THE LANCET

Press Conference & Press Release

THE LANCET CHRONIC DISEASES SERIES PRESS CONFERENCE & PRESS RELEASE

DATE AND TIME: TUESDAY DECEMBER 4, 2007, 9:00AM (UK Time)
VENUE: CONGRESS SUITES 1–2, CONGRESS CENTRE, 28 GREAT RUSSELL STREET, LONDON, WC1B 3LS

PLEASE NOTE: ALL MATERIAL IN THE SERIES IS STRICTLY EMBARGOED TO 00:01H (UK TIME) WEDNESDAY DECEMBER 5

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Please mention *The Lancet* as the source of this material

Issued by Tony Kirby, Press Officer, *The Lancet*

Chronic diseases, principally cardiovascular diseases, cancer, chronic respiratory diseases and diabetes, are leading causes of death and disability but are grossly neglected on the global-health agenda.

Working with partners at the UK Department of Health and the Canadian Government, and a team of experts from WHO and around the world, *The Lancet* Chronic Diseases **Series** looks at the ever-increasing burden of these conditions. It examines a number of possible interventions—such as salt reduction and tobacco control at population level, and drugs for people at high risk of cardiovascular disease at individual level—which could help stem this tide and avert millions of deaths worldwide. The **Series** assesses the costs and implications of these interventions in detail and ends with a call for urgent action.

The press conference will be chaired by *The Lancet*'s Editor, Dr Richard Horton, and will feature short presentations from speakers representing each of the five papers in the **Series**, followed by a question and answer session for journalists. It will finish at 10AM.

The speakers at the Press Conference will be:
Dr Richard Horton: Editor, *The Lancet*
Professor Robert Beaglehole: University of Auckland, New Zealand
Dr Colin Mathers: WHO, Switzerland
Dr Thomas Gaziano: Harvard Program for Health Division Science, USA
Dr Perviz Asaria: Kings Fund, London, UK
Dr Stephen Lim: University of Washington, Seattle, USA

EMBARGO: 00:01H (UK time) Wednesday December 5, 2007

DONORS MUST PLAY CATCH-UP WITH THE REALITY OF CHRONIC DISEASES

Donors have for too long been tone-deaf to the increasingly robust scientific basis of the global threat caused by chronic diseases, says Dr Richard Horton, Editor of *The Lancet*, in his **Comment** which opens *The Lancet* Chronic Diseases **Series**.

Since *The Lancet* published its first series and call to action on Chronic Diseases in 2005, when global efforts to control chronic diseases were described as "the neglected development goal", progress has been made—largely thanks to WHO's consistent advocacy for the non-communicable disease agenda, which was given a huge injection of energy with the agency's 2005 report *Preventing chronic diseases: a vital investment*.

Dr Horton says: "Thanks to a continued collaboration between *The Lancet* and a remarkable team of scientists from WHO, together with public health experts from the USA, India, Mexico, New Zealand, Australia, UK and Switzerland (all working under the independent umbrella of the Chronic Disease Action Group), we now launch a second, deeper, and we believe more nuanced report that aims to extend our understanding, not only of the impact of chronic diseases on human development but also of what can be achieved through interventions at the population and individual levels to prevent and treat some of these conditions."

He adds: "As one might expect, the cost-effectiveness evidence for tobacco control, salt restriction, and drug treatment for high-risk cardiovascular disease is compelling in low-income and middle-income countries. Gaps remain, however, in the evidence to support policies to reduce dietary saturated and trans fat. And although arguments about causality and probable benefit would favour broader behavioural and health-system reforms to avert chronic diseases such as diabetes, specific data on cost-effectiveness remain to be gathered. Policymakers face a difficult judgement call. What level of evidence should they require before intervening? The authors of *The Lancet* report argue that evidence is not dichotomous—it is not merely present or absent. Instead, our reasoning is a continuum that should, under certain conditions, trigger action combined with careful evaluation."

Praising WHO's leadership on the chronic disease agenda, Dr Horton also argues: "The World Bank, foundations, the private sector, and governments need to play catch-up. A few enlightened nations, such as the UK and Canada, are enthusiastically responding to invitations to act."

He concludes by saying that, along with the recent *Lancet* **Series** on Global Mental Health, "this latest report on chronic disease lays down the scientific foundations to build civil society

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and advocacy, and so change national and global policy. The value of independent science generated through innovative collaborations across countries and between institutions, mediated through established scientific reporting channels, has the potential to transform our approach to some of the most intractable health challenges facing humankind."

