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**Counties Manukau
Public
Health
Information**

**1st Edition
May 2005**

We would like to acknowledge the Auckland Regional Public Health Service (ARPHS) for providing this section. ARPHS is one of a network of national public health units (12 in total serving 21 DHBs) located throughout New Zealand and is the single largest public health provider in the Auckland region. The service is contracted by the Public Health Directorate of the Ministry of Health.

The report was written by Dr Nicholas Jones (Public Health Physician), Ron King (GIS consultant), and Sally Gaw (Environmental Health Scientist) with contributions from other ARPHS staff including: Alastair Matheson, Julia Peters, Christine Cook, Kerry Price, Dr William Patterson, Megan Callaghan and Ellen Xing. ARPHS would also like to acknowledge the contributions of Kevin Mahon, Tony Batistich and Janet Petersen from the Auckland Regional Council and Gavin Fisher from Endpoint Ltd..

This report should be read in conjunction with

The Counties Manukau health profile (2001)

Counties Manukau health indicators 2005 (2005)

The health status of children and young people in the Counties Manukau Region (2005)

All available on: www.cmdhb.org.nz

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New Zealand

Public Health in Counties Manukau

Preamble

Auckland Regional Public Health Service (ARPHS) is the main Ministry of Health funded provider of public health services to the population of greater Auckland including Counties Manukau DHB. Service areas covered by ARPHS include:

- Communicable diseases
- Immigrant health and refugee coordination
- Injury prevention
- Nutrition and physical activity
- Physical environments
- Preventing alcohol and other drug related harm
- Public health infrastructure
- Tobacco control
- Social environments
- Well child

Using these service areas as a framework, this report:

- provides a summary of each area
- provides an overview of population health information
- identifies trends worth noting
- highlights priority actions considered important.

While the chapter reflects ARPHS's regional focus, information is provided at district level where available. The report covers public health priority issues identified by ARPHS as part of its planning process for 2005/06.

For more detail on ARPHS, including the strategic plan and details on programmes underway please visit <http://www.arphs.govt.nz>

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Analysis by Public Health Service Area

Communicable Disease Control

Service Description

This includes communicable disease control and surveillance, imported disease control, and immunisation promotion.

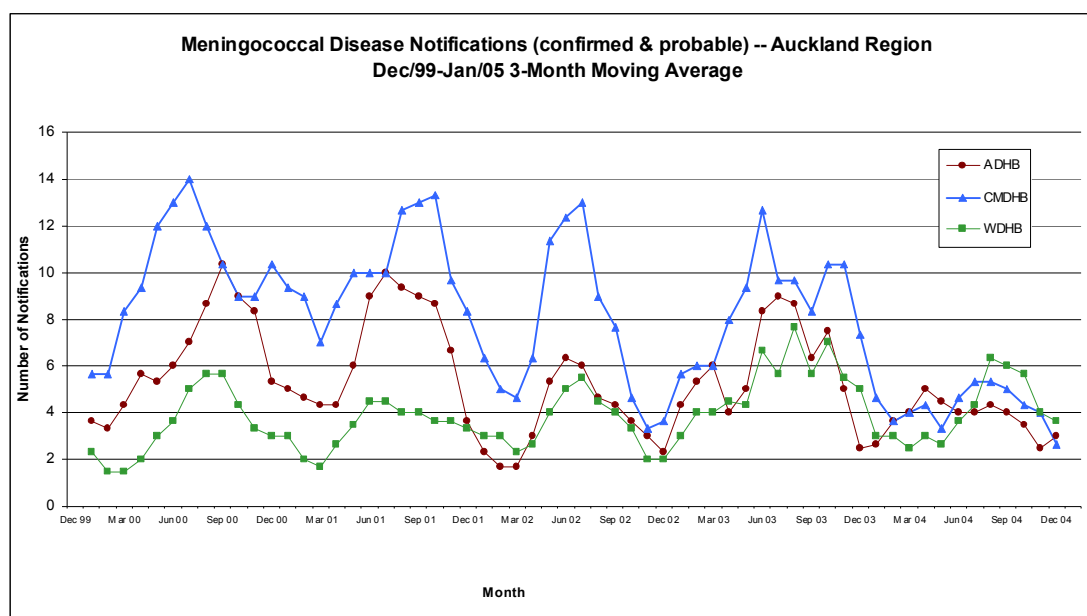
ARPHS has an important role in the investigation and prevention of the spread of enteric disease in the region. Data on which to conduct investigations into cases of enteric disease come from notified diseases and reported outbreaks.

Health Trends

Meningococcal disease

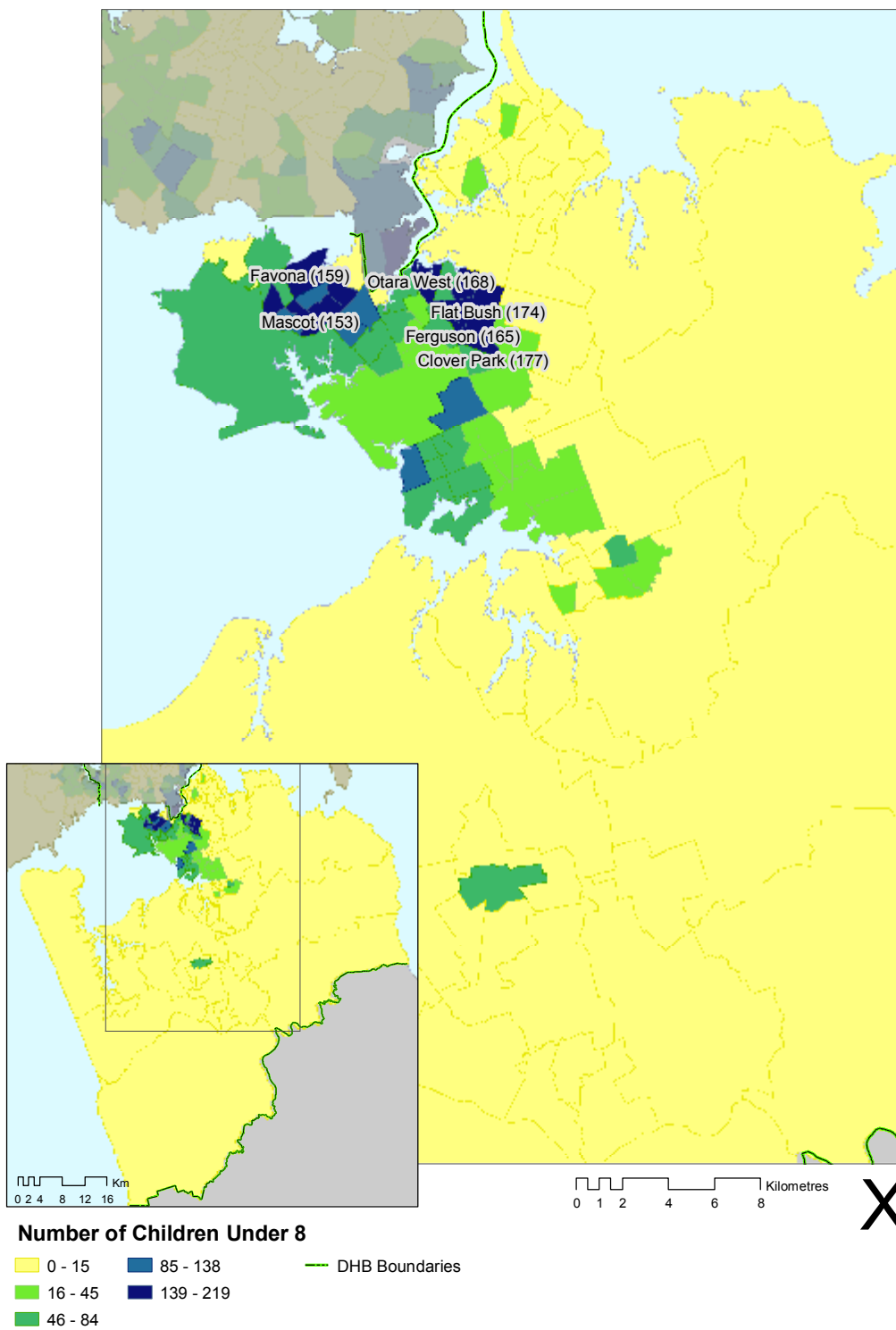
- Meningococcal disease numbers were lower than in previous years last winter in Counties Manukau and Auckland. Case numbers were more constant in Waitemata DHB (Figure 1).

