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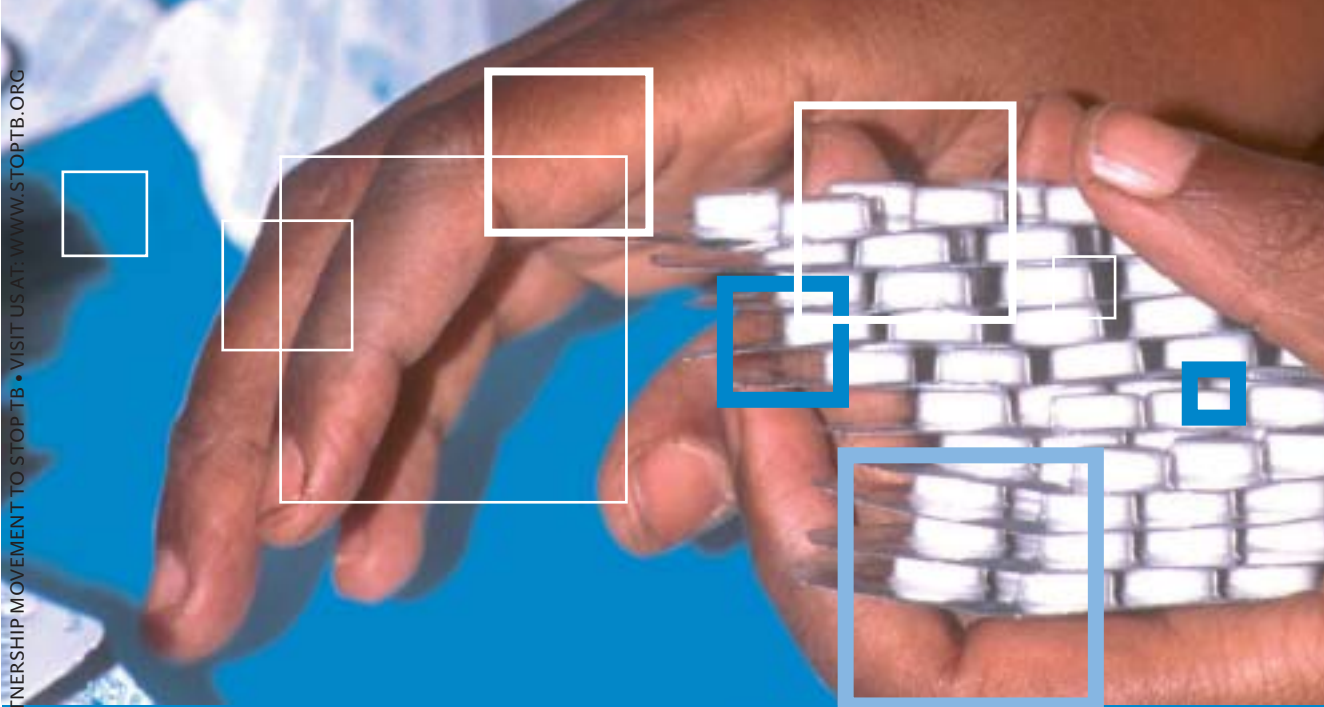
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DOTS EXPANSION

Spreading the net... and mending the holes

By now, we should be starting to turn the tide against tuberculosis. After all, we have the tools – so let's finish the job.

Thanks to DOTS, the five-point anti-TB strategy (*see sidebar, page 3*), the world's embattled health care providers have a proven, standardized method of fighting the disease. And thanks to the establishment of Stop TB's Global Drug Facility to increase free access to quality drugs, they now have the means.

Given these advantages, you might think suspect TB cases have it relatively easy. If they consult a DOTS clinic without delay, they can be diagnosed promptly and accurately, receive a correct treatment prescription, obtain the correct drugs, and by taking the full treatment regimen, be cured.

All in all, we should therefore be well on the way to the targets we have set ourselves for end-2005: to detect 70% of all active TB cases and cure 85% of those detected.

Actually, we *are* nearly achieving the target for cure rates, but we are still nowhere near the target for case detection. Even though DOTS programmes now cover nearly half of the world's population, *only about 30% of people with infectious TB are currently diagnosed and treated with DOTS*, according to the latest WHO estimates for 2002.

That's right. Just 30%.

In a way, that's not surprising. Stop for a moment and consider the hurdles that await – say – a Nepalese hill farmer who has a persistent cough that he fears may be tuberculosis.

Assume that he wants to cure himself, as well as protect his family and community. So he gets up early and walks to the nearest TB clinic, which could be many miles away across rugged mountains. On arriving there, he stands in line – possibly for several hours – in order to register at the front desk. After he has registered, the clinic will send him to a laboratory, which may be located somewhere else, where he'll line up again to

be given another form to fill out, and then told to go outside and cough some sputum from his lungs into a plastic cup. He brings the cup back to the laboratory for analysis, and is told to return the next morning with another sputum sample. When he treks back to the clinic, he hands over the second cup and is told to go outside again and produce *yet another* sputum sample. Then he has to wait for another few hours for the test results ...

And while he is away, his farm goes untended and neighbours gossip about his prolonged absence. (Women – who are generally expected to collect firewood and water, cook, clean, tend to children and livestock and perform other myriad chores – have it even tougher.)

