Antimicrobial stewardship in central Eastern European countries

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Accepted: 21 December 2020

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In September 2019, European Commission President Ursula von der Leyen emphasized three priorities for health: e-health and the creation of a European Health Data Space to promote health data exchange; advocacy to promote vaccination and tackle vaccine hesitancy; and implementation of the European One Health Action Plan against antimicrobial resistance (AMR) and cooperation at an international level on antimicrobials [1]. The rise of antimicrobial resistance in recent times poses a serious threat to our ability to treat infectious diseases successfully. In 2018, the ECDC estimated that each year, 33,000 persons die from infections due to the resistance of bacteria to antibiotics, with more than 70% of these deaths being associated with healthcare [2]. Selection pressure resulting from increasing antimicrobial use has been identified as the primary causal factor of AMR, which is strongly influenced by the behavior of individuals and of institutions. More specifically, this increase is blamed on overuse and misuse of antimicrobials by patients, physicians, and the farm animal industry. Antimicrobial resistance is also the result of the absence of sufficiently strong incentives for individuals, physicians, and drug manufacturers to consider the cost of resistance associated with successful antimicrobial use [3].

Antimicrobial effectiveness is an open-access resource. Therefore, mechanisms are needed to force users of antimicrobials to take the cost of resistance

into consideration. These mechanisms are understood as antimicrobial stewardship [4–8]. This term summarizes institutional responses to the antimicrobial resistance problem—such as through the design of formulary management strategies and optimal patent rules—in order to influence the behavior of key players such as patients, physicians, hospital infection control committees, and pharmaceutical firms in favor of judicious antimicrobial use. Hospitals use strategies such as drug formularies that limit the menu of antimicrobials freely available to physicians or dictate cycling between antimicrobials (rotation). Clinical practice guidelines for judicious antimicrobial use are advocated in the hospital as well as in the community setting. These antimicrobial use guidelines often use community or hospital-specific surveillance data to reduce the overall total cost of treatment and of future resistance.

Since resistance is caused primarily by selective pressure on sensitive strains of bacteria, it is likely to remain an issue as long as we use antimicrobials. Implementing judicious antimicrobial use guidelines developed by state agencies is difficult by mandatory rule because of practical problems in ensuring compliance. Therefore, the importance of implementing and operating antimicrobial stewardship programs in guiding prescribers cannot be overestimated. In this themed issue, the paper entitled “Organization of Antibiotic Stewardship in Europe: the way to go” by Kern et al. presents the current state of the art in this endeavor [9].

Although these threats will never disappear, preparedness, including resilient (public) health systems, can increase our ability to prevent, and our response might mitigate and counteract massive future damage. The global dimension of communicable diseases requires continuous cooperation and exchange of practices internationally with all concerned partners.

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Status and modes of implementing antimicrobial stewardship differ even amongst the European states, and publicly available information about the methods and indicators of the stewardship systems is frequently lacking. In this themed issue, articles from 15 countries summarize and depict the situation in central Eastern European countries [10] for the first time.

Healthcare institutions striving to offer quality care must integrate antimicrobial stewardship programs into their cultures [11]. Therefore, we need to learn from one another in order to facilitate optimal antimicrobial stewardship. The fact that 15 of the 18 states invited for articles on their national policies on antimicrobial stewardship actually delivered manuscripts for this thematic issue is surely a very encouraging sign for future programs, which are essential for coping with antimicrobial resistance.

Conflict of interest F. Allerberger and B. Kienburg declare that they have no competing interests.

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