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CUTTING CHRONIC DISEASE: MILLIONS OF DEATHS AVERTED, BILLIONS OF DOLLARS SAVED IN POORER COUNTRIES

The global goal* of an additional 2% yearly reduction in mortality rates for chronic diseases would avert millions of deaths and save billions of dollars of GDP in low- and middle-income countries. Further, almost 80% of life-years gained would come from deaths averted in people aged under 70 years. These are the conclusions of Dr Colin Mathers, Department of Measurement and Health Information, World Health Organisation, Switzerland, and colleagues, authors of the first paper in *The Lancet* Chronic Diseases **Series**.

Averted deaths mean people live longer lives, hopefully in good health. Clearly, they will eventually die—and possibly of a chronic disease, but this could occur much later if the strategies outlined in this **Series** are implemented. The research in this **Series** suggests that people in the 23 countries** studied in it will live more than 18 years longer—this figure is calculated by dividing life years gained (454 million) by deaths averted (24 million).

The 23 countries selected by the authors for their analysis account for around 80% of the total burden of chronic disease mortality in developing countries, including China, India, Russia, Brazil, Turkey, Mexico, Pakistan, South Africa, Poland and Nigeria. In these 23 countries, chronic diseases—mainly cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes – were responsible for 50% of the total disease burden in 2005. For 15 of the selected countries with death registration data, estimated death rates from chronic diseases were 54% higher for men and 86% higher for women than those for men and women in high-income countries.

The authors say: "If nothing is done to reduce the risk of chronic diseases, an estimated US$84 billion of economic production will be lost from heart disease, stroke, and diabetes alone in these 23 countries between 2006 and 2015." The 2% additional yearly reduction in mortality rates due to chronic diseases, if achieved, would avert 24 million deaths in these countries, and save almost 10% of the expected loss in income and around $8 billion collectively for the 23 countries by 2015.

Should nothing be done, chronic disease mortality—which in 2005 accounted for 23·1 million deaths in these 23 countries—is expected to cause 27·2 million deaths in 2015, and 34·3 million by 2030. In terms of percentages, chronic disease mortality caused 61% of all deaths in 2005, and is expected to cause 71% by 2030. For people aged under 70 years, chronic disease mortality, which caused 46% of deaths in this age group in 2005, will cause an estimated 53% of deaths by 2030. The paper looks at a case study of Brazil, which postulates that healthy life years gained by recent reductions in tobacco use have probably been offset by the effect of rising cholesterol and obesity levels. There, chronic diseases were estimated to account for 70·5% of all deaths in 2005.

The authors ask: "How realistic is the global goal proposal?". Under baseline projections, chronic disease death rates for 0–59 and 60–69 age groups are expected to fall by an annual average 0·3% and 1·2% respectively for these 23 countries. Thus the global goal would correspond to an annual average reduction of 2.3% for 0-59 year age group and 3·2% for the 60–69 year age group between 2005 and 2015. The authors say the experience of some high-income and middle-income countries show what can be achieved with sustained interventions. In the 0–59 age group, chronic disease death rates in, for example, El Salvador, Germany (men), and Panama fell by more than 2%. And in the 60–69 age group, average yearly decrease in chronic disease death rates exceeded 3% for several populations, including Australia, Czech Republic, and the UK (England and Wales). The authors also say that healthy life expectancy at birth would improve by between 0.7 and 2.1 years in the 23 countries should the global goal be achieved.

They conclude: "Although most communicable diseases are widely accepted as primarily diseases of poor people, policymakers do not fully understand that chronic diseases have also become diseases of poor people in most settings.

"The rising burden of chronic disease will be especially severe in low-income and middle-income countries, which are those than can least afford a health-related setback to development. In these countries, resources for treatment are already stretched to the limit, and chronic disease prevention – focusing on reducing known, modifiable risk factors – will therefore be central to incidence and mortality reductions."

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Note to Editors

*The Global Goal for reduction of chronic disease mortality was set out by WHO in 2005.

**The 23 countries studies in the Series are: Argentina, Bangladesh, Brazil, Burma, China, Colombia, Democratic Republic of Congo, Egypt, Ethiopia, India, Indonesia, Iran, Mexico, Nigeria, Pakistan, Philippines, Poland, Russia, South Africa, Thailand, Turkey, Ukraine, Vietnam.

