

## Summary Report to Kobe Gakuin University

### Overview of Visit:

Dr. Katherine Yang, PharmD, MPH had the pleasure of serving as a Visiting Professor to Kobe Gakuin University, Department of Pharmaceutical Sciences for the period of October 15, 2024 – November 15, 2024. Dr. Katherine Yang is a Health Sciences Clinical Professor at the University of California, San Francisco (UCSF), School of Pharmacy and Infectious Diseases Pharmacist at the UCSF Medical Center. During this time, Dr. Yang delivered 15.5 hours of lecture in various topics related to Clinical Pharmacy (detailed below) and met with various students and faculty.

### Overview of Lectures:

In general, lectures were sequenced to provide a “top-down” view of the role of the pharmacist in various settings, from global and public health, to individual patient care in community and hospital practice. The overarching theme of the lectures was the pharmacist’s role in health equity and access, with a focus on the role of the Infectious Diseases Pharmacist. Lectures were developed to encourage student participation through on-line polling using PollEverywhere (accessible via QR codes from student smartphones) and small group activities during class. Comprehension was assessed with a 5-point multiple choice quiz at the end of each lecture using Scantrons. Grading followed standardized grading procedures for the course as detailed below:

Percentage	Grade
≥ 90%	S
≥ 80%	A
≥70%	B
≥60%	C
<60%	D

### Introduction to Public Health Pharmacy (October 15 2024, 3 hours)

This introductory lecture had two purposes. First, to introduce the student pharmacists to Dr. Yang and to provide an overarching overview of the content that would be delivered over the next several weeks, and to introduce the topics of Global Health and Public Health.

The objectives of this first lecture are presented below:

- Define global health, leading global health conditions, health and wealth.

- Explain the concepts of health disparities and health inequities.
- Explain the contribution of pharmacists to public health and health promotion.

In this lecture, we first discussed Global Health, the leading causes of death in various low and high income countries, and the role of government and access to health insurance. We then discussed Public Health, social determinants of health (SDOH), health equity and health disparities. We concluded the lecture with examples of how pharmacists in different healthcare settings can impact public health in both the community and hospital settings.

### **Antimicrobial Stewardship (October 25, 3 hours)**

In this lecture, we discussed the topic of Antimicrobial Stewardship, its importance to Global and Public Health and individual patient care, and the role of the Infectious Diseases Pharmacist in the safe and effective use of antimicrobial agents.

The objectives of this lecture are presented below:

- Define Antimicrobial Stewardship.
- Describe why Antimicrobial Stewardship is important.
- Explain the role of the Infectious Diseases Pharmacist.

We started the lecture with a description of Antimicrobial Stewardship, the burden of antimicrobial resistance on global and public health, and challenges associated with antimicrobial drug development. This was followed by a discussion of what it means to be an Infectious Diseases Pharmacist, the education required to become an Infectious Diseases Pharmacist, and their role in curbing antimicrobial resistance, optimizing antimicrobial therapy, and reducing cost. Multiple case examples of the daily functions of the Infectious Diseases Pharmacist were presented.

### **Pharmacists in the Pandemic (October 26, 3 hours)**

The purpose of this lecture was to highlight the importance of the pharmacist during the COVID-19 pandemic.

The objectives of this lecture were as follows:

- Explain the concepts of health disparities and health inequity
- Discuss ethical considerations for equitable access to medications during a shortage
- Describe the role of the pharmacist in a pandemic such as COVID-19

In this lecture, we discussed the role of the pharmacist during the pandemic, with a focus on equitable access to medications, the role of the pharmacist in combatting misinformation, and motivational interviewing techniques to combat vaccine hesitancy in the community pharmacy. We also introduced the concept of the “Wicked Problem” in the management of drug shortages. During this class, multiple clinical and ethical scenarios were presented, and students were asked who they would provide medications to in the event of a medication shortage.

## Clinical Trial Pharmacists (November 2, 2024, 3 hours)

This lecture block was separated into two sections. The first 90 minutes of the lecture highlighted the importance of the pharmacist in clinical research. The second 90 minutes of the lecture was reserved for group activities to practice concepts learned.

