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### Abbreviations used in this issue

<b>BMI</b>	= body mass index
<b>BP</b>	= blood pressure
<b>CVD</b>	= cardiovascular disease
<b>HBV</b>	= hepatitis B virus
<b>HR</b>	= hazard ratio
<b>OR</b>	= odds ratio

## Asian Health Review

### Independent commentary by Professor Elsie Ho.

Associate Professor Elsie Ho is Director of Population Mental Health and Director of the Centre for Asian and Ethnic Minority Health Research at the School of Population Health, the University of Auckland. Her major research interests are in the areas of migration, diversity and Asian health and wellbeing. She has a firm commitment to developing inclusive societies that value diversity and optimise human potential and resources.



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## Welcome to the sixth issue of Asian Health Research Review.

The population of Asian ethnic groups in New Zealand has increased considerably over recent decades. Their health issues, sources of resilience and diverse experiences are relevant to the communities involved as well as service providers and wider society. Asian Health Research Review is a unique New Zealand publication bringing you the latest research on the health and wellbeing of Asians in New Zealand together with local commentary.

As I complete final touches to this last review for 2013, I am looking forward to the prospect of time with family enjoying the festive season – which means lots of cooking, eating and relaxing – both in New Zealand and during a part-holiday/part-work time in Sri Lanka. So I hope we won't be spoiling your summer by drawing attention to the thorny issue of chronic diseases partly linked to over-nutrition (also known as over-eating!) in this issue. The research presented suggests the issues are not straightforward but raises the bar for more attention to this topic within our communities and by policy and researchers. But it's not all about hearts and strokes: we have a few other tantalising topics to whet your appetite.

I'd like to thank Associate Professor Elsie Ho for contributing again to this review. We both wish you and your families the very best for the festive season and holidays and wish you a Very Happy and Peaceful New Year!

We look forward to receiving any feedback you may have.

Kind Regards,

**Professor Shanthi Ameratunga**

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## Increasing primary antibiotic resistance and ethnic differences in eradication rates of *Helicobacter pylori* infection in New Zealand – a new look at an old enemy

**Authors:** Hsiang J et al.

**Summary:** This single centre prospective NZ study investigated the prevalence, primary antibiotic resistance and eradication rate with standard triple therapy of *Helicobacter pylori* infection in South Auckland in a cohort of patients recruited from the Counties Manukau District Health Board Endoscopy service. Approximately 600 consecutive patients who underwent gastroscopies between February and October 2012 were included. The prevalence of *H. Pylori* among the different ethnic groups in the study was as follows: 7.7% among Europeans; 34.8% among Māori; 31.3% among Pacific People and 23.8% among Orientals. Antibiotic susceptibility testing among 593 patients revealed metronidazole resistance in 49.3% of isolates, clarithromycin resistance in 16.4% and moxifloxacin resistance in 9.5%. None showed tetracycline resistance. Māori, Pacific People and Orientals exhibited clarithromycin resistance  $\geq 15\%$ . During the period 1999 to 2012, metronidazole and clarithromycin resistance have increased from 32.7% to 49.3% ( $p = 0.011$ ) and 7% to 16.4% ( $p = 0.021$ ), respectively. In ethnic groups where clarithromycin resistance was  $< 15\%$ , the eradication rate (intention to treat) with standard omeprazole, amoxicillin and clarithromycin therapy was 85.7% versus 64.9% in groups where clarithromycin resistance was  $\geq 15\%$  ( $p = 0.024$ ).

