Counties Manukau Health: Diabetes snapshot

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People with diabetes in metro-Auckland in 2020

	Waite-matā	Auck-land	CM Health	**Total**	WDHB	ADHB	CM	Total
Maaori	2,628	1,943	5,893	**10,464**	25%	19%	56%	100%
Pacific	4,667	6,557	17,126	**28,350**	16%	23%	60%	100%
Indian	2,964	4,426	6,498	**13,888**	21%	32%	47%	100%
Chinese	2,689	2,810	2,649	**8,148**	33%	34%	33%	100%
Other Asian	2,728	2,208	2,281	**7,217**	38%	31%	32%	100%
Euro/Other	15,104	7,931	10,755	**33,790**	45%	23%	32%	100%
Total	**30,780**	**25,875**	**45,202**	**101,857**	30%	25%	44%	100%
Maaori	9%	8%	13%	10%	**As percentage of population**			
Pacific	15%	25%	38%	28%	4.1%	5.8%	7.6%	5.8%
Indian	10%	17%	14%	14%				
Chinese	9%	11%	6%	8%	**As percentage aged 15+**			
Other Asian	9%	9%	5%	7%	5.9%	6.1%	9.7%	7.2%
Euro/Other	49%	31%	24%	33%				
Total	100%	100%	100%	100%				

- Based on analysis of laboratory data (Testsafe) linked to the current Health Service User population
- Over **100,000 people** in metro-Auckland have diabetes
- Overall 44% of those with diabetes in the city reside in Counties Manukau DHB. Proportions are highest for Pacific (60%), Maaori (56%) and Indian (47%) ethnicities
- 38% of all people with diabetes in metro-Auckland are Maaori or Pacific – ranging from half those in CM, a third in Auckland, to a quarter in Waitemata
- Of the 15+ population, 7.2% have diabetes, ranging from **nearly 10% at CM Health** to ~6% at Auckland and Waitemata,

Two separate recordings of an HbA1c 50+, or the appropriate random glucose and glucose tolerance test levels required for diagnosis. All data from 2006 included. Latest address recorded in 2020 used for DHB allocation purposes. Prioritised ethnicity, as per the order in the table, All deaths to December 2020 are excluded

