

### Timebomb – the global epidemic of multi-drug resistant tuberculosis

By Lee B. Reichman & Janice Hopkins Tanne  
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Lee Reichman has done it again. Having published a scientific textbook on tuberculosis (TB) in 1993, he has now written a fascinating though terrifying novel-like book about it with Janice Hopkins. You do not need to be a public health expert to understand this book but if you are one it is compulsory reading.

The subtitle is a bit misleading. Though multidrug-resistant TB is the main theme we are guided through the whole known history of TB, starting in about 8000 BC and ending with a look into the future with new drugs and vaccines. It provides us with medical and public health as well as social and political background data about the disease and about the efforts to control and eliminate it. You can read about the dual HIV-TB epidemic, the New York epidemic and the situation of TB control in Russian society, particularly in Russian prisons. The authors make it crystal clear how they value the resistance of Russian TB experts to modern TB control based on the DOTS strategy. However, they give their opponents sufficient space to explain the motives behind this thinking. Knowing and understanding these motives might be a good starting point for discussing the so desperately needed change.

Of course a lot of space is given to the surge and threat of multidrug-resistant TB. The authors also make it clear that the main reason for the creation of this multidrug resistance is the improper implementation of DOTS, and, they say, this is more often the fault of the doctor than of the patient. They picture convincingly the threat of this multidrug-resistant TB for the whole global community, characterizing it as a timebomb steadily ticking away.

The subject is written up in 13 chapters, each of which is a story in itself. This approach sometimes causes repetition of the facts but is convenient for those who may want to read the chapters independently of each other.

The experiences described are mostly those of the first author. They are basically from work on TB control in the USA and the Russian Federation. It is a pity that there is no description of the experiences of the international DOTS pioneers guided by the International Union Against Tuberculosis and Lung Disease (IUATLD) during the 1980s and the beginning of the 1990s. It would make even stronger the argument that the disease was neglected when tools were there to control it. It would also stress the point that, though society is changing its response towards this devastating illness, the battle has not yet been won. The Epilogue about the Kursk Syndrome, which describes the rejection of the World Bank loan for TB control activities by the Russian Government, serves as a perfect illustration of this. ■

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### Web-based information on tuberculosis

Given the magnitude of the tuberculosis (TB) epidemic worldwide, there is a relative dearth of TB-related information to be found on the Internet, in comparison with HIV/AIDS. A search carried out by "Google" (the most widely used search engine) results in 3 to 4 times the number of references being found for queries containing the words "HIV", "HIV/AIDS" and in conjunction with various country names, as for "Tuberculosis" or "TB", see Tables. There is also a large gap between the countries producing most of the web-based TB information and the countries most affected by TB. A large proportion of web-based information relating to TB is produced by western academic institutions and is not necessarily aimed at audiences in the south, in terms of relevant content or language. Nonetheless, there are still many web sources that provide excellent information for the general public, TB patients, researchers and health care professionals.

For a first port of call query, the best sources of online information are the STOP TB Partnership and Centers for Disease Control and Prevention (CDC)

websites. Because these are both large, well-resourced, technically-oriented umbrella organizations, their websites contain comprehensive, accurate and up-to-date information regarding TB. CDC has a large online catalogue of educational materials and guidelines for clinicians, the general public and patients, which can be ordered free of charge: [https://www2.cdc.gov/nchstp\\_od/PIWeb/TBorderform.asp](https://www2.cdc.gov/nchstp_od/PIWeb/TBorderform.asp)

Both institutions also distribute updates and news using email. CDC's news bulletin is called CDC prevention news (<http://lists.cdcnpin.org/mailman/listinfo/prevention-news>). It covers news about HIV, sexually transmitted diseases and TB, and tends to focus on stories of US relevance. What CDC's TB site lacks aesthetically it makes up for in download speed, which is all too often a critical barrier for us in the south with frustratingly slow connections.

The STOP TB website (<http://www.stoptb.org/>), acts as a portal area for its 200 or so partner organizations and provides a very useful contact database, as well as country reports, and the very latest documentation from the partnership and its component working groups. In an ideal world such a wealth of information would also be accessible to those who do not understand English. For regional epidemiological information some of the regional WHO websites are recommended, for example WHO EURO (<http://www.eurotb.org>).

For patients who want to find out about TB, a nicely laid out "Frequently asked Questions" page covers most of the basics and can be found at the American Lung Association's website: <http://www.lungusa.org/diseases/lungtb.html>

For students or health care professionals trying to accumulate a fuller understanding of TB, there are a number of online courses to be found, for example at <http://www.tbrieder.org/>, housed at the International Union Against Tuberculosis and Lung Disease (IUATLD) website, The Francis J. Curry National Tuberculosis Center <http://www.nationaltbcenter.edu/index.html> and at CDC's site, <http://www.cdc.gov/nchstp/tb/pubs/continued.htm>

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For those carrying out specific research on TB, there are a number of good starting places. One of these is the PubMed website (<http://www4.ncbi.nlm.nih.gov/entrez/query.fcgi>), which enables searches for citations relevant to the area of study. Another source of scientific papers can be found on the IUATLD website (<http://www.iuatld.org/>) which, as well as providing useful information about regional and international IUATLD conferences, contains the archives of their in-house journal called *The Journal of Tuberculosis and Lung Disease*. Unfortunately these articles may be prohibitively expensive for most people in developing countries. Several other useful websites include the Johns Hopkins Center for TB Research (<http://www.hopkins-tb.org/>) which houses a useful events archive and an interesting Questions and Answers forum to which one can write in with clinical or public health questions.

