# Pacific Health Review

### **Making Education Easy**

Issue 21 - 2014

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#### Abbreviations used in this issue

APSGN = acute post-streptococcal glomerulonephritis CPAP = continuous positive airway pressure OSA = obstructive sleep apnoea SLE = systemic lupus erythematosus

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### Kia orana, Fakalofa lahi atu, Talofa lava, Malo e lelei, Bula vinaka, Taloha ni, Kia ora, Greetings.

### Welcome to Pacific Health Review.

I am pleased to introduce this twenty first edition of Pacific Health Review. We have included recent publications covering a range of important topics for Pacific health. The studies about gout, obstructive sleep apnoea and thyroid cancer, highlight the significant impact of Long Term Conditions (LTCs) on the health of our communities. While the commentary on the alcohol study concludes that prevention is better than cure, the three studies on the LTCs show the importance also of access to quality health care and especially primary health care in mitigating the impact of these conditions.

The studies and commentary on post-streptococcal glomerulonephritis and staph aureus are a reminder that infectious diseases are still an important contributor to poor health outcomes for Pacific people, especially for our most vulnerable children. Government's sore throat campaign for rheumatic fever which includes Pacific community awareness raising, early access to primary care and initiatives which address housing will also contribute to addressing the causes of these infectious diseases.

I am also pleased to note the number of Pacific front-line clinicians and students involved in providing the commentaries and engaged in the research publications covered in this edition. Although Pacific people make up less than 3% of the health professional workforce and an even smaller proportion of the health research workforce, this workforce is important for maintaining a focus on Pacific health, bringing an understanding of the worldviews and lived realities of Pacific people which impact on access and effective engagement with health care and applying this knowledge to new models of research and health care delivery that is more effective for Pacific peoples. The Ministry's Aniva workforce development initiatives promoted in this publication are an important mechanism for growing and supporting a Pacific workforce. Please pass this information on to those who may be interested in applying.

I would like to acknowledge all our contributors to this edition and offer a big thank you our readers who have provided feedback in the past. We welcome your comments.

Best wishes and manuia le kerisimasi

#### Hilda Fa'asalele Chief Advisor

Pacific Health Improvement Team Sector Capability and Implementation I Ministry of Health

Dr Debbie Ryan, Principal Pacific Perspectives, selected the articles and coordinated the commentaries for this edition.



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### Pacific Health Review

### Variation in gout care in Aotearoa New Zealand: a national analysis of quality markers

#### Authors: Jackson G et al.

**Summary:** The Health Quality and Safety Commission's Atlas of Healthcare variation (<u>www.hgsc.govt.nz/atlas</u>) shows that on average 41% of people with gout across New Zealand are regularly prescribed allopurinol. However, there is marked nationwide variation, with regular use of allopurinol ranging from 33% among people residing in the Auckland District Health Board (DHB) area to 47% in Nelson-Marlborough. These researchers sought to determine whether the quality of gout care varies in Aotearoa New Zealand primary care, using data from the New Zealand Atlas of Healthcare Variation to examine regularity of allopurinol dispensing, laboratory testing for serum urate, and acute hospitalisation for gout. For New Zealanders aged 20–79 years with gout, 57% were dispensed allopurinol in 2010/11. Of these, 69% were receiving allopurinol regularly, and only 34% of people dispensed allopurinol had serum urate testing in a 6-month period. The annual hospitalisation rate was 1% of people with gout. Māori and Pacific people with gout were less likely to be on regular allopurinol treatment, despite having more than twice the chance of being hospitalised with acute gout.

**Comment (Dr Api Talemaitoga):** This article highlights that systemic issues underpin variation in quality of care of patients with gout. Although Māori and Pacific patients have the highest rates of gout, they were less likely to be on regular allopurinol for prevention. Not surprisingly, Māori and Pacific patients had rates of hospitalisation 2½ times that of the non-Māori, non-Pacific population and experienced more acute flare-ups and pain, more days off work due to gout, and were more likely to suffer long-term problems. The authors make the point that the DHB with the highest rate of regular allopurinol prescribing was Nelson Marlborough, a DHB with a relatively low population of Māori and Pacific peoples.