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THE EVIDENCE SUPPORTING INTERVENTION IN CHRONIC DISEASES

Data from low, middle, and high income countries shows that tobacco control, salt reduction, and the use of multidrug regimens for patients with high-risk cardiovascular disease confirms these measures are cost effective and should be scaled up. These are the conclusions of Dr Thomas Gaziano, Brigham & Women's Hospital, Harvard Program for Health Division Science, Boston, MA, USA, and colleagues, author of this second paper in *The Lancet*'s Chronic Diseases **Series**.

The authors also say that further assessment to determine the best national policies to achieve reductions in consumption of saturated and trans fat—chemically hydrogenated plant oils—could eventually lead to substantial reductions in cardiovascular disease. Changes in personal behaviour, health systems, and policy decisions are also analysed for their cost effectiveness.

One of the earliest and most cited community interventions is the North Karelia project, which began in Finland in 1972. The programme involved health education, screening, hypertension control, and treatment. In the first five years coronary heart disease mortality fell by 2·9% per year versus a 1% decline in the rest of Finland. Policy changes such as one in Poland in the early 1990s can also lead to significant health improvements. The Polish government reduced subsidies on animal fats (lard, butter) which led to a switch to polyunsaturated oils such as rapeseed and soyabean. Coronary heart disease mortality dropped by more than 25% between 1991 and 2002, an increase which could not be explained by increased fruit consumption or decreases in smoking.

The authors say that weight loss of between 5% and 10% and also minimal adherence to physical activity recommendations (expending 4200kJ per week in exercise) lead to health gains, in the case of minimal exercise this can be a 20%-30% reduction in risk of all cause mortality.

In low- and middle-income countries, cost-effectiveness of the intervention of salt reduction as a result of public education are quite favourable, ranging from being cost saving to US$200 per disability life year (DALY) averted; tobacco interventions have similar results, with measures such as increased pricing/taxation coming in at US$100 per DALY averted. Analyses from the Disease Control Priorities Project also show that replacing 2% of energy from trans fats with polyunsaturated fat can reduced coronary heart disease by 7–8%. If changes such as this are facilitated through voluntary action by industry or by regulation (eg. the banning of trans fats in New York restaurants), the US Food and Drug Administration believes this can be achieved for less than $0.50 per head. The authors say: "With this cost

and the conservative estimate of an 8% reduction in coronary heart disease, the intervention is highly cost effective at $25–75 per DALY averted across the developing world. Assuming the greater reduction of 40% in coronary heart disease, the intervention is cost saving."

The authors conclude: "There is clear evidence that many interventions are cost effective. The Commission on Macroeconomics and Health has proposed a standard of three times gross national income (GNI) per head per DALY averted as being cost-effective. The World Bank estimates that GNI per head in 2006 was, on average, $650 for low-income countries and $3051 for middle-income countries. Tobacco interventions, salt reductions, and multidrug strategies to treat individuals with high-risk cardiovascular disease have acceptable cost-effectiveness ratios for low-income and middle-income countries on the basis of this criterion. If scale-up is feasible for many nations, then it would be reasonable to pursue these options immediately to achieve the projected goals of reducing rates of chronic disease by an additional 2% per year."

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SALT REDUCTION AND TOBACCO CONTROL ARE CHEAP INTERVENTIONS THAT WOULD AVERT MILLIONS OF CHRONIC DISEASE RELATED DEATHS

Reducing salt intake by 15% and implementing key elements of WHO's tobacco control framework would avert millions of chronic disease related deaths for as little as an average US$0·36 per person per year. These are the conclusions of Dr Perviz Asaria, Kings Fund London, UK and colleagues, authors of this third paper in *The Lancet* Chronic Diseases **Series**.

In their analysis, the authors studies 23 countries worldwide that carry 80% of the burden of chronic disease for low-income and middle-income countries. Two meta-analyses have shown that reducing salt intake in people with or without high blood pressure can reduce blood pressure by small but important amounts. In these countries, salt is used to preserve meat and fish, in seasoning and sauces, and at the table. Simple changes in diet, such as avoiding salty foods and not adding it at the table, can reduce sodium intake by 3–4·5 g per day, around 30% of the average intake. Lowering salt content of, eg, soy sauce is also feasible, as is salt substitution.

