukau District Health Board; 2008.
- 3. Mehta S. Health needs assessment of Asian people living in the Auckland region. Northern DHB Support Agency (NDSA); 2012.
- 4. Ministry of Health. 2006. Asian Health Chart Book 2006. Wellington: Ministry of Health. Retrieved from: https://www.health.govt.nz/system/files/documents/publications/asian-health-chart-book-2006.pdf
- 5. Scragg R. Asian Health in Aotearoa in 2011-2013: trends since 2002-2003 and 2006-2007. Northern Regional Alliance; 2016.
- 6. Scragg R, Maitra A. Asian health in Aotearoa: an analysis of the 2002-2003 New Zealand Health Survey. Auckland: The Asian Network Inc. 2005 Aug 12.
- 7. Wong A. Challenges for Asian health and Asian health promotion in New Zealand. Health Promotion Forum of New Zealand 2015 2015 Jan.
- 8. Zhou L and Bennett S, International Benchmarking of Asian Health Outcomes for Waitemata DHB and Auckland DHB. Auckland: Waitemata District Health Board, 2017. Retrieved from: https://www.waitematadhb.govt.nz/assets/Documents/health-needs-assessments/Internationalbenchmarking-report-of-Asian-health-outcomes-FINAL.PDF
- 9. Friesen W. Asian Auckland: The multiple meanings of diversity. Wellington: Asia New Zealand Foundation; 2015 Feb.

Interrogating the 'Asian' ethnic grouping

- 1. Parackal S, Coppell K, Yang CL, Sullivan T, Subramaniam RM. Hidden figures and misnomers: a case for disaggregated Asian health statistics in Aotearoa New Zealand to improve health outcomes. The New Zealand Medical Journal (Online). 2021 Nov 26;134(1546):109-16.
- 2. Rasanathan K, Craig D, Perkins R. The novel use of 'Asian' as an ethnic category in the New Zealand health sector. Ethnicity & Health 2006;11(3):211-27. doi: Doi 10.1080/13557850600565525
- 3. Rasanathan K, Ameratunga S, Tse S. Asian health in New Zealand--progress and challenges. N Z Med J 2006;119(1244):U2277. [published Online First: 2006/10/31]

Studies using disaggregated/detailed ethnicity data within the Asian grouping

- Ameratunga S, Tin ST, Rasanathan K, et al. Use of health care by young Asian New Zealanders: Findings from a national youth health survey. Journal of paediatrics and child health 2008;44(11):636-41
- 2. Peiris-John, R., Kang, K., Bavin, L., Dizon, L., Singh, N., Clark, T., Fleming, T., & Ameratunga, S. (2021). East Asian, South Asian, Chinese and Indian Students in Aotearoa: A Youth19 Report. Auckland: The University of Auckland.

Research on the impact of racism on health outcomes in Aotearoa NZ

- 1. Crengle S, Robinson E, Ameratunga S, Clark T, Raphael D. Ethnic discrimination prevalence and associations with health outcomes: data from a nationally representative cross-sectional survey of secondary school students in New Zealand. BMC public health. 2012 Dec;12(1):1-1.
- 2. Harris R, Cormack D, Tobias M, Yeh LC, Talamaivao N, Minster J, Timutimu R. The pervasive effects of racism: experiences of racial discrimination in New Zealand over time and associations with multiple health domains. Social science & medicine. 2012 Feb 1;74(3):408-15
- 3. Harris RB, Stanley J, Cormack DM. Racism and health in New Zealand: Prevalence over time and associations between recent experience of racism and health and wellbeing measures using national survey data. PloS one. 2018 May 3;13(5):e0196476.

Cultural safety with a focus on Asian health in Aotearoa NZ

- 1. DeSouza R. Walking a tightrope: Asian health research in New Zealand. Diversity in Health & Social Care. 2007 Mar 1;4(1).
- 2. Lee S, Collins FL, Simon-Kumar R. Blurred in translation: The influence of subjectivities and positionalities on the translation of health equity and inclusion policy initiatives in Aotearoa New Zealand. Social Science & Medicine. 2021 Nov 1;288:113248.