**Comment (Shanthi):** The topic of *H. pylori* may sound like an esoteric study only relevant to lab gurus – but it isn't! To prove this point, Barry Marshall – a highly curious Australian physician/microbiologist – embarked on a remarkable self-experiment in 1984 where, disheartened by the lack of attention to his pet hypothesis, he swallowed *H. pylori* grown in a laboratory dish, and within a matter of days, his previously normal stomach changed to one with severe gastritis, as shown by gastroscopies and biopsies. The point was proved but the experiment caused a huge uproar.... Scientists are not generally expected to act this way! But the findings changed the world view of ulcer disease. *H. pylori* was implicated in most cases of chronic gastritis and peptic ulcer disease, overturning decades of belief that ulcers are primarily caused by stress and spicy or acidic food. Some Asian people are more likely to have stomach ulcers and related cancers. The study by Hsiang and colleagues (no ethical violations here!) indicates that 'Orientals' in South Auckland are also more likely to be resistant to some of the drugs used as first-line therapy, making it more likely they will not respond to standard treatment for *H. pylori*. The authors appropriately recommend greater attention to this issue and changes to PHARMAC policy to ensure alternative treatment options are accessible when required.

P.S. Marshall and his colleague Robin Warren were awarded the Nobel Prize for Medicine in 2005 for their re-discovery of *H. pylori*, 30 years after their 'foolhardy' and 'irresponsible' experiment!

**Reference:** *N Z Med J.* 2013;126(1384):64-76

<http://journal.nzma.org.nz/journal/abstract.php?id=5866>

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Midwifery Research Review is a new publication that contains a selection of recently published papers on research important to midwifery practise. Expert commentary is provided by Jackie Gunn who has been involved in leadership of midwifery education at AUT University for more than two decades.

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## Country of birth and other factors associated with hepatitis B prevalence in a population with high levels of immigration

**Authors:** Reekie J et al.

**Summary:** This study systematically collected population-level prevalence data on hepatitis B virus (HBV) among 523,665 Australian women giving birth between January 2000 and December 2008. Among these women there were a total 3861 HBV notifications, giving an age-standardised HBV prevalence of 0.75% (95% CI 0.72-0.79). Women born in Cambodia, Taiwan, Vietnam, China and Tonga exhibited the highest HBV prevalence rates; 8.60%, 8.10%, 7.49%, 6.80% and 6.51%, respectively. Among Australia-born women, those who were from a more disadvantaged socioeconomic background, lived in remote areas, and smoked during pregnancy were more likely to have HBV.

**Comment (Elsie):** Despite the low prevalence of hepatitis B in the Australian population as a whole, this study shows that prevalence rates can vary substantially among people from different countries of birth. However, the study cannot explain why mothers born in North East Asia and South East Asia were significantly more likely to have hepatitis B than mothers born in other regions. There is also a lack of research examining hepatitis B prevalence rates among immigrants and their prevalences in their countries of origin. Studies to identify the key migrant groups in NZ with high prevalence rates of hepatitis B would be of interest.

**Reference:** *J Gastroenterol Hepatol.* 2013;28(9):1539-44  
<http://onlinelibrary.wiley.com/doi/10.1111/jgh.12245/abstract>

## Prevalence and control of diabetes in Chinese adults

**Authors:** Xu Y et al.

**Summary:** These researchers undertook a cross-sectional survey in a nationally representative sample of 98,658 Chinese adults in 2010 in order to determine the prevalence of diabetes and glycaemic control in the Chinese adult population. Fasting plasma glucose and haemoglobin A1c levels were measured and a 2-hour oral glucose tolerance test conducted among participants without a self-reported history of diagnosed diabetes. The overall prevalence of diabetes (2010 American Diabetes Association criteria) was estimated to be 11.6% (95% CI 11.3%-11.8%); prevalence among men 12.1% (95% CI 11.7%-12.5%) and among women 11.0% (95% CI 10.7%-11.4%). Previously diagnosed diabetes was estimated to have a prevalence of 3.5% (95% CI, 3.4%-3.6%) in the Chinese population: 3.6% (95% CI 3.4%-3.8%) in men and 3.4% (95% CI 3.2%-3.5%) in women, while undiagnosed diabetes was estimated to have a prevalence of 8.1% (95% CI 7.9%-8.3%); 8.5% (95% CI 8.2%-8.8%) in men and 7.7% (95% CI 7.4%-8.0%) in women. The prevalence of pre-diabetes was estimated to be 50.1% (95% CI 49.7%-50.6%); 52.1% (95% CI 51.5%-52.7%) in men and 48.1% (95% CI 47.6%-48.7%) in women. Older patients, urban residents and those living in economically developed regions exhibited a higher prevalence of diabetes. Only 25.8% (95% CI 24.9%-26.8%) of diabetes sufferers received treatment for their diabetes and only 39.7% (95% CI 37.6%-41.8%) of those patients experienced adequate glycaemic control (haemoglobin A1c level <7.0%).

