

Under the skin:



Russia's budding healthcare crisis

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Behind the ghost of the Iron Curtain lurks a public health crisis. Superseded in the media by East-West tension and military flare-ups, infectious disease has launched its own war on the Russian Federation. Besides the HIV epidemic, which has continued to escalate for decades, the Russian Federation has become a greenhouse for multidrug resistant tuberculosis (MDR TB). This problem is not just a problem of the Russian Federation, but has worldwide significance due to the spread of resistant TB. Furthermore, the issue has not received the attention it deserves from the international media or the Russian government. MDR-TB in Russia needs to be taken more seriously.

The cocktail of factors that aggravate the epidemic in the Russian

Federation is unlike that of any other country. The Russian Federation has inadequate programs to treat MDR-TB. In addition, its reluctance to accept international aid and a lack of understanding of the HIV-TB coinfection pervades the culture. A successful strategy towards fighting TB in the Russian Federation must therefore attack on a biological, infrastructural and political front. The pathogenesis of TB, economic problems that a post USSR Russian Federation faces internally, and the external tensions that the post-USSR Russian Federation faces must be taken into consideration.

The Russian Federation has the 11th highest rate of tuberculosis infection in the world. Even more alarming is the fact that the percentage of these infections that are classified as multi-

drug resistant tuberculosis (MDR-TB) is estimated to be well over 10%, the third highest global rate. MDR-TB has become resistant to medications normally used to treat TB, isoniazid and rifampicin. XDR-TB is a form of tuberculosis resistant to even more drugs than MDR-TB.¹ In the Russian Federation, the XDR variant comprises up to a quarter of MDR-TB cases. It is possible that these figures exceed what is predicted because collecting reliable data is difficult as a result of the variation in resource-distribution throughout the country.²

Mycobacterium tuberculosis complex history in human society. For centuries people have struggled with it and have tried to eradicate it like they have smallpox. While the disease is now treatable via antibiotics, and while

a vaccine, which shows moderate success, exists (BCG Vaccine), scientists are still searching for a more comprehensive way of preventing and combating the disease.

The development of MDR TB presents scientists with new challenges. When people become infected with TB, in 95% of cases, the immune system contains it in a latent form. This is a state where the bacterium is dormant, and the person presents with no symptoms and is usually not contagious. This is also a state from which the bacterium can emerge. If treatment was improper the initially, with inconsistent drug supply and varying enforcement (a phenomenon very frequent in the Russian Federation) it can develop resistance to the medications and reactivate into MDR-TB. More effective vaccines are currently in trials, but there are years, money, and politics between those drugs and the sick population of the Russian Federation.³

Healthy immune systems are often capable of defending themselves against TB. Even if the body of an infected person does not completely kill the bacteria, there's only a 10% per life chance of reactivation for a healthy person.⁴ However, not everyone is healthy. People in poverty, as a group, are among those clinically more likely to have increased susceptibility to infection. Reasons for this include poor nutrition, crowded living conditions, stress, and its resulting substance abuse. For example alcoholism, a major problem in the Russian Federation, is a known compromiser of the human immune system.⁵

Russian prisons have also emerged as a problem area in the containment MDR-TB. This is due to lack of access to health care and medications as well as prison over-crowding. The 2010 bulletin of the World Health Organi-

zation (WHO) described the situation as "Virtually every prisoner [being] exposed to tuberculosis. Many became sick, many died, and thousands of infected ex-convicts were being released into the general population every year"⁶ In some areas inmates must follow sleeping rotations to make up for the lack of space for beds.⁷ This environment is extremely conducive to the spread of airborne pathogens, such as tuberculosis.

Not only does the disease infect inmates, it infects wardens, prison guards, visitors, and other workers who then transmit to the general population. It also infects people being held in prison detention centers. Because of the inefficacy of the Russian judicial system, thousands of people each year are detained for minor crimes (such as petty theft) and end up incarcerated for years before their case even comes to court. In these years, they receive a death sentence in the form of MDR TB. A significant percentage of inmates survive to return home, bringing MDR-TB along. The inmates, though they may seem like an isolated minority, directly impact the overall health of the nation.⁸ Unfortunately, finding a satisfactory way of dealing with TB in such settings is challenging. International aid has met with failure in this area. In 2006 the WHO initiated its Stop TB strategy. One of the major pillars of this strategy is a plan called DOTS, or Directly Observed Treatment Short Course. In some areas, such as the Samara Oblast, this strategy has been implemented with success, minimizing hospital stays and making treatment overall more cost effective.⁹ However, these results aren't universal. In the 1990s, DOTS failed. Local clinicians distrusted it and often implemented it incorrectly. Furthermore some of the steps simply were not designed for

MDR-TB. DOTS focused on treating TB in a "short course" which led to treatment being stopped prematurely. This contributed to the development of MDR-TB in many patients. Tuberculosis was not stopped, it became the leading cause of death in prisons, and they abandoned the policy.¹⁰ Whatever the government decides to do now, a repeat of what happened with DOTS must not occur. DOTS was a generic system designed for generic TB that did not adequately address the issues at hand in Russia. It discredited international health policies in Russia, and was essentially a waste of resources.