The authors modelled the effect of a 15% reduction in salt consumption in the 23 countries, which would be achieved by voluntary reductions in salt content of processed foods and condiments by manufacturers, plus a sustained mass-media campaign aimed to encourage

dietary change within households and communities. This strategy could avert 8·5 million deaths between 2006–2015.

For tobacco control, the authors looked at implementing four parts of the WHO Framework Convention on Tobacco Control (FCTC)—increased taxes on tobacco to reduce smoking prevalence, enforcement of smoke-free workplaces, tobacco packaging and labelling restrictions combined with public awareness campaigns on health-risks of smoking, and finally a comprehensive ban on tobacco advertising, promotion, and sponsorship. Such interventions would reduce smoking prevalence by an estimated 20·8% in the 23 countries studied, thereby averting 5·5 million deaths from chronic diseases related to smoking—ie, cardiovascular diseases, respiratory diseases, and cancers.

Combining both salt reduction and tobacco control figures would give an adjusted total of 13·8 million chronic disease related deaths averted. Most of the deaths averted (75·8%) would be from cardiovascular diseases, followed by deaths from respiratory disease (15·4%), and cancers (8·7%). More than half (58·7%) of deaths averted would be in men, due to their higher/longer exposures to tobacco in these countries. Deaths averted in men older and younger than 70 years would be about equal, whereas 71% of deaths averted in women would be in those aged over 70 years, reflecting lower tobacco exposures and later onset of cardiovascular mortality in women and the greater benefit of salt reduction in older age-groups who have higher baseline blood pressures.

Whilst actual numbers of deaths averted were highest in China and India due to sheer population size, the highest reductions in mortality rates per 100 000 population over 30 years were in Russia (166), Poland (160), and Ukraine (153), reflecting the very high rates of cardiovascular disease in this populations, their high baseline blood pressures and exposure to tobacco. Salt interventions alone also had the greatest effect in these countries, while tobacco control alone had the highest effect in Poland, Vietnam, China, and Indonesia. The total averted deaths in the 23 countries would represent 60% of the global goal for reduction of chronic disease for these countries, and 38% of the worldwide global goal.

The cost of implementing the strategy would range from US$0·14 to $0·38 per person per year in low-income and lower-middle income countries, and from $0·52 to $1·04 per person per year in upper-middle income countries. The average across the 23 countries was $0·36 per person per year, which on average was equivalent to 0·5% of government health spending in the 23 countries. However this proportion was 4·7% in the nine low-income countries studied. Most of the total cost, between 67–80%, would be to implement tobacco control, with the rest coming from salt restriction implementation.

The authors conclude: "Analysis of the global goal presented in the first paper of this **Series** suggests that [people in whom deaths are averted] might survive for 18 years on average.

A small number of population-based interventions, which could be implemented without great cost or the need for structural change to the health system, especially in the 20 out of 23 countries that are signatories to the FCTC, could make a major contribution to the goal of reducing rates of death from chronic diseases by an additional 2% per year."

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EMBARGO: 00:01H (UK time) Wednesday December 5, 2007

MULTIDRUG REGIMEN FOR PATIENTS AT HIGH RISK OF CARDIOVASCULAR DISEASE COULD AVERT MILLIONS OF DEATHS

Targeting individuals at high risk of cardiovascular disease with a multi-drug regimen would avert millions of deaths with a moderate increase in expenditure. Further, this strategy could effectively meet three quarters of the global goal of reducing chronic disease death rates by an additional 2% per year. These are the conclusions of Dr Stephen Lim, Institute for Health Metrics and Evaluation, University of Washington, Seattle, WA, USA, and colleagues, authors of this fourth paper in *The Lancet* Chronic Diseases **Series**.

Analysing the same 23 countries as in previous papers, the authors estimated that 17·9 million deaths could be averted by using a multidrug regimen of a statin, aspirin and two blood-pressure lowering medicines. This represents around one fifth of the deaths related to chronic disease in these countries. The costs of the strategy would range from US$0·43 to $0·90 across low-income countries and from $0·54 to $2·93 across middle-income countries, or an average yearly cost of $1.08 across the 23 countries a whole, with the total 10-year financial cost estimated at $47 billion. Around 56% of the deaths averted would be in those younger than 70 years, with more deaths averted in women than in men due to larger absolute numbers of women at older ages.

High risk individuals are defined as those aged between 40 and 79 years who have had non-fatal coronary heart disease or a cerebrovascular event. Individuals without existing disease but with an estimated absolute risk of dying from coronary heart disease or a cerebrovascular event of higher than 15% or more in the next ten years were also deemed high risk.