Figure 1: Meningococcal disease Notifications (confirmed & probable) – Auckland Region (Dec 99 – Jan 05)



- The most important risk factor for Meningococcal disease among children under 8 years is the number of persons aged over 10 years per room in the house ie adult and adolescent crowdingⁱ.
- Figure 2 shows the greatest number of children in crowded households live in . Other areas with relatively high numbers of children in crowded households are Mt Roskill and Avondale (Figure 2).
- Number of contacts of Meningococcal cases per year for region (averaged over 2001 to 2003) is 2408.
- Number of contacts treated with chemoprophylaxis was 2132.
- A pertussis epidemic has recently commenced in Auckland. A total of 246 pertussis cases have been notified for the 2004 year-to-date (to 14 December 2004), a 114% increase over the same period for 2003.
- All districts affected.

Figure 2: Children living in crowded* households (2001)



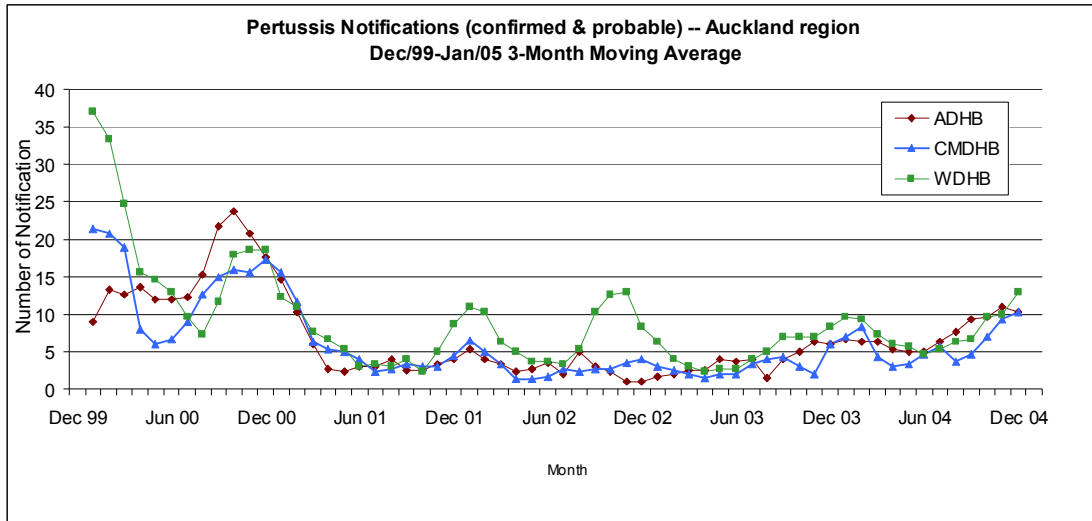
source: data supplied by Statistics NZ

*Crowded defined as households with more than one person aged over 10 years per room in the house

Pertussis (whooping cough)

- Pertussis numbers have tended to increase in Counties Manukau over the last 2 years (Figure 3)

Figure 3: Pertussis Notifications (confirmed & probable) – Auckland Region (Dec 99 – Jan 05)



Tuberculosis (TB)

- Tuberculosis disease case numbers in Counties Manukau show no particular trend over the last five years (Figure 4).
- Average annual disease and latent infection numbers by DHB are shown in Table 1.

Figure 4: Tuberculosis Disease Notifications – Auckland Region (Dec 99 – Dec 04)

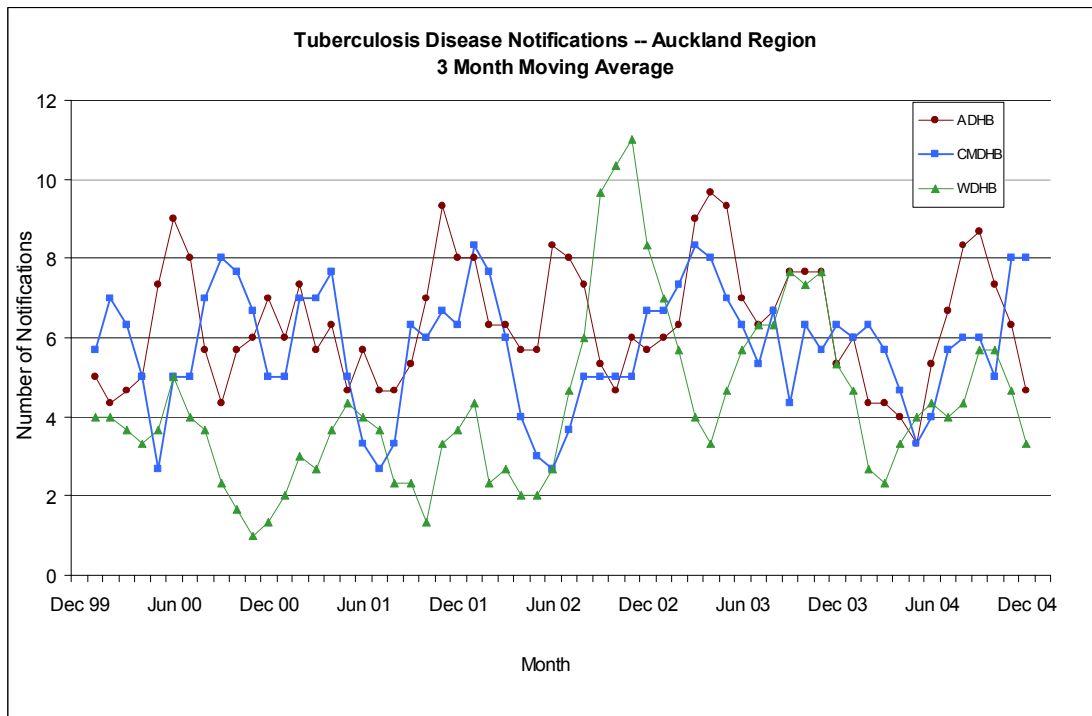


Table 1: Average annual notifications for tuberculosis in the Auckland region (2001 to 2003)

	Active TB disease cases	Latent TB infection* or inactive disease requiring preventive treatment
Waitemata DHB	59	110
Auckland DHB	82	160
Counties-Manukau DHB	69	97
Total	210	367

*includes only cases for whom preventive treatment commenced

- Number of TB contacts identified and screened (2003 data only) was 1540.
- Number of BCG vaccinations provided (2003 data only) was 5345.

Enteric disease

Trends in infections of the digestive system are summarised in table 2 below. These infections are often water or food borne.

Table 2: Average annual counts of enteric diseases * in the Auckland region (2003 to 2004)

Disease	Number of notified cases	Number of cases for which public health response provided
Salmonellosis	519	519
Gastroenteritis NOS	267	260
Campylobacteriosis	4044	220
Giardiasis	562	168
Cryptosporidiosis	129	129
Shigellosis	74	74
Typhoid	17	17
Yersiniosis	157	13
Paratyphoid	12	12
VTEC/STEC	11	11
Listeriosis	8	8
Total	5800	1431

* enteric diseases these refer to those affecting the digestive system and here are most likely to include water and food borne causes.

- Number of all enteric outbreaks investigated (all 3 DHBs, 1 July 2003 to 30 June 2004) was 183.
- Number of foodborne outbreaks investigated (all 3 DHBs, 1 July 2003 to 30 June 2004) was 131.
- Number of persons investigated in association with foodborne outbreaks (all 3 DHBs, 1 July 2003 to 30 June 2004) was 520.

Emerging infectious threats

- There is increasing concern about the potential for an influenza pandemic. In particular an H5N1 virus currently affecting birds is known to be highly pathogenic to humans.
- Recent evidence suggests this virus may have been transmitted from person to person.

Priority strategies

Meningococcal disease prevention and control

- Follow-up of meningococcal disease cases including provision of chemoprophylaxis for contacts and provision of health education about meningococcal disease is given to all contacts, whether or not prophylaxis provided.
- Geographical mapping of communities most at risk and annual targeted awareness raising programmes.
- Promotion of early recognition of symptoms by clinicians and pre-hospital antibiotics.
- Since July 2004, assistance with the roll-out of a national MeNZB Vaccination programme.
- Healthy housing programme aimed at reducing crowding.

