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Delays in accessing tuberculosis diagnosis and treatment

Health reporter, 12th March 2008

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Feature: Delays in accessing tuberculosis diagnosis and treatment

New data from the World Health Organization (WHO) has recorded the highest ever prevalence of multi-drug resistant tuberculosis (TB) with nearly half a million new cases being diagnosed every year. A fundamental tool for the prevention and control of TB lies in early case detection, rapid diagnosis and treatment at a Directly Observed Treatment Short-course (DOTS) clinic. DOTS is a comprehensive strategy, endorsed by the WHO, which combines microscopy services to detect TB, regular uninterrupted supply of anti-TB drugs, and direct observation of the treatment for at least an initial intensive phase of treatment.

However, delays between the onset of TB symptoms, patients' first visit to a health centre, and diagnosis and treatment persist and contribute to its prolonged spread. Some studies have found mean delays of up to 80 days in Ethiopia, 92 days in Argentina, and 240 and 104 days in Ghana and Australia respectively.

Delays can occur at different stages. Patient delay - the time interval between the onset of symptoms and patients' first visit to a medical facility - are often the biggest cause of delay. Factors contributing to this include: distance to services, cost of care, perceived poor attitudes of health workers, and lack of knowledge about TB treatment. Research in Tanzania finds that many people with TB adopt other approaches before consulting a DOTS facility including chemists, herbalists, hospitals and prayer houses.

Health service delay - the time interval between the first consultation and diagnosis - can be caused by health workers who have a low awareness of TB, particularly those working outside the primary-level government clinics such as unqualified vendors and traditional practitioners. Even within government run facilities delays can occur when staff are poorly trained and only limited diagnostic facilities are available.

Community health education is an important way of addressing patient delays. Effective programmes can raise public awareness of the disease and treatment, address misconceptions about TB and create demand for DOTS. Decentralisation of TB diagnostic and treatment services, for instance by locating services at community health centres, can also help by reducing the distance to clinics and cost of transportation. Patient delays may be further reduced if National TB programmes can engage better with the informal and private health providers. Such providers must be encouraged to refer suspected TB cases to DOTS clinics for prompt diagnosis and treatment.

More information:

- Tuberculosis section on the health resource guide www.eldis.org/go/topics/resource-guides/health/tuberculosis
 - World Health Organization section on tuberculosis www.who.int/tb/en/
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Recommended readings on Delays in accessing tuberculosis diagnosis and treatment

1. Anti-tuberculosis drug resistance in the world

Authors: A. Wright; M. Zignol

Publisher: World Health Organization , 2008

This report presents survey and surveillance data collected between 2002 and 2006 on drug resistance in tuberculosis (TB). It includes drug susceptibility test results from over 91,000 patients from 81 countries. New data are available from several high TB burden countries including: India, China, Russian Federation, Indonesia, Ethiopia, Vietnam, and Tanzania. The data records the highest ever prevalence of multi-drug resistant tuberculosis (MDR-TB). There are nearly half a million new cases of MDR-TB a year, with the highest rate recorded in Baku in Azerbaijan. Further, extensively drug-resistant tuberculosis (XDR-TB), a virtually untreatable form of TB, has been recorded in 45 countries.

The report argues that countries and the international community need to address TB drug resistance aggressively. In addition to specifically confronting drug-resistant TB and saving lives, programmes worldwide must immediately improve their performance in diagnosing all TB cases rapidly and treating them until cured as this is the best way to prevent the development of drug resistance. Approximately US\$ 4.8 billion is needed for overall TB control in low- and middle-income countries in 2008, with US\$ 1 billion for MDR-TB and XDR-TB.

Available online at: www.eldis.org/go/topics/resource-guides/health&id=35719&type=Document

2. Where do tuberculosis patients go for treatment before reporting to DOTS clinics in southern Nigeria?

Authors: J. C. Okeibunor; N. G. Onyeneho; J. N. Chukwu; E. Post

Publisher: Tanzania Health Research Bulletin, 2007

This paper in the Tanzania health research bulletin, analyses the health-seeking patterns of persons with tuberculosis (TB) before reporting at the Directly Observed Treatment Short-course (DOTS) clinic for diagnosis and treatment. From a study of semi-structured interviews with 221 persons in Southern Nigeria, the paper finds that the perceived causes of TB influence people's first choice of treatment. Of the 221 respondents, only four went straight to the DOTS clinic and the remaining 217 took between one and six other options before reporting to the clinic. The respondents had a median diagnostic-delay of 90 days.