**Comment:** See below.

**Reference:** *JAMA.* 2013;310(9):948-59

<http://jama.jamanetwork.com/article.aspx?articleid=1734701>

## Prevalence of metabolic syndrome and its influencing factors among the Chinese adults: The China Health and Nutrition Survey in 2009

**Authors:** Xi B et al.

**Summary:** The prevalence of metabolic syndrome and its influencing factors among 7488 Chinese adults was investigated in this study using data from the cross-sectional China Health and Nutrition Survey conducted in 2009. Based on definitions of the revised National Cholesterol Education Program's Adult Treatment Panel III report (NCEP ATPIII), International Diabetes Foundation (IDF) and Chinese Diabetes Society (CDS) criteria, the overall age-standardised prevalence estimates of the metabolic syndrome were 21.3% (95% CI 20.4%-22.2%), 18.2% (95% CI 17.3%-19.1%) and 10.5% (95% CI 9.8%-11.2%), respectively. The following groups were more likely to have a higher prevalence estimate of metabolic syndrome; women (OR 1.37; 95% CI 1.16-1.61); those aged ≥40 years (40-59 year olds OR 2.82 [95% CI 2.37-3.34]; ≥60 year olds OR 4.41 [95% CI 3.68-5.29]), those who were overweight or obese (overweight OR 4.32 [95% CI 3.77-4.95]; obese OR 11.24 [95% CI 9.53-13.26]), and those living in urban areas (OR 1.27; 95% CI 1.12-1.43). Cigarette smoking and alcohol consumption were also found to be significantly associated with the probability of metabolic syndrome.

**Comment (Elsie):** Results from the latest census show that the Chinese population in New Zealand continues to increase, reaching 171,000 in 2013, an increase of 16.5% since 2006. These two studies from China are a good reminder of the need to pay attention to the growing health concerns of obesity and obesity-related diseases such as diabetes and cardiovascular diseases for the NZ Chinese population. The study by Xu et al. of the 2010 China Noncommunicable Disease Surveillance Group provides the updated information on the prevalences of diabetes, undiagnosed diabetes and prediabetes in China. The findings indicate that China is now among the countries with the highest prevalence of diabetes in Asia. The study also found that diabetes awareness and treatment rates among patients with diabetes are low, and that the prevalence of prediabetes among Chinese adults is very high. The study by Xi, He, Hu & Zhou show that the prevalence of metabolic syndrome is also high among Chinese adults, especially in women, older people, and those living in urban regions and obese populations. In NZ, the prevalence of obesity in Chinese New Zealanders is growing. However, despite the significant growth of the Chinese population over the past decades, health strategies and research have rarely addressed the health issues of this group. Health promotion and education, especially in terms of helping people to be more physically active and improve their diets, are warranted.

**Reference:** *Prev Med.* 2013;57(6):867-71

<http://www.sciencedirect.com/science/article/pii/S0091743513003691>

### Asian Health Review

#### Independent commentary by Professor Shanthi Ameratunga.



Professor Shanthi Ameratunga has a personal chair in Epidemiology at the University of Auckland. A paediatrician and public health physician by training, Shanthi's research focuses on trauma outcomes, injury prevention, disability and youth health. She is the Project Director of the Traffic Related Injury in the Pacific (TRIP) Study, a collaboration with the Fiji School of Medicine, funded by The Wellcome Trust and the Health Research Council of New Zealand.

