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Improving TB diagnosis in rural China

China has the second highest burden of tuberculosis (TB) in the world. In 2000, its TB case detection rate was 30 percent, far below national and international targets of 70 percent by 2005. In poor, rural areas of China, what are the obstacles to timely diagnosis?

Twelve Chinese provinces received financial assistance from the World Bank from 1992 to 2001 for a TB control project, yet the case detection rate only rose only to 55 percent. This suggests that even with increased funding, obstacles to accessing TB services remain. A new TB control project to improve the case detection rate was launched in 2002 with a World Bank grant, a loan from the UK's Department for International Development (DFID) and donations from the Japanese International Cooperation Agency (JICA). The project required local governments to match funding.

This study reports the findings from a social assessment of the China TB control project, funded by DFID, and carried out in poor, rural regions in four provinces. The research analysed the problem of delays in diagnosis, with the aim of informing policy on how to increase case detection and improve DOTS (Directly Observed Therapy, Short-course) implementation. This paper focuses on one part of the study: delays in diagnosis from the perspectives of the community, TB patients, health providers and government. It found that:

- In all provinces, between 30 and 60 percent of patients experienced delays in diagnosis after their first attempt to seek care.
- Most patients visited health facilities more than once before diagnosis was made. The average number was three to four visits, while 17 to 30 percent of patients made more than six visits.
- Delays and multiple visits were due mainly to health providers not recognising TB symptoms and little financial incentive for providers to refer patients to TB dispensaries.
- Poor and disadvantaged patients were less likely to seek a further reliable diagnosis.
- Women and the elderly were more likely to experience health system delays in obtaining a diagnosis.

A comprehensive strategy is needed to decrease health system delays in diagnosis and to allow successful expansion of DOTS. Suggestions include the following:

- The requirement for local governments in poor countries to match funding for TB control should be reduced or removed.
- The deficiencies caused by the current system of financing general health facilities will need to be tackled to reduce these delays.
- If user fees need be maintained to recover costs as a significant source of funding of general health facilities, then mechanisms should be put in place to ensure that the poorest patients are still able to use these facilities, in order to improve detection of TB cases.
- The poorest patients will need help with paying, or exemption from paying, the direct and indirect costs they are charged during the process of diagnosis.
- There need to be sufficient incentives to ensure patient referral.

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'Multiple perspectives on diagnosis delay for tuberculosis from key stakeholders in poor rural China: Case study in four provinces', *Health Policy*, by Fei Yan et al, 2006

The economic costs of malaria to vulnerable households

Poor households are particularly vulnerable to malaria infection and spend a greater than average proportion of their income on treatment. Few studies have been conducted into how malaria contributes to poverty and vice-versa. A framework is needed to examine the pathways that link malaria, poverty and vulnerability.

A group of researchers from the Kenya Medical Research Institute and the universities of Cape Town (South Africa) and Oxford (UK) set out to develop and apply such a framework, drawing on existing literature. The framework incorporates the contextual and household factors that determine vulnerability to infection, treatment-seeking behaviour and coping strategies. It then traces the pathways of economic impact and the likely outcome in terms of poverty and vulnerability.

A study of the impact of the cost of illness on rural household livelihoods was conducted in Ganze, in Kilifi district of Kenya from January 2003 to October 2004. The study was conducted in two phases, a household survey of 294 households, and case studies of 15 households selected to represent varying degrees of vulnerability and poverty, based on indicators of socio-economic status, cost burdens and coping strategies. These households were visited monthly for a year, with five sets of follow-up visits to collect more in-depth information.

The study findings included:

- Direct and indirect costs of malaria were higher in the wet season, when more malaria episodes were reported.
- Households that had incurred high malaria-related costs through repeated illness in the five years before the study were very vulnerable and their situation continued to decline.
- The main strategy to meet costs was borrowing. More vulnerable households were excluded, or excluded themselves, from borrowing networks because they were considered too poor to reciprocate.
- Ignoring illness and avoiding costs was a basic survival strategy for poor and vulnerable households.

The researchers suggest that:

- highly vulnerable households are in need of support to build their livelihoods and protection from health care payments
- seasonal factors should be considered in the timing of surveys designed to estimate the cost of malaria
- lowering wet season charges or allowing debts to be repaid in less economically difficult periods should be considered
- building assets through livelihood diversification or expanding markets for agricultural products would increase vulnerable people's ability to cope with the costs of malaria
- malaria control policies need to be integrated into sustainable development and poverty reduction initiatives
- adoption and application of the framework will test the value of the findings.

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'Rethinking the economic costs of malaria at the household level: evidence from applying a new analytical framework in rural Kenya', *Malaria Journal* 5(76), by Jane M. Chuma et al, 2006
www.malariajournal.com/content/5/1/76

Malaria in pregnancy

Challenges for policy and delivery in Africa

Malaria can be devastating for the health of pregnant women and their unborn children. It is vital that they are provided with effective methods for preventing and treating the disease. Are interventions successfully reaching pregnant women in areas of moderate to intense malaria transmission in Africa?

