

# Using AI to Fight TB

Health  
through  
Walls

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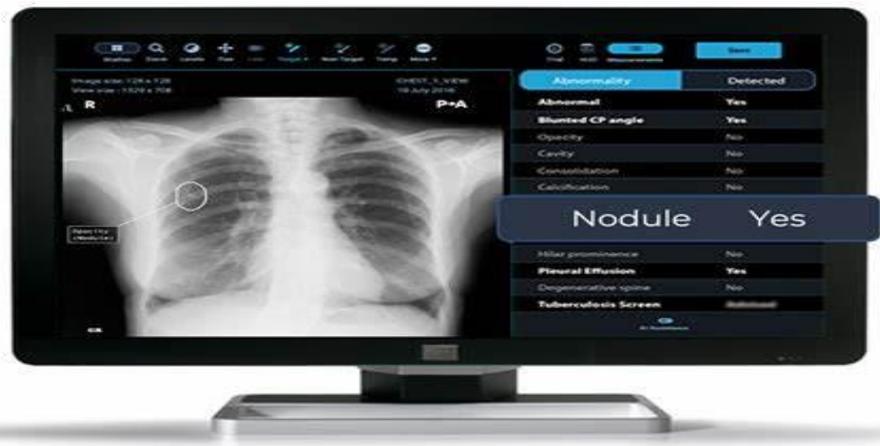
HtW Newsletter  
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12555 Biscayne Blvd, #955  
North Miami, FL 33181  
USA

[www.healththroughwalls.org](http://www.healththroughwalls.org)

Screening thousands of persons in prisons for tuberculosis (TB), the leading infectious cause of death around the world, is an enormous challenge. Traditional approaches ask each person if they have symptoms of cough, fever, night sweats, or weight loss. Those with affirmative responses undergo further investigation. Of course, in overcrowded prisons with poor sanitation and insufficient food, nearly everyone has one of these symptoms.

Health through Walls (HtW) teamed with Qure.ai, the developer of artificial intelligence (AI) software that identifies suspected tuberculosis disease within seconds of taking a digital x-ray. AI-powered tools are being used to analyze chest X-rays, sputum samples, and other data to identify TB cases more quickly and accurately than traditional methods.



HtW has deployed this technology in the overcrowded prisons in Haiti, successfully imaging more than 8,000 persons in the prisons and identifying more than 1300 potential cases of TB which have been investigated and provided care and treatment. The success of this approach has informed strategies in other prison systems around the world.

In July 2023, HtW launched this program with our partners in three prisons in Maputo, Mozambique (right). Funded by TB REACH, volunteers and local staff worked with HtW leadership to establish a system of TB screening using AI, identifying persons with active disease, beginning treatment, and allowing focused prevention activities for those remaining. We have also started this program in the prisons of Central African Republic.



**Sustainable prison healthcare in low-resource countries**

# Completion of the Emergency Health Clinic in Haiti's Largest Prison

The National Penitentiary of Haiti continues to experience gross overcrowding. Providing adequate isolation for persons with contagious disease, such as tuberculosis, cholera or COVID-19, to prevent spread to others and facilitate treatment has been nearly impossible. A solution has now been implemented by HtW with the support of the U.S. State Bureau of International Narcotics and Law Enforcement. Shipping containers have been placed inside the prison and retrofitted to serve as medical isolation and treatment units.

The project officially commenced in May 2022 despite many logistical and security challenges in Haiti and was completed in 2023 at costs much less than traditional construction. The units provide space to deliver medical care, infirmary housing, reparatory isolation, and assisted living. See our progress in the pictures below which is only possible with your support!!

HtW is grateful to the Design Committees of the American Correctional Association and the International Corrections and Prisons Association led by Stephen Carter for their volunteer efforts with the architectural planning, and assistance with obtaining equipment such as solar panels, inverters, AC units, toilets, and beds.