So far, so bad. But that's just the beginning of our Nepalese hill farmer's travails.

If he is diagnosed TB-positive, he will have to return to the clinic every day for the next two months to receive directly observed medication from a health worker.

If he's diagnosed negative – all well and good. But will he go through all that bother the next time he develops a cough, one that really is TB? Or will he simply ignore the signs the second time around, infecting a dozen other people before dying a painful, wasting death?

This is the crux of the detection problem. People aren't robots. They don't just fall meekly into line when some medical official passes through their city slum or remote village and tells them what's good for them. What seems like a good idea to public health authorities in Geneva doesn't always translate into sound practice in the villages of Nepal... or the jungles of Indonesia, or the shipyards of Poland and Estonia for that matter.

So now that we have mastered the technical aspects of curing TB, it's time to examine more closely the "human factor" – the people who have the illness, and the health care providers charged with curing them.

This doesn't mean we should slacken our efforts to achieve universal DOTS coverage, first and foremost in the 22 high TB-burden countries where 80% of global TB cases are found. Ensuring the provision of quality DOTS services must continue to top the list of our priorities, and national TB control programmes (NTPs) must involve as many stakeholders as possible.

But let's face facts: statistical modelling clearly shows that, even if we achieved 100% DOTS coverage tomorrow, case detection would plateau at around 50% using current approaches. We need to take more aggressive measures to stimulate demand, while at the same time ensuring that TB patients complete their treatment to avoid the creation of drug-resistant strains.

Unless we more clearly understand why so many TB sufferers slip through the net, and improvise new methods to capture them, we will not achieve the 2005 targets.

The precise reasons for these failures differ from place to place. The main obstacle may be social stigma, lack of information, poor quality DOTS services, simple economics or a combination of all of these.

Simply put, the TB tide is still rising. How to turn it back is the subject of this newsletter.

Jacob Kumaresan
Executive Secretary
Stop TB Partnership

The Stop TB Partnership is a global movement with more than 200 member organizations (including the World Health Organization) that are engaged in TB control efforts. The Stop TB Partnership Secretariat is hosted by the World Health Organization in Geneva, and coordinates the activities of the Partnership.

DO THE MATHS!

WHO number crunchers point the way

“There are lies, damned lies ... and statistics,” President Harry Truman famously said.

It’s a good thing the great man wasn’t in charge of the fight against tuberculosis. If we are ever to win our own world war against this latter-day tyrant, we ignore figures at our peril.

Just take a look at the ones facing us.

Approximately one-third of the world’s population is infected with *Mycobacterium tuberculosis* and is at risk of developing the disease. Some 50% of untreated TB sufferers die of the illness, probably having infected others along the way. An estimated 8 million new cases of TB infection and 1.7 million deaths occur annually.

But hang on a moment. How do we know all this? If more than 70% of all TB cases go undetected, how do we know they’re there in the first place?

The answer lies in applied mathematics, logic, and plain common sense.

“To get a picture of a country’s infection rates, we usually start by conducting very large tuberculin surveys of young children – say between the ages of 5 and 10 years” explains Stop TB epidemiologist Brian Williams. “By recording the percentage of 5-year-olds infected, and comparing that with the 10-year-olds and all ages in between, we can track the rate of infection.”

From those figures – all other things being equal – Williams and his colleagues can form

a fairly accurate picture of the rate of infection in adulthood. By extension, epidemiologists can then estimate the TB infection rate as a whole, and hence predict how many cases of TB need to be diagnosed and cured for the overall rate of infection to go down.

The first step towards controlling epidemic illnesses, explains Christopher Dye, head of TB monitoring and evaluation for WHO, is determining how many healthy people each new untreated sufferer will infect – on average – before he or she dies.

“If we had an ideal population where no one had TB and introduced one infectious case, that person would, on average, infect about 20 to 40 others; but of those, only about 10% – or two to four people – would then go on to become infectious themselves,” Dye says. “So to control the disease we need to reduce transmission by a factor of two to four.”

At the moment, many cases of tuberculosis are still being missed, even in countries with high DOTS coverage. Unless a majority of those cases can be found, Stop TB will not reach the target of 70% detection rates by 2005.

If Stop TB reaches its 2005 goals on schedule, on the other hand – and if effective TB control is subsequently maintained – mathematical modelling demonstrates that the burden of TB could be halved by 2010; and by 2020, the world will have averted 25 million deaths from TB, and prevented 50 million new TB cases.

