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RESEARCHERS DEVELOP GLOBAL CHECKLIST FOR HOSPITAL ANTIMICROBIAL STEWARDSHIP PROGRAMS

CDDEP researchers lead development of an evidence-based and globally applicable checklist for antimicrobial stewardship programs.

Researchers at the Center for Disease Dynamics, Economics & Policy (CDDEP), in collaboration with researchers at the Université de Lorraine, the Qatar Foundation, and the World Innovation Summit for Health (WISH), developed the Checklist for Hospital Antimicrobial Stewardship Programming (CHASP). CHASP was based on an expert panel's review of published scientific research and existing checklists including the US Centers for Disease Control and Prevention's Core Elements of Hospital Antibiotic Stewardship Programs, and was published in the journal *Clinical Microbiology and Infection*.

Antimicrobial resistance is rising in healthcare facilities. A primary driver of antimicrobial resistance is antimicrobial use in these settings. There has been increasing interest in developing and implementing hospital-based antimicrobial stewardship programs (ASPs) to reduce and improve antibiotic use and to slow the emergence and spread of antimicrobial resistant pathogens. Checklists outlining core elements of ASPs are a practical way for healthcare providers to assess current clinical practices and ensure best antibiotic use practices are followed. Previous ASP checklists have successfully led to optimized antibiotic use and improved healthcare; however, most ASP checklists have been geared towards implementation in high-income countries such as those in North America, Europe, and Australia.

In developing CHASP, researchers aimed to leverage a baseline set of program elements and interventions that would be feasible to adopt globally in all healthcare facilities including those in low- and middle-income countries.

The seven core components of CHASP address:

- Senior hospital management and leadership
- Accountability and responsibility
- Access to infection management professionals
- Education and practical training
- Continuous monitoring and surveillance of stewardship activities
- Reporting and sharing of antimicrobial resistance and antimicrobial monitoring data
- Actions aimed at responsible antimicrobial use

The checklist was tested in 12 Leading Health Systems Network hospitals across nine countries including low-income countries. Overall, participating institutions had between 11 and 29 of the 29 checklist items present. Four checklist items were present in all participating institutions and included: a multidisciplinary structure for ASP, an identified ASP leader, access to trained infection management professionals, and monitoring of the quantity of antimicrobials prescribed.

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Only one institution, in India, had all checklist components. The most commonly missed checklist items were staffing standards, regular training for ASP staff, and adequate information technology (IT) services. Barriers to CHASP implementation and success included lack of expertise, limited financial resources, and insufficient collaboration.

The checklist is published in full in a report titled, "Global Core Standards For Hospital Antimicrobial Stewardship Programs: International Perspectives and Future Directions" and is available online here. A paper titled, "Developing core elements and checklist items for global hospital antimicrobial stewardship programmes: a consensus approach," outlines the checklist development process and was published in *Clinical Microbiology and Infection* and is available online here.

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About the Center for Disease Dynamics, Economics & Policy

The Center for Disease Dynamics, Economics & Policy (CDDEP) produces independent, multidisciplinary research to advance the health and wellbeing of human populations around the world. CDDEP projects are global in scope, spanning Africa, Asia, and North America and include scientific studies and policy engagement. The CDDEP team is experienced in addressing country-specific and regional issues, as well as the local and global aspects of global challenges, such as antibiotic resistance and pandemic influenza. CDDEP research is notable for innovative approaches to design and analysis, which are shared widely through publications, presentations and web-based programs. CDDEP has offices in Washington, D.C. and New Delhi and relies on a distinguished team of scientists, public health experts and economists.