*Reference: N Z Med J. 2014;127(1404):37-47* Abstract

#### Contributors to this issue: Dr Api Talemaitoga, Dr Sunia Foliaki, Jesse Kokaua, Dr Lisi Petaia, Ma'ukakala 'Ofa, Dr Corina Grey

Dr Api Talemaitoga is a GP who works as the Clinical Lead for Rheumatic Fever Prevention for the Alliance Health Plus PHO and also works as a GP in Christchurch and South Auckland. Api previously worked as the Clinical Director Pacific Health at the Ministry of Health.

Dr Sunia Foliaki is a Research Fellow at the Centre for Public Health Research, Massey University.

Jesse Kokaua is a Research Fellow currently working for The Pacific Islands Research and Student Support Unit in the Health Sciences Division of the University of Otago.

Leota Dr Lisi Kalisi Petaia is a Consultant Psychiatrist at MIddlemore Hospital, Counties Manukau DHB.

Ma'ukakala 'Ofa works as the Clinical Nurse Specialist for Sleep at the Respiratory Service in the Greenlane Clinical Centre, Auckland District Health Board.

Dr Corina Grey is a Research Fellow of Epidemiology and Biostatistics at the University of Auckland.



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### Management of gout in a South Auckland general practice

Authors: Reaves E, Arroll B

**Summary/Comment (Dr Api Talemaitoga):** This paper is important, as it raises the discussion about a common, treatable and preventable ailment that affects Māori and Pacific men more often and at a younger age than men in other ethnic groups. Furthermore, the prevalence of gout is higher among older Māori and Pacific women (i.e., aged over 50 years) than their European counterparts. It is also known that Māori and Pacific populations have a genetic predisposition to the development of hyperuricaemia and gout.

The impact of this disease is substantial: gout is a significant cause of hospital admissions and referral to rheumatology clinics. Not surprisingly, the impact of gout upon work and income is huge. Gout attacks are preventable with the use of allopurinol (urate-lowering therapy).

This clinical audit evaluated registered patients at a South Auckland primary care clinic who had a history of gout or who had been prescribed allopurinol or colchicine in the 2-year period from 6 November 2010 to 6 November 2012, inclusive. The audit findings were compared to those of a similar audit performed in 2009 at this South Auckland practice, to determine whether control of gout had improved over time. The present study also assessed cardiovascular risk factor management, in view of findings from another recent study, in which 59% of patients with gout in CMDHB have an increased risk of a cardiovascular event within the next 5 years. These findings suggest an association between gout and cardiovascular risk factors.

A total of 196 patients qualified for inclusion in the audit: 9.5% of men in the practice population were found to have gout. Furthermore, 94% (60/64) of the women with gout were aged over 50 years, but Māori women were on average 11 years younger than their European counterparts.

Results of the audit showed that despite the majority of patients being diagnosed with gout, 5.1% (10/196) had no record in their notes of having ever had serum uric acid measurements. Moreover, the mean serum uric acid level of patients with gout in the practice had risen significantly in comparison with the 2009 audit. In addition, 36% (68/189) of the sample population had a high or very high risk of cardiovascular disease (as assessed by cardiovascular risk scores calculated using a formula based on the Framingham equation).

Following the audit, it was proposed that patients with gout should undergo annual measurement of serum uric acid level as part of primary care management of gout. It was agreed that this practice would help to predict the likelihood of future gout attacks and result in the commencement of uratelowering therapy, allow for the opportunity to assess patient adherence to medication, and improve health literacy skills amongst patients and increase their awareness of the need for long-term medication and how to manage gout as a chronic condition.

Lessons learnt from this audit include the following:

- Gout continues to be poorly controlled.
- Allopurinol dosing remains suboptimal, as only half of the patients recently prescribed allopurinol achieved the target serum uric acid level.
- The importance of completing cardiovascular risk assessment as a part of gout treatment management, as 36% of patients had a high or very high risk of cardiovascular disease.
- The importance of recognising the impact of poorly controlled serum uric acid levels and gout attacks upon the physical and economic well-being of patients and their families, as well as its implications for the future financial burden on the health care system.

Reference: J Prim Health Care. 2014;6(1):73-8 Abstract

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**Disclaimer:** This publication is not intended as a replacement for regular medical education but to assist in the process. The reviews are a summarised interpretation of the published study and reflect the opinion of the writer rather than those of the research group or scientific journal. It is suggested readers review the full trial data before forming a final conclusion on its merits.