While the costs of this scale-up are similar to other health strategies, low-income countries will need large donations from external donors since the costs of the programme could be over 10% of their current health expenditure. It is in these settings that strengthening of the primary health care system will also be required. Another key factor will be the cost and availability of these medicines which in the public sector is low and, although availability is higher in the private sector, the price is substantially higher and unaffordable for most

individuals who need them. The authors say: "If the financial burden is predominantly borne by the patient, this will also have a negative effect on coverage and patients' adherence, particularly in low-income settings. Long-term adherence, even in high-income settings, to cardiovascular prevention medication is typically low…further research on mechanisms to improve patients' adherence in developing countries could have a large effect on the success of the strategy proposed here."

The authors conclude by saying that their strategy does not discount the potential role of other individual approaches, such as encouraging dietary, lifestyle or behavioural changes. They say: "The approach described here should also not be regarded as an alternative, but rather is complementary to population-wide approaches. For example, when the individual approach described here and the population-wide approaches described in the third paper in this Series are combined, this could essentially meet the proposed global goal."

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EMBARGO: 00:01H (UK time) Wednesday December 5, 2007

A CALL TO ACTION TO PREVENT AND CONTROL CHRONIC DISEASES

Achievement of the global goal of reducing mortality rates due to chronic diseases by an additional 2% per year would avert 36 million deaths by 2015 and deliver major economic benefits. In this final paper in *The Lancet* Chronic Diseases **Series**, Professor Robert Beaglehole, University of Auckland, New Zealand and colleagues call for urgent action from a host of key players to deliver a serious and sustained effort to prevent and control chronic diseases.
Of all global deaths in 2005, 60% were because of chronic diseases, principally cardiovascular diseases and diabetes (32%), cancers (13%), and chronic respiratory diseases (7%).

The total yearly cost of delivering the tobacco control, salt reduction, and drugs for people at high risk of cardiovascular disease packages in the 23 countries highlighted earlier in the **Series**/press release would be US$5·8 billion (2005 figures). The authors point out that global emphasis on chronic diseases has been on a few key modifiable risk factors for chronic diseases—eg, unhealthy diets, physical activity, and tobacco use. They say: "Many nations that are economically advanced have achieved major reductions in the toll of chronic diseases, especially of cardiovascular diseases. Most studies of these achievements suggest that prevention and health services bring about these reductions more or less equally."

At national level, the authors urge countries to give high priority to policies and funded programmes to tackle chronic diseases, and, among other things, to ratify the Framework Convention on Tobacco Control and implement the Global Strategy on Diet, Physical

Activity and Health (see paper). They urge national and international non-governmental organisations to work much more closely together and promote evidence-based advocacy to support national authorities.

The authors say: "We urge the food and drinks industry to rapidly work towards the reformulation of foods high in fat, salt, and sugar to produce healthier and less energy dense products; to bring the full power of their advertising, marketing, and promotional forces to support healthy habits; and to ensure that positive initiatives to promote healthy habits in high-income countries become the norm in low-income and middle-income countries. We urge the pharmaceutical industry ensure the availability, affordability, and accessibility of low-cost generic drugs for the management of people at high risk of chronic diseases, especially cardiovascular diseases."

A call is also made to civil society to engage more seriously with the threat posed by chronic diseases, and to ensure the needs of disadvantaged populations are met as a priority; and to academics to participate fully in development, implementation and assessment of programmes for chronic disease prevention and control. The authors say: "We urge academics to focus their research efforts on implementation research questions that are relevant to low-income and middle-income countries."

The authors call for stronger global leadership on chronic diseases from WHO, and call on it to progressively increase financial support for tackling chronic diseases. And regarding donor agencies, the authors say: "We urge the World Bank and regional banks, other development agencies, and foundations to formally recognise chronic diseases as a major impediment to development and increase their financial support for programmes for chronic disease prevention and control to a level that is commensurate with their burden."

The authors and experts worldwide have established The Chronic Disease Action Group to encourage, support, and monitor action to prevent and control chronic diseases. The authors conclude: "We call for urgent and intensified action from all stakeholders to respond to the chronic disease epidemics on the basis of all the available evidence, including that presented in this Series. The evidence is unequivocal: major and rapid health and economic gains are possible with only modest investments in prevention and control of chronic diseases."

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