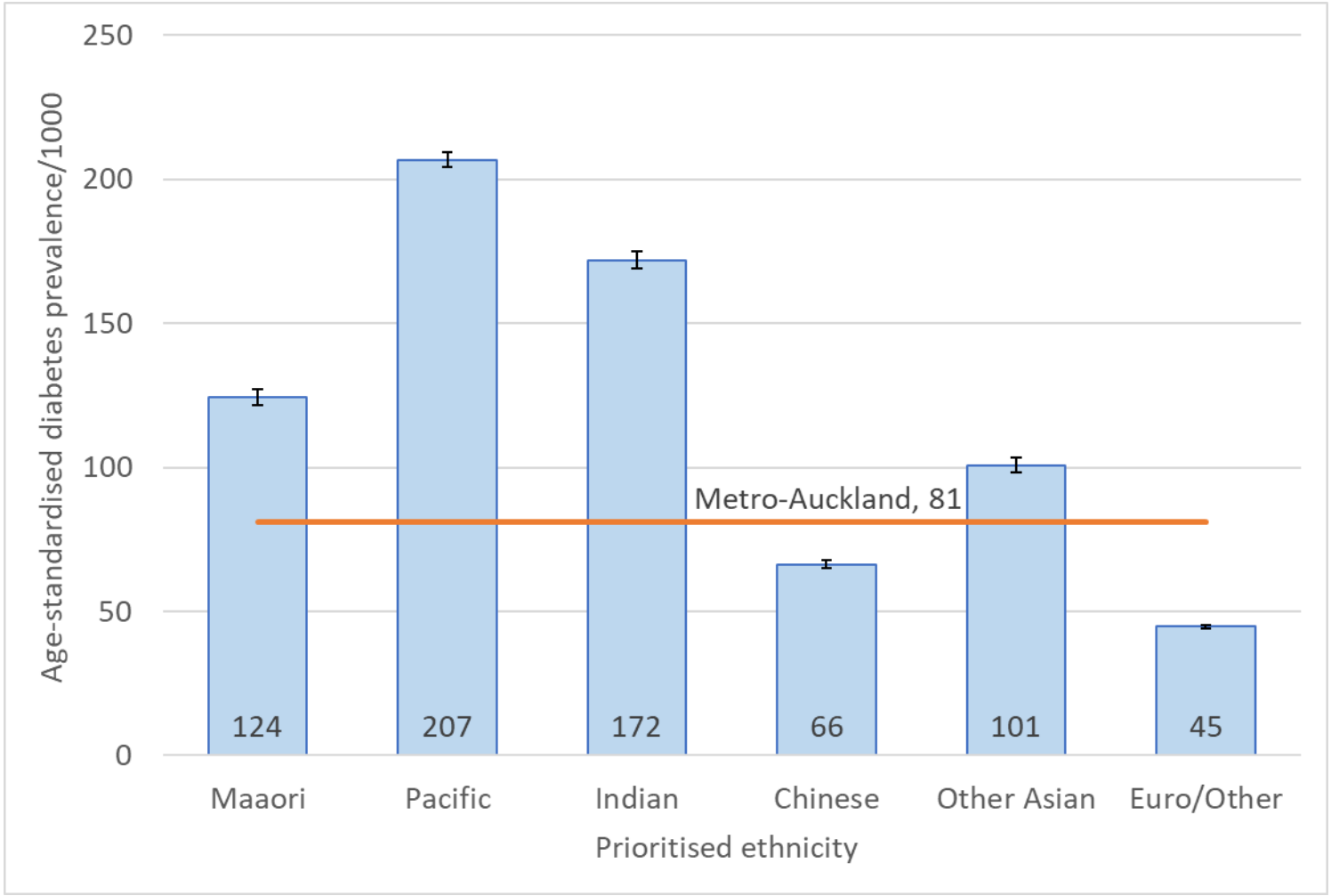
Diabetes numbers in CM Health in 2020

CM Health 2020	Female	Male	Total
Maaori			
Maaori	3,148	2,745	5,893
Pacific			
Cook Island Maaori	1,369	1,074	2,443
Fijian	1,374	1,227	2,601
Niuean	469	442	911
Samoan	3,810	3,351	7,161
Tokelauan	59	45	104
Tongan	1,974	1,597	3,571
Other Pacific groups	157	178	335
Indian			
Indian	2,856	3,642	6,498
Chinese			
Chinese	1,242	1,407	2,649
Other Asian			
Southeast Asian	503	431	934
Asian- other	593	754	1,347
European/Other			
NZ European / Other Euro	4,078	5,642	9,720
African	137	123	260
Latin American / Hispanic	17	23	40
Middle Eastern	178	223	401
Other	89	245	334
Total	**22,053**	**23,149**	**45,202**

- Numbers are rising at a net ~2000 a year
- At 17,126 Pacific people are the single largest group of people with diabetes in CM Health, with Samoans forming the largest part of that (42%).
- Pacific also have the highest rate of diabetes – see next slide for rates
- Males slightly outweigh females overall, but the ratio does vary by ethnicity – Maaori and Pacific around 54% female, Asian and European groups around 56% male

Two separate recordings of an HbA1c 50+, or the appropriate random glucose and glucose tolerance test levels required for diagnosis. All data from 2006 included. Latest address recorded in 2020 used for DHB allocation purposes. Prioritised ethnicity, as per the order in the table, All deaths to December 2020 are excluded

