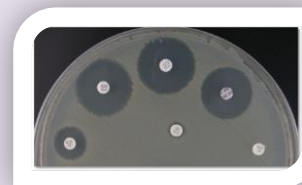


# Comprehensive Project Report

Project members have started drafting a comprehensive report on their findings and recommendations to present to policy makers in Vietnam. The report will include scientific evidence on a mechanism for the spread of antimicrobial resistance (AMR) found by the research teams, as well as a model of a monitoring system to detect AMR and antibiotic residues in food chains. Notably, the AMR evidence in the report will focus on ESBL-producing bacteria and Beta lactam antibiotics. The monitoring system model will include operation manuals for analysis and report formats, validated by project members at test sites.

### PROJECT NEWSLETTER

Project for “Determining the Outbreak Mechanisms and Developing a Surveillance Model for Multi-Drug Resistant Bacteria”



#### Tentative Contents of the Report

Executive Summary

Chapter 1 Background, aims and methods

Chapter 2 Summary of findings

Chapter 3 Findings by sites

Chapter 4 Model of monitoring system

Chapter 5 Recommendations

Appendix such as papers published

The tentative contents of the comprehensive report consist of an executive summary and five chapters, proposed by the project’s editorial taskforce at the JCC. Since the report will persuade “research into policies”, the project is expected to give realistic recommendations along with scientific evidence. The findings will cover the northern (Hanoi and Thai Binh), central (Nha Trang), and Mekong Delta (HCMC and Can Tho) regions of Vietnam. From a microbiological perspective, the prevalence of ESBL as well as their genetic and phylogenetic types will be included in the report. Included from a pharmacological standpoint will be the tendency of antibiotic residues to be found in food and the detection methods used to find them. Anthropological studies such as public health intervention models in communities will support possible solutions of the AMR issues.

A model of the monitoring system, which has been regularly and systematically operated by the project, is expected to be a realistic tool for policy makers to examine possible AMR situations in Vietnam.

A timeline has been drawn to facilitate the progress of the report, with a final draft expected in June 2016. This makes considerations for ongoing research activities and allows time to reflect on feedback from policy makers such as the MOH. The final version will be authorized by the JCC in 2016, who will submit it to the MOH officially.



On a different note, the MOH organized a high level meeting to combat AMR issues in Vietnam with multi-stakeholder engagement on June 24<sup>th</sup> 2015. The meeting, a response to the National Action Plan on Combating AMR 2013-2020, was to strengthen the collaboration between different ministries and international agencies such as the JICA and WHO. The project expects to contribute to these multi-sector actions.



### Joint Coordinating Committee in Hanoi



- Left: Project Chief Advisor and a Senior Representative from JICA Vietnam
- Right: Project Leader and NIN director’s opening remarks

The 4<sup>th</sup> Joint Coordinating Committee (JCC) meeting was held in Hanoi on the 15<sup>th</sup> of June 2015. The 35 attendees used the forum to share research progress and the 2015 monitoring system model. Recent achievements such as microbiology and pharmacology publications written by project members were announced. The monitoring system displayed data on the prevalence of ESBL-producing *E.coli* and Ampicillin residues found in food samples at sites in Hanoi, Nha Trang and HCMC. Moreover, towards the end of the project, a primary agenda has been to authorize an outline and schedule of a comprehensive report. Reflecting on comments from the MOH and JICA upon the report outline, the committee decided on designing a report including recommendations to policy makers based on scientific evidence and the monitoring system model.



- Committee members exchanging ideas about the project





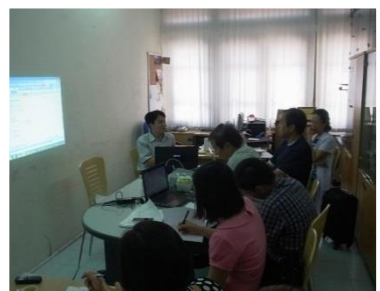
Workshop on Research into Policy, March 2015, Hanoi.



KAP survey, April 2015, Hanoi.



Clinical study plan, May 2015, Thai Binh



Joint KAP team study, May 2015, Hanoi.



Genome interpretation, May 2015, Hanoi



Microbiological data analysis, June 2015, HCMC

## Capacity Development by the Project

Ms. Khanh, a chemical researcher at PINT, attended a two month pharmacological training course on the development of analytical methods to detect antibiotic residues in seafood and water. Under the supervision of Prof. Hirata and Dr. Harada at Osaka University, she completed the course and received her certificate from Prof. Hirata in July 2015. Two doctoral students from CTU and NIN studying at Prof. Hirata's laboratory celebrated her achievement with her.



➤ Abbreviation: MOH=Ministry of Health, NIN=National Institute of Nutrition, TBUMP= Thai Binh University of Medicine & Pharmacy, PINT=Pasteur Institute in Nha Trang, IPH=Institute of Public Health in HCMC, BDWSM=Binh Dien Whole Sale Market Company, CTU=Can Tho University

“If I have seen further than others, it is by standing on the shoulders of giants.” Sir Isaac Newton’s famous 17<sup>th</sup> century expression implies that the scientific discoveries of today would not be possible without the past discoveries of others. With respect to their predecessor’s achievements, researchers thoroughly detail their findings with publications in order to contribute to the future of science.

## Publications by the Project in 2015

- Ngoc Quang Phan, et al. DNA-binding protein HU coordinates pathogenicity in *Vibrio parahaemolyticus*. Journal of Bacteriology, accepted manuscript in July 2015. Now in press.
- Quoc Phong Le, et al. Characteristics of extended spectrum  $\beta$ -lactamase-producing *Escherichia coli* in retail meats and shrimp at a local market in Vietnam. Foodborne Pathogens and Disease, Epub on 25 Jun 2015. Now in press.
- Shuhei Ueda, et al. Limited transmission of blaCTX-M-9-type positive *Escherichia coli* between humans and poultry in Vietnam. Antimicrobial Agents and Chemotherapy, 2015 Jun; 59(6):3574-7.
- Takahiro Yamaguchi, et al. Rapid and Easy Multiresidue Method for the Analysis of Antibiotics in Meats by Ultrahigh-Performance Liquid Chromatography-Tandem Mass Spectrometry. Journal of Agriculture and Food Chemistry, 2015; 63(21):5133–5140.
- Tatsuya Nakayama, et al. Wide dissemination of extended spectrum Beta-lactamase-producing *Escherichia coli* in community residents in the Indochinese peninsula. Infection and Drug Resistance, 2015; 8:1-5.
- Takahiro Yamaguchi, et al. Antibiotic Residue Monitoring Results for Pork, Chicken, and Beef Samples in Vietnam in 2012-2013. Journal of Agricultural and Food Chemistry, 2015; 63(21):5141–5145.

## Poster Presentations at the American Society for Microbiology

In June 2015, three researchers from the project attended the 115<sup>th</sup> Annual General Meeting of the American Society for Microbiology in New Orleans. They constructed poster presentations on microbiological findings in Vietnam and exchanged ideas about their studies.