## Auckland Regional Settlement Strategy Migrant Health Action Plan



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The Asian Health Review has been commissioned by the Northern DHB Support Agency (NDSA) on behalf of the Auckland Regional Settlement Strategy Migrant Health Action Plan Programme which represents Waitemata, Auckland and Counties Manukau District Health Boards.

The Migrant Health Action Plan is available on this website: <http://www.ssnz.govt.nz/publications/AuckRSS.pdf>



### Association between body mass index and cardiovascular disease mortality in East Asians and South Asians: pooled analysis of prospective data from the Asia Cohort Consortium

**Authors:** Chen Y et al.

**Summary:** The association between BMI and mortality from overall CVD and specific subtypes of CVD in East and South Asians were evaluated in this pooled analysis of data from 1,124,897 individuals (835,082 East Asians - Chinese, Taiwanese, Singaporean, Japanese and Korean, and 289,815 South Asians - Indian and Bangladeshi) from 20 prospective cohorts in Asia in early 2008. Participants had a mean age at baseline of 53.4 years. During a mean follow-up of 9.7 years, a total of 49,184 cardiovascular deaths were identified; 40,791 in East Asians and 8393 in South Asians. Among East Asians with a BMI  $\geq 25$ , a raised risk of death from overall CVD was evident (HR 1.09; 95% CI 1.03-1.15) when compared with the reference range of BMI (22.5-24); this risk increased with incremental increases in BMI and was 1.97 (95% CI 1.44-2.71) for those with a BMI of 35.0-50.0. This association was also evident for risk of death from coronary heart disease and ischaemic stroke. For haemorrhagic stroke, the risk of death was higher at BMI values  $\geq 27.5$ . When compared with the reference range BMI (22.5-24), those with lower categories of BMI also exhibited an elevated risk of death from cardiovascular disease; HRs 1.19 (95% CI 1.02-1.39) and 2.16 (1.37-3.40) for BMI ranges 15.0-17.4 and  $<15.0$ , respectively. The association between BMI and mortality from CVD was less pronounced in South Asians than in East Asians. South Asians had an increased risk of death observed for coronary heart disease only in individuals with a BMI  $>35$  (HR 1.90; 95% CI 1.15-3.12).

**Comment (Shanthi):** This is a study of a large number of studies – essentially pooling data for CVD in communities that cover half the globe. The more nuanced analysis took into consideration the key known CVD risk factors and examined how the patterns varied between South and East Asians. The findings are intriguing. It would appear that the East Asian people represented by the studies in this analysis experience higher risks of stroke, coronary heart disease and overall CVD at lower levels of raised BMI (i.e., overweight), while South Asians demonstrated a significantly elevated risk of coronary heart disease, predominantly when their BMI was consistent with being obese. It was also interesting that being underweight also raised CVD risks. These relationships relating to ‘relative risks’ are interesting, but should not mask the important differences in the prevalence of being overweight or obesity in these groups. So, in epidemiological terms, the ‘absolute risk’ of CVD remains a significant concern for South Asian communities.

**Reference:** *BMJ*. 2013;347:f5446  
<http://www.bmj.com/content/347/bmj.f5446>

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### A comparative analysis of risk factors and stroke risk for Asian and non-Asian men: The Asia Pacific Cohort Studies Collaboration

**Authors:** Hyun KK et al.

**Summary:** This pooled analysis of 44 studies ( $n = 386,411$ ) sought to determine whether five major risk factors and stroke risk have similar associations in Asian and non-Asian men. Positive associations were identified between the risk of ischaemic stroke and all five risk factors. Body mass index, smoking and diabetes had similar association with ischaemic stroke in men from Asia and Australia/New Zealand. However, systolic BP was more strongly associated with ischaemic stroke in Asian cohorts, while total cholesterol was more strongly associated with stroke in Australia/New Zealand cohorts. Only systolic BP and smoking were associated with increased risk of haemorrhagic stroke, and the relationship with systolic BP was stronger in those from Asia than those from Australia/New Zealand ( $p = 0.03$ ); the reverse was true for smoking ( $p = 0.001$ ).