Tuberculosis case control services

- Supervised provision of treatment to each case in the community.
- 50% of cases receive intensive supervision of treatment as directly-observed therapy (DOT).
- Contacts of infectious cases are identified and screened for TB disease or latent TB infection (LTBI).
- BCG vaccination is provided to children identified as contacts of TB disease cases (if found not to have TB disease or infection), and is routinely provided to newborn children in risk groups specified by the Ministry of Health. BCG vaccination given at community clinics.

Pertussis control

- Recommendation to general practitioner to treat case's family members with antibiotics as a prophylactic measure (to protect infants in family).
- Letters and information sheets to school/ early childhood centres (ECC).
- Recommendations to exclude case/contacts from school/ECC.

Food and waterborne disease

- Management of individual cases and their close contacts depending on a risk assessment relating to age and employment and ultimately their potential to transmit various infections to others.
- Investigation of outbreaks (involving by definition two or more cases).
- Control of multiple institutional (resthome and hospital) outbreaks of norovirus infection.
- Development of guidelines on control of norovirus in resthomes
http://www.arphs.govt.nz/Services/DC/Disease/NLV_OutbreaksJan05.pdf
- Identification of norovirus outbreaks due to the consumption of contaminated shellfish.
- Other important work relates to the investigation of typhoid, E. coli (VTEC) and hepatitis A cases. These diseases have the potential to cause large outbreaks and timely investigation cases and control activities are crucial to protect the public.

All investigations are guided by evidence-based, detailed protocols and overseen by public health physicians.

Emerging infections

- Pandemic planning remains a priority.
- There is a need to enhance surveillance of non-notifiable disease infections

Immigrant and Refugee Health

Service description

Includes health screening, health education and promotion, health service co-ordination and collaboration with social service, advocacy, health needs assessment (through the use of research information, surveys, surveillance etc). Both quota and non-quota (asylum seekers and family reunification migrants) refugees are screened. Quota refugees undergo compulsory medical screening at the Mangere Refugee Resettlement Centre and free medical screening is provided on a voluntary basis for asylum seekers and family reunification refugees.

Key Trends

- Auckland continues to experience the largest population growth of any region in New Zealand and 52% of the growth between 2003 and 2004 was due to internal and external migration.
- Manukau City had the greatest population growth absolute terms between 2003 and 2004 (table 3).

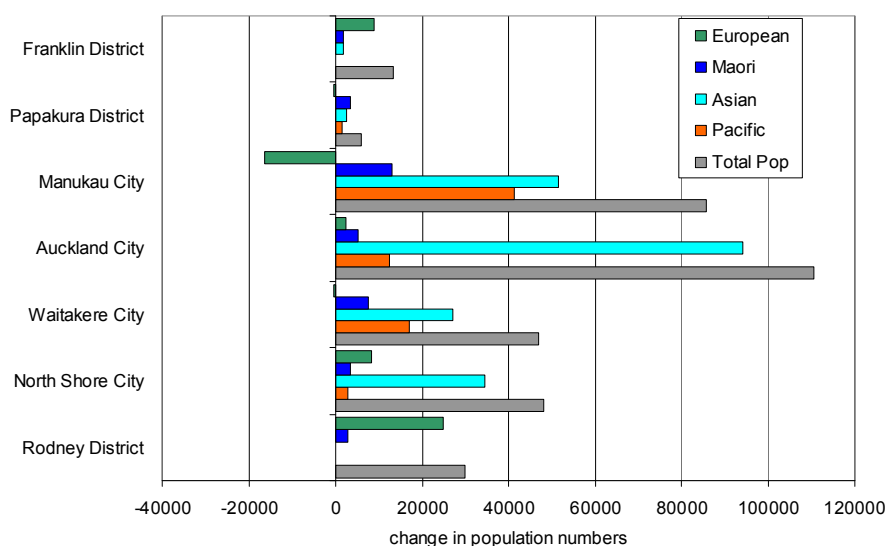
Table 3: Population growth by Auckland territorial authority 2002 to 2004

TA	2002	2003 R	2004 P	Pop change 02-03		Pop change 03-04	
				count	% change	count	% change
Rodney District	81,100	84,100	86,600	3,000	3.7%	2,530	3.0
North Shore City	198,900	205,000	209,300	6,100	3.1%	4,350	2.1
Waitakere City	180,700	185,600	189,200	4,900	2.7%	3,610	1.9
Auckland City	401,500	415,100	420,700	13,600	3.4%	5,590	1.3
Manukau City	307,300	317,500	326,200	10,200	3.3%	8,670	2.7
Papakura District	42,700	43,100	43,500	400	0.9%	340	0.8
Franklin District	54,300	55,500	56,500	1,200	2.2%	1,000	1.8

Source: data from Statistics NZ

- By 2016 ethnic make up of Auckland region expected to change (Figure 5).
- Within the Auckland region Manukau city is expected to experience the second greatest absolute growth during this period.

Figure 5: Components of projected population change by TLA and ethnicity 2001 to 2016



Source: data from Statistics NZ

- The exact proportion of growth that arises from migration of refugees is

unknown.

- A conservative estimate of refugee numbers resettled annually in NZ is 1250 (Refugee Voices: A journey towards Resettlement, Department of Labour, June 2004).
- Estimated (Solomon) that 60% of quota refugees and 90% of asylum seekers remain in the Auckland region.

Health status of refugees and asylum seekers

- Review of quota refugees (Public Health Advice December 1996) showed:
 - 70% required referral to one or more secondary care service
 - Up to 46% infected with TB with 4% showing signs of active disease and 12% remaining under investigation after one year
 - 1.7% infected with HIV (2.6% among adults)
 - Other problems included: intestinal parasites (42%), schistosomiasis (21%), iron deficiency (54%), psychological disorders requiring referral (7%), disability requiring orthotics (8%), gynaecological problems associated with female genital mutilation (% not reported).
- Other problems identified elsewhere include: tobacco use among refugee men (30%), physical inactivity among Muslim refugee females, undiagnosed diabetes and vitamin D deficiency (98%).
- Review by Solomon concluded that the health status of asylum seekers and family reunification refugees likely to be similar to quota refugees.
- Anecdotal evidence that follow-up in primary care is limited by
 - Lack of interpreter services
 - Financial barriers for asylum seekers awaiting refugee status hearing
 - Complex problems requiring lengthy consultations
 - Limited trans-cultural mental health community service
 - Culturally appropriate women's health and tobacco cessation services.

Priorities

- Maintain screening services.
- Enhance primary care follow-up by supporting PHO's to use Services to Improve Access (SIA) funding to subsidise consultations, prescription charges and interpreter services for primary care practices that are prepared to commit to this work.
- DHB diabetes control programmes need to incorporate refugee specific services.

Nutrition and Physical Activity

Service description

Includes promotion of physical activity, advocacy of improved nutrition (including breast feeding) promoting healthy food choice, supporting the Heartbeat Challenge.

Key Health Trends

New Zealand adults 2002/2003ⁱⁱ

- 33% overweight and 21% obese
- 57% had gained 10kg or more since age 18 years
- 10% had been diagnosed with heart disease
- 21% with high blood pressure
- 16% with high cholesterol
- 2% with stroke
- 4% had been diagnosed with diabetes (excluding gestational diabetes)

New Zealand children 2002ⁱⁱⁱ

- Young children had better food and nutrient intakes than older children
- Young children less likely to be obese or overweight
- Overall, 21% were overweight and 10% obese
- Proportion of males who were overweight increased from 16% at 5-6 years to 24% at 11-14 years whereas the corresponding figures for females were 23% and 24%.
- Obesity levels for males increased only slightly across the age groups (9% to 10%) but for females increased from 7% at 6-7 years to almost 12% for 7-14 year olds.

