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Study Design Articles

Bringing evidence to policy to achieve health-related MDGs for all: justification and design of the EPI-4 project in China, India, Indonesia, and Vietnam

Sarah Thomsen, Nawi Ng, Xu Biao, Göran Bondjers, Hari Kusnanto, Nguyen Tanh Liem, ...show all

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social and structural determinants, in China, India, Indonesia and Vietnam.

Results : To understand country-level MDG achievements it is useful to analyze their social and structural determinants. This analysis is not sufficient, however, to understand within-country inequities. Specialized analyses are required for this purpose, as is discussion and debate of the results with policymakers, which is the aim of the EPI-4 project.

Conclusion : Reducing health inequities requires sophisticated analyses to identify disadvantaged populations within and between countries, and to determine evidence-based solutions that will make a difference. The EPI-4 project hopes to contribute to this goal.

equity | Millennium Development Goals | social determinants of health | evidence to policy | network | Asia

The purpose of this article is to provide the relevance and design of the 'Evidence for Policy and Implementation project (EPI-4)', which aims to reduce inequities in achiever[illegible] China, India, In[illegible] evidence with poli[illegible]

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Accordi[illegible] to achieve, there[illegible] global and country[illegible] ernal mortality[illegible] eased from 55 to 65[illegible] rculosis has decrease[illegible] se achiever[illegible] while overall p[illegible] many

the least likely to have benefited from achievements. For example: poor, rural children are less likely to have received measles vaccination than their richer, urban counterparts 2.

Some regions are particularly affected by inequity in the achievement of MDGs. In Southern Asia, the wealthiest women are five times more likely than the poorest to have been attended to by a trained health care worker when giving birth 2. These health inequities have been most marked in the countries where economic growth has been particularly inequitable. For example, in India, where the annual per capita growth rate has hovered around 8% for the last decade, use of antenatal care services increased by 12% from 1996 to 2008, but only 0.1% among the poor. At the same time, 37% of the population is living in poverty (in some states, over 50% of the population) 3. The conclusion can only be that economic growth may be necessary, but not sufficient for improving the health of all. Governments must also be prepared to invest the benefits of economic growth in services that will actively promote reductions of health inequity, such as public health care and public education 4.

Unfortunately, the use of MDG targets has led to a focus on improving the proportion of people benefiting in a particular aspect of welfare – increased income, education, health, sanitation, housing, etc. – rather than on equitable distribution of health. In the implementation of MDGs, across these different areas, such targeting has often led to efforts b otherwise referred 4, 5, and 6, for insta h only a minority all interven elopment approac approaches to health down' effec those lifted 'abov DG targets are appr inequity 9.

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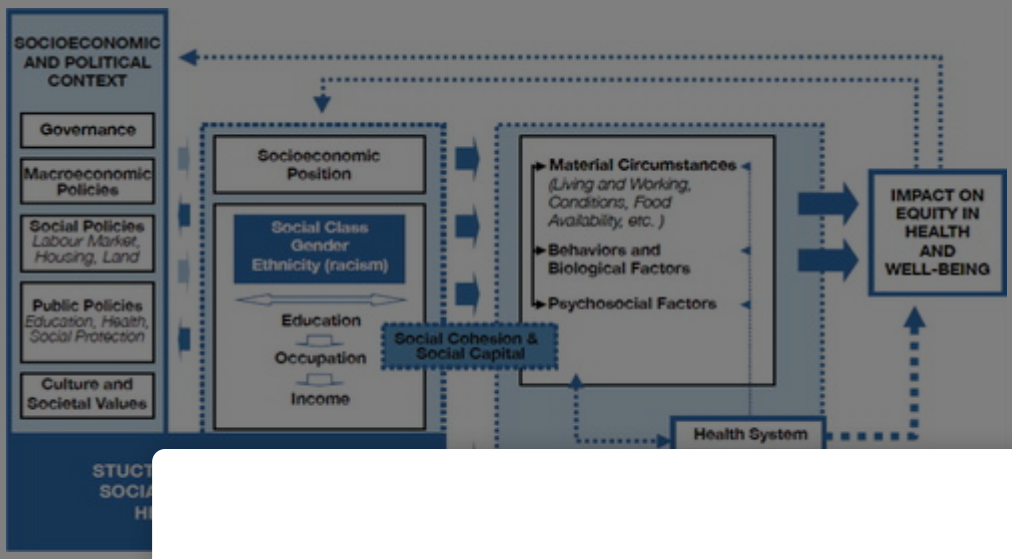
commitment … to develop and implement goals and strategies to improve public health with a focus on health inequities, and to take into account health equity in all national policies that address social determinants of health 10.' The Commission on the Social Determinants of Health (CSDH) has developed a framework for illustrating the mechanisms by which structural and social factors affect equity in health. This framework recognizes that there are multiple causes for health outcomes besides individual behavior and health service delivery 11. The model specifies three types of determinants of health: 1) the socioeconomic and political context, 2) structural determinants and socioeconomic position, and 3) intermediary determinants such as individual behavior and the health system (Fig. 1).

