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Polio Eradication in 6 Years: Fact or Fiction?

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DEAR EDITOR,

Three-year-old Ruksa Khatun is new to walking, and stumbles when she tries to walk due to polio. After contracting the wild polio virus in 2012, her right leg remains shorter than her left, causing acute pain. Ruksa Khatun is India's last person to have the disease and currently needs surgery to save her leg.^[1] "It was heartbreaking to see these young kids come in with paralysis, and some would die because of lung problems," says Dr. Deepak Kamat, a physician who was born and raised in Goa, India and saw first-hand the devastation of polio in India. About 30 years later, India appears to be polio free after an intensive, government-led vaccination campaign, with the last confirmed case occurring in 2011.^[2] On January 30th 2013, the Bill and Melinda Gates Foundation hosted the annual Richard Dumbleby lecture in London, at which Bill Gates unveiled polio eradication as a major focus of the foundation and claimed that by 2018, polio could be eradicated from the world.

The world only vaccinates a fraction of the population required for gains in polio eradication. In Nigeria, Pakistan and Afghanistan, it is estimated that more than 10 million children will be afflicted with polio resulting in paralysis in the next 40 years.^[3] Vaccine-preventable diseases are still responsible for about 25% of the 10 million deaths occurring annually among children under

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5 years of age.^[4] Although paralysis is the most visible sign of polio infection, only less than 1% of infections result in visible paralysis.^[5] Thus, the *Poliovirus* can spread widely even before symptomatic paralysis is ever seen, making early detection and surveillance of the disease an even larger challenge in the developing world where the global burden of disease is trumped by lack of eradication standards, safety enforcement, and lack of basic human rights.

The global health community has made tremendous progress and enormous strides however; inequalities in access to the availability of the vaccine still exist. The 2003 State of the World's Vaccines and Immunization collaborative emphasized that inequalities in access to new vaccines have increased over the last decade as new life-saving vaccines have become available at prices that most low-income countries are unable to afford.^[6] Polio eradication if achieved will be representative of the 2nd time in history when, a significant disease in humans will have ever been eradicated, after smallpox.^[7]

Even though the oral polio vaccine has been highly effective, fairly inexpensive for use in massive immunization campaigns around the world,^[8] with increased availability for eradication efforts for most of the world's poorest populations, security concerns in polio endemic countries continue to be one of the

largest barriers to achieving a highly effective polio vaccination coverage, especially in India, Pakistan, Nigeria and Afghanistan. According to a report on the Evaluation of the Eradication program,^[3] regional insecurity poses the most significant barrier to achieving high polio vaccination coverage. Moreover, the instability in regional security and unpredictable nature of local anti-social elements compounded by a general lack of basic health infrastructure limits vaccine distribution and as a result of which are among the largest obstacles to global polio eradication. UN Secretary-General, Ban Ki-moon condemned the recent killings of health workers in Pakistan as “senseless and inexcusable” forcing the UN to temporarily suspend its participation in the vaccination campaign.^[9]

Polio eradication is possible if international focus establishes precise eradication standards, tight safety enforcement and equitable human rights as part of the Global Health Agenda. The governments of Western countries in conjunction with the developing world, through the international process of the United Nations must develop standards to advise local establishments and educational institutions on eradication standards, safety enforcement and human rights to prevent and mitigate the risk of attacks on healthcare workers. Eradication standards, safety enforcement and human rights should become targeted areas for future research and evaluation to ensure the safety of our healthcare and humanitarian workforce.

The question at hand, is polio eradication achievable by 2018? A few would say, ‘no’. WHO’s original target for the global eradication of polio by the year 2000 – has been extended several times and the world missed the deadline for the 24-year-old Global Polio Eradication Initiative (GPEI) to halt transmission by the end of 2012.^[10] However eradication does seem possible- the GPEI launched its Global Polio Eradication and Endgame Strategic Plan in Washington, D.C on April 4th 2013. The new plan aims to eliminate wild-type polio by 2015 and completely eradicate the virus from the world by 2018, and yes it is possible at least according to the Bill and Melinda Gates Foundation.

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