Diabetes age-standardised rates by ethnicity, age 15+ in Metro-Auckland in 2020



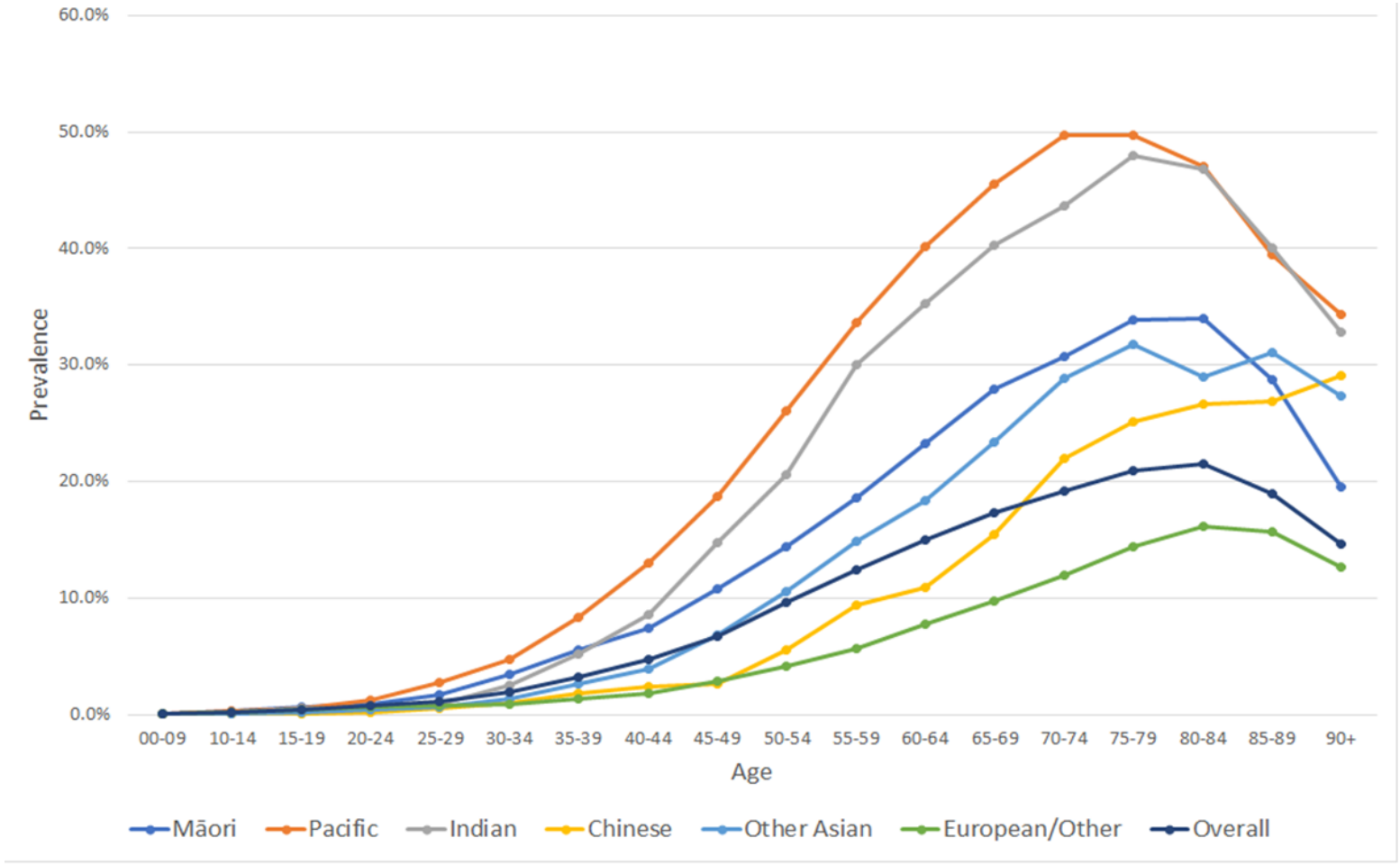
- The increases in diabetes are coming in the adult population – hence data is presented for ages 15+
- Pacific people have the highest rate, followed by Indian and Maaori
- Data is age-standardised to allow comparison across the ethnic groups. For example for Pacific, 15.9% of those aged 15+ have diabetes, but if the Pacific population had the same age structure as the NZ population then it would have been 20.7%
- Simpler population percentages are shown on next slide

Based on analysis of laboratory data (Testsafe) back to 2006, linked to the current (2020) Health Service User population. Latest address recorded in 2020 used for DHB allocation purposes. Prioritised ethnicity, as per the order in the table, All deaths to December 2020 are excluded