The objectives of this lecture are presented below:

- Discuss the role of the pharmacist in clinical research
- Discuss ethical considerations for equitable access to medications during a shortage

In the first half of the lecture, we discussed the multiple roles pharmacists play in clinical research and drug development. This includes early phase pharmacokinetic clinical studies as well as late phase clinical trials. These roles include Principal Investigator (PI), Investigational Drug Pharmacist, Clinical Research Coordinator, Compounding Pharmacist, and Pharmacometrician. We also discussed the role of the pharmacist in pharmacovigilance and safety monitoring, using examples from the United States Food and Drug Administration and the Japan Pharmaceuticals and Medical Devices Agency.

In the second half of the lecture, the class was divided into small groups and provided with four different medication shortage scenarios. Students were asked to work together to discuss the ethical considerations of medication shortages and decide who should receive medications in the event of a shortage. The class was provided with a QR code link to a Google doc. Each group was asked to report their findings in class by typing their findings on the Google document, which was then projected on the overhead screen for the entire class to evaluate. We then concluded the class with select groups verbally presenting their findings in class.

### Grades:

The results of the 4 individual quizzes are presented below:

Grade	Quiz 1 10/19		Quiz 2 10/25		Quiz 3 10/26		Quiz 4 11/2	
	No. students	Percentage of class	No. students	Percentage of Class	No. students	Percentage of Class	No. students	Percentage of Class
S	41	27.33	94	59.87	54	35.76	49	32.24
A	67	44.67	39	24.84	65	43.05	56	36.84
B	0	0.00	0	0.00	0	0.00	0	0.00
C	30	20.00	16	10.19	24	15.89	32	21.05
D	12	8.00	8	5.10	8	5.30	15	9.87
Total	150	100	157	100	151	100	152	100

The overall grades for the 4 quizzes are presented below:

Grade	No. of students	Percent of class
S	47	28.1
A	39	23.4
B	36	21.6
C	25	15.0
D	20	12.0
total	167	100.0

In addition to the four lectures presented above, Dr. Yang also presented two additional lectures:

### **Introduction to Vital Signs (October 31, 2024, 1 hour)**

This was a one-hour lecture to first year pharmacy students on vital signs.

The objectives of this lecture are presented below:

- Identify the main vital signs.
- Explain the importance of vital signs in assessing a patient's health.
- Describe how vital signs are measured.
- Describe how vital signs are used by pharmacists

In this lecture, we discussed the four main vital signs (body temperature, pulse rate, respiratory rate, and blood pressure) as well as oxygen saturation and techniques to assess pain. More importantly, we discussed how vital signs are used to assess the efficacy and safety of medications. Students were able to practice taking vital signs on themselves as well as their classmates.

### **Medication Counseling (November 8, 2024, 90 minutes)**

This elective class focused on English medication counseling for over-the-counter products.

The objectives of this lecture are presented below:

- Describe the Patient Care Process
- Apply the Patient Care Process to help patients manage their own health
- Develop a process to determine if the patient can be treated in the community pharmacy or should be referred to a medical doctor

In this class, we discussed various techniques for medication counseling in the English language. After presenting a roadmap of how to counsel a patient, students were asked to practice their English counseling skills using provided scenarios and English scripts. Students practiced counseling patients on use of diphenhydramine for motion sickness and acetaminophen for headache.

### **Extracurricular activities:**

In addition to the lectures provided, Dr. Yang met with various faculty and students, both on and off campus. Highlights of these activities include meals with multiple faculty and students, and an excursion to the Kobe Animal Kingdom. The faculty and students were wonderfully warm and welcoming.

Thank you for the opportunity to teach at your esteemed university. It was an incredibly rewarding and educational experience, and I hope to continue the relationship between our two schools. I look forward to future collaborations.

Respectfully submitted,

Katherine Yang, Pharm.D., MPH

Health Sciences Clinical Professor, UCSF School of Pharmacy

December 13, 2024