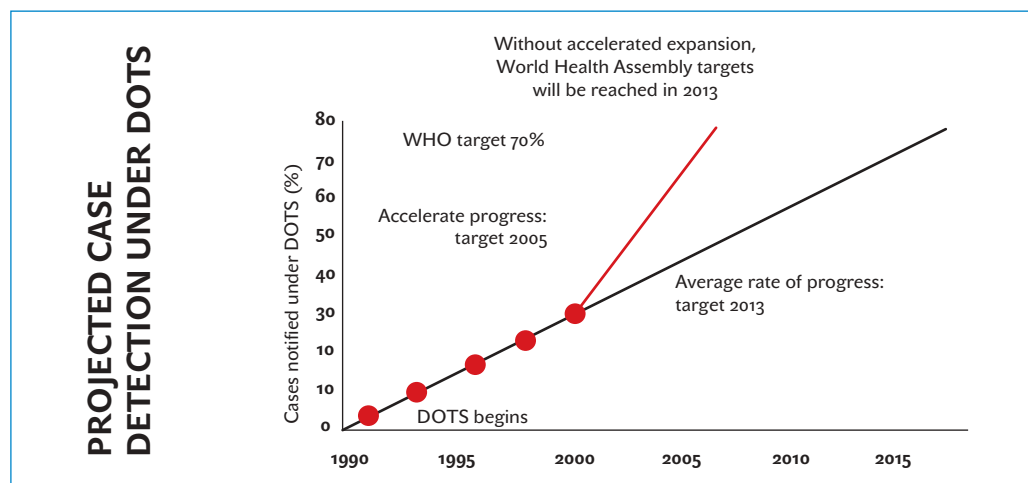
All in all, those make for pretty healthy statistics ... and a lot of healthy people.

The strategy recommended by WHO to combat TB is known as “DOTS”.

Its five key components – government commitment to sustain TB control; case detection by sputum microscopy; standardized treatment of six to eight months; a regular supply of essential TB drugs; and a standardized reporting system – can cure up to 90% of all tuberculosis cases.

The strategy requires that health workers watch TB patients take their drugs for at least the first two months of therapy. This reduces the chance of patients stopping treatment before they are cured of the disease. “Defaulting” from treatment can lead to multi-drug resistance (MDR-TB) developing in the patient and that same resistance can be passed on to others.

To learn more about the spreading menace of MDR-TB, see the last issue of Stop TB’s quarterly newsletter.



KISS AND MAKE FRIENDS

Stop TB urges public-private sector partnerships

04

The Global Drug Facility (GDF) is a novel new weapon in the TB arsenal that has been developed since the 2000 Amsterdam Ministerial Conference on Tuberculosis and Sustainable Development.

DOTS expansion depends on an uninterrupted supply of quality anti-TB drugs, but this is difficult to ensure in many of the neediest countries due to lack of resources, escalating epidemics, limited procurement or storage capacity, and problems with drug quality.

The GDF focuses on guaranteeing uninterrupted global supplies of quality drugs, catalysing rapid treatment expansion, stimulating political and popular support in countries throughout the world for public funding of appropriate drug supplies and securing sustainable disease control.

The initiative is paying off in other unexpected ways. For example, between the GDF launch in March 2001 and the following June, the price of anti-TB drugs fell by more than one-third due to the competitive bidding and bulk purchasing procedures introduced.



There are several pieces to the TB puzzle, and expanding DOTS coverage is only the first.

Even so, if that piece isn't in place to begin with, then we can forget about ever reaching the endgame.

"When a country attempts to tackle tuberculosis without DOTS, most of that country's TB patients have only a slim chance of survival – the most they can hope for is that they'll live a little longer," remarks Stop TB's Ger Steenberg. "In fact, no treatment at all is better than bad treatment – at least if people die sooner, they'll infect fewer of the people around them."

That's a blunt message. But it's one that several governments had already taken on board even before WHO and the Stop TB Partnership launched the current drive to increase DOTS coverage and detection rates.

Take the Philippines, currently ranked seventh among the 22 high-burden countries. DOTS was first piloted there in 1996 and has now been scaled up close to the level of 100% availability to the country's 75 million population.

"One major reason for the successful expansion exercise is that Manila is right behind us," attests Charles Yu, chairman of the Philippine Coalition Against Tuberculosis (PhilCAT – a local NGO and Stop TB partner). "When our president speaks on television about TB control, this tells people like me that our rulers are on board. When our health

secretary shows up at a TB conference on the other side of the world, this tells us that he really means business."

But official backing goes way beyond gestures of solidarity.

Having rebounded from the 1997 "Asian contagion" financial crisis that crippled the region, the Philippines government has now doubled its funding commitment to TB control.

These days, the budget for TB control is explicitly approved each year by the Philippines parliament. Armed with an annual, cast-iron pledge of funding, the country's NTP can go ahead and buy anti-TB drugs and laboratory supplies and fund related activities such as training, monitoring, advocacy and policy development, as well as granting assistance to NGOs like Yu's PhilCAT.

That said, there's more to expanding DOTS than cold cash.

Poor high TB-burden countries such as Cambodia, Kenya, and the United Republic of Tanzania have all upped their cure rates thanks to functioning health care systems that boast a high ratio of highly qualified medical professionals to inhabitants, despite a dearth of hard currency. In 1999, Peru and Viet Nam became the first of the world's high-burden countries to surpass both WHO targets of 70% case detection and 85% treatment success. Shortly afterwards, Peru exited the list of high-burden nations – only eight years after introducing DOTS.

"TB is ultimately a management problem, not a money problem," says Mario Raviglione, Stop TB's Coordinator of TB Strategy and Operations. "Some countries have realized this – others have yet to see the light."

For the past two decades, Raviglione explains, TB control in most areas of the world has been integrated into public health services to only a limited extent, and has maintained a special status with separate dedicated staff and support.

But while that approach may have worked well 20 years ago, such a system is simply neither geared nor equipped to meet the

increased demands of the tuberculosis burden – particularly if those resources are being further stretched by other modern-day scourges such as HIV/AIDS, which in sub-Saharan Africa is driving the incidence of TB upward at unprecedented rates.