Appendices

Appendix 1: Asian categories as defined in the MoH HISO 10001:2017 Ethnicity Data Protocols

Ethnic group, Level 4 code	Ethnic group, Level 4 description	Ethnic group, Level 3 code	Ethnic group, Level 3 description	Ethnic group, Level 2 code	Ethnic group, Level 2 description	Ethnic group, Level 1 code	Ethnic group, Level 1 description
40000	Asian, not further defined	400	Asian, not further defined	40	Asian, not further defined	4	Asian
41000	Southeast Asian, not further defined	410	Southeast Asian, not further defined	41	Southeast Asian	4	Asian
41111	Filipino	411	Filipino	41	Southeast Asian	4	Asian
41211	Cambodian	412	Cambodian	41	Southeast Asian	4	Asian
41311	Vietnamese	413	Vietnamese	41	Southeast Asian	4	Asian
41411	Burmese	414	Other Southeast Asian	41	Southeast Asian	4	Asian
41412	Indonesian	414	Other Southeast Asian	41	Southeast Asian	4	Asian
41413	Lao	414	Other Southeast Asian	41	Southeast Asian	4	Asian
41414	Malay	414	Other Southeast Asian	41	Southeast Asian	4	Asian
41415	Thai	414	Other Southeast Asian	41	Southeast Asian	4	Asian
41416	Karen	414	Other Southeast Asian	41	Southeast Asian	4	Asian
41417	Chin	414	Other Southeast Asian	41	Southeast Asian	4	Asian
41499	Southeast Asian, not elsewhere	414	Other Southeast Asian	41	Southeast Asian	4	Asian

	classified						
42100	Chinese, not further defined	421	Chinese	42	Chinese	4	Asian
42111	Hong Kong Chinese	421	Chinese	42	Chinese	4	Asian
42112	Cambodian Chinese	421	Chinese	42	Chinese	4	Asian
12113	Malaysian Chinese	421	Chinese	42	Chinese	4	Asian
12114	Singaporean Chinese	421	Chinese	42	Chinese	4	Asian
12115	Vietnamese Chinese	421	Chinese	42	Chinese	4	Asian
42116	Taiwanese	421	Chinese	42	Chinese	4	Asian
42199	Chinese, not elsewhere classified	421	Chinese	42	Chinese	4	Asian
43100	Indian, not further defined	431	Indian	43	Indian	4	Asian
43111	Bengali	431	Indian	43	Indian	4	Asian
43112	Fijian Indian	431	Indian	43	Indian	4	Asian
43114	Indian Tamil	431	Indian	43	Indian	4	Asian
43115	Punjabi	431	Indian	43	Indian	4	Asian
43116	Sikh	431	Indian	43	Indian	4	Asian
43117	Anglo Indian	431	Indian	43	Indian	4	Asian
43118	Malaysian Indian	431	Indian	43	Indian	4	Asian
43119	South African Indian	431	Indian	43	Indian	4	Asian
43199	Indian, not elsewhere classified	431	Indian	43	Indian	4	Asian
44100	Sri Lankan, not further defined	441	Sri Lankan	44	Other Asian	4	Asian
44111	Sinhalese	441	Sri Lankan	44	Other Asian	4	Asian
14112	Sri Lankan Tamil	441	Sri Lankan	44	Other Asian	4	Asian
44199	Sri Lankan, not elsewhere	441	Sri Lankan	44	Other Asian	4	Asian

	classified						
44211	Japanese	442	Japanese	44	Other Asian	4	Asian
44311	Korean	443	Korean	44	Other Asian	4	Asian
44411	Afghani	444	Other Asian	44	Other Asian	4	Asian
44412	Bangladeshi	444	Other Asian	44	Other Asian	4	Asian
44413	Nepalese	444	Other Asian	44	Other Asian	4	Asian
44414	Pakistani	444	Other Asian	44	Other Asian	4	Asian
44415	Tibetan	444	Other Asian	44	Other Asian	4	Asian
44416	Eurasian	444	Other Asian	44	Other Asian	4	Asian
44417	Bhutanese	444	Other Asian	44	Other Asian	4	Asian
44418	Maldivian	444	Other Asian	44	Other Asian	4	Asian
44419	Mongolian	444	Other Asian	44	Other Asian	4	Asian
	Asian, not						
44499	elsewhere	444	Other Asian	44	Other Asian	4	Asian
	classified						

 $Source: Ministry\ of\ Health.\ 2017.\ HISO\ 10001:2017\ Ethnicity\ Data\ Protocols.\ Wellington:\ MoH.$

Back to the section 'How is the 'Asian' population classified in Aotearoa NZ?'