Auckland Region DHB trends (2002/03)ⁱⁱ

Table 4: Age standardised prevalence of obesity by DHB and ethnic group

Ethnic Group	WDHB	ADHB	CMDHB	NZ
All	17.4% (15.7%, 19.1%)	18% (16.5%, 19.5%)	23.4% (21%, 25.8%)	20.1% (19%, 21.2%)
European/Other	16.7% (14.6%, 18.8%)	16.9% (14.9%, 18.9%)	21.4% (18.7%, 24.1%)	18.9% (17.6%, 20.2%)
Maori	22.7% (15.7%, 29.7%)	23.2% (16.9%, 29.5%)	29.9% (24.9%, 34.9%)	28.3% (25%, 31.6%)
Pacific	46.6% (38.1%, 55.1%)	46.5% (40%, 53%)	39.2% (28.8%, 49.6%)	43% (37.7%, 48.3%)
Asian	4.5% (2.4%, 6.6%)	4.9% (2.3%, 7.5%)	5.8% (2%, 9.6%)	5.7% (3.3%, 8.1%)

Note: 95% confidence intervals in brackets

Table 5: Age standardised prevalence of diabetes by DHB and ethnic group

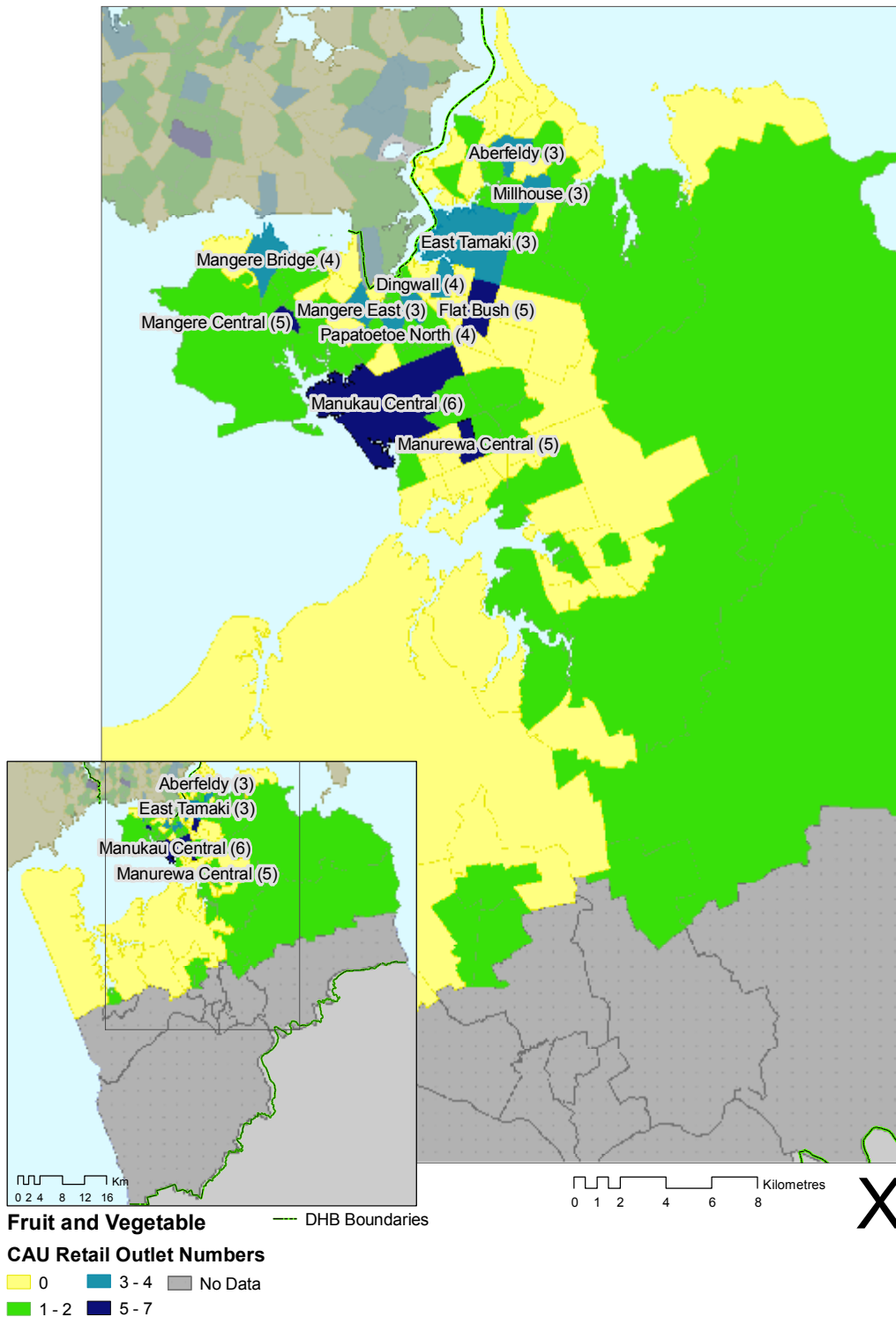
Ethnic Group	WDHB	ADHB	CMDHB	NZ
All	3.2% (2.5%, 3.9%)	4.2% (3.4%, 5%)	5% (4%, 6%)	4.1% (3.6%, 4.6%)
Maori	5.1% (1.5%, 8.7%)	5.8% (2.6%, 9%)	9.5% (6.7%, 12.3%)	8% (6.3%, 9.7%)
Non Maori	3.1% (2.4%, 3.8%)	4% (3.2%, 4.8%)	4.3% (3.2%, 5.4%)	3.6% (3.1%, 4.1%)

Note: 95% confidence intervals in brackets

Environmental determinants of nutrition and physical activity

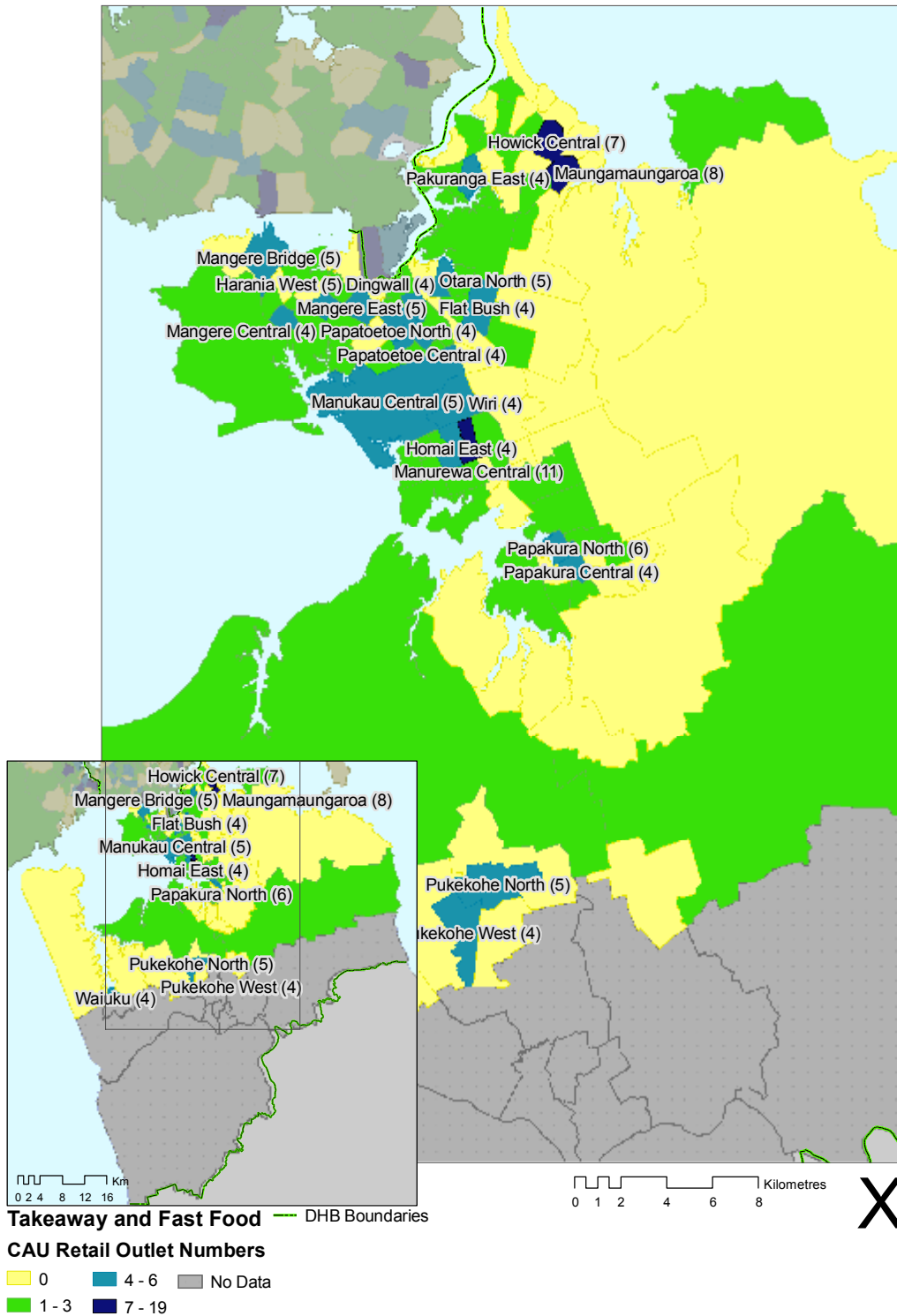
- The built environment contributes to nutrition and physical inactivity risks.
- Roading and other aspects of urban form may affect walking and bicycle use. Similarly the accessibility of open space and safety issues may influence physical activity levels.
- It has been postulated that physical accessibility of different food types may influence consumption along with other assess issues such as cost.
- Figures 6 and 7 show relevant data for Counties Manukau DHB.