In other words, says Raviglione, the time has come to start thinking “horizontally”, not “vertically”.

“Think about it: If a country only operates national TB programme DOTS centres or laboratories, and no other health clinic or laboratory is allowed to provide these services, then patients will have to travel there or be referred there from another clinic,” Raviglione points out. “You can hardly claim that these patients are ‘covered’ by DOTS.”

And yet, it doesn't have to be like this, given the resources available.

Over the past 18 months, donors have pledged additional funding through instruments such as the Global Fund to Fight AIDS, Tuberculosis and Malaria. Stop TB's Global Drug Facility, with start-up financial support from the Canadian International Development Agency, is now providing cheap, high-quality anti-TB drugs to dozens of low-income countries.

Now governments, multilateral agencies and NGOs are keen to see these instruments become rapidly functional. To achieve that objective, they're quite prepared to take a “hands-on” role.

The question is, how can we harness this willingness to stand up and be counted?

“To expand DOTS effectively, we need to replicate within individual countries the kind of relationship that the Stop TB secretariat in Geneva has with its partners worldwide,” insists Marcos Espinal, secretary of the Stop TB Working Group on MDR-TB. “We need to get these people working with each other, not ignoring or competing with each other.”

In the Philippines, for example, that has meant embracing the kind of cooperation that only a few years ago was politically taboo.

“Nowadays we make no bones about the need to recruit and train private for-profit clinics to

be able to deliver DOTS, because for half of the population they're the first port of call,” says Secretary of Health Manuel Dayrit.

“As far as I'm concerned, the ends justify the means. To the private practitioners, DOTS is good business, because news of their expertise spreads, and they attract more patients. To us, it's simply effective health policy.”

In the end, however, success or failure hinges on the attitude of the men and women who make the laws and collect tax revenue.

Around the world, TB partners repeatedly list the lack of political will at the national, regional and community levels among the biggest obstacles to mobilizing community involvement, private sector support and the cooperation of mass media.

“The rot starts at the top,” concludes Stop TB's Steenberg. “Stop the rot, and you have a chance of building a first-rate DOTS structure.”

Let the rot go untreated, he adds, and most TB cases around the world will continue to go untreated as well.



The Global Fund to Fight AIDS, Tuberculosis and Malaria is an independent public-private partnership working to increase funding to fight the three diseases, and direct these funds rapidly to effective prevention and treatment programmes in the countries with greatest need. The Fund's Board includes representatives of all parties that have a stake in fighting the three diseases: donor and recipient country governments, international agencies, NGOs, the private sector, and people suffering from one or more of the illnesses.

To date, the Fund has raised some US\$ 2.5 billion from industrialized and developing country governments, businesses, foundations, and individuals. The Fund supplements, but does not replace, existing national, bilateral, and multilateral donor programmes.

The Global Fund disburses grants with a minimum of red tape, but with safeguards to ensure that funds are used wisely and achieve results. It works closely with grantees to monitor programme implementation, financial management, and health outcomes.

For further information about the Fund's work, visit: www.globalfundatm.org

FORGING LINKS

... and strengthening the DOTS chain

06

The Global DOTS Expansion Plan – launched in November 1990 – provides a template for the mobilization of the human and financial resources in order to achieve the global targets of TB control. The plan, based on country strategic five-year plans, highlights country needs and resource gaps, and emphasizes collaboration among governments of endemic countries, national and international agencies, and NGOs.



Under the plan, the fundamental responsibility for planning and implementing TB control programmes remains with national governments through NTPs. DOTS expansion programmes must operate within the routine health service of each country. However, it is imperative that NTP managers seek a greater degree of participation from all nongovernmental stakeholders, since the TB burden is becoming too large not to share the load.

So far, it all sounds straightforward enough: determine the number of active cases of TB in the world, expand DOTS coverage far enough to catch the majority of them, and make sure all the new clinics and hospitals have the equipment and personnel they need to handle the corresponding increase in expected caseloads...

If only it ended there. But it doesn't.

"Just because you make DOTS services widely available doesn't mean that people will automatically use them," admits Vincent Tihon, manager of Zambart, a Stop TB-sponsored research project in Zambia that aims to identify bottlenecks in TB case control (see overleaf). "Quantity is not enough when you're talking about DOTS. The quality has to be there as well."

In ideal circumstances, of course, all new cases of TB would consult without delay, be diagnosed promptly and accurately, receive a correct prescription, and take the full treatment regimen regularly to finally be cured. This would lead to a 100% cure rate of new TB cases and an immediate decrease in the transmission of TB.

Unfortunately, the real world isn't like that.

"At each juncture, problems and difficulties arise," muses Firdosi Mehta, the WHO's medical officer for TB in Jakarta. "A TB-infected individual fails to recognize his own

symptoms and present himself for a sputum smear; a positive sputum result is missed by the laboratory technician; the patient doesn't complete the course of treatment, and so on and so on."

In Nepal, for instance, plenty of sufferers never even contact a DOTS provider at all, preferring to confer with traditional healers who use prayers and charms to try to cure patients' illnesses. Elsewhere in the world, TB victims waste time and money on off-the-shelf cough medicines and consultations with herbalists before they even confront the possibility that they might have infectious TB.

