

Beating meningitis begins at home

Meningitis has killed 200 people since 1992, with Manukau bearing the brunt. PETER JAMES, KIELY GROOMBRIDGE and TINA GRAY look at what is being done to combat this epidemic.

meningococcal B project

The Manukau District Health Board is joining forces with other agencies in an attempt to halt the devastating meningococcal B epidemic in the Manukau area.

The disease has claimed the lives of more than 200 New Zealanders in the past 12 years, with rates highest among Manukau residents.

In a new immunisation and preventative awareness campaign, projects are being started within the district targeting those thought to be most at risk.

Manukau district has become home to medical professionals developing a 'tailor-made' vaccine, specific to the strain of meningococcal disease affecting New Zealanders. This pilot steering group is led by advisors who work together as part of the Meningococcal B Project Team.

The Youth Interagency Project has also been started to improve the outlook for at risk young people through early intervention and education in healthy living.

Both projects are based in Manukau.

South Auckland has been chosen as the target area for an immunisation campaign because children in the region are most at risk both in terms of housing and ethnicity.

The disease can occur in any age group, but children and young adults are most affected.

The infection is caused by the bacteria *Neisseria meningitidis*, a highly contagious disease that can have debilitating effects and cause death.

In the form of droplet bacteria, the disease lives in the nose and throat and can be spread in close quarters through coughing, sneezing and sharing saliva.

At-risk environments and poor living conditions start the treadmill of deprivation creating poor health, education and social outcomes.

The Wellington School of Medicine began studies into this in 2003.

They began researching the link between household crowding and rates of hospitalisation for diseases such as meningitis. The study provided evidence that moving to a less crowded house reduces the risk of diseases.

The findings are being implemented in Manukau.

The Youth Interagency project involves many groups in society, from education to health boards and Work and Income.

One result of the project is the Healthy Housing Program, a partnership between Housing New Zealand and the District Health Board.

Housing New Zealand spokesperson Marie Martin says the purpose of the program is to "identify houses where overcrowding may be a contributing factor to infectious diseases and improve housing conditions to reduce the rate of diseases."

The team does the groundwork, making health and housing assess-

ments to identify the living conditions that may be a contributing factor to disease.

Once the assessment is done, the team works with the family to minimise overcrowding.

Jude Woolston, a spokesperson for the Counties Manukau District Health Board, says there are three options for improvement.

"The family may choose to transfer to a bigger home, extend their existing home, or increase the indoor-outdoor flow."

Otara, Mangere and Onehunga are the main areas of focus for the programme.

Ms Woolston says these areas have been chosen for the programme because "statistics and other evidence regarding housing and health suggest this is where it could be most beneficial".

Residents in Manukau were reminded of the threat of meningitis in 2003 with a "don't share spit" campaign.

Community organisations, local businesses and central government representatives erected a "don't share spit" banner next to the Southern Motorway to raise awareness of the disease.

Posters were also put up around schools and sports centres.

A more recent and intense attempt to control meningococcal B is the development of a vaccine. There is no vaccine currently available to protect against this specific New Zealand strain.

In 2001 an agreement was made with Chiron Vaccines and the Ministry of Health to make a strain-specific meningococcal vaccine.

In January 2004, Chiron and Auckland University developed a vaccine to protect against the meningococcal B strain.

Before the New Zealand vaccine can be licensed, it has to go through a series of studies. To this end the ministry and the university set up the meningococcal B project team.

Studies have been completed on adults, children, toddlers and infants to test its safety.

To determine a safe dosage and identify side effects, 75 healthy New Zealand adult volunteers were given three doses of the vaccine at six weekly intervals.

Each participant had a blood test several weeks after the vaccination. Antibodies were measured against the meningococcal bacteria to reveal whether the vaccine works.

Results have shown a good antibody response.

The trial groups became larger to find more antibody and safety information.

The results of these groups has been encouraging.

Currently studies are being carried out with young infants aged six to ten weeks who have a high risk rate of contracting meningococcal disease. They are trying to find the earliest

possible protection. Babies receive the vaccine at the same time as other six-week injections, and then given follow-up injections at three months and five months.

After being given the vaccine, participants are closely monitored for 30 minutes, and then contact is kept for the next seven days.

There is also a 24-hour 0800 number available for families who have any concerns.

Once all the studies have been completed, the meningococcal B team hope to start the national programme mid-2004.

Primary, intermediate and secondary school students will be vaccinated in a school-based programme while children under five will be vaccinated by their doctors.

Results from the adult trial show the vaccine is safe, and good for the development of antibodies to protect against the disease.

Dr Sharon Wong, a doctor involved with the meningococcal B project team, says the side-effects are small and tolerable.

"All the side effects are local, at the sight of the injection, such as slight pain during the injection, redness, and slight swelling."

The first stage of the campaign will cover the Counties Manukau District Health Board area and the eastern area of the Auckland District Health Board.

Dr Wong says that the programme will start in the Manukau area because that's where the majority of meningococcal B cases occur.