Appendix 2: Highest populated areas for the overall Asian population by DHB

DHB, CAU	Population
	numbers
Northland	
Kerikeri	431
Woodhill	387
Vinetown	334
Kamo East	292
Kamo West	283
Tikipunga West	275
Horahora	250
Marsden Point – Ruakaka	228
Dargaville	220
Mairtown	208
Waitematā	
Sturges North	4,062
Target Road	3,508
Sunnynook	3,475
Pinehill	3,297
Hobsonville East	3,173
Northcross	3,101
Forrest Hill	3,042
Greenhithe	3,001
North Harbour West	2,873
Glenfield North	2,709
Auckland	
Auckland Central West	5,820
Hillsborough West	5,251
Lynfield North	4,456
Auckland Central East	4,307
New Windsor	3,944
Avondale South	3,614
Blockhouse Bay	3,521
Glenavon	3,244
Akarana	3,162
Lynfield South	2,831
Counties Manukau	
Ormiston	9,967
Donegal Park	7,838
Takanini South	5,606
Baverstock Oaks	5,126
Redoubt South	3,707
Point View	3,584
Papatoetoe East	3,408
Papatoetoe North	3,330
Papatoetoe Central	3,288
Puhinui	3,106

Source: HSU population numerator and denominator 2020, deaths not included. Mapped to 2018 CAU

Back to the section 'Distribution'

Appendix 3: Highest densely populated suburbs by prioritised L2 Asian subgroups

CAU	Population density (per km2)	DHB
Southeast Asian		
Auckland Central West	910	Auckland
Auckland Central East	737	Auckland
Glenfield Central	441	Waitematā
Grafton West	426	Auckland
Kaipatiki	387	Waitematā
Hamlin	380	Auckland
Mt Wellington North	376	Auckland
Onehunga North West	349	Auckland
Donegal Park	343	Counties Manukau
Target Road	311	Waitematā
Indian		
Papatoetoe Central	1,967	Counties
Dingwall	1,889	Counties
Papatoetoe North	1,874	Counties
Papatoetoe West	1,773	Counties
Papatoetoe East	1,673	Counties
Auckland Central West	1,651	Auckland
Avondale South	1,390	Auckland
Lynfield North	1,375	Auckland
Manurewa Central	1,309	Counties
Hillsborough West	1,288	Auckland
Chinese	_,	
Auckland Central East	1,725	Auckland
Auckland Central West	1,403	Auckland
Murvale	1,403	Counties
Epsom Central	1,362	Auckland
Pinehill	1,305	Waitematā
Pigeon Mountain North	1,286	Counties
Northcross	1,285	Waitematā
Epsom South	1,233	Auckland
Bucklands Beach South	1,230	Counties
Mission Heights	1,221	Counties
Other Asian	_,	
Auckland Central East	1,055	Auckland
Auckland Central West	928	Auckland
Northcross	662	Waitematā
Grafton West	564	Auckland
Newmarket	496	Auckland
Sunnynook	489	Waitematā
Forrest Hill	468	Waitematā
Pinehill	413	Waitematā
Eden Terrace	374	Auckland
Glenfield Central	372	Waitematā
Asian nfd	3,2	
Auckland Central East	122	Auckland
Auckland Central West	96	Auckland
Grafton West	95	Auckland
Baverstock Oaks	73	Counties
Mission Heights	66	Counties

Donegal Park	62	Counties
Northcross	60	Waitematā
Glenfield Central	59	Waitematā
Newmarket	56	Auckland
Pinehill	55	Waitematā

 $Source: HSU\ population\ numerator\ and\ denominator\ 2020,\ deaths\ not\ included.\ Mapped\ to\ 2018\ CAU.$

Back to the section 'Distribution'

Appendix 4: Age structure of the overall Asian population by DHBs in 2021

DHB	0–14	15-29	30-44	45-59	60-74	75+	Total
Northland	1,940	1,460	2,460	1,360	750	160	8,130
Waitematā	37,460	34,550	53,530	28,200	17,290	4,430	175,460
Auckland	27,820	46,840	52,340	27,120	16,000	5,280	175,400
Counties Manukau	35,120	35,960	50,230	30,350	19,810	5,300	176,770
Total	102,340	118,810	158,560	87,030	53,850	15,170	535,760
As a percentage of the total	19%	22%	30%	16%	10%	3%	100%

