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A few general words about TB, for those not in the medical profession: TB kills about 1.8 million people each year and infects about 1/3 of the world's population. Most of those infected do not actually get active TB disease; rather, it is those who are in close contact to those with active TB; people who are immuno-compromised (e.g. individuals who are pregnant, who have cancer, who are on certain medications, or who are infected with HIV) are at higher risk of active disease. Regular TB is treated with four to five first line drugs, and patients resistant to the most effective of those require a complicated and often less effective regime of second and third line anti-TB drugs.

In the Russian Federation, prisons have seen extraordinarily high rates of TB, and many thought they were the source of Russia's TB epidemic. However, while prisons have been one source for TB infection, there was probably a separate civilian epidemic that was not monitored until the mid- to late-1990s. TB infection rates are not the same all over Russia, and in general the territories with the highest proportion of TB cases tend to be in Eastern Russia.

In comparison with Western Europe, the reported incidence of TB in Russia is much higher. Even the TB rates of some other CIS countries are lower than those in Russia, though it is hard to know how accurate the reporting structures are in these countries. Eastern European countries have much lower rates of TB than Russia, in large part because they did not undergo the same economic turmoil.

For years, Russia had a good system for treating TB and many oblasts had implemented the WHO DOTS strategy as well. Between 2000 and 2005, however, treatment and cure rates using DOTS have been going down. In addition, MDR-TB among new TB cases has increased from 6.7 to 9.4 % since 1999, and among retreatment cases has reached as high as 50%. Overall MDR-TB as a proportion of all TB in Russia has increased from 10.5% to 20.3%; this is amongst all smear-positive new and re-treatment cases, not counting mono or poly drug-resistance that does not involve isoniazid and rifampin.

There are many factors that could be contributing to Russia's TB epidemic. Firstly, the TB program is vertical—it is not treated through the general health system. Secondly, as you can imagine, health policy makers in Russia have competing health priorities or simply assume that TB is connected only to poverty and will disappear as the economic situation improves. Many Russian programs also have difficulty in designing appropriate drug regimens for TB patients or maintaining their supply of drugs for these regimens. Some second-line TB drugs have multiple uses and can be obtained easily and inexpensively from China or India, which contributes to increasing levels of TB resistant

to second-line drugs. Poverty, unemployment, and despair make it more difficult to keep patients on their treatment regimens, especially when treatment of MDR-TB can last for two years.

In 1999, Paul Farmer was invited by the Open Society Institute to visit Tomsk and advise them on the reason that they have so many treatment failures. In 2000, OSI, in partnership with Partners In Health and the Public Health Institute of New York started an MDR-TB treatment program in the prison sector. Soon afterward, Partners In Health then took over leadership of the program and began working with the Tomsk authorities in the civilian sector as well as prisons. The civilian sector presented many challenges, including alcoholism, maintaining nutrition, and differing attitudes among Russian doctors over the potential for treating of so-called “asocial” patients. Funding from OSI and the Global Fund helped ensure a more reliable drug supply, provide ambulatory care, and improve side effect management. If one looks at it cynically, one could argue that Tomsk was willing to embark on this program because they found the funding and the access to second-line drugs attractive; however, as the program progressed, they became convinced that the PIH approach to the programmatic management of MDR-TB patients had value and added to the system. They saw mortality rates drop, DOTS cure rates go up, and MDR-TB cure rates go up. Once this happened, they started teaching it to other oblasts as well.

So far it has been difficult to determine what predisposes people in Russia to MDR-TB, though time in congregate settings such as prisons or hospitals does seem to play a role. Even all of the funding that has gone to Tomsk has not reduced the levels of MDR-TB. This is likely because it is difficult to create an effective program in isolation from the regions around it that do not have programs, and when access to MDR-TB treatment is not universal. Russia is also at risk because the TB and HIV co-infection rate is going up and there is still limited access to ARVs.

XDR-TB is another major concern for Russia, although if patients are given proper treatment regimens, aggressive nutrition, and social supports, it is possible for them to survive. What raised the specter of XDR-TB was an outbreak in South Africa, where there was an XDR-TB outbreak of 53 patients, and 52 of them died in 16 days. Of the MDR-TB cases that Russia has reported to the WHO, 14% of the 406 MDR cases are XDR. The Tomsk program has had a reasonably good cure rate, even for XDR-TB, though there are still many obstacles to implementing similar programs in other regions. However, the Russian Ministry of Health has supported high level working groups on TB, including MDR-TB that are examining different approaches to the problem of MDR-TB, including outpatient management. When an existing system has been in place for many years change does not happen overnight.