Diabetes proportions by ethnicity in Metro-Auckland, 2020

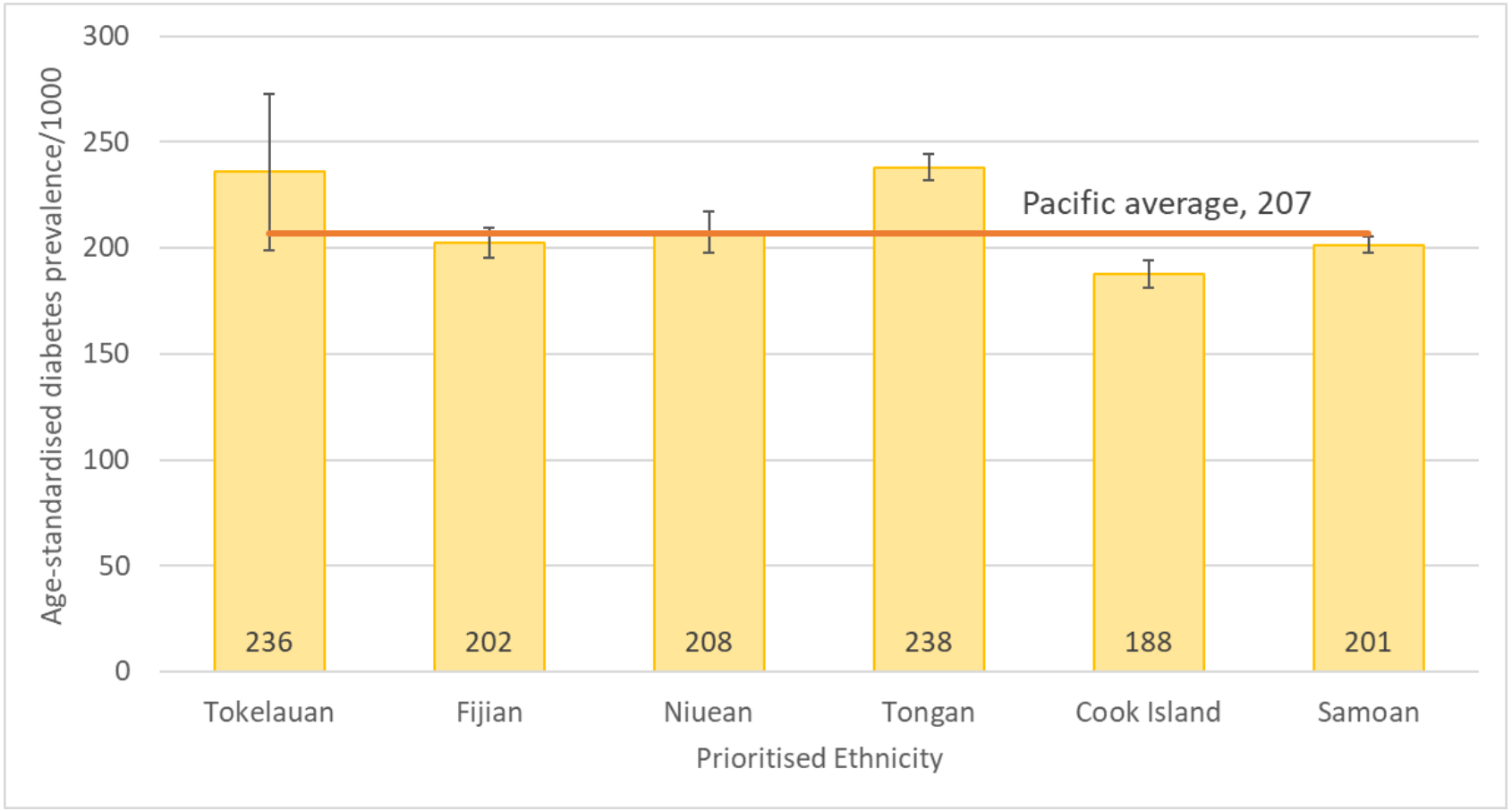
2020	% all ages	% age 15+
Maaori	6.2	8.9
Pacific	11.6	15.9
Indian	9.3	11.8
Chinese	5.1	6.4
Other Asian	5.6	7.1
Euro/Other	4.3	5.1
Metro-Auckland	**5.8**	**7.2**

- Nearly 6% of the metro-Auckland population have diabetes, 7.2% considering adults only. For Europeans 1 in 20 adults have diabetes, while for Pacific adults ~1 in 6 do
- Diabetes rates rise by age – the Pacific, Indian and Maaori populations are relatively young and still climbing that prevalence slope
- Half of all Pacific adults will have diabetes by the age of 70, with Indian people not far behind



Based on analysis of laboratory data (Testsafe), linked to the current (2020) Health Service User population. (Age-prevalence graph shows 2019 data)