### Thyroid cancer in Pacific women in New Zealand

Authors: Meredith I et al.

Summary: These researchers linked New Zealand Cancer Registry and Census data to calculate incidence rates of thyroid cancer, by age, between 1981 and 2004 with a particular focus on Pacific women living in New Zealand. Rates were higher for women than men; the highest rates were observed amongst Pacific women: 18.5 per 100,000 versus 8.3 per 100,000 for Māori and 5.2 per 100,000 for European/Other women. Age-standardised rate ratios (SRR) among women by ethnicity (standardised to the 2001 WHO world population) revealed a pooled SRR across time for Pacific compared to European/Other females of 3.58. Risk was highest for Pacific women aged  $\geq$ 45 years. Pooled standardised incidence rates (SR) for Pacific, Maori and European/Other men were 2.7/100,000 versus 3.2/100,000 and 2.2/100,000, respectively. Over the time period, European/Other women experienced a 73% increase from 4.0/100,000 in 1981-1986 to 6.9/100,000 in 2001-2004 (Ptrend=0.05). There was no apparent trend for Pacific women, although the paper acknowledges the low statistical power of the analysis for detecting any trend for Pacific people.

Comment (Dr Sunia Foliaki): Two things immediately caught my attention with the "Thyroid cancer in Pacific women in New Zealand" publication (and their previous recent publications on Pacific cancers). The first being what I hope are positive signs that positions may be changing in that when it comes to minority populations there is no longer a lack of prioritisation or interest in 'counting cancers' among the many demands for the health dollar. The paper contributes to the attempts to make ethnic population cancer burdens and registries heard. It is also in line with the WHO recommendation that among the indicators for the fight against NCDs is to record "cancer incidence, by type per population" and a cornerstone for cancer control. Cancer so far has been outshone by the 'popular and wellfunded' NCDs (diabetes, cardiovascular) yet accounts for a significant share of mortality and morbidity among Pacific populations. Knowing what to measure is fundamental but the more difficult task of how it should be done has also been well executed as well as educational.

Secondly, the hypothesis put forward of high iodine intake among children with outcomes decades later does indeed open up interesting areas for further research discussions, especially with biomarkers of prior exposure, particularly during sensitive developmental windows (do effects and selected agents related to thyroid cancer differ depending on the window of exposure, as is the case with oestrogens?), that will be important to identify exposures that may have been transient, yet may have enduring effects or even generational effects. Are these effects permanent or can they be overcome and if so, how? Not only for thyroid cancer but for other cancers and NCDs.

Reference: N Z Med J. 2014;127(1395):52-62 Abstract

## Pacific peoples three months after injury: a comparison of outcomes between Pacific and non-Pacific participants in a NZ cohort study

#### Authors: Mauiliu M et al.

**Summary:** Data were analysed from 2856 New Zealand residents aged 18–64 years referred to the Accident Compensation Corporation's (ACC's) injury entitlement claims register. The analysis evaluated pre-injury and injury-related characteristics of Pacific (n=239) and non-Pacific (n=2611) participants and compared their outcomes three months after injury.

**Comment (Jesse Kokaua):** The principal author of this paper, Melbourne Mauiliu, is a second year medical student at the University of Otago. This paper is the first of two intended papers from her Master's in Public Health that she completed last year. This is an important paper as it extends previous work on pre-injury and health outcomes amongst Pacific peoples, through to post-injury health outcomes. It provides an insight into the health status of Pacific peoples who have suffered an injury that has required them to seek compensation from the ACC. As the authors have pointed out, this study includes only injuries to adults referred to the ACC claims register. That said, with few quality quantitative studies on health outcomes for Pacific peoples following their injury, this paper fills a gap in research knowledge in this area.

The abstract reports that, compared with non-Pacific recipients at three months post-injury, Pacific claimants were 22% more likely to be more disabled, 14% more likely to have problems with self-efficacy, 19% more likely to experience problems with anxiety and/or depression and 12% more likely to be dissatisfied with social relationships. These outcomes remain significant after taking into account differences in sociodemographic and even injury-related factors.

