

Statement for the Record

Submitted by Premier Inc.

“Antimicrobial Resistance: Examining an Emerging Public Health Threat”

House Energy and Commerce Subcommittee on Oversight and Investigations

April 28, 2023

Premier Inc. appreciates the opportunity to submit a statement for the record on the House Energy and Commerce Subcommittee on Oversight and Investigations hearing titled “Antimicrobial Resistance: Examining an Emerging Public Health Threat” on April 28, 2023. We applaud Chairs McMorris Rodgers and Griffith for holding this hearing to evaluate Congress’ role in preventing antimicrobial resistance and developing countermeasures that are effective against infections and public health threats.

I. BACKGROUND ON PREMIER

Premier is a leading healthcare improvement company and national supply chain leader, uniting an alliance of 4,400 hospitals and approximately 250,000 continuum of care providers to transform healthcare. With integrated data and analytics, collaboratives, supply chain solutions, consulting and other services, Premier enables better care and outcomes at a lower cost. Premier is a data-driven organization with a 360-degree view of healthcare. Premier’s sophisticated technology systems contain robust data gleaned from nearly half of U.S. hospital discharges, 812 million hospital outpatient and clinic encounters and 131 million physician office visits. A Malcolm Baldrige National Quality Award recipient, Premier plays a critical role in the rapidly evolving healthcare industry, collaborating with healthcare providers, manufacturers, distributors, government and other entities to co-develop long-term innovations that reinvent and improve the way care is delivered to patients nationwide. Headquartered in Charlotte, North Carolina, Premier is passionate about transforming American healthcare.

Premier recognizes the critical need for antibiotic stewardship and is committed to reducing antimicrobial resistance (AMR) by 1) slowing the emergence of resistant bacteria and preventing the spread of resistant infections and; 2) strengthening national health information technology efforts to combat resistance. Using an array of data-driven solutions, research and educational services, and performance improvement collaboratives, Premier is leading actionable, measurable and timely initiatives to combat AMR.

II. ADVANCING ANTIMICROBIAL STEWARDSHIP VIA TECHNOLOGY: Antimicrobial Resistance Case Study

Artificial intelligence (AI) enabled technology has the potential to transform healthcare by decreasing costs, reducing provider burden, and most importantly, improving patient outcomes while minimizing adverse events. To truly move the needle on patient safety, leveraging the power of technology is essential.

As a case example, it is well recognized that inappropriate use of antimicrobial agents is a significant contributor to the development of AMR. Establishing an antimicrobial stewardship program and electronic tracking of antibiotic use are two of the most proven strategies available to help prevent the inappropriate use of antibiotics. This is what has driven Premier to focus on clinical analytics technologies that detect patient care issues with the tracking, interventions and reporting capabilities that are needed to support antimicrobial stewardship programs. More than 1,000 facilities use Premier’s automated clinical technology, powered by TheraDoc®, that delivers a comprehensive, easy-to-use solution that helps clinicians individualize antibiotic therapy.

The clinical technology system utilizes data from electronic health records (EHRs), helping clinicians and pharmacists identify overuse of antibiotics and drug-bug mismatches, reduce time-to-appropriate therapy and enhance therapy for difficult-to-treat pathogens. Key to this is the system's automated record review for each patient and real-time alerts that flag actionable items for the healthcare team. Armed with the clinical insights and tools to help monitor patients and identify potential interventions, hospitals around the country can:

- Discontinue medications where there was a drug-bug mismatch or where unnecessary;
- Prevent adverse drug events;
- Switch from intravenous medications to less expensive oral formulas;
- Eliminate redundant antimicrobials;
- Switch patients to narrower and less expensive antimicrobials;
- Shorten the duration of drug therapy to align with recommended guidelines;
- Restrict the use of certain drugs without approval of an infectious disease specialist;
- Easily transmit Antimicrobial Use and Resistance (AUR) data to the CDC's NHSN program to understand community dosing and resistance patterns; and
- Utilize a Bayesian dosing methodology, at the point of care, for difficult to dose medications like vancomycin and the aminoglycosides, to model potential doses and understand which dose gets the patient into the therapeutic window faster and keeps them there, reducing the chances of unintended consequences such as kidney injury.