Diabetes proportions by Pacific ethnicity in metro-Auckland, 2020

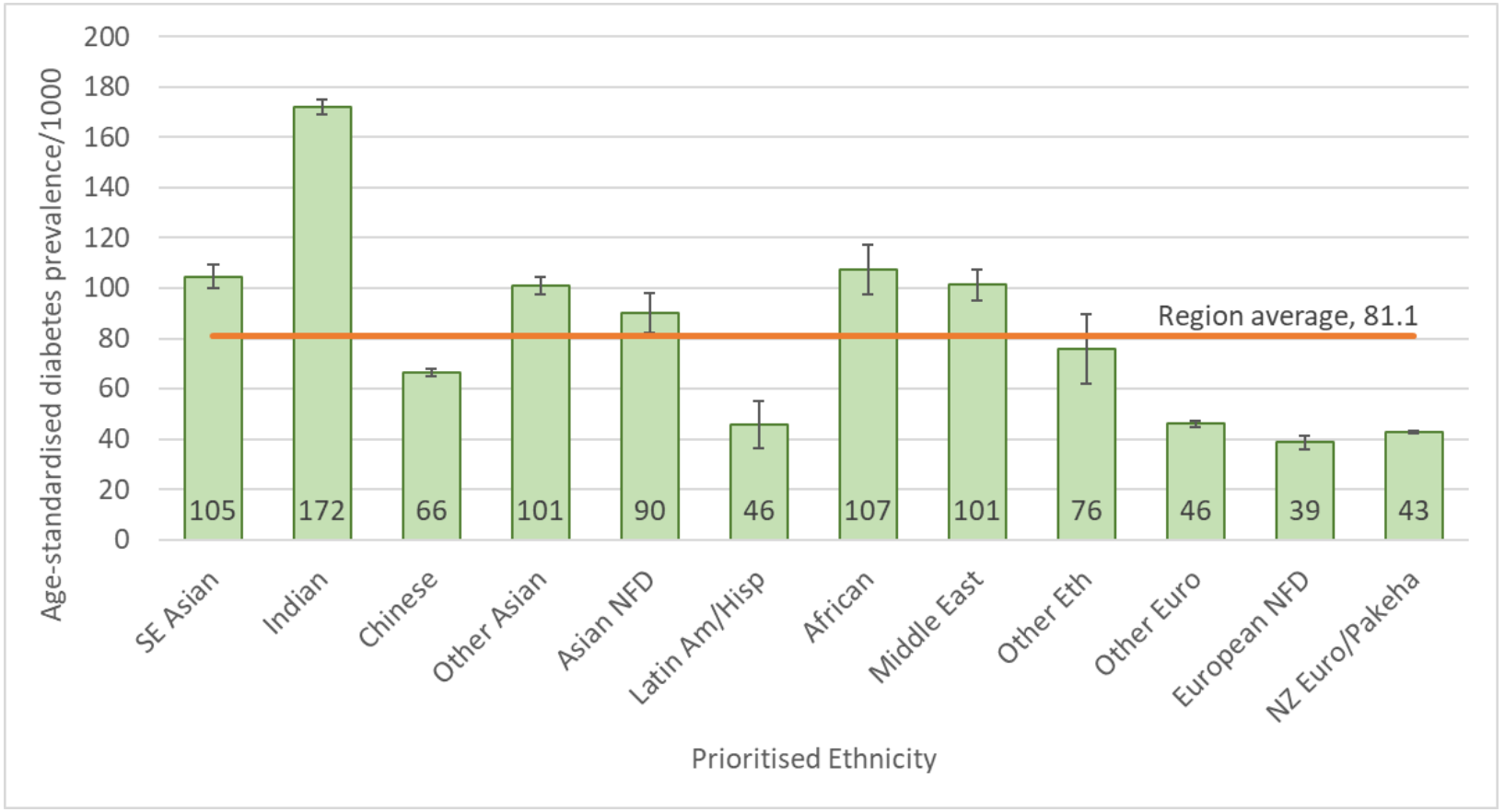


	% all ages	% age 15+
Tokelauan	11.1	16.0
Fijian	14.4	17.6
Niuean	12.1	16.9
Tongan	11.3	16.7
Cook Island	11.0	15.0
Samoan	11.3	15.2
Pacific overall	**11.6**	**15.9**

- Rates of diabetes within the Pacific grouping are more similar than different, lying within the range of 15-17.6% of the adult population in 2020
- Once standardised by age Tongans have a higher diabetes rate, while those with Cook Island ethnicity have a lower rate, albeit still higher than any other ethnic group apart from Pacific

Ethnicity prioritised in reverse numerical order – left to right as displayed in the graph. Numerator and denominator from the same HSU population source. Populations with a younger mix will show more of a jump from population % to age-standardised rates, as diabetes is so much more prevalent at older age groups – eg Tokelau, Tonga

Diabetes proportions for non-Maaori non-Pacific ethnicities in metro-Auckland, 2020