**Comment (Shanthi):** In contrast to the previous pooled study, this one focused on differences between ‘Asian’ groups as a whole and non-Asian Australia/New Zealand groups as a whole, to examine the patterns of risk for stroke in men. This analysis also includes a very large number of participants – which makes it possible to recognize some interesting differences. Several common risk factors (BMI, smoking, diabetes) seemed to follow similar relationships to stroke in Asian and non-Asian groups, but raised systolic BP appeared to be a stronger predictor of stroke in Asians and total cholesterol was a stronger predictor in Australian/NZ people. With ageing populations, strokes are of increasing importance from a population health perspective – and these findings require more attention in research and policy arenas.

**Reference:** *Int J Stroke*. 2013;Oct 22 [Epub ahead of print]  
<http://onlinelibrary.wiley.com/doi/10.1111/ijs.12166/abstract>

### Aspirin resistance in Chinese stroke patients increased the rate of recurrent stroke and other vascular events

**Authors:** Yi X et al.

**Summary:** This Chinese study examined the prevalence of aspirin resistance in 634 stroke patients administered aspirin from the day of admission, and investigated the association of resistance with recurrent stroke and other vascular events over a follow-up period of 12-24 months. In total, 129 (20.4%) of patients exhibited aspirin resistance, 28 (4.4%) patients had aspirin semi-resistance and 477 (75.2%) patients had aspirin sensitivity. Diabetes and high levels of low-density lipoprotein cholesterol were independent risk factors for resistance and semi-resistance as indicated by logistic regression analysis. Over a median of 19.4 months, the prevalence of stroke recurrence, all-cause mortality, myocardial infarct and vascular events were higher in patients with aspirin resistance and semi-resistance than in those with aspirin sensitivity. Diabetes and aspirin resistance were independent risk factors for vascular events according to Cox regression analysis.

**Comment (Shanthi):** This is another interesting study on the topic of drug resistance in this issue of the *Asian Health Review*. This one finds that there are significant proportions of Chinese people who are relatively resistant to aspirin – one of the first-line treatment options for many types of vascular disease (heart attacks as well as some forms of stroke). It also appears that those who are resistant to aspirin are more likely to have further strokes, heart attacks, and die sooner. Aspirin is a very commonly used over-the-counter drug, although the application here is when this drug is used to prevent recurrent vascular disease. This study was conducted in China, and the implications of these findings for Chinese people receiving health care in New Zealand deserve more attention.

**Reference:** *Int J Stroke* 2013;8(7):535-9  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1747-4949.2012.00929.x/abstract>



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## Characteristics and prognosis of Asian patients with type 2 diabetes from a multi-racial Australian community: the Fremantle Diabetes Study

**Authors:** Tan ED et al.

**Summary:** This analysis examined data from the Fremantle Diabetes Study to determine whether the phenotype and prognosis of Asians with type 2 diabetes ( $n = 44$ ) differ from those in Anglo-Celt (AC;  $n = 796$ ) patients from the same Australian community. All patients had undergone a detailed assessment between 1993 and 1996, and were invited to annual reviews for  $\geq 5$  years. Both groups exhibited a similar prevalence of type 2 diabetes (1.5% vs 1.6%;  $p = 0.60$ ). Compared with AC subjects, Asian participants were younger, less obese and less likely to be hypertensive; however, they exhibited a higher prevalence of retinopathy (27.3% vs 13.5%;  $p = 0.023$ ). Over 18 years of follow-up, death occurred in 12 Asian and 428 AC subjects, with death occurring due to CVD in significantly ( $p = 0.040$ ) more AC subjects; 205 (47.9%) vs 2 (16.7%), respectively. Asian ethnicity was found to be independently protective against CVD death (HR 0.13; 95% CI 0.02-0.96,  $p = 0.046$ ), but not against all-cause mortality (HR 0.58; 95% CI 0.31-1.10,  $p = 0.10$ ).