The paper concludes that delay in commencement of DOTS treatment was attributable to ignorance among patients and the poor attitude of some health workers which

discouraged the use of DOTS facilities. The paper recommends that delays in seeking care can be addressed through community health education and sensitisation programmes that address misconceptions about TB and create demand for DOTS in the communities. The attitude of health workers can be improved through enhanced supervision, better working conditions and organised community participation in monitoring the programme.

Available online at: www.eldis.org/go/topics/resource-guides/health&id=33992&type=Document

3. A systematic review of delay in the diagnosis and treatment of tuberculosis

Authors: D. G. Storla; S. Yimer; G. A. Bjune

Publisher: BMC Public Health, 2008

This paper in BMC public health reviews 58 studies that assess the delay in the diagnosis and treatment of tuberculosis (TB). Delay in diagnosis can affect disease prognosis at the individual level and enhance transmission of TB within the community. The paper identifies the main factors associated with diagnostic delay. These include HIV; coexistence of chronic cough and/or other lung diseases; geographical barriers; rural residence; poverty; old age; female sex; alcoholism and substance abuse; low educational level; low awareness of TB; and stigma.

The paper concludes that the core problem in delay of diagnosis and treatment appears to be a vicious cycle of repeated visits at the same healthcare level, resulting in non-specific antibiotic treatment, incorrect diagnosis and failure to access specialised TB services. Three groups of healthcare providers were identified as sources of this vicious cycle: primary-level government health posts who have limited diagnostic facilities and poorly trained personnel; private practitioners with low awareness of TB and unqualified vendors and traditional practitioners.

Available online at: www.eldis.org/go/topics/resource-guides/health&id=35718&type=Document

4. The road to tuberculosis treatment in rural Nepal: a qualitative assessment of 26 journeys

Publisher: Health Services Research [journal], 2008

This paper in BMC health services research tracks the routes of 26 patients to tuberculosis (TB) treatment in rural Nepal. The analysis, based on semi-structured interviews of patients who shared their disease history and health seeking behaviour, focuses on the encounters with the health care system before enrolment in the TB treatment programme. The paper identifies several factors that influence the route to TB treatment. These include: ability to pay for services, availability of services and peer support for choosing a provider, perceived quality, costs and service level of a provider.

The paper concludes that patient routes towards TB treatment are characterised by self referral and include both private and public health care providers. Once TB is suspected referral for diagnosis and treatment is prompt. Given the importance of the private practitioners in determining patient routes to treatment, the authors recommend that quality improvement initiatives need to address not only the public sector, but also the private health care sector as well. [adapted from author]

Available online at: www.eldis.org/go/topics/resource-guides/health&id=35808&type=Document

5. Delays in the diagnosis and treatment of tuberculosis patients in Vietnam: a cross-sectional study

Authors: N. T. Huong; M. Vree; B. D. Duong

Publisher: BMC Public Health, 2007

This paper in BMC public health looks at the factors that delay people's access to tuberculosis diagnosis and treatment in Vietnam. It analyses patient delay (the time interval between onset of symptoms and first consultation with a health care provider) and health care delay (the time interval between first consultation and the start of treatment) using a cross-sectional survey of patients treated by the National Tuberculosis Control Programme in 2002.

The paper finds that the median delay in accessing treatment was four weeks: three weeks for patient delay and one week for health care delay. The factors that contribute to patient delays include female sex; belonging to an ethnic minority; and living more than five kilometres distance from a health facility. Risk factors for health care delays include urban setting; and initial visit to a communal health post, TB hospital or the private sector. The paper concludes that by analysing patient and treatment delays, it is possible to identify target groups and areas for health education and strengthening of the referral system, in particular between the private sector and the National Tuberculosis Programme.