	% all ages	% age 15+
Southeast Asian	5.1	6.6
Indian	9.3	11.8
Chinese	5.1	6.4
Other Asian	5.9	7.5
Asian NFD	6.2	7.0
Latin Amer/Hisp	1.3	1.7
African	6.0	7.6
Middle Eastern	5.9	7.6
Other Ethnicity	4.1	5.4
Other Euro	4.0	4.7
European NFD	4.1	4.5
NZ Euro/Pakeha	4.3	5.1
Region overall	**11.6**	**15.9**

- Apart from the Indian population, people of Asian backgrounds had diabetes rates of 6.4-7.5% of the adult population in 2020. African and Middle Eastern ethnicities were similar, while Latin American and European ethnic groups were lower
- Once standardised by age all Asian and most MELAA groups had higher rates than the European populations

Ethnicity prioritised left to right as displayed in the graph. Numerator and denominator from the same HSU population source.

Underlying the diabetes numbers - CM Health has more people with high BMI than any other DHB

DHB	Children (2-14) obese	BMI 35-39 adults	Morbid obesity (40+)
Counties Manukau	21,500	49,700	42,700
Waikato	7,300	31,000	22,200
Waitemata	9,400	33,500	20,900
Canterbury	6,300	29,500	20,800
Auckland	7,700	27,600	17,200
Southern	5,600	21,100	16,100
Northland	4,500	13,900	9,500
Hawke's Bay	4,200	14,900	9,400
Bay of Plenty	4,200	17,500	9,400
MidCentral	3,600	14,000	9,000
Capital & Coast	2,800	17,200	9,000
Hutt Valley	3,100	9,300	7,900
Lakes	2,900	9,200	6,900
Taranaki	4,400	7,700	4,400
Whanganui	2,500	5,200	4,300
Nelson Marlborough	1,400	7,900	3,600
Tairawhiti	1,800	3,100	3,000
South Canterbury	900	3,700	2,500
Wairarapa	800	3,100	2,400
West Coast	400	2,300	1,500
New Zealand	95,500	320,100	220,300
% CMH (11.5% NZ pop)	23%	16%	19%
CMH % higher than next	129%	48%	92%

Children (2-14) obese. With more than a fifth (22%) of NZ's obese children (ages 2-14), CM Health has more than twice the next highest DHB (Waitemata) - 129% higher. These children have very high risk of becoming high BMI adults

BMI 35-39 adults. Obesity class 2 or severe obesity. People in the 35-39 weight category are usually eligible for bariatric surgery. CM Health has half as many again as the next highest DHB (Waitemata)

Extreme BMI adults - 40+. Obesity class 3, known in the past as 'morbid obesity'. People in this weight category would generally need intensive medical bariatric care or bariatric surgery to reduce their weight. CM Health has nearly twice as many in this category (92% higher) as the next highest DHB (Waikato). Nearly 10% of the CM Health adult population fall into this category, 24% of Pacific adults.

BMI = body-mass index, a measure of weight in kg divided by height in m squared. 30+ = obese. Data from the New Zealand Health Survey 2014-17 (pooled results, from the Regional analysis on the MOH website) applied to 2021 ERP (SNZ projections for MOH, Oct 2020). Sorted by BMI 40+ number

CM Health has more people with diabetes than any other DHB

Note – this comparison is made using MOH VDR – numbers differ slightly from the more accurate Testsafe analysis in the earlier slides that are only available for metro-Auckland

DHB	Diabetes VDR 2019	Diabetes excess	Diabetes % inpatients
Counties Manukau	45,788	11,023	22%
Waitemata	31,469	2,370	14%
Auckland	26,930	2,369	15%
Canterbury	24,047	- 1,759	12%
Waikato	23,747	158	14%
Southern	15,311	- 994	13%
Capital and Coast	13,964	- 910	13%
Bay of Plenty	11,848	- 3,753	13%
Northland	11,585	- 1,809	15%
MidCentral	9,578	- 941	11%
Hawkes Bay	9,282	- 1,370	14%
Hutt Valley	8,543	157	15%
Taranaki	7,000	353	14%
Nelson Marlborough	6,309	- 2,529	10%
Lakes	6,069	- 895	15%
Whanganui	4,208	- 356	14%
Tairawhiti	3,586	149	15%
South Canterbury	3,192	- 211	11%
Wairarapa	2,385	- 604	14%
West Coast	1,560	- 382	13%
Total	253,400	0	14%
% CM Health (11.4% NZ pop)	18%		
CM Health higher than next	46%	365%	44%

