

ACTION TO FIGHT SUPERBUGS

NEEDED NOW TO SAVE LIVES AND LOWER HEALTHCARE COSTS IN INDIANA

Rise in Drug-Resistant Pathogens Threatens to Undermine Medical Advances, Claim Lives, and Add Billions to Healthcare Costs and Economic Losses Across the State of Indiana



What if the antibiotics and other therapies we rely on to treat common infections no longer worked? That's a real-life catastrophe we are racing toward now. As drug-resistant bacteria, fungi and other pathogens evolve and increase, our arsenal of medicines to kill them has dwindled and the pipeline of new treatments is sparse. **Antimicrobial Resistance (AMR) already causes more than 35,000 deaths in the US each year¹** and COVID-19 has only made the situation worse. Infections are a threat to everyone. They can often develop in healthcare settings – after a surgery or relating to use of a catheter, central line or ventilator – or from exposure in the community.

Nationally, in **2020**, there was a **15% increase in AMR infections and deaths.²** In 2020, treating people who acquired AMR infections in healthcare settings cost **\$85M in direct medical care** and another **\$188M in economic losses relating to premature death in Indiana.***

So, what could we face if we do nothing now to stop the threat? Assuming that infection prevention and control efforts keep the infection rates the same, the growth in the number of drug-resistant, hospital-acquired infections is still devastating. Take a look at the projections for hospital-acquired infections by 2035.

HUMAN & ECONOMIC TOLL OF INCREASE IN RESISTANT INFECTIONS IN INDIANA (HOSPITAL-ACQUIRED, YEAR 2035)

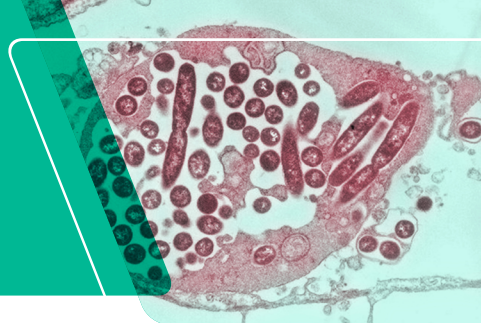
Annual Human & Economic Impact	No Increase in Rate of Drug-Resistant Infections	If 1 in 4 Infections are Drug-Resistant	If 1 in 2 Infections are Drug-Resistant	If All Infections are Drug-Resistant
Additional AMR-Caused Deaths	73	526	583	698
Extra Days in Hospital	6,835	17,276	34,553	69,106
Direct Medical Added Costs	\$21 million	\$52 million	\$104 million	\$208 million
Added Costs from Excess Mortality	\$42 million	\$300 million	\$333 million	\$398 million
Total Costs	\$63 million	\$352 million (6x Increase)	\$437 million (7x Increase)	\$606 million (10x increase)

* Data based on model simulation by GlobalData Plc. Assumes prevention efforts maintain rate of hospital-acquired infections, but the number of those infections that are resistant to known treatments increases.

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Partnership to Fight Infectious Disease



Why Should We Care?

The COVID-19 pandemic has demonstrated the need to prevent and be better prepared for infectious disease outbreaks and other public health crises. Consider this:

- Nationally the **annual healthcare costs of AMR-associated infections** acquired in the community are **\$2.7B**.³
- Communities of color are at higher risk for healthcare-acquired AMR infections and death.⁴ In Indiana, **Black people are 71% and Hispanics 147% more likely to die from an HAI AMR infection** compared to whites.

Unfortunately, the pandemic has exacerbated the urgency of AMR.

As more patients are hospitalized and acquire secondary infections requiring treatment with antibiotics, the population's resistance to our current medicines is worsening. For example, **more than 25% of hospitalized COVID-19 patients have a secondary staph infection and half of these are particularly resistant infections known as MRSA.**⁵



What's At Stake?

Without urgent action from policymakers to address the growing impacts of AMR, it will become increasingly commonplace for:

- A child to die from a simple eustachian tube surgery following a common ear infection or a post-op infection following an appendectomy.
- Children and adults to exhaust available treatment options to manage life-long illnesses, like cystic fibrosis, which rely heavily on antibiotics to prevent and manage infections.
- A new mother to lose her life to a hospital-acquired infection following a C-section.
- A grandmother responding well to cancer treatment only to acquire a severe antibiotic-resistant infection, develop sepsis and die from the infection.
- Routine cuts and scrapes to lead to serious infections, surgery or even amputation.
- Once routine surgeries to be too unsafe to undertake given the risks of drug-resistant infections.



What Can Be Done?

We need to invent new medicines that can treat infections in novel ways. While recent policy changes have enhanced the research ecosystem and have sought to provide support and incentives for researchers to develop new antimicrobial medicines, additional policy reforms are still needed to **create a more sustainable environment for antimicrobial R&D and commercialization, and ensure a robust pipeline for future treatments.**

The PASTEUR Act would help achieve this goal by creating a novel payment mechanism to ensure a return on investment for high-need antimicrobials. Payment reform, which would address reimbursement barriers in the inpatient bundled payment system in Medicare, would also make a meaningful difference.

1. CDC. "2019 Antibiotic Resistance Threats Report." Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 23 Nov. 2021, <https://www.cdc.gov/drugresistance/biggest-threats.html>.
2. <https://www.cdc.gov/drugresistance/pdf/covid19-impact-report-508.pdf>
3. Nelson, Richard E, et al. "National Estimates of Healthcare Costs Associated with Multidrug-Resistant Bacterial Infections among Hospitalized Patients in the United States." OUP Academic, Oxford University Press, 29 Jan. 2021.
4. Nadimpalli, Maya L., et al. "Antibiotic Resistance: A Call to Action to Prevent the next Epidemic of Inequality." Nature News, Nature Publishing Group, 18 Jan. 2021.
5. Nelson, Richard E, et al. "Mortality, Length of Stay, and Healthcare Costs Associated with Multidrug-Resistant Bacterial Infections among Elderly Hospitalized Patients in the United States." OUP Academic, Oxford University Press, 7 Oct. 2021.