Figure 6: Fresh fruit and vegetable retailers by census area unit Counties Manukau DHB (2003)



Source: Statistics NZ Business Demographics Survey 2003

Figure 7: Takeaway and 'ethnic' food retailers by CAU Counties Manukau DHB (2003)

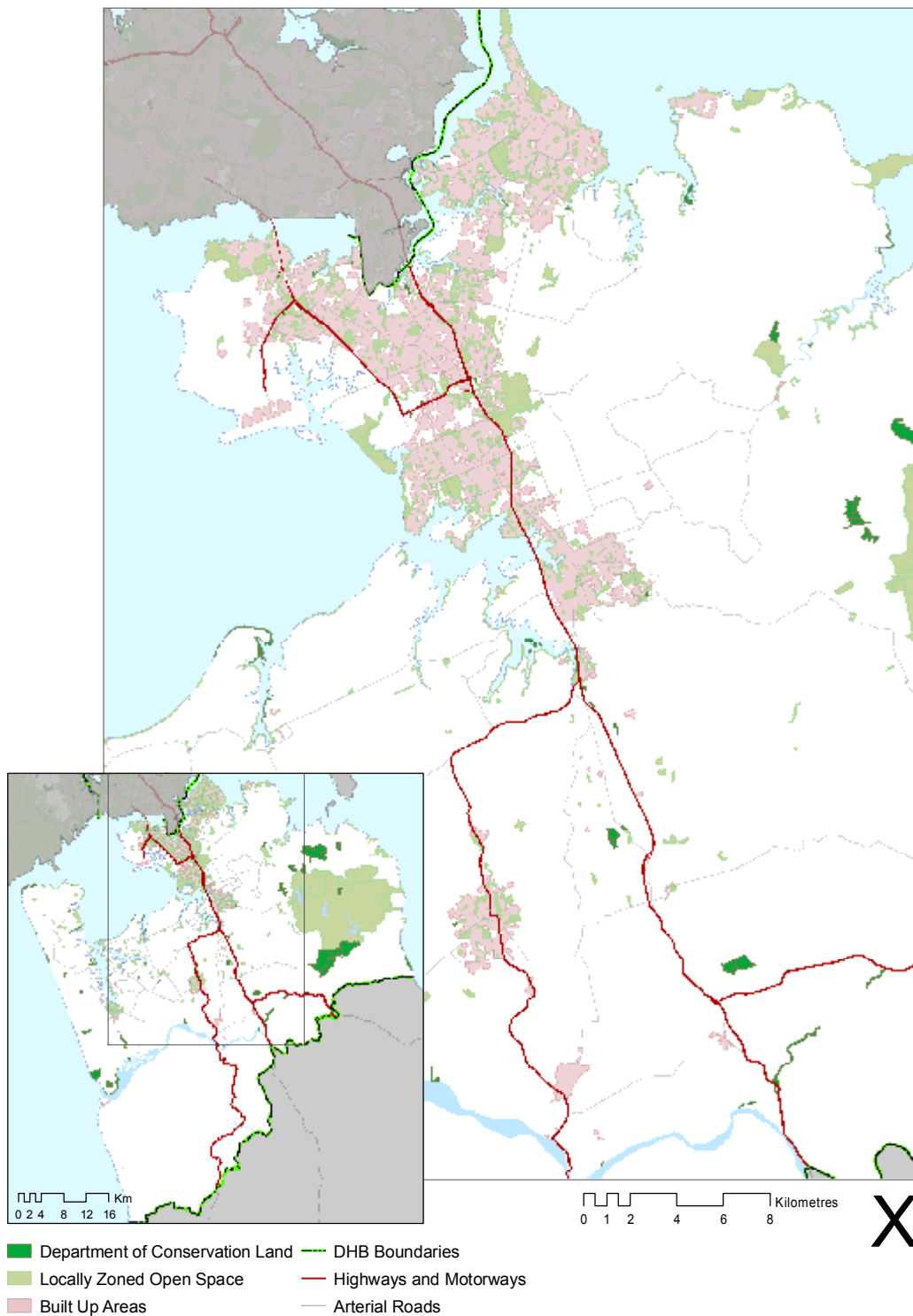


Source: Statistics NZ Business Demographics Survey 2003

It is difficult to interpret these maps without further analysis e.g. comparing availability with data on access to private motor vehicles. Most urban areas of Counties Manukau appear have good access to fresh fruit and vegetables. Takeaway and ethnic fast food suppliers are prevalent, being most numerous in Howick and Botany Downs, and Manurewa. Note that these data are collected from GST registered premises with 2 or more full time equivalent staff so may undercount outlets.

Access to open space is shown in figure 8. Data have been sourced from local authorities and Department of Conservation and may not be current.

Figure 8: Open space in Counties Manukau DHB



Source: data from DOC and Auckland territorial authorities courtesy of ARC

The map suggests access to open space varies within the built up parts of Counties Manukau DHB. Further analysis would be required to identify areas with low access.

Priority Issues and strategies

- Obesity is the major modifiable risk factor for Type 2 diabetes and 12% of all deaths are attributed to overweight and obesity.^{iv}
- Effectiveness of obesity treatment is limited so priority is on prevention.
- Prevention of overweight and obesity in children.
- Prevention of progression of overweight to obesity in adults.
- WHO categorises prevention strategies in to 3 levels of evidence
 - *Convincing evidence*: reduce intake of energy dense, low nutrient foods, reduce sedentary lifestyles e.g. TV viewing/screen time
 - *Probable*: reduce intake of sugar sweetened soft drinks and fruit drinks/juices, reduce marketing on energy dense foods & fast food outlets, improve socioeconomic conditions
 - *Possible*: reduce portion sizes, reduce proportion of food prepared outside the home.

Priority programmes

Prevention of overweight and obesity in children

- *Pilot of an obesity prevention programme in West Auckland intermediate schools*. Components to include: implementation of school food policies including adequate drinking water supply, development and promotion of key behavioural messages (e.g. have breakfast at home, take lunch with you, have dinner at the table), implementation of ‘healthy Kai’ programme in local shops/dairies, development of programme/curriculum component to teach children to critically analyse the media and advertising.
- Nutrition workshops and resources in the Early Childhood Education (ECE) setting.
- Mainstream, Pacific and Maori ECE receive culturally specific interventions.

For prevention of progression of overweight to obesity in adults

- Obesity and Type 2 diabetes prevention study. The aim of this study is to determine whether patients who have regular weight checks and receive nutrition information are encouraged to make dietary changes to help them achieve and keep a healthy weight. Participants in intervention practices will receive personalised messages from an electronic message library that has been developed by ARPHS. The software for this was developed by Enigma Publishing and could ultimately be integrated with patient management systems. Control practice participants will receive generic nutrition information. The study will include practices from Auckland DHB district.
- “Healthy Kai” programmes have been established in Mangere and Otara. The programmes identify and promote food choices meeting specified criteria with the aim of increasing the proportion of healthy ready to eat food choices sold. Local general practices and other agencies will have supporting information.

Lifestyles and Settings

Service Components

Injury prevention – includes unintentional injury in particular amongst children, young people and the elderly.

Tobacco control – includes smoking reduction programmes and smokefree environments.

Alcohol – includes prevention of alcohol related harm and health assessments for liquor licensing.

Social environments – includes healthy cities and communities and social environments, health promoting schools, child poverty and strategic alliances.

Well Child – includes oral health promotion and melanoma prevention.