HIV (human immunodeficiency virus) is another major factor in the development of MDR-TB. MDR-TB has spread so easily and so rapidly among the Russian Federation population in part because it co-infects with HIV, a disease which, over the past few decades has ravaged the country.¹¹ For example, people infected with HIV see their chances of reactivation of latent TB increase from 10% per life to 10% per year.¹² HIV leads to immunosuppression due to the destruction of CD4 T cells (an essential part of the adaptive immune system), thereby increasing susceptibility to TB infection. When HIV takes these cells out, there's little to stop TB coming in. The correlation between HIV and TB is so well established that the WHO now collects separate data on the coinfections, in addition to what they collect on the diseases individually.

While HIV has seen more media attention than MDR TB, the problem is still largely out of sight and out of mind — exactly where the conservative government of the Russian Federation wants it to be. Intravenous drug use is the method by which 57% of the Russian Federation's current HIV infected population acquired the disease. In

the Russian Federation, heroin prices have been declining since the nineties due to the collapse of border security between Russia and Middle Eastern poppy fields and HIV has increased significantly due to the increase in drug use.¹³ With regards to drug addiction, the Russian Federation has not adopted evidenced-based approaches used in most Western countries including harm reduction measures such as syringe exchange and methadone treatment on moral grounds. The Russian Federation government's unwillingness to follow Western example, combined with the strength of the Orthodox Church in policy making, has led to a halt in preventative measures when it comes to severing the tie between addiction and HIV. Registering as a heroin addict in the country comes with severe consequences and NGOs are penalized for trying to instate methadone or clean needle programs. When nothing is being done to protect the populations at risk for HIV, it translates to nothing being done to protect them from developing infections like MDR-TB. And unlike HIV, MDR-TB is airborne, and can target a much wider range of people.¹⁴

Given the instability that the country has seen in the past few decades, it is not surprising that the Russian Federation's government would be defensive of their policies, especially on ideological points where they differ from the West.¹⁵ With all the work that the government has done to reinstate the Russian Eastern Orthodox Church and try to preserve the image of moral superiority to the West, it is unlikely that they would cast this identity aside and assume a Western stance for the sake of helping the stereotypical at-risk HIV infected population--one of sex workers and drug addicts.¹⁶ While one can sympathize with The Russian Fed-

eration stance, an attempt to preserve a moral code, one must also recognize the perverseness of the "moral code" as it results in death. HIV in the Russian Federation is flourishing. In 1997 there were barely over 11,000 official cases of HIV total. 41,707 people were registered as HIV positive in just the first half of 2015.^{17,18} These rates are unheard of in the developed world. The number of people with HIV continues to rise in a way that has been compared to that of epidemics in Africa.¹⁹ HIV opens its victims to a range of infections, of which TB is one.

Inequity in access to treatment is a contributing factor in both the epidemics of HIV and TB in the Russian Federation. The sickest of people are those who can least afford treatment. The Russian Federation has state healthcare in name, but that healthcare has deteriorated significantly in recent years.²⁰ Although the national GDP has only risen since the fall of the Soviet Union, this does not mean that quality of life of the average person has risen. The top 110 people in the country hold 35% of the nation's wealth, while 93.7 percent have less than \$10,000 in savings. This is largely attributed to the rapid economic change that followed the USSR's collapse.²¹ Behind the face of power and sophistication that the Russian Federation exhibits in its metropolises the country has many regions that are underdeveloped and underserved. The Moscow Times reported in April of 2015 "According to the State Statistics Service, from 2005 to 2013 the number of health facilities in rural areas fell by 75 percent, from 8,249 to 2,085. That number includes a 95 percent drop in the number of district hospitals, from 2,631 to only 124, and a 65 percent decline in the number of local health clinics, from 7,404 to 2,561."²² Indeed, following the collapse of the Soviet

Union, health care in the Russian Federation faced the choice of staying centralized and state-owned or becoming decentralized and privatized. In the end, they compromised. However, this compromise can result in inefficiency and miscommunications. The Russian Federation's constitution still guarantees "free and universal healthcare." At the same time starting in 2005, less than 10% of people qualify for the drug reimbursement program. This means 90% have to pay for prescription drugs out of pocket.²³ Access to medications is a serious problem in Russia.²⁴ On top of this, spending on public health is not being made a priority. Between 2010 and 2013 spending on public health has gone from 6.9 to 6.5 percent of the GDP overall. Spending by the state on public health went from 3.7 to 3.1 percent of the GDP in that time frame. These rates are lower than most of the developed world (Spain is at 8.9% total/6.3% public, the UK at 9.1%/7.6%).²⁵ Considering the country is facing several crises in health, this trend is incomprehensible.