There are a number of websites, though not nearly enough, that offer the viewer a feel for the TB situation in a given country. One of these sites is the Public Health Research Institute's TB programme page, which provides a detailed and often disturbing account of the TB problem in the Russian Federation, especially in the prison population. The photo gallery is a powerful tool in making the viewer aware of the reality of the country's TB situation by showing the human face of the disease (<http://www.russia.phri.org/>).

An India-based website named Health & Development Initiative has a lively and frequently updated website, which gives an insight into the TB situation in India, through fact sheets, news updates, articles and relevant links. (<http://www.healthinitiative.org/html/index.htm>).

One can hope that over time more and more locally-driven websites relating to TB will arise, with locally-generated content and news. The digital divide between north and south still needs to be bridged in terms both of access to TB information and the production of it. The most important aim is surely to reach those in greatest need of relevant information in the most heavily affected countries.

For more details of the various TB websites on the net, go to Stanford University's comprehensive listing and

Terms searched for	Number of resources identified
"Tuberculosis"	793 000
"TB"	3810 000
"HIV"	4730 000
"HIV/AIDS"	1180 000
"TB" + "HIV"	186 000
"TB" + "HIV" + "Malaria"	24 100

Terms searched for	Number of resources identified
"Tuberculosis" + "Russia"	45 000
"HIV" + "Russia"	127 000
"Tuberculosis" + "South Africa"	68 200
"HIV" + "South Africa"	336 000
"Tuberculosis" + "Brazil"	25 000
"HIV" + "Brazil"	95 000
"Tuberculosis" + "India"	63 000
"HIV" + "India"	200 000
"Tuberculosis" + "USA"	84 000
"HIV" + "USA"	361 000

Search queries for tuberculosis and HIV/AIDS-related information using Google search engine (April 2002).

categorization of TB websites at: [http://molepi.stanford.edu/tb\\_links\\_tables.htm#research\\_groups](http://molepi.stanford.edu/tb_links_tables.htm#research_groups)

Alternatively, try Columbia University's external resources page that categorizes websites according to their content and audiences (<http://www.cpmc.columbia.edu/tbcpp/extres.html>) or the STOP TB Partners directory for website addresses of partner organizations: [http://www.stoptb.org/Partners\\_Directory/default.asp](http://www.stoptb.org/Partners_Directory/default.asp) ■

**Louise Berry**<sup>1</sup>

### STOP-TB eForum: providing a voice at the TB policy table?

STOP-TB eForum, Health & Development Networks.

New subscribers can join the STOP-TB eForum by sending a blank email to: [join-stop-tb@healthdev.net](mailto:join-stop-tb@healthdev.net). All the discussions are stored at: <http://archives.healthdev.net/stop-tb/>

Tuberculosis (TB) control programmes are notorious for their "top-down" approach. This is a popular perception

at national and global levels: whether or not it is true is a matter for debate. Whatever the case, few would argue against the need to find ways to give more people a voice at the TB policy table. The STOP-TB eForum is one such way.

The eForum was set up in August 2001 in order to provide input into and feedback from the STOP TB Partners' Forum held in Washington, DC, in October that year. Within a short time, the eForum emerged as a common meeting ground for health care providers, those working in advocacy, programme managers, researchers, policy planners, and media personnel throughout the world. The number of subscribers shot up to more than 2500 in the first six months, with considerable input from people in low-income and high TB-burden countries.

The discussions were divided into three topics based on the agenda for the Partners' Forum, namely "Progress since Amsterdam: how far we have come?"; "Planning for TB control into the future"; and "TB and HIV." Many of the issues discussed were of crucial importance to front-line TB workers, such as erratic drug supply, counterfeit medicines, stigma, and the ever-present need for advocacy. Not all the contributions related to problems: many solutions and success stories were also shared.

A valuable evaluation of the early months of the eForum has been undertaken (the report, published in February 2002, is available from: <http://www.hdnet.org/home2.htm>). As only 10% of the subscribers responded, one must be careful about drawing too many conclusions, but those responding expressed a strong view that the eForum was fulfilling a very important role and should certainly continue. Many positive aspects were highlighted, such as the linking of TB workers in the South with those in the North, the focused nature of the discussions, and the chance to influence global policy, such as the Washington Commitment to Stop TB, arising from the first STOP TB Partners' Forum.

