

## Short Communication

### First Major Practical Step toward Appropriate Antimicrobial Use by the Government of Japan

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**SUMMARY:** Antimicrobial resistance (AMR) is one of the top public health issues in Japan. Since Japan published the national action plan on AMR in 2016, its implementation has been a major focus of the Ministry of Health, Labour and Welfare. The ministry recently published the first edition of its Manual of Antimicrobial Stewardship (including an English version), a narrative review with a particular focus on the outpatient setting of primary care and 2 common infectious disease conditions. This is one of the very few occasions in which the ministry has proactively set out clinical guidance for healthcare delivery at the facility level. Implementation of the manual is further supported by a change in Japan's social health insurance coverage.

Antimicrobial stewardship (AMS) is no longer just the norm at healthcare facilities but an important healthcare instrument to protect human health under the global health security agenda in an era of antimicrobial resistance (AMR) (1). AMR has been and will be a significant global health threat to all living creatures on earth. AMS, as a part of professional conduct for the management of infectious diseases, needs to be promoted in order to mitigate the threat of AMR. (2)

In June 2017, the Government of Japan published its Manual of Antimicrobial Stewardship based on the national action plan on AMR (an English translation is available) (3). This is a narrative review, including consideration of evidence from Japan and current healthcare there, which places particular focus on practicability at the point of care. A previous study showed that nationwide antimicrobial consumption per population was not substantially high in Japan compared with that in the European Union and the United States. However, alarmingly, more than three quarters of oral antibiotic consumption, which accounted for more than 90% of total antibiotic consumption, consisted of broad-spectrum antibiotics, such as third-generation cephalosporins, macrolides, and fluoroquinolones (4). Although ongoing efforts aimed at promoting discreet outpatient antibiotic prescription have been made in different settings across various countries, the Government of Japan has not published clinical guidance to promote the judicious use of antimicrobial agents.

On the basis of the above findings, two key elements

were integrated into this first national manual on AMS that make it unique. First, we aimed to reach out to medical professionals, particularly those involved in the outpatient setting of primary care, where the majority of oral antibiotics are prescribed. While developing the manual, we acknowledged that healthcare delivery in the outpatient setting is significantly different from that in the inpatient setting, and that the available resources, particularly diagnostics, are limited in the outpatient setting. Our recommendations can be incorporated into such outpatient settings in Japan.

Second, we focused on two disease conditions, acute respiratory tract infection (ARTI) and acute diarrhea, both of which are commonly seen in the outpatient setting and are mostly self-limiting without antibiotic therapy. However, antibiotic prescription for these conditions is still common practice in Japan, and the spectrum of antibiotics prescribed is often too broad. The manual shows how to determine whether antibiotics are indicated in such conditions. For example, in ARTI, the concurrent existence of three types of airway symptoms—a runny nose, a sore throat, and a cough—of a similar extent usually indicates that the patient has a common cold with viral etiology rather than any bacterial infection. In this case, we clearly express our standpoint based on a benefit-harm balance of antibiotic use at the individual and society level, and state that “Clinicians should not prescribe antibiotics,” instead of just making a “Do not recommend” statement.

The manual also provides practical illustrations of how to explain to patients and their families that they do not require antibiotics for the moment and emphasizes the importance of follow-up. A combination of looming concerns—by the patient that antibiotics may be indicated and by the doctor that the patient may want antibiotics—could lead doctors to prescribe them, and behavioral change at both ends (the doctor prescribing antibiotics and the patient receiving them) requires conscious and mutual effort in the patient-doctor relationship. By providing practical solutions to medical

Received May 15, 2018. Accepted August 20, 2018.

J-STAGE Advance Publication August 31, 2018.

DOI: 10.7883/yoken.JJID.2018.208

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professionals on the frontline, the manual aims to improve clinical management of common outpatient infectious diseases and reduce the unnecessary use of antibiotics.

Japan has changed its social health insurance coverage to encourage implementation of this manual in a rewarding rather than a punitive way. This leverage at policy level may further contribute to the promotion of AMS at the level of healthcare delivery. Future studies could evaluate the uptake of this manual and the barriers to its use, as well as the policy intervention of the social health insurance coverage at the national level.

Our final goal for antimicrobial use is still far from reach at this moment: reducing antimicrobial use to two-thirds of current use by 2020, one of the outcome indices for our national action plan on AMR (5). This manual for AMS is the first major step we have taken for the promotion of appropriate antimicrobial use in human healthcare practice in Japan. The manual can also be used as a reference source for other countries, helping Japan to advance international cooperation, the sixth objective of the national action plan on AMR. We will continue our political commitment to AMR control, which also transforms actual practice in healthcare, and we are

eager to take the initiative in overcoming this global crisis in collaboration with partners internationally.

**Conflict of interest** None to declare.

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