Unfortunately, resistance to international aid also pervades the culture. University of San Francisco Medical School describes the situation as "[The Russian Federation] not consider[ing] themselves a third-world or developing country and take great offense at being treated as such. Because of this, it can be frustrating and difficult for a foreigner to work in the Russian Federation (perhaps all of the FSU[Former Soviet Union]): they find themselves simultaneously confronted with dire circumstances, inability of the people to make any changes without the direction of the government, and resistance from the government to accept either the circumstances or the foreign offers to help."²⁶

Ironically, the Russian Federation

has been advertised in international media as an “emerging donor.” It is clear that it wants to appear as an independent and strong nation capable not only of managing its own affairs, but aiding in the management of others. Mortality rates of HIV infected persons with tuberculosis demonstrate the irony of the situation. Between 2004 and 2012, the country was less successful in reducing these rates than Chad, Uganda, India, and other high-burden nations.²⁷ This contradiction reveals a serious reversal of priorities. The media plays the Russian Federation’s bluff instead of calling it, and the human cost is astronomical. Not enough funds are going towards battling the epidemic.

The Russian Federation, in truth, cannot be considered a developing country in the way that India or Chad might be considered. It is more of an ‘underdeveloped-developed’ country. The Russian Federation is the ghost of a superpower. For centuries, the Russians have contributed to Western science, art, and philosophy. One could even argue that they have the potential to have the resources necessary to combat this crisis in the modern day. But these resources are misallocated. Military spending has skyrocketed to \$87.8 billion dollars, up from less than \$1 billion in 1993 at the expense of healthcare, among other things.²⁸ If a fraction of that were turned towards addressing the TB crisis, considerable progress could be made. But the Russian Federation has other priorities, and as a result is doing its people a disservice.

Solving the problem would not be easy and it would take full governmental commitment. Given the geographical makeup of the Russian Federation, a totally uniform centralized system is unrealistic. The great variation in regional severity of the disease in con-

junction with the already-established local protocols make completely reinventing the wheel illogical. It would be inefficient and lead to conflict between the old way and the new. However, it is clear that a basic nationwide organization is needed. In order to try to prevent more TB from evolving into MDR TB, the current treatment plans must be enforced with greater scrutiny. In order for this to happen, the national pharmaceutical companies must be regulated and potentially subsidized so that they produce standard anti-TB medications at lower prices. A regular and reliable system for shipping the necessary medications where they are needed must be instated so that they can be taken regularly by the infected. Eliminating inefficiencies present in the process of manufacturing and disseminating drugs would save many lives and stall the exponential growth of MDR TB.

In order to determine the relative needs of each region, they would have to be evaluated on a standard national scale. This scale would determine the resources that the national government would invest in each area based on the needs of the area in question. At the same time, local experts would have to develop a more specific plan based on local conditions and availability of resources. A hospital in Moscow would operate in a different way than a clinic in the backwoods of Siberia. This would ensure that an ill-fit system was not put in place that might exacerbate the situation. Each region ought to have an emergency committee comprised of both people trained in a basic national strategy with basic ground rules (minimizing hospital stay, ensuring proper administration of treatment, face masks for those infected), working in conjunction with localized specialists to equip hospitals with

exactly what they need to combat the disease. In this way, the local experts would not be undermined, and the national strategy could be kept a realistic and effective standard.

The changes that need to be made run deep within the core of the country and will take a massive investment of money, attention, and will. Containment of the disease is possible if given the proper attention. But it has to come from within Russia. Eventually, the government is going to have to face the fact that it will be governing an empty country. If they do not embrace it now, they will have to embrace it millions of deaths from now, when the scale and cost of the problem have soared. However, no one can make that decision for them. International aid is not likely to be offered to the Russian Federation in the near future, nor should it be. Anything that appears to be patronizing will likely be thrown back in the “benefactor’s” face. Furthermore, given the attitude towards foreigners (especially Westerners) within the Russian Federation at this time, an outsider could not gain the cultural knowledge and connections to implement sufficient change. Unlike a country where NGOs and foreign aid may operate unrestrained, in the Russian Federation, there is culturally much more resistance to help and there exists a mire of bureaucracy to wade through. The Russian Federation has educated specialists of its own who, if given the resources (which could be made available by their own country), could come up with effective strategies, and have them better implemented than an outsider. Although MDR TB threatens global health, and the citizens of the world will be impacted by the results of this crisis, it is currently the fight of the Russian Federation.

This does not mean that there is

nothing for outsiders to do. Research ought to continue on the bacteria and development of the disease in the Russian Federation and throughout the world. Understanding how TB develops and finding a more suitable vaccine or antibiotic than those already in use will truly benefit all of humanity. In the long run, it will make treatment much easier and cost effective and indirectly help all nations.

However even if a miracle cure for all strains of TB were discovered it would not help the Russian Federation as it is today. No medication can treat without money to buy it, a system to administer it, and people to support it. In order for the country to heal itself, it needs to change its attitude towards the epidemic and the people impacted by it. The crisis simply is not being given the attention it demands, and if this continues, the cost will be inconceivable.

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