The paper also points out that unadjusted comparisons show Pacific claimants had poorer cognitive function, psychological distress and were 19% less likely to be in paid employment at three months post-injury. While these differences can be explained by external factors, it is important to note that these are also more prevalent in ACC's Pacific claimant cohort.

Reference: Aust N Z J Public Health. 2013;37(5):463-9

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Abstract

### Alcohol consumption by parents of Pacific families residing in New Zealand: findings from the Pacific Islands Families Study

#### Authors: Schluter PJ et al.

**Summary:** The Pacific Islands Families (PIF) Study used the Alcohol Use Disorders Identification Test consumption questions (AUDIT-C) over successive measurement waves to define any and harmful drinking levels among mothers and fathers in an ethnically representative sample of Pacific families within New Zealand. Participants were selected from births where at least one parent was identified as being of Pacific ethnicity and a New Zealand permanent resident (1376 mothers and 825 fathers at baseline); many of whom are young to middle-aged adults. A total of 9.1% (14.1% in imputed analyses) of Pacific children aged 2 years had both parents indicated for harmful drinking.

**Comment (Dr Lisi Petaia):** "Alcohol", a legal drug favoured by many New Zealanders, can cause more HARM than all illegal drugs combined. Any research to further our understanding about the problem and how to address its devastating effects on individuals, families and the community is welcomed. New Zealand has a very heavy drinking culture. From the literature, about 25% of New Zealand drinkers are heavy-drinkers, approximately 700,000+ people. About 80% of crime occurs under the influence of alcohol. Half of serious violent crimes relate to alcohol, with over 300 alcohol-related offences daily and over 70,000 alcohol-related physical and sexual assaults every year. Up to 3000 children are born each year with Foetal Alcohol Spectrum Disorder (FASD), carrying a high risk of behavioural and learning difficulties and of developing alcohol and drug addiction as adults. People with alcohol disorders have significant mental health problems. Poorer communities experience disproportionately higher levels of alcohol-attributable harm.

The overall cost is massive. We need a "Whole of Government" and "Whole of Community" approach to tackle this COMPLEX problem. The industry is held important by many national economies. Wine was the European Union's highest export in 2008 to 2010 at 4.6 billion euros. Revenues through taxes by breweries, consumers and employees yielded a combined total of around 38 billion. Thus, alcohol reform programs are threatening to government revenues. However, we should take into account the greater cost(s) of harmful alcohol usage.

The Royal Australia New Zealand College of Psychiatrists (RANZCP) in its pre-election submission (September 2014) to political party leaders to identify mental health care priorities for the next government emphasised: "There is no health without mental health". Five of the six key issues relate to Pacific people. Regarding alcohol, the RANZCP recommends limiting retail outlets; raising the buying age to 20 years; price increases; reducing of retail hours; and restricting the advertising and marketing of alcohol.

For our Pacific families, the cliché "PREVENTION IS BETTER THAN CURE" is the most pragmatic, sensible and costeffective way to go. There is evidence that what parents do in raising their children impact on the children's risk for a whole range of mental health problems later in life. Young age consumption and low parental monitoring are associated with increased risk of alcohol misuse. A positive protective parental strategy is spending quality time with children and trying to delay that first alcoholic drink for as long as possible.

Reference: Alcohol. 2013;47(3):241-8 Abstract

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### Continuous positive airway pressure treatment for obstructive sleep apnoea: Māori, Pacific and New Zealand European experiences

### Authors: Bakker JP et al.

**Summary:** This paper describes Māori, Pacific and New Zealand European experiences of continuous positive airway pressure (CPAP) treatment for obstructive sleep apnoea (OSA).

Patients identifying as Māori (n=5), Pacific (n=5), or NZ European (n=8) ethnicity referred for CPAP treatment for OSA attended separate, 1.5-hour group discussions facilitated by a health care worker of the same ethnic group. All participants identified barriers to treatment (both at the CPAP initiation phase and long-term), reported feelings of being 'overwhelmed' with information during the initial CPAP education session, and discussed the importance of successful role models.