Source: Stats NZ 2021 ER Population

Back to the section 'Population age'

References

- 1. Wong S. Asian Public Health in Aotearoa New Zealand. Auckland: The Asian Network Incorporated; 2021.
- 2. Harris RB, Stanley J, Cormack DM. Racism and health in New Zealand: Prevalence over time and associations between recent experience of racism and health and wellbeing measures using national survey data. PloS one. 2018 May 3;13(5):e0196476.
- 3. Harris RB, Cormack DM, Stanley J. Experience of racism and associations with unmet need and healthcare satisfaction: the 2011/12 adult New Zealand health survey. Australian and New Zealand journal of public health. 2019 Feb;43(1):75-80.
- 4. Ng KE. Old Asian, New Asian. Wellington: Bridget Williams Books; 2017.
- 5. Cormack, D. The Politics and Practice of Counting: Ethnicity in Official Statistics in Aotearoa/New Zealand. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare; 2021.
- 6. Ngata T [Internet]. What's Required From Tangata Tiriti. Tina Ngata; 2021. Available from: https://tinangata.com/2020/12/20/whats-required-from-tangata-tiriti/
- 7. Ministry of Health. HISO 10001: 2017 ethnicity data protocols. In: Ministry of Health, editor. Wellington: Ministry of Health; 2017.
- 8. Statistics New Zealand [Internet]. Statistics New Zealand Store House: Census of Population and Dwellings (various years) Wellington: Statistics New Zealand [Accessed 2022]. Available from: https://cdm20045.contentdm.oclc.org/digital/
- 9. Ministry of Health [Internet]. Asian and migrant health 2014. Wellington: Ministry of Health; 2014. Available from: https://www.health.govt.nz/our-work/populations/asian-and-migrant-health#:~:text=The%20definition%20of%20'Asian'%20used,to%20Indonesia%20in%20the%20south
- 10. Rasanathan K, Ameratunga S, Tse S. Asian health in New Zealand--progress and challenges. The New Zealand Medical Journal (Online). 2006 Oct 27;119(1244).
- 11. Statistics New Zealand [Internet]. Ethnicity standard classification: Findings from public consultation November 2019. Wellington: Statistics New Zealand; 2020. Available from: https://www.stats.govt.nz/consultations/ethnicity-standard-classification-findings-from-public-consultation-november-2019
- 12. Kukutai T, Thompson V. Chapter 3: 'Inside Out': The Politics of Enumerating the Nation by Ethnicity. In: Simon P, Piche V, Gagnon A.A. (eds.), Social Statistics and Ethnic Diversity, IMISCOE Research Series, Springer International Publishing: Switzerland; 2015 Pages 39-61.
- 13. Paul Spoonley [Internet]. 'Ethnic and religious intolerance Intolerance towards Asians', Te Ara the Encyclopedia of New Zealand, http://www.TeAra.govt.nz/en/ethnic-and-religious-intolerance/page-3 (accessed 30 May 2022)
- 14. McDowall C, Denee T. We are here: An atlas of Aotearoa. Aotearoa: Massey University Press; 2019. Counting people; p118-119.
- 15. Statistics New Zealand [Internet]. 2018 Census: Design of forms: Statistics New Zealand; Available from: https://www.stats.govt.nz/
- 16. Allan J [Internet]. Review of the measurement of ethnicity: Classifications and issues. Wellington: Statistics New Zealand; 2001. Available from:

https://www.stats.govt.nz/assets/Uploads/Retirement-of-archive-website-project-files/Methods/Review-of-the-Measurement-of-Ethnicity-Classifications-and-issues/review-of-the-measurement-of-ethnicity-classification-and-issues-main-paper.pdf