Fig. 1. Social determinants of health framework (WHO, 2010). [Permission to reprint granted from WHO].



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The majority of the world's poor (approximately 1.3 billion) now live in middle-income countries (MICs), such as China, Brazil, India, and Indonesia [12]. This is a drastic change from 1990 when 93% of the world's poor were estimated to live in low-income countries (LICs). MICs today experience considerable inequity in the distribution of health services, and other specific health challenges, such as those caused by effects of rapid industrial and urban growth.

Below we compare national-level MDG targets and results for four emerging economies: China, India, Indonesia, and Vietnam. Together, these four countries represent about 42% of the world's population, with GDP growth rates of over 6% [13]. At the same time, they have varied results in terms of social and health outcomes, including MDG targets. In order to illustrate the role of social determinants of health, we contrast these results with structural and intermediary determinants of health and health inequity for these same countries.

The latest MDG statistics from 2010 show reductions of 50% or more in under-five mortality and infant mortality across the four countries (Table 1). Immunization against measles is at nearly 100% in China and Vietnam. India and Indonesia have also made great stri
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Table 1. Percentage change from 1990 to 2010 for MDGs 4 and 5 in four Asian countries

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The status of tuberculosis is still very tenuous in three of the four countries. While China has made significant advances on a national level (TB prevalence 108/100,000), India, Indonesia, and Vietnam still have TB prevalence rates of 256, 289, and 334/100,000, respectively. Although TB treatment success rates area around 90% in all countries (95% in China), the TB detection rate under DOTS is still worryingly low in India (59%), Indonesia (66%), and Vietnam (54%).

Table 2 also indicates another problem with country reporting, which is that there is little national data for some of the MDG indicators on HIV and malaria. In some cases, the country reports, such as the UNAIDS country progress reports 14, simply state that data on, for example, 'sexual intercourse with more than one partner in the past 12 months' are "irrelevant".

Table 2. Percentage change from 1990 to 2010 for MDG 6 in four A

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vs. 2.04) and India (0.65 vs. 1), the ratio is more geared toward the mid-level providers than physicians.

Table 3. Intermediary determinants of health in four Asian countries

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Individual behavioral and biological factors, psychosocial factors and material circumstances also have an effect on equity in health, both directly and through use of health services. Smoking levels amongst men in Indonesia (61.3%), China (51.2%), and Vietnam (48.2%) are extremely high. Exclusive breastfeeding in the first 6 months of a child's life is relatively high in India (46.4%), compared to China (27.6%), Vietnam (16.9%), or Indonesia (15.3%). Use of 'improved drinking sources' is fairly high on a national level: 90% in China, India, and Vietnam, and 82% in Indonesia. However, 'improved sanitation' is poor in all countries, with large variations: 76% in Vietnam, 64% in China, 54% in Indonesia, and a very low 34% in India. The prevalence of wasting in children under five – an indicator of poor access to food – is very high in India (20%) and Indonesia (14.8%). In Vietnam almost one in ten children exhibit wasting; in China this figure is 2.3%.

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Table 4. Selected structural determinants related to socioeconomic position in four Asian countries

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The Human Development Index (HDI) is a composite measure of: 1) education, 2) standard of living, and 3) length and quality of life, with 1 being the highest level of human development according to these aspects. In 2011, China (0.687) was considered to have a 'medium–high' human development level, whereas Indonesia (0.617), Vietnam (0.593), and India (0.547) were all considered to have 'low–medium' human development levels. These 'scores' on the HDI are reflected in poverty and education statistics for the four countries. The poverty headcount ratio is measured as the proportion of the population that is living under the national poverty level. The highest proportion of poor is found in India (29.8%), followed by Indonesia (13.3%) and China (2.8%). Net enrollment in primary school is almost 100% in all countries (data not available in China), and adult literacy is over 90% except in India (62.8%).

Attitudes and norms regarding men's and women's roles and responsibilities in society are strongly related to health behaviors and outcomes [15]. The expression of norms in a society can be measured in many different ways. The Gender Inequality Index reflects inequalit h, educatic ality. Gender i 505). China (0.209) a ex may go a long way een the four countrie tant indicat w household reso The ratio of female t m (0.894), but low i

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Indonesia, and 0.884 in Vietnam, with 1 being perfect parity. This means, for example, that for every woman with a secondary school education in India there are two men with at least that level of education.