The *Quality of Life in New Zealand's Six Largest Cities* report (2001) and the *Social Report* (2003) show a strong relationship between health status and socio-economic factors such as population growth, ethnicity, age structure, employment, income, and housing conditions.

Manukau is experiencing rapid population growth and is expected to surpass Christchurch as New Zealand's second largest city by 2013.

Much of this growth can be attributed to a large and rapidly increasing population of Maori and Pacific Island people.

It is predicted that from 1996 to 2016 there will be a 56 percent

increase of Pacific Islanders in Manukau, and the Maori population is expected to increase by 41 percent.

The predicted growth of Manukau reflects the high proportion of young people in Maori and Pacific Island communities.

Manukau has the largest proportion of under-19-year-olds in New Zealand.

Maori and Pacific Island families in Manukau, meningococcal disease has been most destructive to children and adolescents.

The highest numbers of meningococcal B cases occur in babies under one year of age.

In South Auckland, which is home to around 10 percent of New Zealand's children, most hospitalisations happen in early childhood.

The tendency for Maori and Pacific Islanders to experience high unemployment, low wages, low education

and overcrowded housing puts them at higher risk of infectious diseases such as tuberculosis and meningitis than any other ethnic group in New Zealand.

Manukau suburbs Otara and Mangere, which have a large population of Maori and Pacific Islanders, are some of the most deprived areas in New Zealand.

The high deprivation and low living standards of these areas can be seen in unemployment and income statistics.

In 2002 the unemployment rate was at 9.2 percent for Pacific Island people and 11.3 for Maori. The Pakeha unemployment rate stood at just 3.8 percent.

In 1996 Manukau had the highest percentage of families (with children) earning less than 60 percent of the

median family income out of the six largest New Zealand cities.

Overcrowded housing — a significant outcome of deprivation — is related to poor health status, especially skin infections and respiratory disease.

Cases of children developing meningitis are concentrated in areas with overcrowded housing.

Manukau's rate of households with two or more families was in 1996 three times greater than the rest of New Zealand.

Areas with high numbers of Maori and Pacific Island people have tended to have high instances of household crowding.

Although household crowding has not caused the meningitis epidemic in New Zealand, it has intensified the disease's impact on Maori and Pacific Island people.

Other factors that link high disease rates and high deprivation in South Auckland are smoking, poor nutrition and access to primary healthcare.

Socio-economic reasons mean New Zealand's devastating meningococcal B problem is amplified in Manukau.

On the frontline in the battle against the disease, South Auckland has armed itself with the Youth Interagency project, the Healthy Housing project and Chiron's immunisation plan.

Whether the immunisation plan takes place depends on the results of the vaccine trial, but at this stage success rates are encouraging.

New Zealand's epidemic is far from over, but there's a fight in Manukau to ensure New Zealand children enjoy a meningococcal B-free future.

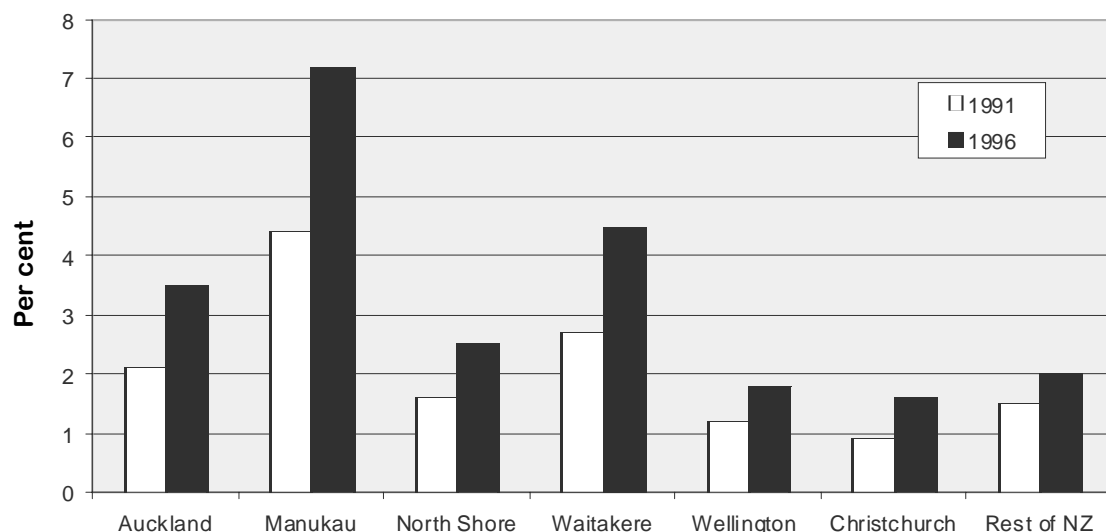


CAMPAIGN: These posters aim to show young kids how the disease is spread

"Overcrowding may be a contributing factor to infectious diseases."

"Socio-economic reasons mean New Zealand's devastating meningococcal B problem is amplified in Manukau."

Per cent of households with two or more families residing in one house (by city 1991 and 1996)



OVERCROWDED: A new study shows how Manukau households are more likely to be overcrowded.