- 17. Statistics New Zealand [Internet]. 2018 Census: How we combined administrative data and census forms data to create the census dataset. Wellington: Statistics New Zealand; 2019. Available from: <a href="https://www.stats.govt.nz/methods/2018-census-how-we-combined-administrative-data-and-census-forms-data-to-create-the-census-dataset#:~:text=As%20our%20plans%20have%20evolved,people)%20in%20the%202018%20Census
- 18. Census External Data Quality Panel [Internet]. Final report of the 2018 Census External Data Quality Panel. In: Statistics New Zealand, editor. Wellington: Statistics New Zealand; 2020. Available from: https://www.stats.govt.nz/reports/final-report-of-the-2018-census-external-data-quality-panel
- 19. Statistics New Zealand [Internet]. Ethnicity (information about this variable and its quality). Wellington: Statistics New Zealand; 2021. Available from: https://datainfoplus.stats.govt.nz/ltem/nz.govt.stats/7079024d-6231-4fc4-824f-dd8515d33141
- 20. Census External Data Quality Panel [Internet]. Data sources, editing, and imputation in the 2018 Census. In: Statistics New Zealand, editor. Wellington: Statistics New Zealand; 2019. Available from: https://www.stats.govt.nz/methods/data-sources-editing-and-imputation-in-the-2018-census#:~:text=Data%20sources%2C%20editing%2C%20and%20imputation%20in%20the%202018%20Census%20describes,and%20results%20of%20our%20approach.
- 21. Ministry of Health [Internet]. Hospital Ethnicity Data Audit Toolkit. In: Ministry of Health, editor. Wellington: Ministry of Health; 2021. Available from: https://www.health.govt.nz/publication/hospital-ethnicity-data-audit-toolkit
- 22. Ministry of Health [Internet]. Primary Care Ethnicity Data Audit Toolkit: A toolkit for assessing ethnicity data quality. Wellington: Ministry of Health; 2013. Available from: https://www.health.govt.nz/publication/primary-care-ethnicity-data-audit-toolkit
- 23. Friesen W. Asian Auckland: The multiple meanings of diversity. Auckland: Asia New Zealand Foundation; 2015.
- 24. Statistics New Zealand [Internet]. Subnational population estimates: At 30 June 2021 (provisional) Wellington: Statistics New Zealand; 2021. Available from: https://www.stats.govt.nz/information-releases/subnational-population-estimates-at-30-june-2021-provisional
- 25. Lees J, Lee M, Winnard D. Demographic Profile: 2018 Census, Population of Counties Manukau. Auckland: Counties Manukau Health; 2021.
- 26. Horner, J., & Ameratunga, S. N. Monitoring immigrant health and wellbeing in New Zealand: addressing the tyranny of misleading averages. Australian Health Review. 2012; 36(4), 390-393. doi:10.1071/ah11134
- 27. Statistics New Zealand [Internet]. Dataset: Ethnic group (grouped total responses) and number of languages spoken by age group and sex, for the census usually resident population count, 2006, 2013, and 2018 Censuses (RC, TA, SA2, DHB). Wellington: Statistics New Zealand [Accessed 2022]. Available from: https://nzdotstat.stats.govt.nz/wbos/index.aspx
- 28. Statistics New Zealand [Internet]. Household labour force survey: June 2021 quarter supplementary tables. Wellington: Statistics New Zealand [Accessed 2022]. Available from:
- https://www.stats.govt.nz/information-releases/labour-market-statistics-june-2021-quarter
- 29. Statistics New Zealand. Religious affiliation (information about this variable and its quality). Statistics New Zealand [Accessed 2022]. Available from: https://datainfoplus.stats.govt.nz/item/nz.govt.stats/472884ac-0f5f-4606-827c-b7153a1a51b1

- 30. VanderWeele, T. J. (2017). Religion and health: A synthesis. In M. J. Balboni & J. R. Peteet (Eds.), Spirituality and religion within the culture of medicine: From evidence to practice (pp. 357–401). Oxford University Press.
- 31. Singh H. PD, Jackson G. Life Expectancy and Mortality in Counties Manukau (2020 Update). Auckland: Counties Manukau Health; 2021.
- 32. 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. Ethnicity & health. 2010;15(5):531-47.
- 33. Peiris-John R, Kang, K, Bavin L, Dizon L, Singh N, Clark T, Fleming, T, & Ameratunga, S. East Asian, South Asian, Chinese and Indian Students in Aotearoa: A Youth19 Report Auckland: The University of Auckland; 2021.
- 34. Asian Health Reform Advisory Group. Recommendations on the health system reform for Asian and ethnic communities in Aotearoa. Wellington: Public Health Association New Zealand; 2022.