The reproductive health of women is partially determined by patterns of early marriage. The longer they wait to marry, the longer they tend to wait to begin childbearing, and the longer they can stay in school, thus increasing educational levels amongst women. The teenage pregnancy rates (aged 15–19) were 16% in India in 2006 and 9% in Indonesia in 2007 (data not available in China and Vietnam). Thus, gender norms that are reflected in low levels of women's achievement in secondary school, low participation in the labor market, high levels of teenage pregnancy, and the high levels of poverty in India and Indonesia are likely strong social determinants of the poor health results reported above.

In the CSDH framework, the socioeconomic and political structure of a country is purported to create the conditions that make possible differences based on socioeconomic position. For example, policies around education and social protection can create an enabling or disabling environment for different segments of the population to attend school, or for women to work. Thus, the high ratio of female to male participation in the labor market in Vietnam discussed above (89%) is likely related to the fact that the state subsidizes day care for children below school age, which is
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been used since 1995 to track perceptions of corruption in the public sector within countries. Since corruption is difficult to identify and trace, perceptions of corruption have been found to be more reliable. A score of 10 indicates no perceived corruption (most closely achieved in New Zealand, with 9.5). All four countries' CPIs indicate low confidence in the public sector's ability to govern (all around 3), which may affect how worthwhile the average person thinks it is to be involved in the political processes in these countries. This, in turn, will affect the social standing of that person, or the group to which he/she belongs, according to the CSDH framework.

The final statistic that we present for the four countries is the annual growth rate of the gross domestic product (GDP). All have very high growth rates: 10.4% for China, 9.6% for India, 6.8% for Vietnam, and 6.2% for Indonesia in 2010. This indicates that there may be financial resources available to create the necessary social and structural conditions to improve the health and welfare of the populations of these Asian countries.

This review of selected indicators of social determinants of health in four Asian countries has allowed us to identify potential causes and determinants of ill-health. However, it is not sufficient to remain on this level. The differences within countries are often greater than the differences between them. Therefore, the use of national targets to reflect achievement of the MDGs is, as we discussed in the introduction, misleading at best a /state or district l ation to achiever inants on inequity are necessa ations (i.e. the rich/ and whether the rate rmation will allow quity in achie ject, which is desigr ietnam.

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require creating more effective mechanisms to bridge the know–do gap and address implementation issues [17]. Facilitating factors to effectively link research to action are personal contacts between researchers and policy makers, timeliness and relevance of the research, and producing the research in a format that is actionable with clear policy recommendations and implications for implementation into practice [18] [19]. Research syntheses should be context-specific and include evidence, modifying factors, needs, values, costs, and availability of resources. The research syntheses should address both the know–do gap and optimal ways of effective implementation [20].

The World Health Organization's Task Force on Research Priorities has called for more use of research in identifying and evaluating policy options to reduce health inequities [21]. EPI-4 (Evidence for Policy and Implementation) was designed to increase capacity to make evidence-informed decisions on policies and implementation for health for disadvantaged groups in relation to MDGs 4, 5, and 6 in China, India, Indonesia, and Vietnam. The project will identify and use networks in each country to discuss evidence on inequity in achievement of the health-related MDGs and to plan for evidence-based interventions to reduce inequities. The evidence will be gathered and analyzed by researchers based at four Swedish universities: Karolinska Institutet, Gothenburg University, Umeå University, and Uppsala University, working in conjunction with longstanding partners in the four countries – Fudan University and Peking University, China; University of Gadjah Mada, Indonesia; the Public Health Institute of India; and the Nati hese countrie host disadvar ll countries will look ses of large, existing ese analyses s 4, 5, and 6 achiever fill gaps ident st important source os; and 3) trend an whether or not equi ave benefite 15 persons consistir atives (such as non-g ed in

in research briefs. The project will end with a regional conference with high-level policymakers convened to discuss realistic approaches to reducing inequity in maternal and child health and infectious disease control and treatment.

Conflict of interest and funding

The authors have not received funding from industry for this paper and report no conflict of interests.

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Notes

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Equity and child-survival strategies

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A framework for mandatory impact evaluation to ensure well informed public policy decisions

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The Millennium Development Goals Report 2010

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Health policy-makers' perceptions of their use of evidence: a systematic review

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Evidence-Based Practice in a Global Context: The Case of Neonatal Mortality

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CCDC 632770: Experimental Crystal Structure Determination

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Promoting equity to achieve maternal and child health

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A Poverty of Rights: Six Ways to Fix the MDGs

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