

Introduction: DRIVE-AB's definitions and indicators to monitor responsible antibiotic use

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The last decade has seen increasing awareness and research activities regarding antibiotic stewardship.^{1,2} Several countries and institutions have succeeded in limiting the spread of antibiotic resistance by interventions such as restrictive or persuasive antimicrobial stewardship, public health campaigns, governmental regulations and improved diagnostics.^{3,4} Nevertheless, although there is strong agreement that antibiotic overuse is a critical driver of antibiotic resistance, the definition and indicators of its opposite, 'responsible' antibiotic use, remain imprecise and controversial.

The 3 year DRIVE-AB (Driving Re-INvestment in R&D and responsible AntiBiotic use) research project, funded by the Innovative Medicines Initiative and composed of 23 public and private partners from 12 countries, was set up to study and improve incentives and policies to stimulate innovation, sustainable use and equitable availability of novel antibiotics to meet unmet public health needs.⁵⁻⁷ In one of its main work activities, the DRIVE-AB consortium was commissioned to develop an evidence-based consensus definition and framework for 'responsible antibiotic use', with standardized quality and quantity measures. Using a number of research methodologies, including systematic reviews, structured stakeholder consultations and in-depth case studies of typical scenarios of antibiotic use, this work package was able to produce important output that will provide useful guidance for clinicians, pharmacists and policy makers around the world.

In this Supplement to *Journal of Antimicrobial Chemotherapy*, DRIVE-AB's working group on responsible antibiotic use presents six research articles (see Preface) that address an urgent need: how to define and measure responsible and adequate antibiotic prescribing in inpatient and outpatient settings, including both quantity metrics and quality indicators. Many healthcare providers and policy makers require this essential background information to shape specific antibiotic stewardship recommendations and adapt monitoring of their implementation. Furthermore, these reviews provide practical help and recommend measures that will help to guide the surveillance of appropriate use of not only marketed drugs but also novel antibiotic agents targeted at multiresistant bacteria. Together, these six articles provide an overview of current evidence and measures to guide the surveillance of responsible

antibiotic usage in different settings. Ultimately, they will help in the fight against infections caused by resistant bacteria.

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Transparency declarations

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