Some bright spots and successes with this solution include:

- 27 percent reduced median time to appropriate therapyⁱ
- Reduced odds of infection-related mortality by 76 PERCENTⁱⁱ
- Reduced hospital Length of Stay (LOS) by two daysⁱⁱⁱ
- 286 percent improvement in appropriate prescription of antibiotics^{iv}
- 40 percent antibiotic intervention rate within outpatient wound care center^v
- 33 percent increase in antibiotic interventions^{vi}
- Five times faster antimicrobial stewardship program interventions^{vii}
- 64 percent reduced time to effective antimicrobial therapy for *C. difficile*^{viii}
- Contributed to the prevention of 261 adverse drug events^{ix}

These interventions also contributed to significant cost savings for health systems, including:

- \$1,469,907 incremental cost savings in first year at Good Shepherd Medical Centers
- \$29,144 *C. diff* intervention savings in one year at St. Elizabeth's Hospital
- \$241,756 cost savings from interventions for South Texas Veterans Healthcare System

Another area of technology that can be leveraged in the fight against AMR is clinical decision support (CDS) that uses artificial intelligence and is embedded directly in EHRs, providing real-time, patient-specific best practices at the point of care. CDS provides clinical support best practices content for enhanced patient safety including safe prescribing practices and antibiotic stewardship. CDS can also leverage and pull data from evidence-based practice guidelines to provide patient-specific recommendations to ensure patients are on the most clinically appropriate and cost-effective treatment regimen. In addition, CDS can also serve as a solution for electronic prior authorization (ePA) and minimize the time between prescribing and a coverage decision, thereby expediting patient access to necessary treatments to further combat AMR.

Given the success of AI-enabled technology in reducing adverse outcomes and improving patient safety, Premier urges Congress to incentivize the adoption and utilization of AI-enabled technology in healthcare.

III. ADVANCING ANTIMICROBIAL STEWARDSHIP VIA TECHNOLOGY: Expanding Infection Prevention Clinical Technology in Nursing Homes

COVID-19 has brought to the forefront the specific challenges nursing homes face in containing the spread of infectious disease. The virus has accelerated at nursing homes because residents are generally vulnerable to its complications and more susceptible in the contained space of the facilities. While data about infections in nursing homes is limited, the CDC notes that, even prior to the pandemic, a staggering 1 to 3 million serious infections occur every year in these facilities and as many as 380,000 people die of the infections in nursing homes every year.

Infection prevention oversight and training at nursing homes is a challenge in and of itself with limited staffing and several layers of reporting requirements. This challenge is compounded by limited EHR functionality at the sites. Without a comprehensive infection prevention technology workflow, the tracking, documenting and reporting of epidemiologically significant organisms and infection is difficult for everyday risks, such as multi-drug resistant organisms, but also when an outbreak like COVID-19 occurs.

Clinical analytics technologies mentioned above are currently widely leveraged in hospitals and acute setting to detect patient care issues through tracking, interventions and reporting capabilities that are needed to support antimicrobial stewardship programs. Those health systems already utilizing clinical technology were well positioned to respond to COVID-19 before the pandemic hit.

Unfortunately, clinical analytics technologies are currently not widely used in nursing homes. Nursing homes should have the same access to tools that will help them combat infection spread during any future outbreaks of COVID-19 and during their day-to-day operations, but unfortunately funding remains a significant barrier. Nursing homes are already challenged with meeting their more visible needs, such as testing and securing adequate PPE levels at their sites, but a comprehensive approach is additionally needed to ensure data collection is efficient, non-duplicative and being analyzed in ways that are helpful for facilities.

Premier urges Congress to designate funds to ensure nursing homes can implement electronic clinical analytics technology that will provide meaningful assistance with infection control, improve quality and reduce costs.

IV. ADVANCING ANTIMICROBIAL BEST PRACTICES VIA COLLABORATIVE MODELS: Hospital Improvement Innovation Network Case Study

Premier served as a Hospital Engagement Network (HEN)/Hospital Improvement Innovation Network (HIIN) for the Centers for Medicare and Medicaid Services (CMS) Partnership for Patients Initiative. The Premier HIIN was successful in bringing more than 500 hospitals across 41 states together to work collaboratively with patient and family advocacy partners and federal agencies including CMS, the Centers for Disease Control and Prevention (CDC) and the Indian Health Service to make hospital care safer. Premier used a Safety Across the Board (SAB) approach to improve the quality and safety of care, reduce preventable harm across 13 topic areas, enhance patient and family engagement and promote the culture of safety.¹ Premier estimates that during the HIIN period (2016 – 2019), participating hospitals avoided 35,000 harm events and 3,800 fewer patients were readmitted, resulting in over \$545 million dollars in hospital costs avoided. In addition, in response to the CDC Antimicrobial Resistance Challenge, the Premier HIIN more than doubled the initial 20 percent goal to reduce hospital acquired *Clostridium difficile* infection (CDI) and achieved an impressive 48 percent total reduction in hospital-acquired CDI.² This translates to an estimated \$27 million saved on avoided hospital costs.