Trends

Tobacco Use

Table 6: Percentage current smokers (aged over 15 years) by DHB, sex and ethnic group (2003)

DHB	Ethnic group	Female	Male	ALL
WDHB	All	19.9% (17.8%, 22%)	19.6% (17%, 22.2%)	19.7% (17.9%, 21.5%)
	E/Other	17.9% (15.4%, 20.4%)	16.5% (13.6%, 19.4%)	17.2% (15%, 19.4%)
	Maori	46.4% (37.7%, 55.1%)	46.6% (34.6%, 58.6%)	46.5% (38.9%, 54.1%)
	Pacific	41.4% (30.8%, 52%)	30.2% (20.3%, 40.1%)	36.2% (29%, 43.4%)
	Asian	4.3% (1.1%, 7.5%)	19.9% (13.5%, 26.3%)	11.5% (8.3%, 14.7%)
ADHB	All	20% (18%, 22%)	21.7% (19.2%, 24.2%)	20.8% (19.2%, 22.4%)
	E/Other	18.8% (16.4%, 21.2%)	17.3% (14.8%, 19.8%)	18.1% (16.2%, 20%)
	Maori	45.1% (35.8%, 54.4%)	48.4% (36.9%, 59.9%)	46.6% (37.9%, 55.3%)
	Pacific	40.1% (29.5%, 50.7%)	34.9% (24.9%, 44.9%)	37.7% (30.5%, 44.9%)
	Asian	3.6% (1.4%, 5.8%)	22.1% (15.9%, 28.3%)	12.2% (9.3%, 15.1%)
CMDHB	All	24.6% (21.4%, 27.8%)	29.1% (25.3%, 32.9%)	26.7% (24.1%, 29.3%)
	E/Other	20% (16.1%, 23.9%)	23.9% (18.8%, 29%)	21.9% (18.2%, 25.6%)
	Maori	58.5% (51.3%, 65.7%)	48.3% (40.4%, 56.2%)	53.9% (47.9%, 59.9%)
	Pacific	26.6% (20.4%, 32.8%)	42.8% (31.6%, 54%)	34.1% (28.3%, 39.9%)
	Asian	NA	18.8% (5.1%, 32.5%)	11.7% (4.7%, 18.7%)

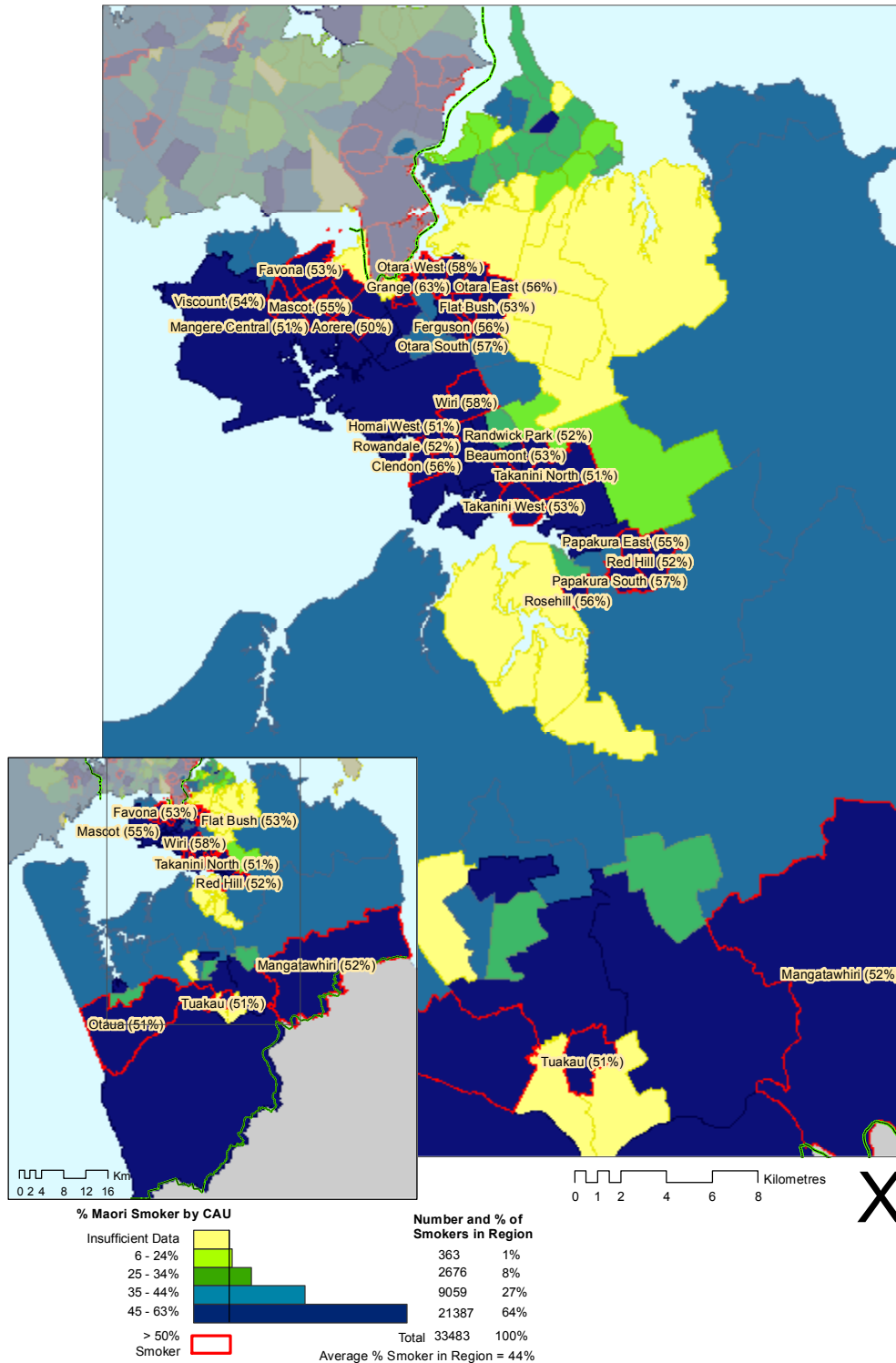
Source: NZ Health Surveyⁱⁱ

Note: Crude percentages - 95% CI in brackets

As in other DHBs the highest smoking rates within Counties Manukau DHB occur among the Maori ethnic group. There also appears to be a high prevalence of tobacco use among Pacific men.

Census data on tobacco use were last collected in the 1996 census. The geographic distribution of current smokers among Maori at that time is shown in Figure 9.

Figure 9: Maori smoking by CAU Counties Manukau DHB (1996)



Source: data supplied by Statistics NZ from Census 1996

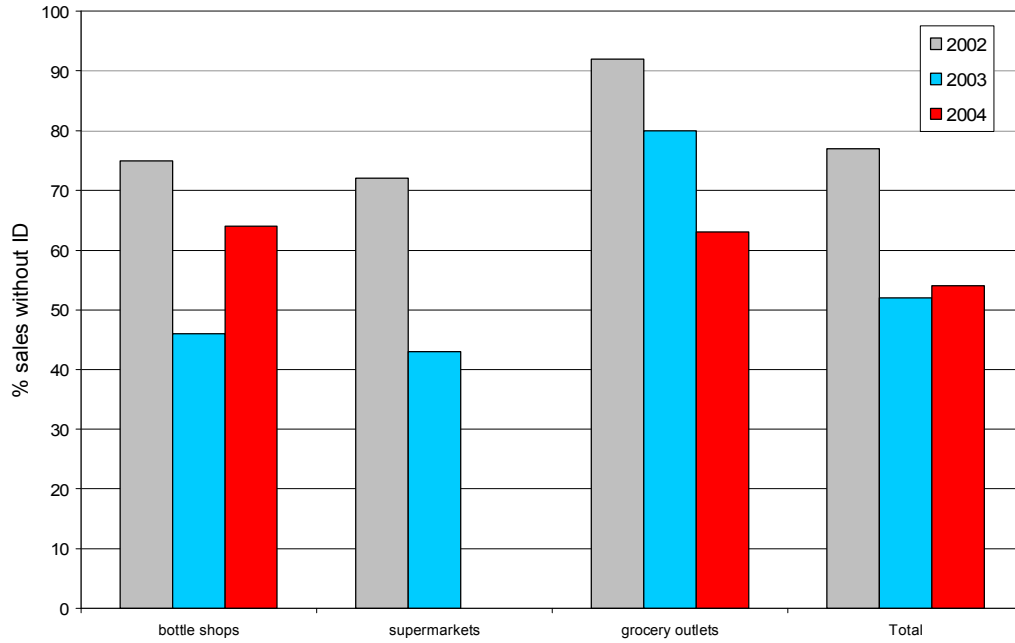
Youth access to alcohol

- 2003 ALAC Youth Drinking monitor found that 23% of all 14-17 year olds had exhibited binge drinking behaviour (five or more glasses) in the last drinking session.
- Social supply is the most common source of alcohol, 8% of 14-17 year olds claim to buy alcohol for themselves.
- 47% said they were hardly ever or never asked to show identification.
- Correlates with the findings of the Pseudo Patrons Survey
- This study suggests the proportion of sales without ID through out Counties

Manukau went down Manukau in 2003 but have not decreased in 2004 other than in Franklin (figures 10,11,12)

- Supermarkets are the least likely outlet to sell alcohol without ID in each territorial authority within the DHB.

