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**Perspective**

## DEVELOPMENT OF AN ACCURATE AND RELIABLE TIMELINE FOR THE DEVELOPMENT OF ANTIBIOTICS

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### **PERSPECTIVE**

A global health hazard of growing concern is antibiotic resistance, which is the term for bacterial illnesses that no longer react to the medications used to treat them [1,2]. Pathogens are developing resistance because there is an excessive demand for the available antibiotics [3,4]. We have few therapeutic choices for the most severe illnesses because the supply of novel antibiotic classes that can treat drug-resistant infections is too low. Researchers have utilised graphical timelines that demonstrate how the rate of antibiotic discovery has slowed recently to convey the scope of the issue. These timeframes are useful tools for science communication, but they frequently clash and are not well-defined. The definitions used for the date of an antibiotic's invention, its first clinical application, and the onset of antibiotic resistance in earlier evaluations are either not published or are inconsistent internally. The CDC's 2013 Antibiotic Threats Report includes an antibiotic resistance timeline that is "based on early reports in the literature" but with a resolution of decades. Other examples include the non-disclosure of methods used to generate a timeline for antibiotic discovery; inconsistent definitions of when an antibiotic was introduced into the clinic; not defining the "year of discovery" or "year of introduction" categories; and using a scale with a resolution of decades. Additionally, the majority of research concentrates on ICU patients, and there is a dearth of high-quality data specifically examining ADE techniques in EGS. Only 40–50% of inpatients with bacterial infections reportedly receive ADE [5,6]. IAI are acknowledged to be a significant problem, and the community of acute care surgery needs to ask for studies including the ADE method in EGS patients. In order to treat EGS disorders, hospitals should develop preferred empiric regimens and de-escalation flowcharts that take into account local, state, and federal regulations as well as regional antibiotic susceptibilities. The substantial data that is available to support ADE tactics and the role that ADE plays in improving outcomes should also be known by surgeons. Compared to doctors of general medicine, surgeons were

much less likely to accept advice. Surgery, intensivists, and infectious disease specialists should collaborate during ward rounds to decide on ADE based on the patient's clinical status and microbiological data because the treatment strategy in EGS is frequently complicated. The use of ADE in EGS would be crucial for enhancing clinical outcomes for patients, optimising the administration of antibiotics, lowering antibiotic resistance, improving the management of IAI, and, of course, lowering hospital stays and healthcare expenses.

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