¹ Safety Across the Board refers to an organization's commitment at all levels to a culture of patient safety through hard-wiring evidence-based practices into day-to-day operations to ensure delivery of safe, reliable care, free from harm for every patient, every time.

² CDC Press Release: United States Gathers 350 Commitments to Combat Antibiotic Resistance, Action Must Continue. September 23, 2019. Available at: <https://www.cdc.gov/media/releases/2019/p0923-combat-antibiotic-resistance.html>

Premier recommends that Congress support the development of a hospital collaborative to drive engagement, improvement and innovation in AMR. A collaborative approach also helps to identify and quickly implement evidence-based practices in harm reduction to improve the quality of care for patients.

Premier believes that focusing on outcomes using data-driven methods to create comprehensive and scalable approaches, such as identifying best practices via collaborative models, will help drive safety improvements – including improved antibiotic stewardship and infection prevention and control – for patients across multiple care settings.

V. ENSURING ACCESS TO OLDER GENERIC ANTIBIOTICS IS CRITICAL TO AMR

Another area that warrants attention in the discussion around AMR is drug shortages. Several older generic injectable antibiotics have been on the FDA drug shortage list for years including commonly used products such as penicillin, cefazolin, cefotaxime, and erythromycin to name a few. When these older antibiotics are not available for patient use due to a drug shortage, clinicians are often forced to use a broader spectrum or novel antibiotic that can presumably provoke AMR and result in increased healthcare costs. Market-based solutions, such as Premier's ProvideGx, are working to create market stability by incentivizing the manufacturer of these older generic injectable antibiotics to ensure that the right drug is available for the right patient at the right time for the right microbe.

VI. CONCLUSION

Premier will continue to work alongside healthcare providers to co-develop, scale and enhance its data-driven solutions, research and educational services, and best practices to improve antimicrobial stewardship across the U.S. Premier looks forward to continuing to work with Congress and other stakeholders to develop a cohesive and holistic national strategy for addressing AMR.

If you have any questions regarding our comments or need more information, please contact Soumi Saha, PharmD, JD, Senior Vice President of Government Affairs, at soumi_saha@premierinc.com.

ⁱ Pogue JM, Mynatt RP, Marchaim D, et al. Automated alerts coupled with antimicrobial stewardship intervention lead to decreases in length of stay in patients with gram-negative bacteremia. *Infect Control Hosp Epidemiol*. 2014;35(2):132-138.

ⁱⁱ *Ibid*.

ⁱⁱⁱ *Ibid*

^{iv} Bassi S, PharmD. Antibiotic Stewardship Program Supported by Clinical Surveillance Increases Pharmacy Interventions and Reduces Costs. Poster presented at ASHP Annual Meeting; Dec. 3-7, 2017; Orlando, Florida.

^v Sobnosky J. Expanding Antimicrobial Stewardship to Outpatient Settings Using Clinical Surveillance Technology. ASHP Annual Meeting; Dec. 3-7, 2017; Orlando, Florida. Available from: <https://www.eventscribe.com/2017/ASHP-Meeting/ajaxcalls/PresentationInfo.asp?efp=WUFORk1KUU8yMDk5&PresentationID=308658&rnd=0.289665> Accessed December 13, 2017.

^{vi} TheraDoc® Enhances Antimicrobial Stewardship at St. Elizabeth Hospital. Charlotte (NC): Premier Inc. Available from: <http://www.theradoc.com> Jenna K. Foreman PharmD, BCPS, Clinical Pharmacist — St. Elizabeth Hospital.

^{vii} Polen C, Judd W, Ratliff P, et al. Impact of real-time notification of Clostridium difficile tests results and early initiation of effective antimicrobial therapy. *Am J Infect Control*. 2018 May;46(5):pp 538-541.

^{viii} *Ibid*

^{ix} Echavarria K, Smith G, Tierney C, et al. Utility of an Electronic Clinical Surveillance System to Facilitate Tracking of MDRO and Antimicrobial Stewardship in a VA Medical Center, *ElectronicHealthcare*, Vol. 10, No. 2, 2011, 35p.