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life inspiring ideas

World TB Day, held on March 24 each year, is an occasion for people around the world to raise awareness about the international health threat presented by tuberculosis (TB). It is a day to recognize the collaborative efforts of all countries involved in fighting TB. TB can be cured, controlled, and, with diligent efforts and sufficient resources, eventually eliminated.

History of World TB Day

In the late 19th century, TB killed one out of every seven people living in the United States and Europe. On March 24, 1882, Dr. Robert Koch announced the discovery of the TB bacillus. At the time, his discovery was the most important step taken towards the control and elimination of this deadly disease. World TB Day (24 March) commemorates the day in 1882 when Dr.Robert Koch announced his discovery of the TB bacillus.

In 1982, a century after Dr. Koch's announcement, the first World TB Day was sponsored by the World Health Organization (WHO) and the International Union Against Tuberculosis and Lung Disease (IUATLD). The event was intended to educate the public about the devastating health and economic consequences of TB, its effect on developing countries, and its continued tragic impact on global health.

Where We Are Now

TB remains a threat to the health and well-being of people around the world. Among infectious diseases, TB remains the second leading killer of adults in the world, with more than 2 million TB-related deaths each year. Until TB is controlled, World TB Day won't be a celebration. But it is a valuable opportunity to educate the public about the devastation TB can spread and how it can be stopped.

Facts on Tuberculosis - 2006

TUBERCULOSIS - THE GLOBAL BURDEN

- 6 million people die every year due to HIV/AIDS, TB and malaria; of those, 2 million deaths are due to TB
- TB is curable but kills 5000 people every day
- TB is a disease of poverty. Virtually all TB deaths are in the developing world affecting mostly young adults in their most productive years

- TB is the leading killer among HIV-infected people with weakened immune systems; a quarter of a million
- TB deaths are HIV-associated with most of them in Africa
- Global TB incidence is still growing at 1% a year due to the rapid increase in Africa; intense control efforts are helping incidence fall or stabilize in other regions
- TB especially affects the most vulnerable such as the poorest and malnourished
- 2 billion people, equal to a third of the world's total population, are infected with TB bacilli, the microbes that cause TB
- 1 in 10 people infected with TB bacilli will become sick with active TB. People with HIV are at even greater risk
- TB is contagious and spreads through the air. If not treated, each person with active TB infects on average 10 to 15 people every year
- TB is a worldwide pandemic; though the highest rates per capita are in Africa (a quarter of all TB cases), half of all new cases are in 6 Asian countries (Bangladesh, China, India, Indonesia, Pakistan, the Philippines)
- 9 million new TB cases occurred in 2004 with 80% in 22 countries
- Multidrug-resistant TB (MDR-TB) is diagnosed when the disease does not respond to the standard drug treatment. MDR-TB is present in virtually all 109 countries recently surveyed by WHO and partners 450 000 new MDR-TB cases occur every year. China, India and the Russian Federation count for two-thirds of all global cases.

Source: WHO Fact Sheet 2006

PROGRESS IN TB CONTROL IN INDIA

Indicators

DOTS treatment success, 2002 cohort	87%
DOTS case detection rate, 2003	47%
NTP budget available, 2004	100%
Government contribution to NTP budget, including loans, 2004	74%
Government contribution to total TB control costs, including loans, 2004	86%
Government health spending used for TB control, 2004	2%

Major achievements

- Expansion of DOTS to cover an additional 250 million population during 2003
- Scaling up of PPM DOTS project in 12 sites
- GFATM round 1 activities started and round 2 agreement signed
- Involvement of medical colleges through national, subnational and state task forces
- Involvement of health facilities under other ministries
- Publication of new guidelines on EQA and development of a DRS protocol for two states
- Development of guidelines for management of paediatric TB

Major planned activities

- Prepare for DOTS expansion in remaining states (laboratories, human resource, procurement) – entire country to be covered by October 2005
- Sustain quality of existing DOTS services by implementing a revised supervision and monitoring strategy
- Continue human resource capacity building through revision of all training material

INDIA

LATEST ESTIMATES[a]	
Population	1 065 462 272
Global rank (by est. number of cases)	1
Incidence (all cases/100 000 pop/year)	168
Incidence (new ss+/100 000 pop/year)	75
Prevalence (all cases/100 000 pop)	290
TB mortality (all cases/100 000 pop/year)	33
TB cases HIV+ (adults aged 15-49, %)	5.2
New cases multidrug resistant (%)	3.4

