# CURRICULUM VITAE HYERIM KANG, Ph.D.

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# **CONTACT INFORMATION**

Department of Pharmaceutical Outcomes and Policy

College of Pharmacy, University of Florida

1225 Center Drive HPNP Building Room 2330 Gainesville Florida 32601-0496

E-mail: h.kang@cop.ufl.edu

# **EDUCATION**

2016. 03 – 2020.02	Doctor of Philosophy (Ph.D.)
	Pharmaceutical Policy and Outcomes Research
	School of Pharmacy, Sungkyunkwan University, Korea
2012. 03 – 2016. 02	Doctor of Pharmacy (PharmD)
	School of Pharmacy, Sungkyunkwan University, Korea
2007. 03 – 2012. 02	Undergraduate of Department of Mathematics Education
	College of Education, Ewha Womans University, Korea

# **DISSERTATION**

Doctor of philosophy, Health and Social Pharmacy

Analyzing the risk of neuropsychiatric adverse events associated with oseltamivir using real-world data (Supervisor: Ju-Young Shin)

# LICENSURE AND CERTIFICATION

2016. 03 - Present Registered Pharmacist in South Korea

# PROFESSIONAL POSITION

2020. 06 – Present Post-Doctoral Associate

Department of Pharmaceutical Outcomes and Policy

College of Pharmacy, University of Florida

2018. 07 – 2018. 08	Intern, Oncology Market Access, Emerging & Growth Markets
	Novartis Pharma Services AG, Dubai, United Arab Emirates
	Gained understanding of healthcare system in Middle East countries
	• Conducted systematic literature research on the burden of illness of sickle cell
	disease in the Middle East countries and reported data gap that needs to be
	considered for developing a value assessment framework
	• Provided insights and experiences of Korea healthcare system for Middle
	East countries to benchmark to increase the efficiency
2018. 07	Intern, Oncology Market Access, Emerging & Growth Markets
	Novartis Pharma AG, Basel, Switzerland
	Gained an understanding of how a pharmaceutical company works to get
	innovative medicines to each country
	• Participated in departmental meetings to learn the insights and gain real-life
	experiences
	Obtained knowledge on the daily operations of a pharmaceutical company
	including compliance, finance, communications, marketing, medical, market
	access, healthcare systems, and supply chain.
2018. 03 – 2019. 02	Graduate Student Teaching Assistant, School of Pharmacy
	Sungkyunkwan University, Korea
	• Supported in the teaching and discussion of graduate students in the lecture of
	"Modeling for Healtheconomic Evaluation"
2016. 04 – 2017. 08	Pharmacist (Part-time), Wonkwang University's College of Medicine Sanbon
	Medical Center, Korea
	• Interpreted and evaluated physician prescriptions to prepare and dispense
	appropriate medication dosage forms for inpatient and outpatient treatment
2016. 03 – 2020. 02	Researcher, Department of Pharmaceutical Policy and Outcomes Research
	School of Pharmacy, Sungkyunkwan University, Korea
2013. 07	Intern, Quality Assurance and Quality Control
	Korea United Pharm. Int'l JSC, Thuan An, Vietnam
	• Performed inspections on the products produced from the pharmaceutical

manufacturing unit

- Assisted quality assurance by processing the documentation, establishing standards, and conducting internal audits
- Conducted collaborative research on the formulation of metformin with the University of Medicine and Pharmacy of Ho Chi Minh City

#### RESEARCH EXPERIENCE

2020. 07 – Present Real-World Evidence; A study on the assessment of the effects of extended use of apixaban or warfarin beyond 6 months of initial treatment on the risk of recurrent venous thromboembolism (VTE) among patients with a history of recurrent VTE Funding source: BMS/Pfizer Alliance American Thrombosis Investigator Initiated Research Program

Role: Participating Researcher

 Literature review, analyzing Marketscan database to conduct a retrospective cohort study in real-world clinical care settings, and writing of manuscripts for publication

2019.01 - 2019.12

**Real-World Evidence**; A study on the assessment of the switchability of generic products for chronic diseases: focused on hypertension, hyperlipidemia, and diabetes

Funding source: National Health Insurance Service

Role: Participating Researcher

• Designed and conducted a retrospective pharmacoepidemiologic study to assess health outcomes regarding a switch to generic medications using National Health Insurance Services database

2019. 01 – 2020.02 Cost-Effectiveness Modeling; Cost-effectiveness of Ribociclib for treating advanced or metastatic breast cancer

Funding source: Novartis Korea

Role: Leading Researcher

- Built a three-state partitioned survival model to estimate the costeffectiveness of Ribociclib
- Conducted cost-effectiveness analysis of Ribociclib

