

Advancing Global Health: The World Mosquito Program's Journey with GMP Uplift



Image credit - World Mosquito Program

Despite their small size, mosquitoes are the world's most deadly animal – killing over 700,000 people per year. The small insect is linked to the spread of many vector-borne deadly diseases like Malaria, West Nile Virus, Dengue Fever, Zika Virus and Yellow Fever among others. Indeed, in 2021 over 615,000 people died from malaria alone with another 247 million becoming sick with the illness.

While these diseases can impact anyone who comes into contact with mosquitoes, those most at risk of death and serious illness are children in developing nations. What's being done to tackle this scourge?

The World Mosquito Program (WMP) uses a uniquely self-sustaining method mosquito breeding program with the potential to transform the global fight against mosquito-borne diseases. Owned by Monash University, WMP breeds *aedes aegypti* mosquitoes that carry a natural bacteria called *wolbachia* that competes with viruses like dengue, Zika, chikungunya and yellow fever and ultimately reduces the transmissibility of these viruses to humans.

As of June 2023, approximately 11 million people worldwide are already benefiting from WMP's *Wolbachia* method. However, efforts to expand the program have faced substantial challenges in establishing large-scale mosquito production facilities that comply with Good Manufacturing Practice (GMP) standards.

Seeking to navigate diverse GMP requirements across countries and skilling up staff in GMP/cGMP WMP prioritised comprehensive training for key members attending CBE's GMP Uplift Essentials Program.

Speaking about the program, Yi Dong – Diagnostic and Quality Manager at WMP said that “attending the GMP Uplift Essentials program equipped WMP's key members with a deep understanding of GMP standards... The program underscored the importance of audits and highlighted the significance of quality in ensuring patient safety.”

“The GMP Uplift training has positioned WMP to transition from scientific research to global scale-up effectively. The organisation is now equipped to design an efficient quality strategy for its facility, ensuring the delivery of a safe and effective product.”

These skills are particularly important as WMP looks to launch the world's largest Mosquito Mass Production Facility (MMPF) in Brazil within the next year. Once built, the facility will have the capacity to provide approximately 50 million people with *Wolbachia* protection across the next 5 years.

Beyond just the health and medicinal benefits, the facility will create local job opportunities in Brazil, address health disparities and provide training for local communities.

The World Mosquito Program's journey from inception to commercial, global scale up exemplifies the transformative power of innovative solutions and collaboration. Through initiatives like GMP Uplift, WMP is laying the foundation for lasting impact, fostering a quality-driven culture, and creating opportunities for communities worldwide.