Available online at: www.eldis.org/go/topics/resource-guides/health&id=35720&type=Document

Latest additions from the Health resource guide

1. Maternal health, Fifth report of session 2007-08, Volume 1

Publisher: House of Commons International Development Committee, 2008

This report by the House of Commons International Development Committee examines how the UK Department for International Development (DFID) and other donors can support progress towards Millennium Development Goal five, to reduce the level of

maternal mortality worldwide and attain universal access to reproductive health by 2015.

The report looks at why maternal health is so central to development and how addressing socio-cultural inequalities such as gender and poverty can help reduce maternal deaths. It also highlights what can be done at a global level, particularly by DFID: it identifies strategies for success, focusing on approaches that have been proven to work in preventing maternal deaths and whether these can be replicated at scale. Strategies include: boosting the numbers of midwives worldwide; increasing the availability and quality of training opportunities for them; increasing the availability of equipment and supplies; and supporting improved health information systems.

The report recommends that DFID needs to prioritise carefully and support other actors, especially the UN, in playing their part to ensure that maternal health receives the urgent political commitment that it deserves. In particular it recommends that DFID should:

- find new ways to help governments encourage health professionals to provide quality services in remote and rural areas
- work with the World Health Organization to advocate with national governments for national essential drugs lists to contain drugs that are crucial to maternal survival
- seek to build political commitment within countries to ensure that crucial medical supplies are appropriately funded within national health plans and budgets
- advocate within the UN system for maternal, sexual and reproductive health to be prioritised in humanitarian emergencies

Available online at: www.eldis.org/go/topics/resource-guides/health&id=35806&type=Document

2. Review of community-based management of acute malnutrition (CMAM) in the post-emergency context

Authors: H. Deconinck; A. Swindale; F. Grant; C. Navarro-Colorado

Publisher: Food and Nutrition Technical Assistance Project , 2008

This report reviews the integration of community-based management of acute malnutrition (CMAM) into the national health systems of Ethiopia, Malawi and Niger between April and June 2007. It documents the current state of integration efforts, identifies challenges and lessons learned, and suggests ways to move forward on improved integration of CMAM into national health systems. From this review, the report identifies key elements of CMAM integration into national health systems. These are: the enabling environment, access to services, access to supplies, quality of services, and competencies for CMAM.

The report recommends that when CMAM services are introduced, regardless of the context, a health systems strengthening approach should be used to ensure that services

are integrated into the health system. Global-level recommendations include to:

- advocate and attract technical and financial support from donors to integrate CMAM into national health policies and strategic plans
- support country initiatives to invest in the key elements identified for successful integration and sustainability of CMAM
- invest in developing tools for improving assessment, design and monitoring and evaluation of CMAM
- expand the knowledge and evidence base for integrated and scaled-up CMAM

Available online at: www.eldis.org/go/topics/resource-guides/health&id=35809&type=Document

3. Costs and effects of the Tanzanian national voucher scheme for insecticide-treated nets

Authors: J. Mulligan; J. Yukich; K. Hanson

Publisher: Malaria Journal, BioMed Central, 2008

This paper published in Malaria Journal examines the Tanzanian approach to scaling up coverage of insecticide-treated nets (ITN) to reduce the transmission of malaria. The approach focuses on delivering a targeted subsidy for people most vulnerable to the effects of malaria while at the same time providing support to the development of the commercial ITN distribution system. The paper analyses the costs and effects of the scheme and compares it with other approaches to distribution.

It finds that the total financial cost of the programme represents five per cent of the Ministry of Health's total budget or approximately \$7.50 per ITN delivered. These costs are well within the benchmarks set by other malaria prevention studies and thus the paper concludes that this is a cost effective and sustainable strategy. The Government of Tanzania's approach to scaling up ITNs using both the public and private sectors enables it to achieve and sustain the level of coverage required to meet the Abuja targets of covering 60 per cent of children under five and pregnant women with an insecticide treated net by the end of 2005.

