

## THE FIRST STEP TO COMBATING AN INVISIBLE ADVERSARY? MAKING IT VISIBLE.

How MinXray's CMDR digital imaging system helped combat tuberculosis in the Philippines.



For example, our staff took the opportunity to spend time in the field with one of the NTP survey teams while in Manila for the PBSP training. The insights gained there helped us further refine our equipment and offerings, just as we did with the shockproof, waterproof cases and ruggedized computers we developed for the U.S. military.

Those military-grade cases turned out to be an appealing feature to global health practitioners transporting their equipment over rough terrain. But once they've arrived at their destination, these projects are often forced to set up in town squares, makeshift offices made from shipping containers or other temporary outdoor structures. Seeing a need for better conditions, we are now working to develop customizable portable enclosures that may benefit military, large animal veterinary and other custom applications in addition to global health.

### Making a difference

In the Philippines, as in Nigeria, the Bahamas, Nepal, Somalia, Senegal and elsewhere, MinXray's imaging systems provided—and continue to provide—an essential tool in the fight against tuberculosis. Whether in desert heat or thin mountain air, assisting in disaster relief, military medicine or forensics field work, our equipment has risen to meet whatever challenges our customers face. Each location is, by definition, different, but our small but impact-driven staff are dedicated to delivering durable, high performance solutions tailored to our customers' needs, wherever those customers may be. We've been making a difference for the last 50 years, and plan to continue doing it for at least 50 more.



For 50 years, we've been there, where you care.



### Caring from the start

Imaging technology has evolved significantly since MinXray was founded in 1967, and our commitment to innovation has allowed us to evolve hand-in-hand along with it. For 50 years, we have been continuously building our experience, technical capabilities and product offerings, making us uniquely able to develop solutions for situations where larger imaging units are impractical or too costly to employ.

We began in the veterinary imaging market before expanding into home health care imaging then building up our presence in podiatry, security, disaster response, forensics and other niche markets. For the last decade, we have been the top supplier of portable x-ray equipment to the U.S. military. Thanks to our reputation for providing the gold standard in durable, portable imaging systems, MinXray equipment can be found in more than 40 countries on all seven continents. Over the last eight years we have become a preferred imaging partner for numerous public health initiatives around the globe.

For more information about MinXray products, contact your local dealer or MinXray at:

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Where you care, we're there.

## Shifting to respond to market needs

Over the past decade, MinXray's imaging equipment has become an essential tool for tuberculosis (TB) prevalence surveying and control programs in many developing countries. Throughout Africa, Asia and Latin America, the totally curable disease remains a devastating public health problem, killing more than 1.8 million people each year.

In 2000, the United Nations set a goal of reversing the prevalence of tuberculosis, malaria and other infectious diseases by 2015. Thanks in part to national tuberculosis prevalence (NTP) surveys funded by NGOs such as the Global Fund for AIDS, Tuberculosis and Malaria (GFATM) and the World Health Organization, tuberculosis incident rates have fallen to 18% less than they were at the turn of the century. In order to determine the pervasiveness of the disease throughout the population, these NTP surveys need to take thousands of chest x-rays, and the imaging systems they use must be up for the challenge.

MinXray had been supplying rugged field imaging units to the U.S. military and other government agencies for several years when we were contacted in 2008 by the University of Maryland's School of Medicine. Researchers at the school's Institute for Human Virology were aware that MinXray's imaging units were being used by the military in the harsh field conditions of Iraq and Afghanistan. The Institute was looking for similarly durable, portable equipment for TB control efforts in Nigeria. We provided it with the digital imaging solution the project needed, and the exceptional performance of that equipment led to the purchase of six additional systems for a Nigerian NTP survey in 2010. Our reputation in

global health began to grow, and MinXray has provided medical imaging equipment to at least one NTP survey a year since then.



## Built for the job

Near the end of 2013, MinXray was approached by the organizers of a NTP survey in the Philippines, an island nation with a population of close to 100 million spread out across 7,000+ islands. More than 290,000 new cases of TB are reported in the Philippines each year, and the treatable disease remains the country's sixth leading cause of death. Through the Philippines Department of Health, GFATM would be funding the country's first TB survey in a decade. Over the course of a year, four teams would be taking an estimated 30,000 chest x-rays in 107 locations or "clusters" spread out across the country.

The study chose one of MinXray's CMDR system configurations not only because it was lighter, lower in cost and easier to use than competing units, but because of the system's reputation for durability and reliability. As completely self-contained digital radiography systems, MinXray's CMDR units are able to acquire high-quality diagnostic images in seconds as well as store and send images anywhere within minutes when connected to the internet. CMDRs also have the highest power-to-weight ratios

available today, making them compact enough to move easily between sites by truck, or small boats—as they would be in the Philippines—or by single-engine plane, as they have been for TB surveillance and control efforts in the Bahamas.

Four CMDR systems arrived in Manila in February 2016, along with a MinXray radiographer/applications trainer who spent two days giving the survey radiographers hands-on equipment and software training. Over the course of the next 12 months, each of the survey's four teams would visit roughly 25 clusters, taking 350-500 images in each location over the course of a week and sending them wirelessly to the Cloud so that radiologists could access the images for interpretation. According to one survey doctor, the CMDR system produced higher quality images than the equipment he normally used at the Philippines General Hospital.



Even with tropical humidity, temperatures that occasionally exceeded 35 degrees Celsius and less-than-ideal conditions, downtime was almost nonexistent. Despite a 13-hour time difference, MinXray's technical support staff was in close contact with the survey teams as needed via email, helping them with everything from troubleshooting internet connection challenges to managing the high volume of images.

## Already there

Before the units for the NTP survey had even delivered, the Philippine Business for Social Progress (PBSP) approached MinXray about providing imaging equipment for an even larger proactive TB prevention project. PBSP, a corporate-funded foundation that supports large-scale, proactive community health services, wanted to place portable imaging units in 22 of the country's most remote medical facilities to assist with locally targeted TB control efforts.

Our staff radiographers traveled to Manila for a week-long training session with roughly two dozen imaging technicians and representatives from the Philippines Department of Health. The imaging systems were deployed in October 2016, just as the Department of Health and PBSP kicked off a traveling TB awareness campaign for National Tuberculosis Awareness Month.

That same month, PBSP ordered four more units for another mobile TB control project, bringing the total number of CMDR systems in the Philippines to 30. In addition to providing ongoing customer support for all of these units, MinXray has partnered with a Philippines-based company to assist with technical support.

## Connecting the dots

Together, these three projects have the capability to greatly reduce the impact of TB in the Philippines. For MinXray, they represent both the culmination of years of experience in the portable imaging industry, and a chance for us to build on that experience.