2018. 06 – 2019. 01 Real-World Evidence; A study on the risk of cardiovascular diseases of the patients with established cardiovascular diseases using claims data

Funding source: Sanofi-Aventis Korea

Role: Leading Researcher

 Analyzed the future risk of cardiovascular diseases among the patients with established cardiovascular diseases using Korean National Sample Cohort database

2018. 02 – 2018. 12 **Cost-of-illness analysis;** A study on the introduction of the new assessment method for innovative health technologies

Funding source: National Evidence-based Healthcare Collaborating Agency Role: Participating Researcher

- Analyzed economic burden of patients associated with the introduction of value-based new health technology assessment
- 2017. 10 2018. 02 **Budget impact analysis;** Cost-effectiveness of Fulvestrant for treating breast cancer

Funding source: AstraZeneca Korea

Role: Participating Researcher

- Conducted the budget impact analysis of using Fulvestrant for treating breast cancer in Korea
- Applied micro-costing and gross-costing methods to estimate the costs required for cost-effectiveness analysis
- 2017. 08 2018. 09 **Pharmacoepidemiology;** A study on the risk of neuropsychiatric adverse events associated with the use of Oseltamivir

Funding source: National Research Foundation of Korea

Role: Leading Researcher

- Designed and conducted a case-crossover study to evaluate whether the use of oseltamivir triggers neuropsychiatric adverse events.
- 2016. 07 2018. 11 **Real-World Evidence;** Comparative effectiveness researches for treatment, diagnosis, and monitoring in asthma using a multi-center cohort

Funding source: Korea Health Industry Development Institute

Role: Participating Researcher

 Conducted cost-effective analysis of continuation versus discontinuation of inhaled corticosteroid treatment in mild asthma using claims data merged with the multi-center Korean asthma cohort data

- Conducted a population-based observational study on risk factors of asthma exacerbation based on asthma severity using claims data
- Analyzed the impact of asthma-COPD overlap on the incidence of depression and anxiety using claims data

2016. 01 – 2017. 08 **Systematic Literature Review and Cost analysis;** Cost-effectiveness of Alirocumab for hyperlipidemia in patients with high risk of cardiovascular events Funding source: Sanofi-Aventis Korea

Role: Participating Researcher

- Conducted a systematic review to assess the effects of Alirocumab for hyperlipidemia in patients with high risk of cardiovascular events
- Analyzed Korean national claims database to estimate the costs required for cost-effectiveness analysis

2015. 01 – 2015. 09 **Systematic Literature Review;** Cost-effectiveness of Delamanid for multi-drug resistant tuberculosis

Funding source: Korea Otsuka Pharmaceuticals

Role: Participating Researcher

 Conducted a systematic review and Simple Comparison to assess the effects of Delamanid for multi-drug resistant tuberculosis

# **PUBLICATIONS**

Peer-reviewed Articles, Published or In Press (underline denotes first author)

- 1. Sung-Hyun Hong, **Hye-Rim Kang**, Jin Hyun Nam, Sun-Kyeong Park, Tae-Bum Kim, Eui-Kyung Lee. A comparison of leukotriene receptor antagonists to low-dose inhaled corticosteroids in elderly mild asthmatics. J Allergy Clin Immunol Pract. 2019 Nov Dec;7(8):2642-2652.e3.
- 2. <u>Hye-Rim Kang</u>, Sung-Hyun Hong, So-Young Yang, Tae-Bum Kim, Eui-Kyung Lee. Differences in the risk of mood disorders in patients with asthma-COPD overlap and in patients with COPD alone: a nationwide population-based retrospective cohort study in Korea. Respir Res. 2019 Apr 30;20(1):80.
- 3. <u>Hye-Rim Kang</u>, Ju Hwan Kim, Eui-Kyung Lee, Ju-Young Shin. Risk of neuropsychiatric adverse events associated with the use of oseltamivir: a nationwide population-based case-crossover study—authors' response. J Antimicrob Chemother. 2019 Jun 1;74(6):1764-1765.