Available online at: www.eldis.org/go/topics/resource-guides/health&id=35807&type=Document

4. Rehabilitation under fire: health care in Iraq 2003-7

Publisher: Medact, 2008

This Medact report describes how the war in Iraq and its aftermath continue to have a disastrous impact on the physical and mental health of the Iraqi people and sets out the

measures that are needed to improve health and health services. It assesses the current state of the health system, including the impact of insecurity, and the workforce, supplies, medicines and equipment it lacks. The report also pays special attention to mental health. It finds that significant efforts have been made to improve psychiatric facilities by the Ministry of Health and the World Health Organisation. However, obstacles remain in terms of improving education and training of health professionals, the short supply of psychiatrists and low morale.

The paper concludes that there has been insufficient Iraqi participation in the planning and implementation of health policies. Instead, the sequencing of policies has been politically motivated and has not taken different contexts into consideration. The paper recommends that Iraqis must define and lead all development processes and that all stakeholders including Iraqi leaders, civil society, diaspora groups, NGOs, international agencies and donors should be encouraged and helped to coordinate their efforts.

Available online at: www.eldis.org/go/topics/resource-guides/health&id=35721&type=Document

5. Continuum of care for maternal, newborn, and child health: from slogan to service delivery

Authors: K.J. Kerber; J.E. De Graft-Johnson; Z.A. Bhutta

Publisher: The Lancet, 2007

This article from The Lancet revisits the idea of a 'continuum of care' for mothers, children and newborns. The term, often used as a slogan, usually refers to continuity of individual care and of places of care. However, the authors point out that there are half a million maternal deaths, four million newborn deaths and six million child deaths each year. They propose a framework for integrated delivery of maternal, newborn and child health (MNCH) services at the population level. This includes eight packages of care used to deliver more than 190 interventions which would be difficult to scale up individually.

The packages include three which are delivered through clinical care (reproductive health, obstetric care, and care of sick newborn babies and children); four through outpatient and outreach services (reproductive health, antenatal and postnatal care, and child health services); and one through integrated family and community care throughout the lifecycle. The paper highlights the problem of low coverage, especially during and after childbirth when mothers and babies are at highest risk. The main barrier to scaling up the packages is poor operational management. Key requirements include: effectiveness trials in various settings, policy support for integration, investment to strengthen health systems, and results-based operational management, especially at the district level.

Available online at: www.eldis.org/go/topics/resource-

[guides/health&id=35581&type=Document](#)

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Announcements

Announcement: World TB day, 24 March 2008

'I Am Stopping TB' is the slogan for this year's World TB day. It marks the start of a two-year campaign that belongs to people everywhere who are doing their part to Stop TB. This year's World TB Day is about celebrating the lives and stories of people affected by TB: women, men and children who have taken TB treatment; nurses; doctors; researchers; community workers - anyone who has contributed towards the global fight against TB.

The website provides downloadable materials that will help you make your own World TB materials including posters, web postings and video; and plan World TB Day activities.

More information: www.stoptb.org/events/world_tb_day/2008/

Course: Infectious diseases in humanitarian emergencies, London School of Hygiene and Tropical Medicine, 14-18 April, 2008.

This course is designed for those working in public health or related disciplines in developing countries, who have an interest and experience of infectious disease management in humanitarian emergencies and who would like to improve their skills or bring their knowledge up to date to support implementation of infectious disease projects/programmes in emergency settings. The objectives are:

- To review epidemiology of infectious diseases in humanitarian emergencies (conflict and natural disasters)
- To explore the challenges of implementing infectious disease programmes in emergencies
- To explore concepts in infectious disease risk assessment in emergencies
- To review in depth the concepts in design and implementation of early warning/surveillance systems in emergencies
- To review principles of outbreak investigation and outbreak management, including laboratory, media and communication, social mobilization, and infection control
- To explore strategies in the prevention and control of key infectious diseases in emergencies

More information: www.eldis.org/go/topics/resource-guides/health/health-events-and-announcements&id=35798&type=Item

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- HIV and AIDS Resource Guide - <http://www.eldis.org/go/topics/resource-guides/hiv-and-aids>

The HRC provides access to technical assistance and information for the Department for International Development (DFID UK), and its partners, in support of pro-poor health policies as well as health systems, service delivery and public health topics and programmes.

Eldis currently includes descriptions and links to over 4,500 organisations and over 22,000 full-text online documents covering development and environmental issues. It can be searched or browsed free over the Internet.

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