**Comment (Ma'ukakala 'Ofa):** OSA is a significant disorder that is underdiagnosed among Pacific families and Pacific communities. Reasons for underdiagnosis include the lack of awareness of the condition in Pacific communities, as shown by the findings of this study, in which patients from all three groups reported that they had little knowledge of OSA or CPAP prior to treatment initiation. Health professionals also lack knowledge about the prevalence of the condition in Pacific people.

Research is required to document the rates of OSA and the consequent problems among Pacific communities. Such research will contribute to developing policy, programmes and appropriate models of care that meet the needs of Pacific people with OSA.

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#### Practice issues

- In my experience, most OSA patients are unaware that they suffer from OSA and clinicians may misdiagnose or ignore the symptoms. OSA is usually diagnosed when people present with long-term conditions, e.g., diabetes and cardiac problems.
- There is significant opportunity to improve outcomes by diagnosing OSA earlier in primary care. I believe a good place to start is a small study about educating clinicians on how to diagnose OSA earlier. For example, overnight oximetry is a screening test for OSA that can be done in the patient's home by primary care providers. This investigation provides important information in support of referral to the sleep service for further investigation (depending on the severity of the signs and symptoms of each individual patient).
- There is a need to make information available to Pacific communities that includes the definition of OSA, description of the pathophysiology and precipitating factors associated with their symptoms and potential treatments.
- Information about OSA in Pacific languages and tailored for the needs of specific ethnic groups needs to be made available through primary care providers. My experience is that when a Tongan patient has CPAP treatment, it is very important that the patient's families are involved and participate in the management of the treatment. Families live in communities, and increased community awareness is also required. For example, a Tongan Support Group I have been involved with did not understand their condition initially but as their understanding increased, so did adherence to therapy. These patients found visual aids useful. We have run nurse-led clinics in community settings that are more effective in supporting people with OSA than clinicbased initiatives.
- The cost of treatment of OSA is a barrier for many patients. While DHBs may loan CPAP machines, the patients are required to pay for the accessories of their treatment, for example, use of a mask can cost approximately \$200 to \$250. Primary care providers may not be aware that people can access MSD subsidies to cover these costs.

Reference: J Prim Health Care. 2014;6(3):221-8 Abstract



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### NANANANANANANANANANANANANANANANANANAN

### Prospective population-based study on the burden of disease from poststreptococcal glomerulonephritis of hospitalised children in New Zealand: epidemiology, clinical features and complications

### Authors: Wong W et al.

Summary: Outcomes are reported from this nationwide New Zealand study of epidemiology and clinical features of acute poststreptococcal glomerulonephritis (APSGN) in children hospitalised with the illness. Paediatricians (n=215) were requested to report new hospitalised cases fulfilling a case definition of definite (haematuria with low C3 and high streptococcal titres or biopsy-proven APSGN) or probable (haematuria with low C3 or high streptococcal titres). Among the 176 identified cases (definite: n=138, probable: n=38), 63% resided in the Auckland metropolitan region. The majority (67%) were in the most deprived quintile. Annual incidence (0-14 years) was 9.7/100,000 (Pacific 45.5, Māori 15.7, European/Other 2.6 and Asian 2.1/100,000). Annual incidence was highest in the South Auckland Metropolitan region (31/100,000), Central Auckland 14.9, West/ North Auckland metropolitan region 5.9 and for the remainder of New Zealand 5.5/100,000. The highest age-specific incidence was in the 5-9-year cohort (15.1/100,000). Hospitalisation for APSGN was accompanied by significant complications including reduced serum complement C3, gross haematuria, hypertension, impairment of renal function and heavy proteinuria (in 93%, 87%, 72%, 67% and 44% of patients, respectively). Severe hypertension was closely associated with either symptoms of an acute encephalopathy or congestive heart failure.

**Comment (Dr Corina Grey):** In this study, Pacific children had the highest rates of acute APSGN, an acute kidney injury that is preceded by Group A  $\beta$ -haemolytic streptococcal infections of the throat or skin. Pacific children with APSGN in this study were more likely to have a history of sore throat rather than impetigo, unlike Māori and European children, who reported sore throats and skin infections with roughly equal frequency. While Pacific children make up 9% of the New Zealand population aged 15 years or younger, they comprised 44% of all paediatric cases of APSGN reported over the two-year study period. Annual incidence rates for Pacific children were 45.5 per 10,000 nationally and 55.5 per 10,000 in the Auckland metro region, almost 18 times higher than European children. European children in New Zealand have rates of APSGN that are 10 times higher than rates in other developed countries, which means that Pacific children in New Zealand have – shockingly – rates of APSGN that are up to 180 times higher than children of similar nations.

