### Ateneo de Manila University

## Archium Ateneo

Ateneo School of Medicine and Public Health Publications

Ateneo School of Medicine and Public Health

2022

# The challenges of combatting antimicrobial resistance in the Philippines

Janine Patricia G. Robredo Ateneo de Manila University

Michelle Ann B. Eala University of the Philippines Manila

Joseph A. Paguio Einstein Medical Center - Philadelphia

Maria Sonia S. Salamat Philippine General Hospital

Leo Anthony G. Celi Massachusetts Institute of Technology

Follow this and additional works at: https://archium.ateneo.edu/asmph-pubs

Part of the Medical Microbiology Commons, and the Pharmacy and Pharmaceutical Sciences Commons

#### **Custom Citation**

Robredo, J.P.G., Eala, M.A.B., Paguio, J.A., Salamat, M.S.S., & Celi, L.A.G. (2022). The challenges of combatting antimicrobial resistance in the Philippines. The Lancet Microbe, 3(4). https://doi.org/10.1016/S2666-5247(22)00029-5

This Letter to the Editor is brought to you for free and open access by the Ateneo School of Medicine and Public Health at Archīum Ateneo. It has been accepted for inclusion in Ateneo School of Medicine and Public Health Publications by an authorized administrator of Archīum Ateneo. For more information, please contact oadrcw.ls@ateneo.edu.

### The challenges of combatting antimicrobial resistance in the Philippines

The Lancet Microbe<sup>1</sup> highlighted antimicrobial resistance as a critical yet often overlooked threat to public health. Global inequalities in access to antimicrobials, paucity of data from low-income and middleincome countries (LMICs),<sup>2</sup> where antimicrobial resistance is a looming crisis, and perfunctory, if not absent, antibiotic stewardship in most resource-limited tertiary care centres require an urgent response from the international community. In the Philippines, a lower-middle income country in southeast Asia, cultural misconceptions and inadequate regulation and enforcement of antibiotic use have shaped provider and patient attitudes and behaviour.

Self-medication is rampant in the Philippines, with a prevalence of 31-66%.<sup>3</sup> Self-medication provides some semblance of health care, especially for low-income households that avoid economic and opportunity costs (ie, productive work hours compromised by long clinic wait times) of medical consultation and diagnostics.<sup>5</sup> Self-medication is also common among higher-income earners in LMICs, who have easier access to health information, and have the financial and social means to acquire medicine. Non-medical professionals commonly prescribe antimicrobials, and antibiotic sharing remains a common practice among Filipino families and communities. Such practices reflect poor regulation of dispensaries in the country.

Culture also substantially impacts health behaviour, and many Filipino people in rural areas still seek first-line treatment from traditional healers.<sup>4</sup> These healers provide unknown herbal treatments—with some containing suboptimal levels of antibiotics, which might later enhance pathogen resistance—and perform outdated practices, such as crushing antibiotics to apply to skin injuries.<sup>2</sup>

Finally, education of the public is crucial. A study showed that 29–95% of adults had various misconceptions about the indications, instructions of use, and side-effects of antibiotics.<sup>4</sup> Many people fail to realise the causative role of improper use and non-adherence in antimicrobial resistance, and the impact on future health costs.

Antimicrobial resistance requires solutions tailored to its specific drivers and necessitates an intersectoral approach. Government legislation is crucial to regulate antibiotic prescription and dispensation and ensure accessibility and affordability of antimicrobials.<sup>2</sup> Partnerships between academic and private sectors are needed to understand local antimicrobial resistance patterns and design culturally appropriate solutions. Public education on antimicrobial resistance must involve health-care providers, public health experts, and community leaders, especially from rural regions, to tackle the challenges of conveying medical information in lay language.<sup>4</sup> Finally, the creation of global health networks to share best practices in addressing antimicrobial resistance in LMICs like the Philippines will help advance the global goal of eradication.

We declare no competing interests.

© 2022 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY-NC-ND 4.0 license.

Janine Patricia G Robredo, Michelle Ann B Eala, Joseph Alexander Paguio, Maria Sonia S Salamat, \*Leo Anthony G Celi Iceli@bidmc.harvard.edu

School of Medicine and Public Health, Ateneo de Manila University, Pasig City, Philippines (JPGR); College of Medicine, University of the Philippines, Manila, Philippines (MABE); Albert Einstein Medical Center, Philadelphia, PA, USA (JAP); Section of Infectious Diseases, Department of Medicine, Philippine General Hospital, Manila, Philippines (MSSS); Massachusetts Institute of Technology, Cambridge, MA, USA (LAGC); Beth Israel Deaconess Medical Center, Boston, MA 02215, USA (LAGC); Harvard TH Chan School of Public Health, Boston, MA, USA (LAGC)

- 1 Antimicrobial resistance is part of a perfect storm of health. *Lancet Microbe* 2021; **2**: e645.
- Pokharel S, Raut S, Adhikari B. Tackling antimicrobial resistance in low-income and middle-income countries. *BMJ Glob Health* 2019; 4: e002104.
  Barber DA, Casquejo E, Ybañez PL, et al.
- Prevalence and correlates of antibiotic sharing in the Philippines: antibiotic misconceptions and community-level access to non-medical sources of antibiotics. Trop Med Int Health 2017; 22: 567–75.
- Mallah N, Orsini N, Figueiras A, Takkouche B. Income level and antibiotic misuse: a systematic review and dose-response meta-analysis. *Eur J Health Econ* 2021; published online Nov 30. https://doi.org/10.1007/s10198-021-01416-8.
- Ayukekbong J, Ntemgwa M, Atabe A. The threat of antimicrobial resistance in developing countries: causes and control strategies. Antimicrob Resist Infect Control 2017; **6**: 47.



Published Online February 1, 2022 https://doi.org/10.1016/ S2666-5247(22)00029-5