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SUBSIDIES FOR INFECTION CONTROL TO HEALTHCARE INSTITUTIONS CAN HELP REDUCE INFECTION LEVELS

CDDEP and Princeton University researchers demonstrated that a dollar-for-dollar matching subsidy was effective at reducing the number of hospital-acquired infections, in a mathematical modelling study.

Washington, DC – As populations age and hospitalization and long-term care become more common, healthcare-associated infections, including many caused by drug-resistant pathogens, are increasing in importance and pose a significant threat to patient safety. Patients who are discharged to the community and are later re-hospitalized can spread infection and colonization from one healthcare facility to another. Therefore, infection control measures at one hospital may impact risk of infection at other institutions or at community and regional levels. In a landmark paper published in the Proceedings of the National Academy of Science, researchers at CDDEP and Princeton University had called for a regional approach to infection control. That recommendation is now being observed by the US Centers for Disease Control and Prevention.

Incentivizing infection control at any single institution can be difficult in a diverse healthcare system such as in the United States. In this new study, researchers explored whether financial subsidies and other forms of monetary compensation to healthcare facilities could encourage hospital-acquired infection control measures. Researchers at the Center for Disease Dynamics, Economics & Policy (CDDEP) and Princeton University developed a game-theory model of epidemiology and hospital behavior to assess the impact of different forms of subsidies on hospitals' infection control.

Researchers compared three types of subsidies: a subsidy tied to the number of uninfected patients, which is equivalent to a tax on infected patients; a fixed subsidy; and a dollar-for-dollar matching subsidy. Under a limited budget, researchers found that a dollar-for-dollar matching subsidy, in which policymakers match hospital spending for infection control measures, was the most effective at reducing the number of hospital-acquired infections.

In hospitals with high transmission and/or high levels of patients with infections on admission, a matching subsidy resulted in a hospital increasing its own spending. Additionally, in a two-hospital model, researchers demonstrated that subsidies should be preferentially given to hospitals with lower transmission rates in order to improve infection control for both facilities.

“We need to find ways to improve infection control in US hospitals, and financial incentives could provide a strong motivation” said Ramanan Laxminarayan, CDDEP director and senior author on the study. “The cost of infection control is small compared to the tremendous cost-reduction that could be achieved across the system.”

The study titled, “Incentivizing Hospital Infection Control” was published on March 11, 2019 in the Proceedings of the National Academy of Sciences of the United States of America 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.