Figure 10: Proportion of alcohol sales made without personal identification in Manukau 2002-2004



Source: data from Auckland Pseudo Patrons Survey 2004 (SHORE)

Figure 11: Proportion of alcohol sales made without personal identification in Papakura 2002-2004

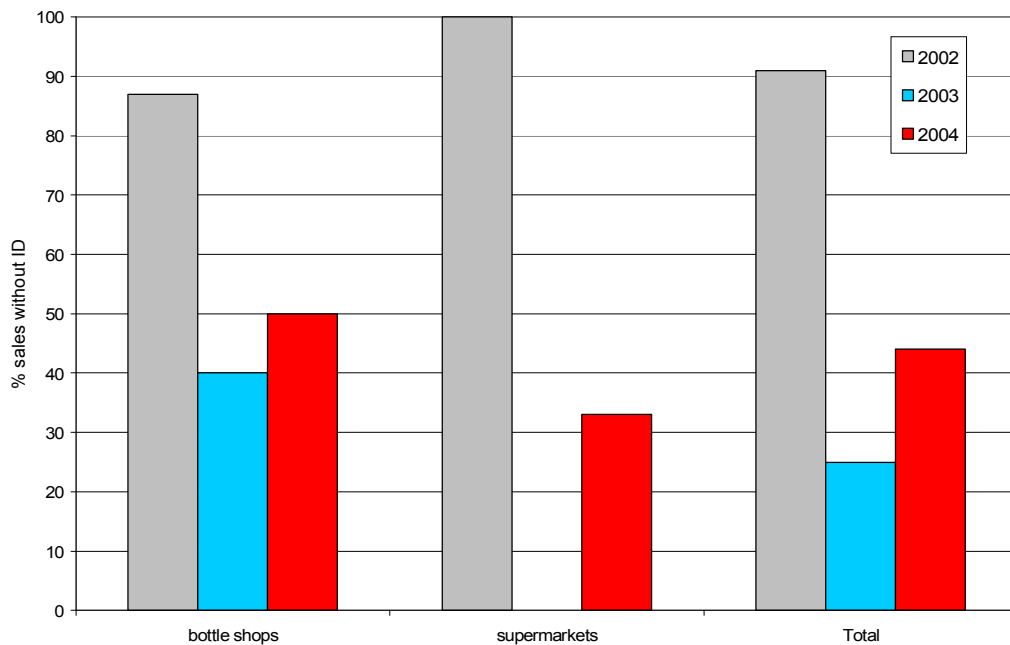
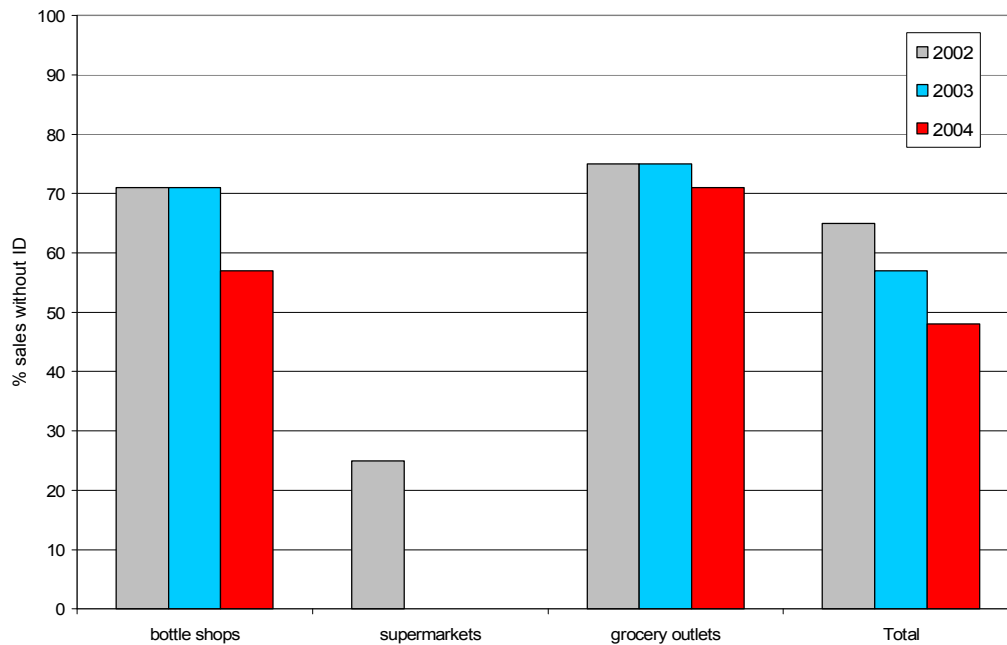


Figure 12: Proportion of alcohol sales made without personal identification in Franklin 2002-2004



Alcohol supply

The number of licensed premises per population is shown in Table 7. Counties Manukau DHB has the lowest number of licensed premises per population in the region.

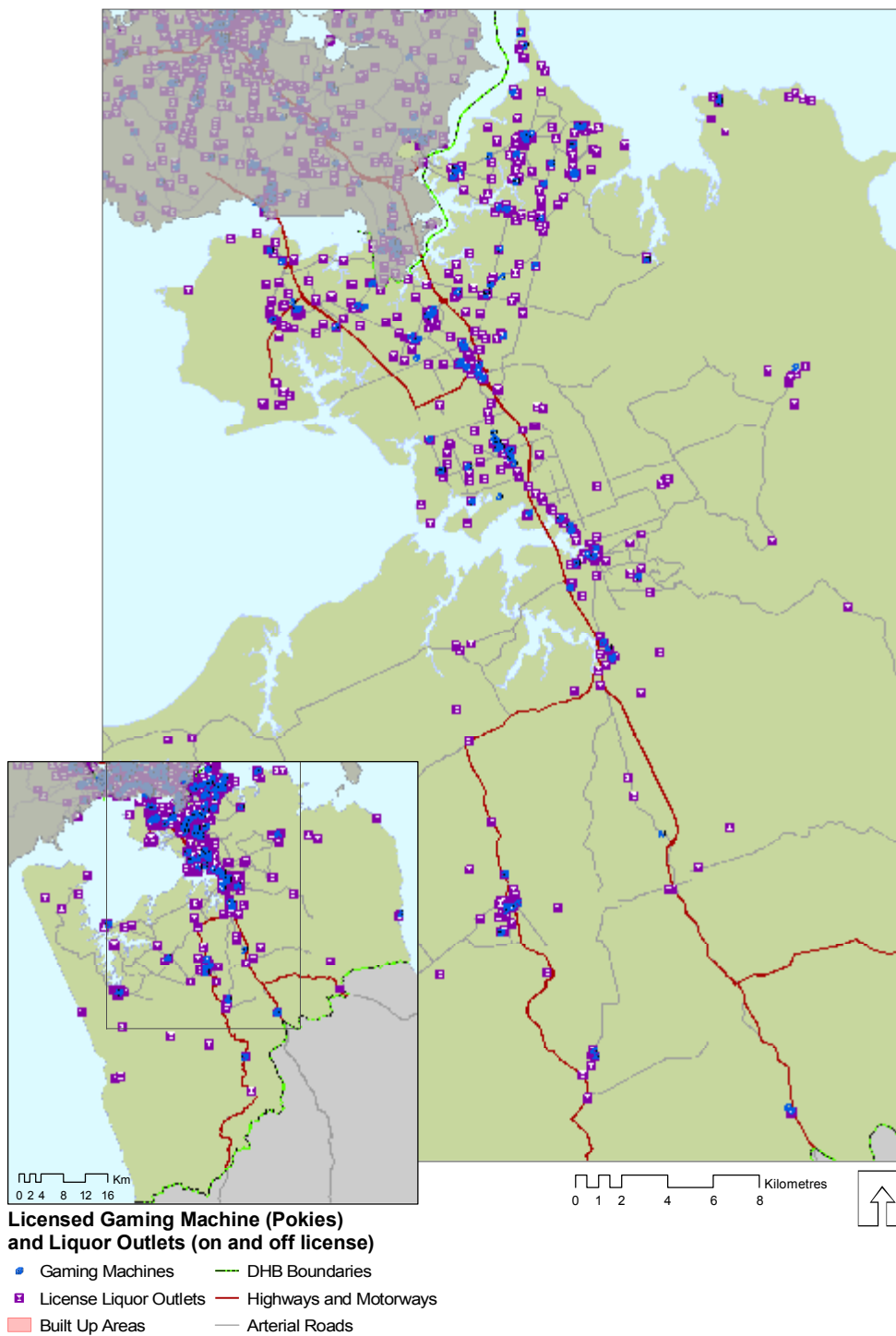
Table 7: Alcohol licenses per population by license type and DHB