TRENDS	2000	2001	2002	2003
DOTS coverage (%)	30	45	52	67
Notification rate (all cases/100 000 pop)	110	105	101	101
Notification rate (new ss+/100 000 pop)	34	37	38	41
Detection of all cases (%)	65	63	60	60
Case detection rate (new ss+, %)	46	50	50	54
DOTS case detection rate (new ss+, %)	12	24	31	47
DOTS case detection rate (new ss+)/coverage (%)	42	53	60	69
DOTS treatment success (new ss+, %)	84	85	87	–

Facts on Tuberculosis

Infection and transmission

- Tuberculosis (TB) is a contagious disease. Like the common cold, it spreads through the air.
- Only people who are sick with TB in their lungs are infectious.
- When infectious people cough, sneeze, talk or spit, they propel TB germs, known as bacilli, into the air. A person needs only to inhale a small number of these to be infected.
- Left untreated, each person with active TB disease will infect on average between 10 and 15 people every year. But people infected with TB bacilli will not necessarily become sick with the disease.
- The immune system "walls off" the TB bacilli which, protected by a thick waxy coat, can lie dormant for years.
- When someone's immune system is weakened, the chances of becoming sick are greater.
- Someone in the world is newly infected with TB bacilli every second.
- Overall, one-third of the world's population is currently infected with the TB bacillus.
- 5-10% of people who are infected with TB bacilli (but who are not infected with HIV) become sick or infectious at some time during their life.

HIV and TB

- HIV and TB form a lethal combination, each speeding the other's progress. HIV weakens the immune system.
- Someone who is HIV-positive and infected with TB is many times more likely to become sick with TB than someone infected with TB who is HIV-negative.
- TB is a leading cause of death among people who are HIV-positive. It accounts for about 13% of AIDS deaths worldwide. In Africa, HIV is the single most important factor determining the increased incidence of TB in the past 10 years.
- WHO and its international partners have formed the TB/HIV Working Group, which develops global policy on the control of HIV-related TB and advises on how those fighting against TB and HIV can work together to tackle this lethal combination.

Drug-resistant TB

- Until 50 years ago, there were no medicines to cure TB. Now, strains that are resistant to a single drug have been documented in every country surveyed; what is more, strains of TB resistant to all major anti-TB drugs have emerged.
- Drug-resistant TB is caused by inconsistent or partial treatment, when patients do not take all their medicines regularly for the required period because they start to feel better, because doctors and health workers prescribe the wrong treatment regimens, or because the drug supply is

unreliable. A particularly dangerous form of drug-resistant TB is multidrug-resistant TB (MDR-TB), which is defined as the disease caused by TB bacilli resistant to at least isoniazid and rifampicin, the two most powerful anti-TB drugs. Rates of MDR-TB are high in some countries, especially in the former Soviet Union, and threaten TB control efforts.

- From a public health perspective, poorly supervised or incomplete treatment of TB is worse than no treatment at all.
- When people fail to complete standard treatment regimens, or are given the wrong treatment regimen, they may remain infectious. The bacilli in their lungs may develop resistance to anti-TB medicines. People they infect will have the same drug-resistant strain.
- While drug-resistant TB is generally treatable, it requires extensive chemotherapy (up to two years of treatment) that is often prohibitively expensive (often more than 100 times more expensive than treatment of drug-susceptible TB), and is also more toxic to patients.
- WHO and its international partners have formed the DOTS-Plus Working Group, which develops global policy on the management of MDR-TB, and facilitates access to second-line anti-TB drugs for approved projects.

TB in refugees and migrants

- According to UNHCR, there were an estimated 20 million refugees and displaced and needy people in 2003. Many refugees originate from countries with high TB incidence rates.
- Poor nutrition and health mean that refugees are at particularly high risk of developing TB. Untreated TB spreads quickly in crowded refugee camps and shelters. It is difficult to treat mobile populations, as treatment takes at least six months and should ideally be supervised.
- In many western European countries, and in the USA, over 50% of TB cases notified in 2001 were among people who were not born in the country and/or were not citizens of the country.

Effective TB control - DOTS

- The internationally recommended approach to TB control is DOTS, an inexpensive strategy that could prevent millions of TB cases and deaths over the coming decade. The DOTS strategy for TB control consists of five key elements:
    - government commitment to sustained TB control;
    - detection of TB cases through sputum smear microscopy among people with symptoms;
    - regular and uninterrupted supply of high-quality anti-TB drugs;
    - 6–8 months of regularly supervised treatment (including direct observation of drug-taking for at least the first two months);
    - reporting systems to monitor treatment progress and programme performance;

- Once patients with infectious TB (bacilli visible in a sputum smear) have been identified using microscopy services, health and community

workers or trained volunteers observe patients swallowing the full course of the correct dosage of anti-TB medicines.