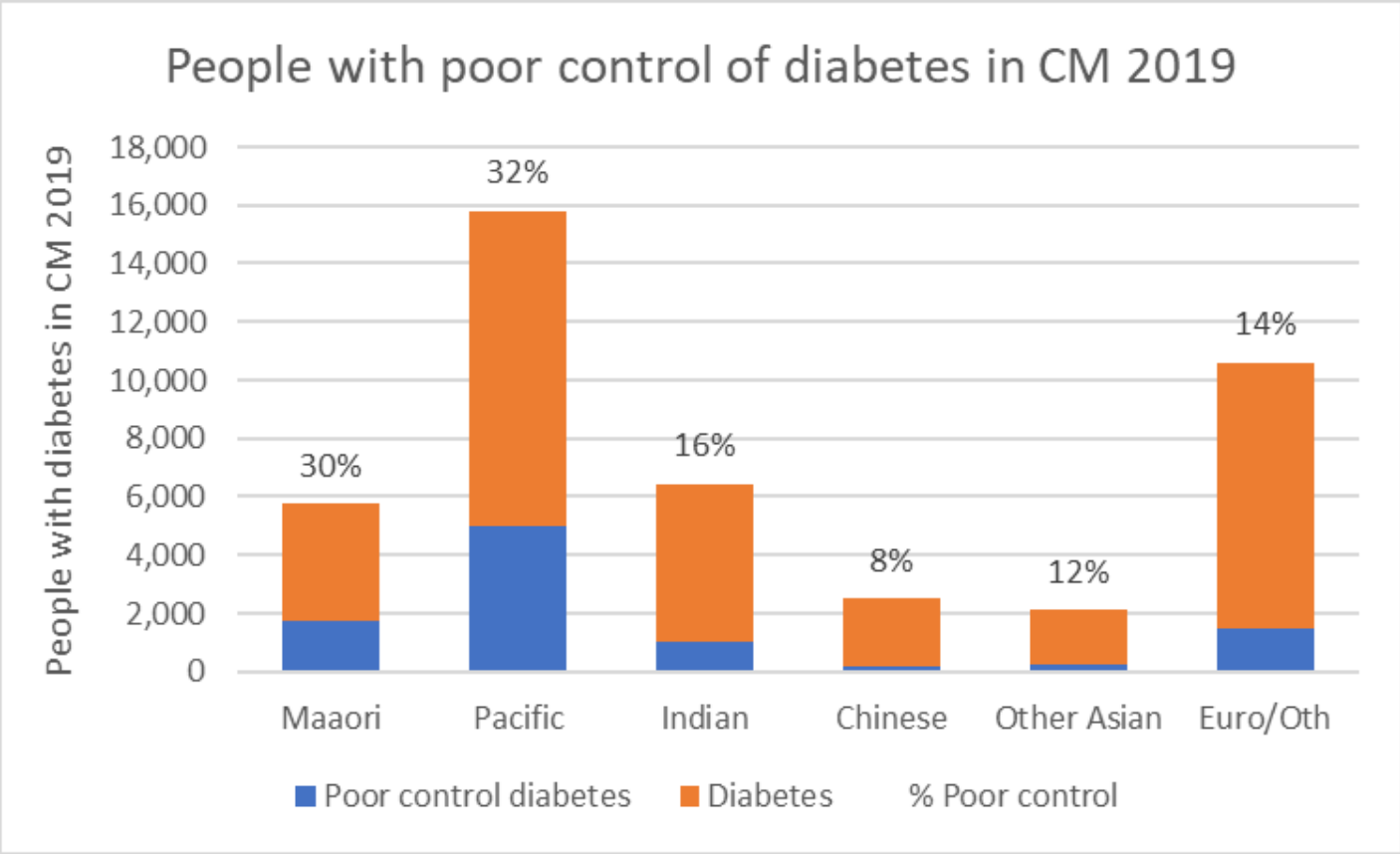
Diabetes VDR 2019 – the MOH virtual diabetes register (VDR) for 2019 shows CM Health has 18% of the country's people with diabetes, half as much again (46% higher) as the next highest DHB (Waitemata)

Diabetes excess – taking the NZ age-ethnic-deprivation specific rates deriving an expected level of diabetes for each DHB, then comparing with actual. A positive number is more people with diabetes than would have been expected. CM Health has close to 4 times the excess of the next highest DHB with an excess (Waitemata)

Diabetes % inpatients –medical-surgical casemix inpatients age 15+ in 2019 who were in the VDR. At any one time more than 1 in 5 (22%) of inpatients at CM Health have diabetes - for Maaori and Pacific patients it is 29%.