DHB	On	Off	Club	Total	Population*	No. /1000 people
Auckland DHB	1,157	429	157	1,743	420,700	4.14
Waitemata DHB	508	279	156	943	485,100	1.94
Counties- Manukau DHB	327	243	136	706	426,200	1.66
TOTAL	1,992	951	449	3,392	1,332,000	2.55

Source: estimated population July 2004 Statistics NZ, premise data from DLAs

The geographic distribution of licenses premises within Counties Manukau DHB as well as gaming machines is shown in figure 13 below.

Figure 13: Gaming machines (March 2003) and alcohol retailers (February 2005)



Source: data supplied by Dept. of Internal Affairs and Ministry of Justice

Alcohol related health problems

- A recent ALAC report estimated there are 1040 alcohol-related deaths in New Zealand each year (3.9% of all deaths) and 980 deaths prevented by alcohol.
- The burden of deaths falls largely on males, Maori and the young, mostly through injuries (51% of alcohol-related deaths).
- There is a balance of 12,000 years of life lost each year (72% accounted for by injuries).

- A different study in the Auckland emergency department found that alcohol was related to 35% of injury cases seen.

Priorities

- ARPHS current role with respect to tobacco and alcohol is regulatory.
- Advocate change to the Sale of Liquor Act to allow broader public health concerns such as the availability of alcohol in an area to be taken into account when alcohol licenses are sought.
- Refocusing programme utilising with in health outcomes model, integrating nutrition, Smokefree, alcohol and social environments aspects and addressing determinants of health
- Development of a set of indicators, which will be used to measure and evaluate the outcome of interventions.
- Leading the development and implementation of the ARPHS Child health strategic and Action plan.
- Greater engagement with PHO health promotion providers including the provision of leadership and support around professional development.
- Working with Ministry of Health and Auckland region DHBs to ensure DHB priorities are included in ARPHS planning and delivery particularly around cardiovascular disease prevention (Waitemata DHB) and diabetes prevention (CMDHB).
- Implementation of ARPHS Core Competencies and Health Promotion Competencies and the ongoing professional development of the ARPHS Health promotion workforce.
- Developing a strategy and action plan for the delivery of lifestyles initiatives within the context of ARPHS strategic plan and DHB priorities.

Environmental Health

Service description

Includes air quality, biosecurity and quarantine, contaminated land, early childhood education centres, noise management, hazardous substances, emergency planning and response, resource management (including urban planning and transport), water (including drinking water quality, recreational water, sewage treatment and disposal, shellfish and shellfish water, waste management), regulatory administration, including burial and cremations, infirm and neglected people.

Key Trends and Issues

- Rapid urban growth and impacts on existing infrastructure (water and sewage).
- Unhealthy urban design.
- Exposure to unacceptable levels of air pollutants from vehicle emissions.
- Exposure to poor indoor air quality.
- Exposure to adverse levels of environmental noise.
- Access to fluoridated water supplies.
- Quality of reticulated potable water supplies in small rural centres.
- Poorly designed and maintained on-site waste water treatment systems on the peri-urban fringe and in small rural centres.
- Untreated domestic water supplies (roof collected and/or borewater).
- Clandestine drug labs and contamination of buildings.
- Establishment of disease vectors and pests of public health significance.

Rapid urban growth and poor urban design

Rapid urban growth is currently the key environmental health issue in the Auckland region. Adequately servicing the increased population will require significant investment in infrastructure.

There is also a need to ensure that new urban developments follow healthy urban design principles and create environments which provide access to healthy food sources and public transport, as well as encourage physical activity. Healthy urban design also minimise people's exposure to adverse levels of environmental noise and hazardous substances.

Exposure to poor air quality

Vehicles are the main source of ambient air pollutants and other contributing sources include industry and home heating. The main air pollutants of concern in the Auckland region are particulate matter (PM₁₀ and PM_{2.5}), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone and volatile organic compounds (VOCs)^v. Auckland Regional Council monitoring data shows that peak concentrations of CO, NO₂, and particulate matter can exceed air quality guidelines^{vi}.

Indoor air quality is important as people spend most of their time indoors. Contributing factors to poor indoor air quality include cooking, home heating, smoking and inadequate ventilation. Indoor air pollutants include NO₂, CO, PM₁₀, tobacco smoke, toxic moulds and water vapour^{vii}. Water vapour and NO₂ are produced by unvented gas heaters and appliances (including stoves). There is currently limited NZ data on indoor air quality however; several studies^{viii-x} have shown that using unflued gas appliances can expose people to levels of nitrogen dioxide which exceed World Health Organisation recommendations.

Access to safe drinking water

In the Auckland region, most urban areas receive high quality water through mains supply and 97% of people on a reticulated supply receive drinking water from a distribution zone with an “a” grade^{xi}. The quality of smaller reticulated water supplies in some rural areas needs to be improved as some reticulated supplies have an “e” grading indicating that there is a very high level of risk. An estimated 93% of the population receiving reticulated water have a fluoridated supply. Two large treatment supplies (Papakura and Onehunga) as well as many of the smaller rural supplies are not currently fluoridated^{xii}. In some areas demand for reticulated water exceeds available supply.

In some rural areas of Auckland, reticulated water is not available and communities rely on roof collected water and groundwater bores for their drinking water. These supplies are not often treated and frequently do not comply with the New Zealand Drinking Water Standards for both micro-biological and chemical contaminants. Schools and childcare centres in rural areas may also rely on inadequately treated roof or borewater supplies for potable water. ARPHS regularly investigates disease outbreaks associated with private drinking water supplies and has investigated incidences of chemical contamination of roofwater supplies.

Inadequate wastewater disposal in rural areas

There are increasing numbers of houses with on site waste water treatment and disposal systems located in small rural centres and on the peri-urban fringe. Poorly designed or maintained on-site wastewater systems can cause contamination of waterways and expose people to untreated sewage. In some parts of the region, an increase in the numbers of houses and/or the establishment of a permanent community means that individual on-site wastewater treatment and disposal systems are no longer appropriate.

In some urban centres, the current wastewater treatment plants and waste water networks will need to be upgraded to accommodate both new developments and infill-housing.

Clandestine drug labs

Clandestine drug labs are an emerging health issue. Manufacture of illicit drugs can cause significant contamination of buildings. This contamination can pose health risks to children living at the property at the time of manufacture and to subsequent occupants of the building. Clan labs have been found in a variety of settings in urban and rural areas including rental properties, residential dwellings and garages.

Biosecurity and quarantine

The Auckland region has 1500 kilometres of coastline, 2 sea ports and two international airports, all of which are potential points of entry for insect and animal pests of public health significance. Cargo can also be opened and inspected at transitional facilities located throughout the Auckland region. Private yachts and numerous marinas are also risk areas for imported pests. It is important that exotic mosquitoes which can carry disease do not establish in New Zealand as the population has low immunity to arboviral diseases. There have been 36 interceptions of exotic mosquitoes in the Auckland region since 1998, however to date control measures have been effective. It is also important that other disease vectors or pests of public health significance do not become established. As Auckland has a diverse population and is a major entry point for tourists, it is possible that new communicable diseases could become established in our region.

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