About 50 million pregnant women are exposed to malaria each year and of these, about 30 million live in Africa. In recent years, good progress has been made to recognise key strategies for preventing and treating malaria in pregnant women in these high risk areas. Strategies include intermittent preventive treatment in pregnancy (IPTp), which involves dosing with an antimalarial drug at set intervals during pregnancy; insecticide-treated nets (ITNs); and prompt clinical case management of malaria. The World Health Organization (WHO) in 1998 recommended IPTp with sulfadoxine-pyrimethamine for controlling malaria in pregnant women in areas of moderate to high transmission.

A report by the WHO looks at the factors affecting whether or not strategies to prevent and treat malaria in pregnant women become part of national policy and are implemented in national programmes. Mainly using data from the five African countries - Malawi, Kenya, Uganda, Tanania and Zambia - that were first to make IPTp national policy, it shows current levels of intervention coverage and outlines key research areas that need to be tackled urgently. The study reports that the number of pregnant women receiving interventions for preventing and treating malaria is unacceptably low, and observes that:

- Adoption of IPTp with sulfadoxine-pyrimethamine as policy in sub-Saharan African countries was initially slow but this has now improved to 94 percent (34 out of 36 countries targeted, with 22 countries at various stages of implementation).
- National coverage with IPTp is low in most African countries. There is marked variation in IPTp coverage between countries and also within countries.
- The use of ITNs by pregnant women has been too low. Only 2.8 percent of pregnant women slept under an ITN in eight countries surveyed between 2001 and 2004. Recent efforts to intensify malaria control mean, however, that coverage is now increasing, and in some countries is now in the region of 50 percent.
- Policymakers are unlikely to adopt a new intervention as policy without sufficient scientific evidence on safety, efficacy and cost-effectiveness. IPTp was recommended based on relatively limited evidence.
- Due to growing drug resistance, most African countries have switched to artemisinin-based combination therapy for uncomplicated malaria and have stopped monitoring sulfadoxine-pyrimethamine efficacy.

Among the recommendations the report makes are the following:

- Countries that lack recent data on sulfadoxine-pyrimethamine efficacy need guidance on how to monitor the effectiveness of IPTp with sulfadoxine-pyrimethamine.
- Data are urgently needed on the safety and efficacy of alternative drugs for both prevention and treatment.
- Cultural and operational barriers to delivery and use of insecticide-treated nets and IPT with sulfadoxine-pyrimethamine need to be examined to improve coverage.
- Standardised methods must be used to monitor IPTp coverage and to increase delivery of ITNs in pregnancy.
- Scientific evidence on interventions in pregnancy should be evaluated by recognised experts and turned into clear policy guidelines that are widely available at country level.

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'From evidence to action? Challenges to policy change and programme delivery for malaria in pregnancy', *The Lancet Infectious Diseases* 7, pages 145-155, by Jane Crawley et al, 2007

The economic impact of chronic diseases on developing countries

The biggest portion of early death and disability worldwide is caused by chronic diseases. It is anticipated that this share will rise sharply over the next few decades, especially in developing countries. What are the economic implications of chronic disease, particularly for low- and middle-income countries?

More than half of all deaths worldwide are due to four chronic diseases: heart disease, diabetes, lung diseases and some cancers. It is estimated that as of 2002, chronic diseases caused 54 percent of all deaths in low- and middle-income countries. It is predicted that this share of chronic diseases will rise to 65 percent by 2030. The public health sector of the developing world may be particularly affected by this trend and yet it is likely to be less able to cope with the impact.

A study published by the Oxford Health Alliance focuses on the main chronic diseases of heart disease and stroke, cancer, chronic respiratory disease and diabetes and the main risk factors causing them – obesity, poor diet, lack of physical activity and consumption of alcohol and tobacco – particularly in low- and middle-income countries. It looks at who is affected by chronic disease, the costs of chronic disease and the argument for government intervention and summarises cost-effective interventions. It also highlights key areas for research.

The study makes the following findings:

- Chronic diseases cause the largest share of deaths in all regions of the developing world, except in sub-Saharan Africa.
- Chronic diseases do not mainly affect the elderly and wealthy. Poor people and working-age populations carry a significant share of the burden and risk.
- Chronic diseases have significant economic consequences for the individual, his or her family and the general economy, affecting consumption and performance in the labour market.
- The social costs of a person's unhealthy behaviour, carried by family members or wider society, may justify government intervening to curtail individual choice.
- Further economic rationales for government intervention include the protection of children, provision of information to the public, and the tendency for people to opt for instant gratification at the expense of long-term best interests in some cases.
- A number of cost-effective interventions exist for developing countries, such as anti-smoking programmes, tobacco taxes, healthy nutrition media campaigns and exercise programmes.

This research recommends that:

- policymakers should act now to stop the growing burden of disease as well as recognising health improvement as a way of promoting economic growth
- more research is needed into the burden and cost of chronic diseases, and the effectiveness and cost-effectiveness of interventions, especially in developing countries.

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Chronic disease: an economic perspective, The Oxford Health Alliance: London, by Marc Suhrcke et al, 2006
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