"Tuberculosis is a disease of poverty," notes Ernesto Jaramillo, author of a groundbreaking study of behavioural trends in the town of Cali, Colombia. "But in Cali, where everyone is poor, it's seen as a disease of extreme poverty. Most people, when it's suggested their cough might be a symptom of TB, will say 'hey, I may be poor, but I'm not *that* poor.'"

Once a TB sufferer does show up at the local DOTS clinic, the initial examination can be the weakest link in the chain of steps that should lead to a cure. A harassed laboratory technician who fails to explain how to cough up a sputum sample may end up looking at a "clean" drop of saliva through his microscope, rather than a bacilli-rich dollop of phlegm. The distracted doctor who doesn't bother to explain the importance of the sputum test runs the risk that a patient may not bother to return to give the second and third samples in the required series of three separate sputum examinations (a process that can take longer than a week).

Just as often, patients may simply be repelled by the brusque attitude of health care staff who are too overwhelmed by the workload of cases to observe common standards of courtesy. Researchers report that this is a particular problem in areas of Africa and South-East Asia, where rampant HIV infection has jumpstarted TB pandemics: "Don't forget, although a third of the world's population carries the TB bacillus, under normal conditions, only about 10% have active TB," cautions Stop TB campaign manager Ninan Varughese. "But

because HIV destroys a person's immune system, it increases the likelihood of activation of latent tuberculosis."

In fact, adds Varughese, TB is the first manifestation of AIDS in 50% of cases in developing countries. "We have to catch these people early, for their own sakes, as well as everyone else's, because as well as rendering them non-infectious, curing an HIV patient of TB can delay the onset of AIDS by several years. All they have to do is stick to their treatment..."

... the trouble is, that's a mighty big "if". Successful treatment of pulmonary tuberculosis involves at least six months of daily therapy with three or more drugs. Yet many patients with active tuberculosis, having started to feel better after several weeks of treatment, do not complete their full treatment course and therefore may still represent a high risk of infection to their community.

Tragically, the most likely of all to fall off the DOTS wagon are young women, who should be at the peak of their productive and reproductive powers. Although TB is generally more common among males than females, women of reproductive age have higher mortality and case-fatality rates than their husbands and brothers.

And frankly, that's not surprising.

"If you've got children to raise and meals to cook, you're going to think twice about abandoning those kinds of responsibilities if you don't feel there's anything wrong with you - so there's no point in our getting angry with such women", advises Gini Williams, a public health lecturer at City University in London who devises training workshops across the world for TB nurses. "If your husband is telling you, 'there's nothing wrong with you girl - now go and cook my supper,' then standing in line to receive your pills with a bunch of spluttering, coughing people isn't going to be your first priority in any case".

Thankfully, given a fair degree of teamwork, it's possible to overcome many of these stumbling blocks by judicious deployment of the bilateral and cooperative TB programme partnerships that have sprung up across the globe to buttress the performance of NTPs.

Such collaborations can play a vital role in identifying and implementing the changing needs to expand DOTS under new health policy reforms. Donors and nongovernmental, private and community-based organizations are becoming major stakeholders in steering social policies and directing funding for health services (see sidebar).

"It all comes back to this imperative of building 'national partnerships'" says Stop TB advocacy officer Petra Heitkamp. "Think of 'official' channels forming the main trunk of the tree, with all these other entities forming the wide-spreading branches."

That said, cautions Heitkamp, TB control must still be carefully conceived. The different steps of a TB programme are closely linked, and concentrating all resources on one already-sturdy link in the DOTS chain, while neglecting others that require strengthening, will not lead to perceptible improvement.

"The first step is identifying which aspect needs attention, and what can be safely left to function on its own," agrees Zambart's Tihon. "Until we are in a position to do that, any NTP can only really operate at half strength. The question is: how?"

To find out, keep reading...



Inherent in the new "national partnership" approach are an array of creative "sharing alliances" which together should ensure a seamless health delivery service.

For example:

- Where patients cite geographical remoteness for their failure to comply with treatment, the provision of children's daycare centres, and help with transport costs and other "enablers" may be enough to maintain motivation.

- Some NTPs have turned to faith-based organizations, recruiting officials at places of worship to spread the DOTS message and even administer daily observed therapy. Others work with sports clubs, schools and traditional healers.

- While diagnosis of TB is a specialized matter, there's no reason why some "unorthodox" healers shouldn't be co-opted to supervise the daily dosage, Heitkamp says. "Ideally there'd be a public-private mix where private practitioners refer patients to the public sector for treatment, or get drugs from the government, as happens in Kenya and in Nepal."

IMAGE IS EVERYTHING

Stop TB steals a trick from the Big Business manual

Like any slick big business marketing campaign, COMBI attempts to reach the people behind the statistics.

08

For only when you understand the people, argues WHO's Everold Hosein, can you possibly hope to understand the statistics.

"You see, people make their behavioural decisions - about anything, not just whether or not to enlist in DOTS - only after making their own 'cost versus benefit' analysis," he explains.

"Persuading people to turn up every day for several months to receive a handful of cheaply manufactured pills just because they have a persistent cough is a 'tough sell'. So in addition to lowering the 'cost' of seeking treatment, we also have to increase the perceived value of the anti-TB drugs."