## Project ECHO

*Health through Walls' Project ECHO -- Bringing HIV Expertise to Prisons in Low-Resource Countries*



Throughout 2023, HtW expanded the reach of Project ECHO, led by Leanne Kearney of Australia and previously Michelle Karshan of USA. Funded by Gilead Sciences, 18 monthly educational sessions on HIV care in prisons were conducted virtually for prison health practitioners with facilitators across 16 countries in three different languages including:

- **French Stream:** Burkina Faso, Mali, Haiti, DRC, and Senegal.
- **Spanish Stream:** Santo Domingo, Ecuador, Panama, Dominican Republic, and Columbia.
- **English Stream:** Malawi, Belize, Uganda, Barbados, USA and Guyana.

Sessions also included groups of incarcerated peers who have the chance to interact virtually and share experiences and perspectives on health issues within their prisons. In September, HtW participated in the MetaECHO conference, marking 20 years of Project ECHO, and contributing to the goal of reaching 1 billion persons through this far-reaching educational platform. With your support we hope to reach through more prison walls and promote health via digital platforms!!

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## Aquaponics and Farming: Our Responses to Food Insecurity



Food shortages continue within the prisons of Haiti. With your support HtW has delivered a prison farming program to improve the food security for detainees. Incarcerated individuals plant local foods for their facility and surrounding facilities, with an emphasis on increasing the availability of fresh fruits and vegetables, and other healthy foods. In 2023 HtW has expanded the aquaponics program in 4 prisons to provide fish as a source of animal protein, and fresh vegetables and culinary medicinal herbs as a source of minerals and vitamins to populations where water or fertilizer resources are limited. Your support enables our teams to significantly reduce the recurring cases of malnutrition, Beri Beri, and scurvy. Thank you!

## International Award to Grace Butler, HtW Dominican Republic, 2023

The 2023 Excellence Award in Correctional Healthcare was presented to Grace Butler (photo, right), Program Director for Foundation Genesis and HtW – Dominican Republic, by the President and Board of Directors of the International Corrections and Prisons Association during the annual conference held in October 2023 in Antwerp, Belgium. Her work was recognized for her dedicated efforts to Test and Treat detainees and their families in La Victoria Prison for Hepatitis, Syphilis, and HIV. Well done, Grace!



## Appreciation to Retiring Board Members

HtW success is guided by the dedication and vision of our volunteer Board of Director. Since our founding in 2005, our Board meets regularly and assists in guiding our governance, strategy, impact, funding, and more. After serving continuously for more than 18 years the following Board Members have retired from the Board. Unreserved thanks to:

- Michelle Karshan, co-Founder and Vice President
- Dave Thomas, MD, JD, original Board Member
- Martin Mueller, former Peace Corps Director, and CDC Director, Haiti.
- Angela Deal, DTh, original Board Member

We are forever grateful for their selfless contributions and direction, and continued advocacy.

## Central African Republic

In 2023, HtW began services in Central African Republic in the prisons of the capital city in a partnership with the United Nations Peace Operations (MINUSCA) and AMICI, the local implementer. More than 1600 people received a full health screening including using A.I. for lung disease detection and were provided access to lifesaving treatment for TB and non-TB morbidities. With your support, and additional United Nations funding we have been engaged for another year to continue this important work!

## Malawi

Pastor Danileck Mitepa, Program Director of HtW in Malawi, visits several prisons to conduct HIV health education as well as to provide needed supplies including vitamin-enriched peanut butter. With your help we were able to distribute 30 cases of protein rich supplement to 30 prisons in Malawi.



## Jamaica

HtW continues to provide Care Management to incarcerated persons with HIV infection in Jamaica's main prisons. The HtW Care Manager coordinates services so that the individuals receive timely laboratory tests, medications, adherence support, access to specialists, and discharge planning.

## Thank You to Our Volunteers!

Special thanks to our donors, funders, volunteers, and partnership organizations without whom our work would not be possible. Special thanks to our volunteers this year including Dr. Ingrid Renberg, Dr. Marc Stern, Jane Rich, Dr. Anne Spaulding, for assisting with the medical blitz in Mozambique, students Emily Nelson and Mahitha Kasturi, and Cathy-Lynn May for tracking donations.



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