**Comment (Shanthi):** This study from Western Australia examined a topic of considerable concern for Asian peoples everywhere – the burden of diabetes, in terms of prevalence and the consequences once diagnosed. The authors used quite detailed clinical information and found that while the prevalence of diabetes was similar in 'Asian' and Anglo-Celt (European) people, there were important differences between the groups, particularly in terms of a higher likelihood of a family history of diabetes and a significantly higher risk of retinopathy (an important potentially disabling diabetic complication in eyes). In contrast, the 'Asian' diabetic group had a lower risk of CVD. The latter result contrasts with findings for South Asian communities in some Western countries, including New Zealand. While interesting, these findings need to be interpreted in light of the small numbers of 'Asian' participants, which made it difficult to adequately investigate if there are different risks within the broad 'Asian' group (20 from South Asia and 19 from South East/East/Central Asian countries). This study did not have sufficient statistical power to adequately explore this important issue. As the authors acknowledge, the 'health migrant effect' may also have played a part, as having diabetes-related complications acts as a barrier to immigration (by policy). I would therefore be more cautious than the authors, who recommend that 'Asian type 2 (diabetes) patients do not require the relatively intensive CVD (heart disease) screening and risk reduction strategies suggested for this ethnic group in other geographical contexts' (particularly when considering South Asian migrants in New Zealand). However, I completely agree with the recommendation that regular retinal (eye) screening should be a priority for Asian diabetics.

**Reference:** *Intern Med J.* 2013;43(10):1125-32  
<http://onlinelibrary.wiley.com/doi/10.1111/imj.12246/abstract>

## Cardiovascular complications and mortality after diabetes diagnosis for South Asian and Chinese patients: a population-based cohort study

**Authors:** Shah BR et al.

**Summary:** This population-based cohort study involving 491,243 adults with newly diagnosed diabetes in Ontario, Canada, between April 2002 and March 2009, investigated the risks of cardiovascular complications and of mortality after diabetes diagnosis for South Asian and Chinese patients, compared with European patients. Patients were followed until March 2011 (median follow-up 4.7 years) for all-cause mortality and for the first occurrence of any diabetes-related cardiovascular complication (stroke, coronary artery disease or lower-extremity amputation). Among European patients, the crude incidence of cardiovascular complications after diabetes diagnosis was 17.9 per 1000 patient-years, while among South Asian patients it was 12.0 per 1000 patient-years and among Chinese patients was 7.7 per 1000 patient-years. Relative to European patients, the adjusted cause-specific HRs for cardiovascular complications for South Asian and Chinese patients were 0.95 (95% CI 0.90-1.00;  $p = 0.056$ ) and 0.50 (0.46-0.53;  $p < 0.001$ ), respectively. Mortality was lower for both minority groups, with adjusted HRs for South Asian patients and Chinese patients of 0.56 (95% CI 0.52-0.60;  $p < 0.001$ ) and 0.58 (95% CI 0.55-0.62;  $p < 0.001$ ), respectively.

**Comment (Shanthi):** It is interesting that this population-based large study from Canada presents data that has some broad similarities with the one by Tan and others (from Western Australia). The study suggests that once diagnosed, South Asian and Chinese patients with diabetes in Ontario had significantly lower risks of CVD and all-cause mortality. It would be interesting to investigate the extent to which these findings apply to various Asian ethnic communities in New Zealand, given the substantial burden of diabetes, especially among South Asian groups here.

**Reference:** *Diabetes Care* 2013;36(9):2670-6  
<http://care.diabetesjournals.org/content/early/2013/04/30/dc12-2105.abstract>

**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.  
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