For more information about the philosophy behind the COMBI approach, see chapter three of WHO's 2002 report, "Scaling Up the Response to Infectious Diseases" at: <http://www.who.int/infectious-disease-report/2002>



Imagine you're the president of a soft drinks company - let's call it Stop TB, Inc.

And imagine you want to introduce a new brand of soda - let's call it DOTS - onto the world market.

Having spent a lot of time and effort developing your product, you're probably not just going to throw it out there and hope that everyone instantly becomes "brand aware". No - if you've any sense, you'll devote as much time and effort to marketing and advertising the thing as you did on devising it in the first place.

In essence, this is the job Stop TB must now tackle: while we now have a sure-fire method of winning the war against TB, we still have to "sell" it to the people who need it.

This is where a research tool called COMBI, or "Communication for Behavioural Impact", comes in.

At the heart of COMBI lies what the private business sector would call "direct sale", or personal selling: the door-to-door engagement of the "consumer" in his or her home.

The approach has already been instrumental in the elimination of leprosy in India and Mozambique. Now, it's TB's turn for the COMBI treatment - starting right now.

Beginning in January 2003, Stop TB-sponsored COMBI pilot programmes will air in Bangladesh, India and Kenya. The Stop

TB Task Force on Advocacy and Communications chose the three countries because they all have high DOTS coverage and low detection rates, but nevertheless boast good infrastructures in place to implement social mobilization activities.

That's an important consideration.

For COMBI uses a variety of communication interventions to "mobilize" the target population into adopting and maintaining a particular desired goal - in this case, taking the sputum test. It also attempts to identify the barriers and constraints that may prevent people from taking up the treatment, and thereafter following it through to the finish.

Under Stop TB's COMBI programme, bands of trained researchers will begin by visiting people door-to-door to spread the message: "if you have a cough that won't go away, visit your local DOTS center for a sputum test".

At the same time, those researchers will talk with people about their attitudes towards TB, and record the answers they receive.

"Simultaneously, we'll also be deploying various techniques to keep the campaign in the public eye," enthuses Everold Hosein, Communications Adviser for WHO's Social Mobilization and Training Programme. "Matchbox logos, TV ads, schoolkids bringing reading material home. We have all kinds of things planned."

Later on, COMBI officials will review the findings their community researchers have collected, and based on the "get tested" campaign degree of success, will modify and develop their long-term detection policy according to the "market conditions" they uncover.

"Of course, those conditions are likely to vary enormously between the three countries - but we know this already," adds Hosein. "We already know that - for all kinds of reasons - a poorly paid Indian labourer's reaction to a persistent cough will be different from a Kenyan hillfarmer's. What we don't yet know is precisely *why*, and how to change it."

If we *can* ever do that, he adds, the battle will already be half won.

TESTING, TESTING...

The search for better diagnostics



Even if DOTS expansion proceeds smoothly and COMBI yields the expected success, one Achilles heel still looks set to vex Stop TB officials for some time to come.

More than a century after its inception, the microscopic examination of sputum is still the only widely available diagnostic tool for TB in most developed countries.

The method has several pitfalls, not least of which is an inability to diagnose non-infectious TB cases.

Consequently, only a small fraction of TB patients are ever quickly and accurately diagnosed, leading to increased morbidity, the erosion of faith in public health care services, and, most importantly, continued transmission of infectious TB.

One thing is sure: “Faster, simpler, low-cost, high-sensitivity diagnostic tests will make life a lot easier for people like me,” sighs Rajeswari Ramachandran, Deputy Director of Training and Outpatient Care at the TB Research Centre in Chennai, India. “Theory and data suggest that TB incidence and death rates could be brought down swiftly if the average duration of illness could be decreased through inexpensive, practical methods to shorten diagnostic delays.”

Thanks to recent scientific advances in the field of genomics, molecular biology and

immunology, the worldwide TB research community has reached a critical threshold, with a number of promising new diagnostic techniques preparing to enter Phase I clinical trials.

Now, a multinational study has just been launched with the aim of collecting data that will help predict which of these various candidates would be of most practical use in low-income, high-burden field settings.

The initiative is the brainchild of the Special Programme for Research and Training in Tropical Diseases (TDR), which is jointly funded by the United Nations Development Programme, the World Bank and WHO.

“The goal is to quantify delays and drop-out from the diagnostic process, and to quantify resultant economic loss and morbidity,” says TDR medical officer Jane Cunningham.

“Factors associated with delay will be identified and will form the basis for future interventions designed to abbreviate and facilitate the diagnostic process.”

It's about time, say DOTS staff.

More than 60 studies quantifying delay in diagnosis and treatment have already been carried out around the world. Most, however have focused almost exclusively on the experiences of smear-positive TB patients. The TDR project is the first to include newly diagnosed cases that had previously been falsely recorded as smear-negative.

Studies will be conducted at four separate sites, in order to compare and contrast results from radically different geographical and cultural settings: Chennai, India; Lima, Peru; Chiang Mai, Thailand; and Lusaka, Zambia.

The field data will inform a mathematical model designed to predict which characteristics of a new diagnostic tool would best accommodate regionally specific needs.