CM Health analysis of National Collections health datasets. Sorted by diabetes number. The 'excess' uses the same factors as the DHB funding formula – age, and three ethnic groups (Maaori, Pacific and Other) to compare to an expected based on national rates. In effect it shows the difference to what the DHBs are being funded for. Numbers are slightly higher than those derived from lab-result-based analyses as on earlier slides

High BMI effects: Pacific and Maaori find it difficult to manage diabetes well



- Maaori and Pacific people with diabetes are **twice as likely** to be in poor control as Indian or European people – 6,700 of the 9,600 in poor control
- 63% of the 9,600 were also in poor control in 2018, and more than half have a longer history of poor control
- Control does not appear to be an issue with people with diabetes presenting at general practice, or prescribing rates. Rather it appears to be issues of treatment intensity management, coupled with BMI-related treatment refractoriness
- Growth in poor control is rising faster than the growth in diabetes – from 2017 - 2019 numbers rose more than 10% per year
- The number of people with diabetes in CM Health is increasing at 2,100 per year. That is a net figure – adding around 3000 a year, but reducing by about 1000 a year, mainly through deaths.

Based on CM Health analysis of Testsafe linked to National Collections – CM Health residents with laboratory-defined diabetes, control based on last HbA1c test in 2019. Poor control defined as last result >= 75mmol/l (old units 9%) – i.e. at high risk of microvascular and macrovascular complications.

Diabetes is part of a spectrum of long-term conditions impacting the population

For 40-69 year olds in 2019 numbers are high in CM Health, especially affecting Maaori and Pacific

DHB	People with selected LTCs (age 40-69)	Prevalence of LTCs
Counties Manukau	60,701	32%
Waitemata	52,990	24%
Canterbury	47,007	23%
Auckland	41,071	24%
Waikato	40,103	27%
Southern	29,692	24%
Capital & Coast	27,239	24%
Bay of Plenty	22,976	25%
Northland	20,134	28%
MidCentral	17,565	27%
Hawkes Bay	17,116	27%
Hutt Valley	15,919	28%
Nelson Marlborough	14,156	22%
Taranaki	11,602	26%
Lakes	11,148	27%
Whanganui	7,310	29%
South Canterbury	6,065	26%
Tairawhiti	5,355	30%
Wairarapa	4,970	27%
West Coast	3,547	26%
NZ overall	456,666	26%

CM Health by ethnicity (aged 40 to 69)	People with selected LTCs	Prevalence of LTCs
Female		
Maaori	4,940	40%
Pacific	8,100	42%
Indian	3,322	32%
Chinese	1,287	13%
Other Asian	1,301	20%
European/Other	8,826	22%
Overall	27,776	28%
Male		
Maaori	4,761	46%
Pacific	9,067	50%
Indian	4,272	41%
Chinese	1,713	22%
Other Asian	1,663	29%
European/Other	11,449	28%
Overall	32,925	35%

- Many have multiple LTCs - on average 1.5 per person with a LTC in CM Health (1340 people had 5+, two had 11)

- Long-term conditions (LTCs) are a major cause of premature mortality and morbidity
- Effects increase rapidly through middle age – here we select ages 40-69 years
- 25 key conditions included
- CM Health has the **highest number of people with LTCs of any DHB**
- Within CM Health Maaori and Pacific 40-69 year olds have the highest prevalence of LTCs, close to twice the rate of European peers
- Males have higher rates than females
- Causation varies by condition, but often lies in early development, smoking, nutrition, exercise and body weight, and alcohol.

CM Health analysis, based on Ministry of Health's National Collections, using condition definitions co-developed with the Ministry of Health. Includes diabetes, atrial fibrillation, asthma, bronchiectasis, recently treated cancer, cardiovascular disease, cirrhosis, chronic kidney disease and end stage renal failure on dialysis, chronic obstructive pulmonary disease, cystic fibrosis dementia, gout, haematological cancer, heart failure, immunosuppressed, other chronic pulmonary disease, primary pulmonary hypertension, sleep apnoea and obesity related hypoventilation, splenectomy, Parkinson disease, multiple sclerosis, epilepsy, other neurological conditions, haemorrhagic stroke, and mechanical heart valves.