The reasons for these ethnic disparities, as with other conditions, are likely to be multifactorial. However, the association between the development of APSGN and socioeconomic deprivation cannot be ignored. Children living in the lowest socioeconomic quintile accounted for over two-thirds of cases in this study. Overcrowding, also linked to deprivation, was also cited by the authors as a means of increasing transmission of infection leading to APSGN. The authors recommend combating these high rates of disease through a primary prevention programme aimed at improving access to healthcare, with aggressive treatment of sore throats and impetigo. The development of effective vaccines against Group A streptococcus will hopefully lead to significant reductions in the rates of APSGN, as well as rheumatic fever, a related condition that also disproportionately affects our Pacific children.

J Paediatr Child Health. 2013;49(10):850-5 Abstract

### The incidence, diagnostic clinical manifestations and severity of juvenile systemic lupus erythematosus in New Zealand Maori and Pacific Island children: The Starship experience (2000–2010)

Authors: Concannon A et al.

**Summary:** Medical records were reviewed for all children with juvenile systemic lupus erythematosus (SLE) seen by the Starship paediatric rheumatology and/or renal services between January 2000 and November 2010. The study aimed to describe the incidence, diagnostic clinical manifestations and severity of juvenile SLE according to ethnicity (European, Māori or Pacific).

**Comment (Dr Corina Grey):** A previous New Zealand study has reported that the incidence of SLE is 3.5 times higher in Pacific compared to European adults. The results of this study, the first to examine the incidence of juvenile SLE in New Zealand, seem to reflect this, with Pacific children having a higher rate of SLE than Europeans (0.80 per 100,000 compared to 0.31 per 100,000). And like adults with SLE, a higher proportion of Pacific children were diagnosed with lupus nephritis with high-grade renal lesions compared to European children (80% vs 40%). The numbers were very small – over the 10-year study period, only 32 new cases of juvenile SLE were reported, 7 of whom were Pacific children, so most of the results did not reach statistical significance. However, it does appear that SLE does disproportionately affect both Pacific adults and children, with important renal consequences for those involved. Despite this, it is important to remember that SLE is essentially still a rare condition for Pacific people, especially children, and other conditions, both communicable and non-communicable, cause far more morbidity.

*Reference: Lupus. 2013;22(11):1156-61* Abstract

### *Staphylococcus aureus* infections in New Zealand, 2000–2011

#### Authors: Williamson DA et al.

**Summary:** These researchers describe the trends, incidence and patient demographics of all *Staphylococcus aureus* infections recorded by the Auckland District Health Board between 2001 and 2011. The paper also compares the epidemiology of methicillin-susceptible *S. aureus* (MSSA) and methicillin-resistant *S. aureus* (MRSA) infections.

**Comment (Dr Corina Grey):** Over the 12-year study period, 61,522 cases of *Staphylococcus aureus* infection (skin and soft tissue infections, pneumonia and sepsis) were admitted to hospital, with roughly a 5% increase in the rate of skin and soft tissue infections each year. Skin and soft tissue infections were the most common type of Staph infection (108 per 100,000 per year), followed by sepsis (14 per 100,000) and pneumonia (4 per 100,000). The incidence of all three types of infection was highest among Pacific people, who had a five-fold higher likelihood of hospitalisation for skin infection than Europeans. It should be noted that the infections reported here were only in hospitalised cases, which represent the more severe end of the spectrum of Staph infections. The burden of disease related to Staph infections in the community is likely to be much higher.

Deprivation was also highly associated with hospitalisation, with those living in the most deprived areas of New Zealand having a four-fold higher chance of hospitalisation. Poverty and household crowding, which are intimately linked, particularly for Pacific people, are likely to be major drivers of these high rates of infection. And while improving access to healthcare may help reduce rates of hospitalisation, the overall goal should be to address disparities in the broader social and economic determinants of health.

Reference: BMC Infect Dis. 2013;13:569 Abstract



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