More information on TDR and the TB Diagnostics Initiative can be found, respectively, at: www.who.int/tdr and www.who.int/tdr/diseases/tb/tbdi.htm

Not a single new class of anti-TB drugs has been developed in more than 30 years.

That means that today's TB patients, rich and poor alike, are still treated with drugs discovered 40 years ago.

Research and development for new anti-TB drugs languishes under a perceived lack of need and insufficient profit incentives for the pharmaceutical industry. Thus, despite the promise of science, the private sector has dedicated only limited resources to researching new classes of compounds to fight the growing TB epidemic.

Preliminary market research suggests that a new anti-TB drug that could reduce the treatment period to only two months could capture between US\$ 300 and 400 million, equivalent to 50–60% of the total annual global market for anti-TB drugs, which is estimated to reach approximately US\$ 612–670 million by 2010.

LEST WE FORGET...

... the people behind the statistics

10

During a special briefing organized by the Stop TB Partnership in the UK House of Commons on 4 December, lung specialist Peter Davies made a telling historical point.

Commenting on sharp increases in tuberculosis in and around London that have alarmed public health officials, Davies told the assembled group of MPs, journalists and NGO representatives: The lesson is simple, ladies and gentlemen – TB has come home again.

The current global epidemic of TB, he explained, was originally a product of the Industrial Revolution. As the great factories and coal mines rapidly spread across Great Britain and Western Europe in the 19th century, so did sprawling workers' tenements that were overcrowded, unsanitary, poorly heated and ventilated – perfect breeding grounds for spreading TB on a mass scale.

Dramatic improvements in public housing and health care systems gradually led to the virtual disappearance of TB in most of western Europe during the second half of the 20th century – by which time the disease had moved on with a vengeance to Africa and Asia.

In the modern age of air travel and migration, TB has finally come full circle. A major outbreak of TB in New York during the early 1990s cost US\$ 1 billion to control. Now, incidence rates of TB in several boroughs in and around London rival those in China and India.

“What is happening in London is a snapshot of the global picture”, says WHO’s Christopher Dye. “So long as TB exists anywhere in the world, no one can feel completely safe.”

Yet overwhelmingly, TB remains a disease of poverty that disproportionately affects the poorest people in the world’s poorest countries – 90% of TB victims come from low and lower-middle income countries.

TB is the biggest killer of young people and adults in the world today. Some 80% of TB victims are in what should be the most economically productive years of their lives. TB kills more women than all causes of maternal mortality put together – over one million women will die needlessly from TB this year, and hundreds of thousands of children will become TB orphans.

TB sends many self-sustaining families into poverty. If the breadwinner of a family is not properly and promptly diagnosed, he or she will lose, on average, a full year of work before either dying or finally receiving treatment. If TB kills the main wage-earner, it will almost certainly push the entire family into long-term debt and destitution.

Thus does a vicious cycle of poverty and TB prevail. Poverty increases the risk of TB, and TB impoverishes its victims.

Nor does the pain and suffering caused by tuberculosis end with the infected individuals and



World Cup Cricket

The four-yearly World Cup cricket tournament will take place in February and March 2003. The event will be staged jointly by Kenya, South Africa and Zimbabwe.

Apart from the three host nations, three other high-TB burden countries are competing (Bangladesh, India and Pakistan) as well as three countries that are key contributors to global TB control efforts (Canada, England and Netherlands). The matches will be broadcast live internationally on television and radio, providing an excellent opportunity to promote Stop TB messages in high-burden and other countries. As part of the plan, we will:

1/ Contact ministries of health, national cricket boards, national cricket captains, ministries of sport and national broadcasters to

their families. The economic repercussions touch everyone in the developing countries and deepen the cycle of poverty that is the breeding ground of disease. In all, each year, TB results in US\$ 1 billion in lost income from people too sick to work, US\$ 4 billion in diagnosis and treatment costs, and US\$ 11 billion in future lost income from those who die. WHO estimates that the average life expectancy in the least developed countries (49 years) compared to the industrialized world (77 years) results in an annual economic growth deficit of 1.6%. Meantime, more than 100 000 children die from TB every year, before they can use their education to contribute to their society through work.

Even in strictly economic terms, then, expanding DOTS and increasing detection and cure rates makes a lot of sense. The experience of countries that have implemented programmes for the early detection and treatment of TB indicates that extending this effort worldwide would cost about US\$ 900 million per year ... but result in an estimated economic return of US\$ 6 billion per year through increased worker production.

By any standards, that's a sound investment. And it's cheap at the price, compared with the amounts we'll have to spend if we wait much longer to tackle the issues of prevention, detection and diagnosis. For the HIV/AIDS crisis is turning a lot of hard-won progress over the past decades upside down, especially in sub-Saharan Africa. TB accounts for one third of AIDS-

related deaths worldwide. It is the biggest killer of people who are HIV-positive. People with HIV who also have TB have much higher viral loads than those without TB, and TB has a much greater chance of spreading in the presence of HIV thanks to the destruction of the immune system.

But controlling TB requires more than just money. And as we've already seen, it's about more than simply providing medicines to patients. It necessitates a comprehensive public health response. This must include education, early case detection through careful surveillance, microscopy, bacteriological testing, social support to patients and their families, counselling, and finally ensuring that affected individuals complete their full treatment course.