However, the evaluation also highlighted weaknesses with the current approach to the eForum. It is only available in English, and it is of note that there seem to be fewer contributors from South America and eastern Europe than might be expected from the high TB-burden of these regions. There also appeared to be few contributions from

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people with TB. Furthermore, the technology required to join the eForum may exclude the poor and many in rural areas.

Given these limitations, is the STOP-TB eForum worthwhile? In our opinion the answer is certainly yes. Clearly, ways need to be found to include more people, perhaps by providing translations into another major language (Spanish, Russian, or Chinese would be strong contenders). A call also needs to go out to involve more subscribers in the discussions. The eForum needs to become a place where we can share our mistakes as well as our successes: the former are probably better learning opportunities. In addition, as most of our inboxes are full each morning, and the moderators of the eForum have a critical role in limiting the frequency and length of contributions. There is plenty of scope for increased collaboration, an example of which is the recent agreement to merge the tb.net mailing list (<http://www.tb.net.np>) with that of the eForum.

The electronic highway has an increasingly important place in our battle against TB. The STOP-TB eForum will provide unparalleled opportunities for global dialogue and should be an important voice at the policy table. If policy makers do not listen and programmes do not deliver, then you will probably read about it first by email. ■

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### Supercourse – epidemiology, the Internet and global health

CD-ROM, available free upon request by sending an email containing the recipient's name, affiliation, and address to [eunsa@pitt.edu](mailto:eunsa@pitt.edu). Alternatively, Supercourse can be downloaded from the following URL: <http://www.pitt.edu/super1/assist/download.htm>

So what exactly is "Supercourse"? In essence it is an ever-growing, Internet-based, freeware, distance learning tool. It is intended for students beginning to explore epidemiology, global health, and the opportunities of learning through the Internet. But more than that, it is a resource for lecturers and academics seeking to find new ways to present

material or compare their way of teaching with that of others across the world.

I personally first came across Supercourse while struggling with the finer points of epidemiology during my Masters course in public health and was delighted by the treasures waiting to be discovered. Not being someone who enjoys reinventing the wheel, I find the concept of the Supercourse very appealing and oh so sensible.

So what awaits the visitor to the Supercourse Website or on loading a copy of the free CD-ROM?

The front page is clear and uncluttered. It offers an introduction to the principles behind the Supercourse and presents hyperlinks under the headings: 1. What is the Supercourse; 2. Supercourse lectures; 3. Other Supercourse lectures; and 4. Want to join us? My advice is to jump straight to the "Lecture by Topic" or "Lecture by Alphabetic Order" hyperlinks. These take you into the heart of a Pandora's box, currently consisting of 623 lectures on the Web. The topic portal leads you to around 20 subject headings arranged under the labels "Epidemiology", "Special Diseases", "Public Health", "Telecommunications", and "Biostatistics". You then choose your subject area, such as "Cancer", and are led to a hyperlinked list of around 25 separate cancer-related lectures. The other method of quickly searching is to use the alphabetic listing. Thus you could hunt for "screening" under "s" in the alphabetic portal or in "Epidemiology – Basic Methods" using the topic portal.

Supercourse is not a comprehensive source of lectures on all aspects of each subject heading. Rather it is an organized collection of personal best lectures on important or pet subjects. So go hunting and if what you want is there – great – but if not, don't be surprised!

Once you find the lecture that you want, you are presented with a standard format in terms of front page, navigation buttons, general layout, and closing summary and review slides. The lectures are of a relatively standard length (around 25–30 slides) but of variable quality – some gems, some very ordinary, some far too specialized for a global audience.

The driving principles behind this "library of free lectures" are attractive

and forward thinking. The course developers, at the School of Public Health, University of Pittsburgh, Pittsburgh, PA, USA, have a desire to use the potential of the Internet to maximum effect in teaching and have built in a robust quality assurance programme for the preparation of new lectures and the evaluation and revision of old ones. With an eye on the practicalities of information technology in less developed countries, the graphics have been deliberately compressed into small files to speed up access from the Web. Institutions around the world are encouraged to set up "Supercourse Mirror Sites" (of which there are currently 33) and of course the CD-ROM (containing over 500 epidemiology lectures) is available free for users without Internet facilities. Lectures are mainly in English but there are now 34 multilingual lectures.

And then there are the add-on extras consisting of hyperlinks to the *BMJ*, the National Library of Medicine, and other useful sites and journals. The most valuable of these is the link to two online free textbooks from the *BMJ* collection (*Epidemiology for the uninitiated* and *Statistics at square one*). Sadly, however, the CD-ROM version does not contain the text of these useful introductory books.

There are three small irritations that I must mention: the North American bias of subject matter/examples; the all too frequent spelling and grammatical mistakes; and the number of hyperlinks that did not work on my copy of the CD-ROM (they almost all worked on the Internet version).

Supercourse has a safe place in the "Favourites" folder on my Internet browser, and I will certainly be keeping the contents of the CD-ROM on my hard drive. For those of you starting out on a career in public health, this is a resource to use and tell others about. For those in senior positions, this is a venture to support in word and deed. If Supercourse remains focused on its original aims, it will provide a valuable ongoing resource for the international public health community. ■

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