# USP Quality Institute and Boston University Launch Research Partnership and Name a Fellow in Quality Medical Products

## *Postdoc Fellow Carly Ching Will Study the Impact of Poor-Quality Medicines on Antimicrobial Resistance*

**FOR IMMEDIATE RELEASE**

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***Rockville, MD – February 07, 2019*** – The USP Quality Institute announces the third fellow to be named in its Fellowship in Quality Medical Products program. The new fellow, based at Boston University, will study the role of poor-quality medicines in fostering antimicrobial resistance (AMR).

As part of her research, Carly Ching, PhD, will investigate the role of substandard fluoroquinolone antibiotics, a widely used treatment for bacterial infections, in contributing to AMR. Using *E. coli*, which serves as a model for other bacterial pathogens, the research entails lab-based tests to model how resistance emerges among these bacteria when exposed to substandard treatment, or medicines that either lack the correct dose of the active ingredient or contain impurities that may harm patients. The research will also include a field survey to measure medicine quality in a particular region where substandard fluoroquinolone usage is prevalent.

Poor-quality medicines have devastating consequences to individuals as well as society at large. When patients receive sub-therapeutic doses, they are less likely to recover from their disease, and the pathogens causing the disease are more likely to develop resistance to future treatment. One in ten medicines in low- and middle-income countries is poor quality, with antimicrobial medicines accounting for the largest number of reports, according to research from the World Health Organization announced.

“We are thrilled to welcome Dr. Ching as our first fellow at Boston University in the Quality Institute’s expanded fellowship program,” said Erin Wilhelm, director of the USP Quality Institute. “Quality medicines are important to public health in general, but they are especially critical to ensuring the success of strategies aimed at addressing AMR. By directly measuring the extent to which substandard medicines contribute to antibiotic resistance acquisition, Dr. Ching’s work will provide a foundation and rationale to inform policies that prioritize quality medicines.”

“AMR continues to be one of the greatest public health challenges of our time,” said Dr. Muhammad Zaman, professor of biomedical engineering at Boston University. On Friday, February 15, Dr. Zaman will moderate a panel on *Understanding Antimicrobial Resistance: Regulation, Quality and Access* as part of the AAAS Annual Meeting in Washington, DC.

Panel members include Michael Levy, head of the USP Quality Institute and Paul Newton of Oxford University.

Dr. Zaman also leads the mentorship team guiding Dr. Ching's research. "Through this fellowship, we will have the unique opportunity to work at the interface of lab work, field work and public health research. Dr. Ching is the perfect person to work at this important nexus that will shape not just our understanding of drug resistance, but also shed light on underappreciated drivers of antimicrobial resistance."

Dr. Ching's work will build upon her doctoral research into the mechanism of mutagenesis and antibiotic resistance acquisition in *Acinetobacter baumannii,* a leading cause of multi-drug resistant hospital-acquired infections, and will be based at the Zaman laboratory for molecular and cellular dynamics at Boston University. Through her collaboration with USP, she will also have the unique opportunity to engage in real-world training experiences, including field work that translates lab-based research to larger public health impact, as well as interactions with scientific experts at USP and other stakeholder organizations.

Dr. Ching began her research in December 2018. In addition to Dr. Zaman, co-mentors include Kevin Carrick, PhD – Director of Science and Standards, Global Biologics at USP as well as Veronika Wirtz, MSc, PhD – Associate Professor in the Department of Global Health at the Boston University School of Public Health where she is also Director of the World Health Organization Collaborating Center in Pharmaceutical Policy.

**About USP**

USP is an independent scientific organization that collaborates with the world's top experts in health and science to develop quality standards for medicines, dietary supplements, and food ingredients. Through our standards, advocacy and education, USP helps increase the availability of quality medicines, supplements and food for billions of people world-wide. For more information about USP, visit www.usp.org

**About the Quality Institute**

The USP Quality Institute is an objective, independent research-center within USP generating and disseminating objective research and data on the benefits of quality medicines, helping to build a foundation for a healthier world. Through its partnerships with leading academic research institutions, the Quality Institute will inform evidence-based policy decisions that can help increase the availability of quality medicines everywhere. Guided by an advisory group of global health thought leaders and informed by USP's extensive expertise, the Quality Institute's fellowship program supports research critical to understanding the benefits of quality medicines to individuals, populations and global public health.

**About Boston University**

Founded in 1839, Boston University is an internationally recognized institution of higher education and research. With more than 34,000 students, it is the fourth-largest independent university in the United States. BU consists of 17 schools and colleges, along with a number

of multi-disciplinary centers and institutes integral to the University's research and teaching mission. In 2012, BU joined the Association of American Universities (AAU), a consortium of 62 leading research universities in the United States and Canada.