But ultimately, beating TB is only a first step towards achieving an even higher goal, just as expanding DOTS is only a first step towards beating TB.

In the words of the founding charter of the World Health Organization, "Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity."

So as we prepare to step up the struggle against TB, let's step back and reflect on what - or rather who - we're really struggling for.

People. Pure and simple.

solicit their assistance in promoting Stop TB messages. Activities will include, *inter alia*, displaying Stop TB messages at airports and access roads to WCC venues, placement of Stop TB spots during radio and television coverage of the matches, production of Stop TB material for distribution to spectators attending the matches, and engaging commentators and cricketers to act as Stop TB ambassadors.

2/ Encourage all Stop TB partners and NTPs that are active in countries participating in the tournament to make the issue of TB highly visible during the games by, for example, wearing t-shirts with TB messages, carrying banners with TB messages that employ cricket phrases and jargon, distributing foam hands with the Stop TB sign among crowds at the games, and other similar ideas. A high level of visibility for TB messages will stir media interest and be easily captured by television cameras panning the crowds.

3/ Launch an intensive pre-tournament awareness-raising campaign in February targeting cricket players, officials and visitors (employing advertising, information materials, etc.), and the media (hosting an information breakfast for sports journalists). This will both ensure that targeted groups have an informed view of TB and provide an opportunity to encourage high-ranking delegates to wear Stop TB t-shirts, pins or other visible products.

4/ Hold major events on World TB Day 2003 (the day after the World Cup final) to launch the TB countdown campaign for 2003-2005 in participating TB burden countries such as Bangladesh, India, Kenya, Namibia, Pakistan, South Africa and Zimbabwe. This will capitalize on media interest sparked during the games, encourage high-level political commitment and build interest and momentum for the Stop TB campaign throughout these countries.



WORLD TB DAY

World TB Day 2002 was marked in more than 60 countries with a wide variety of activities designed to raise awareness and support. On 24 March 2003, we would like to see even more countries planning activities designed to increase case detection levels. In order to do this we will:

Provide information and tools to plan and implement a TB advocacy and education campaign on World TB Day 2003. These will include a special *WTBD 03* logo, a poster/calendar of the major TB-related events for 2003, fact sheets, links to electronic resources, and an initial agenda of WTBD 2003 activities (May 2003).

Publish the new “*State of the World’s Efforts to Stop TB*” report on progress towards the 2005 targets of the Global Plan.

Organize opportunities for cured TB patients to act as advocates (local and regional) or ambassadors (national and global) for Stop TB and thereby help to reduce stigma by being actively involved in TB advocacy and education.

Help cured patients to organize themselves to support TB sufferers and vulnerable groups by demanding greater access to treatment.

10 years, 10 million patients cured

The year 2003 marks the tenth anniversary of WHO’s declaration of a global TB emergency. It also marks the reaching of a major milestone in modern TB control – by the next World TB Day, according to WHO estimates, 10 million patients will have been treated under DOTS. This represents an opportunity to plan high-profile events that highlight the success of the DOTS treatment strategy, the urgency for expanding DOTS coverage worldwide and the need for more technical and financial support from donor countries. In order to capture mass media attention we will:

Prepare briefing material for mass media promoting the successful treatment of these 10 million patients.

Plan symbolic “10 millionth patient” events in at least six countries (at least one country in each WHO region); and televise the occasion of a celebrity/top government official/high-profile former TB patient administering DOTS to the symbolic 10 millionth TB patient.

July to December:

The Stop TB Partnership Secretariat will provide “refresher packages” of tools, information and messages to TB partners in all regions in order to support their activities in the

second half of the calendar year. Tools provided will focus on the theme of the second half of the year: “Increasing case detection through overcoming stigma”. Possible tools might include a “history of the TB patient” booklet, a guide to organizing TB patient groups, and a compilation of TB patients’ stories. The next Stop TB Partners Forum, scheduled for November 2003, will be a key profile event that may provide media angles to be exploited at the country level.

Suggested activities at the country level

We recommend that our partners develop national, regional and local plans taking into account the following principles:

Plan to conduct year-round activities that mobilize patients and other stakeholders as part of ongoing TB activities (e.g. meetings, policy-planning).

Plan to collect stories from cured patients and patient groups about their experiences while seeking diagnosis and receiving treatment. These should relate to the twin themes of “*DOTS cured me – It will cure you too!*” (January–June) and “*Overcoming Stigma*” (July–December).

Mobilize and build awareness of World TB Day by:

Rallying cured and current patient groups

Publishing case stories of cured patients

Demonstrating the power of DOTS by involving cured patients in events

Providing opportunities for cured patients to speak in workshops and seminars

Integrating awareness-raising events, activities and products into other planned international, national and local events, such as public health days, TB conferences, World AIDS Day, etc.

Resources

A page containing comprehensive electronic resources related to WTBD 2003 is being planned for the Stop TB web site at www.stoptb.org/world.tb.day/default.asp Already in place are tips on organizing an education and advocacy campaign, an ideas bank for events and activities, the highlights report from WTBD 2002, and sample press releases. By 15 January 2003 you will also find an image library, screensavers and other resources available for your use.

If you have planning materials you wish to share, please send them to us at stoptb@who.org.