

Building Capacity to Prevent Health Care-Associated Infections and Microbial Resistance

Jhpiego Advocates for and Implements Evidence-Based Standards for Infection Prevention and Control Practices

Infection prevention and control (IPC) practices aim to protect patients, health workers, and the community from health care-associated infections, which harm hundreds of millions of people each year. IPC also aims to prevent antimicrobial resistance, which has become one of the most serious and growing threats to public health worldwide and can be partly attributed to the misuse of antibiotics. Since 1996, Jhpiego's technical expertise has expanded to include IPC, health care-associated infection surveillance, outbreak response—for Ebola virus disease—and strengthening health systems. Jhpiego has assisted more than 40 countries to integrate IPC practices into health care programs by working with ministries of health to build human IPC capacity; design national policies, guidelines, and learning materials; and integrate IPC practices, including prevention of antimicrobial resistance, into family planning and reproductive health, maternal and newborn health, cervical cancer prevention, and HIV prevention services.



Health workers in Ethiopia prepare for surgery by following proper hand hygiene practices. Photo by Karen Kasmauski, Jhpiego.

Jhpiego promotes the use of appropriate IPC practices to:

- Reduce the risk of blood-borne pathogens and health care-associated infections for patients, such as surgical site infections, and health workers
- Protect health workers at all levels from exposure to life-threatening diseases
- Reduce misuse of antibiotics to prevent antimicrobial resistance
- Promote effective waste management
- Maintain a safe patient environment by promoting evidence-based environmental cleaning practices and procedures
- Reduce perceived risk of HIV infection for health workers

Our Approach

Working with key stakeholders at every level of the health care system—ministries of health, facility supervisors, health workers, housekeeping personnel, and community leaders—Jhpiego designs comprehensive approaches that fit each country's unique needs and are in accordance with evidence-based best practices and international standards. Our approach includes:

- Capacity development: Jhpiego strengthens human capacity for IPC by developing national guidelines, standards, and training materials; training trainers and health workers in IPC; and tracking quality improvements.
- Global leadership: Jhpiego develops national policies and guidelines and reference and learning materials.

With Johns Hopkins Medicine, we updated and expanded our IPC manual, now called *Infection Prevention and Control: Reference Manual for Health Care Facilities with Limited Resources* (2018), and produced *Prevention and Control of Ebola Virus Disease in Health Care Facilities with Limited Resources* (2015).

Innovations

Personal Protective Equipment

In collaboration with the Johns Hopkins Center for Bioengineering Innovation & Design (CBID), Jhpiego spearheaded an effort to devise innovative solutions for outbreak prevention, organizing and hosting the Emergency Ebola Design Challenge. This design challenge produced 1,500 proposed projects from within the Johns Hopkins University community with the goal of developing better protective gear for health workers fighting Ebola virus disease. The Jhpiego/CBID personal protective suit was chosen as one of five grand challenge awardees. At the end of July 2016, CBID and Jhpiego finalized and handed over the overall design to DuPont, a private commercialization partner, for mass production.



Frequently Asked Questions about Infection Prevention and Control

What are health care-associated infections and what are the most common ones?

A health care-associated infection is an infection that occurs in a patient as a result of care at a health care facility and was not present at the time of arrival at the facility. The most common types of health care-associated infections are:

- Surgical site infections
- Urinary tract infections, including catheter-associated infections
- Pneumonia, including ventilator-associated pneumonia
- Bloodstream infections, including central line-associated infections
- Multidrug-resistant infections
- Infectious diarrhea and Clostridium difficile infections

What is antimicrobial resistance and why is it important?

Antimicrobial resistance occurs when microorganisms such as bacteria, viruses, and parasites develop ways to avoid the effects of specific medications, including antibiotics and antiviral therapies. As a result, standard treatments become ineffective and lose their ability to kill disease-causing microbes. Antimicrobial resistance is present in all parts of the world. It is caused by the inappropriate use of antimicrobials—both overuse and use when they are not needed.

Antimicrobial resistance is important because it increases recovery time, medical expenses, and even death rates because commonly used drugs are less effective against microbes. Resistance requires the use of more expensive, often more toxic alternative drugs. Some microbes that were effectively treated a few decades ago are now more difficult to treat. These infections include pneumonia, tuberculosis, bloodstream infections (sepsis), and sexually transmitted infections.

Are there simple ways to prevent health care-associated infections?

Hand hygiene (with soap and water or an alcohol-based hand rub) is the most effective way to prevent infections. Other simple steps to prevent health care-associated infections include getting and maintaining immunizations, preparing food safely, using antibiotics only as directed and only when needed, and using Standard Precautions:

- Hand hygiene
- Use of personal protective equipment
- Respiratory hygiene and cough etiquette
- Safe injection practices
- Cleaning and disinfection
- Processing textiles
- Waste disposal