- The most common anti-TB medicines are isoniazid, rifampicin, pyrazinamide, streptomycin and ethambutol.
- Sputum smear testing is repeated after two months, to check progress, and again at the end of treatment.
- The recording and reporting system ensures that the patient's progress can be followed throughout treatment. It also allows assessment of the proportion of patients who are successfully treated, giving an indication of the quality of the programme.
- The DOTS strategy produces cure rates of up to 95% even in the poorest countries.
- The DOTS strategy prevents new infections by curing infectious patients. The DOTS strategy prevents the development of drug resistance by ensuring that the full course of treatment is followed. A six-month supply of drugs for treatment under the DOTS strategy costs as little as US$ 10 per patient in some parts of the world. The World Bank has ranked the DOTS strategy as one of the "most cost-effective of all health interventions".

Implementation of DOTS worldwide

- Since its introduction in 1991, more than 17 million patients have received treatment under the DOTS strategy.
- By the end of 2002, all 22 of the countries with the highest number of TB cases, which together have 80% of the world's estimated incident cases, had adopted the DOTS strategy.
- By the end of 2003, 182 countries were implementing the DOTS strategy, and 77% of the global population was living in parts of countries where the DOTS strategy was in place.
- In India alone, 740 million people (almost 70% of the total population) were living in parts of the country where the strategy had been implemented.
- In 2001, the Global DOTS Expansion Plan was published. The two pillars of the plan are the development of medium-term (at least 5-year) plans for TB control in all countries, and the establishment of national interagency coordination committees (NICCs). All 22 countries with the highest number of cases had formulated plans by the end of 2003, and all but two had NICCs that met regularly.

Global targets

- WHO targets, ratified by the World Health Assembly in 1991, are to detect 70% of new infectious TB cases and to cure 85% of those detected by 2005.
- Eighteen countries had already achieved these targets in 2002. Globally, 45% of the estimated infectious cases were treated under DOTS in 2003, four times the fraction reported in 1995.
- The latest average success rate for treatment under the DOTS strategy was 82% globally.

- Halving TB prevalence and death rates by 2015 are included among the United Nations Millennium Development Goals.
- These indicators have been estimated for all countries, but to date there are few countries where the impact of TB control has been studied in detail.
- Among these are Peru, where widespread implementation of the DOTS strategy for more than a decade, with a treatment success rate of 90%, has led to a decline in incidence and the prevention of an estimated 70% of deaths among infectious cases over the period 1991 to 2000.
- In half of China, where the DOTS strategy has been implemented progressively since 1991, prevalence fell 30% more than in the rest of the country.
- The 2004 WHO report Global TB Control concluded that, in order to improve progress towards global targets, governments and national TB control programmes must take a more strategic approach to planning, match budget more closely with plans, and match fundraising activities to realistic budgets.

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TB FAQs
Frequently Asked Questions about Tuberculosis

What is TB?
TB is a disease caused by a germ that is usually airborne and inhaled. Your doctor can treat TB with medicines. If you do not take the medicines, you can die from TB.

When should I get myself tested for TB?
You must get yourself tested for TB when you suffer from the following conditions:
- cough persistent over a prolonged period
- sleeplessness
- night sweats
- fevers
- loss of appetite and nausea.

When do I know I have TB?
You have TB when your TB skin test (Mantoux test) is positive and your chest X-ray shows spots or shadows.

Is TB contagious?
TB is contagious. TB germs are spread through the air to other people when you cough, speak or even laugh. Do not go to school or work until your doctor tells you that you are not contagious anymore.

Should I take my medicines regularly even after I am cured?
You must take all of your medicines prescribed by your doctor, to cure your TB disease. If you do not take all your medicines, the disease could resurface and you could die.

Is TB curable?
Yes, TB is curable. Your doctor or local health department will give you medicines called antibiotics that will cure your TB. The **D**irectly **O**bserved **T**herapy, **S**hort-course **(DOTS)** will be employed by your doctor to make sure you take your medicines.

What are the other measures I must take while under medication?
You must eat well and get lots of rest while you are taking your medicines.

Issued in public interest by **AstraZeneca** Logo (with life inspiring ideas)

AstraZeneca India is focused on the discovery of novel and more effective therapies for the treatment of Tuberculosis.

(2003 WTB day leaflet)