



Antibiotic Resistance in India



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In India, bacteria that cause common infections, such as urinary tract and bloodstream infections, are becoming resistant to nearly all antibiotics. This resistance is due to a combination of factors: uncontrolled access to antibiotics, gaps in infection prevention and control (IPC) practices, and high rates of communicable diseases. Antibiotic resistance, or AR, is a serious problem throughout the country, and threatens to reduce the usefulness of antibiotics both in India and around the world.

Because of this emerging threat, India is committed to slowing the spread of AR. Two institutions within India's Ministry of Health – the Indian Council of Medical Research and National Centre for Disease Control – each developed national networks of public and private hospitals to measure AR trends, prevent healthcare-associated infections (HAIs), and enhance appropriate use of antibiotics. The All India Institute of Medical Sciences is coordinating HAI measurement and prevention efforts in both networks. In addition, efforts in the state of Tamil Nadu focus on building district-level IPC capacity to prevent HAIs, focusing on maternal and neonatal patients.

Together with the CDC India country office, CDC's International Infection Control Program (IICP) in the Division of Healthcare Quality and Promotion out of the National Center for Emerging and Zoonotic Infectious Diseases is working closely with partners at the national and state level to:

- Detect AR pathogens, including novel strains, by developing lab networks and lab expertise.
- Use standardized surveillance to monitor and track AR infections in healthcare to learn how often these infections occur and to help develop strategies to prevent them.
- Implement focused IPC activities and training.
- Optimize use and reduce misuse of critical antibiotics through antibiotic stewardship programs.

More than 150 IPC professionals from the Indian Council of Medical Research and National Centre for Disease Control hospitals have been trained to conduct HAI surveillance, IPC assessments, and

HAI outbreak investigations. After the training, staff in more than 30 hospitals began surveillance for HAIs using a common protocol and completed assessments to identify and address gaps in hospital IPC programs. To continue progress in bringing together these two AR networks, efforts in 2018 focus on implementing a common platform for AR surveillance and enrolling laboratories in a central external quality assurance scheme to promote unified AR surveillance.

IPC professionals were hired and trained, and they have begun activities to build IPC capacity in maternity and newborn care units in three district hospitals in Tamil Nadu. In 2018, activities will expand to include surveillance of maternal infections, extension of IPC capacity to primary healthcare facilities that also provide maternal and newborn care, and integration of IPC into state public health activities.

This work is supported by the Global Health Security Agenda and is an example of core public health work needed to protect the health of people in India as well as the United States.