- 4. <u>Hye-Rim Kang</u>, Eui-Kyung Lee, Woo Jung Kim, Ju-Young Shin. Risk of neuropsychiatric adverse events associated with the use of oseltamivir: a nationwide population-based case-crossover study. J Antimicrob Chemother. 2019 Feb 1;74(2):453-461.
- Hye-Rim Kang, Hyun Jin Song, Jin Hyun Nam, Sung-Hyun Hong, So-Young Yang, SanEun Ju, Sang Won Lee, Tae-Bum Kim, Hye-Lin Kim, Eui-Kyung Lee. Risk factors of Asthma Exacerbation Based on Asthma Severity: A Nationwide Population-Based Observational Study in South Korea. BMJ Open. 2018;8:e020825.
- 6. Ji-Hye Byun, Jae-A Park, **Hye-Rim Kang**, Ju-Young Shin, Eui-Kyung Lee. Comparison of effectiveness between delamanid and bedaquiline among patients with multi-drug resistant tuberculosis: A Markov model simulation study. Clin Drug Investig. 2016 Nov;36(11):957-968.

# **Submitted** (underline denotes the first author)

- 7. **Hye-Rim Kang**, Suk-Chan Jang, Ju-Young Shin. The risk of neuropsychiatric adverse events associated with the use of oseltamivir: a cohort study. Submitted to Expert Opinion on Drug Safety.
- 8. So-Young Yang, **Hye-Rim Kang**, Sun-Kyung Park, Eui-Kyung Lee, Sun-Hong Kwon. The difference in end-of-life care between patients with hematologic malignancies and solid tumor: a longitudinal data anlaysis. Submitted to BMJ Supportive & Palliative Care.
- 9. Hye-Lin Kim, Gi-Ae Kim, Jae-A Park, **Hye-Rim Kang**, Eui-Kyung Lee, Young-Suk Lim. Cost-effectiveness of Antiviral Treatment in Patients with Immune-Tolerant Phase Chronic Hepatitis B. Submitted to Gut.

# Poster Presentations (Underline denotes the first author)

- Hye-Rim Kang, Seongmin Joo, Eui-Kyung Lee. Associations of Depression and Anxiety with a
  Risk of Exacerbations in Asthma-Chronic Obstructive Pulmonary Disease Overlap. International
  Society for Pharmacoeconomics and Outcomes Research 21<sup>th</sup> European Congress; 2018 Nov 13;
  Barcelona, Spain
- 2. Hye-Lin Kim, Gi-Ae Kim, Jae-A Park, **Hye-Rim Kang**, Eui-Kyung Lee, Young-Suk Lim. Cost-Effectiveness of Anti-Viral Treatment in Patients with immune Tolerant-Phase Chronic Hepatitis B. APASL (Asian Pacific Association for the Study of the Liver) Single Topic Conference on Hepatitis B Virus; 2018 June 22-24; Taipei, Taiwan

- 3. <u>Hye-Rim Kang</u>, Eui-Kyung Lee, Woo Jung Kim, Ju-Young Shin. Risk of neuropsychiatric adverse events associated with the use of oseltamivir: a nationwide population-based case-crossover study. 43<sup>rd</sup> Grand Congress Meeting of Korea Public Health Association; 2018 April 6; Seoul, South Korea
- 4. Sung-Hyun Hong, **Hye-Rim Kang**, Jin Hyun Nam, Tae-Bum Kim, Eui-Kyung Lee. Comparing the Risk of Asthma Exacerbation between Use of Inhaled Corticosteroids and Leukotriene Receptor Antagonists in the Elderly Patients with Asthma. International Society for Pharmacoeconomics and Outcomes Research 8<sup>th</sup> Asia Pacific; 2018 Sep 10; Tokyo, Japan
- 5. Jae-A Park, Hye-Rim Kang, Sung-Hyun Hong, Eui-Kyung Lee. Comparing Inhaled Corticosteroids and Long-Acting Beta Agonists Combination to Inhaled Corticosteroids on Risk of Ischemic Cardiovascular Diseases in Patients with Asthma. International Society for Pharmacoeconomics and Outcomes Research 20<sup>th</sup> European Congress; 2017 Nov 7; Glasgow, Scotland
- 6. Jieun Jang, **Hye-Rim Kang**, Hyemin Ku, Eui-Kyung Lee. Difference Patterns of the medical care utilization among heart failure patients in recent three years. Korean Academy of Social & Managed Care Pharmacy, Autumn Academic Conference; 2015 Nov 20; Korea.

# **HONORS & AWARDS**

2016. 03 – 2019.02	Graduate Merit Scholarship
	Sungkyunkwan University, Korea
2018. 03 – 2019. 02	TA Scholarship
	Sungkyunkwan University, Korea
2015. 11	Poster Award
	2015 Fall Korean Academy of Social & Managed Care Pharmacy Conference
	Seoul, Korea.
2013. 03 – 2016. 02	Kochon Scholarship
	ChonKunDang Pharmaceutical Corporation, Korea
2012. 03 – 2013. 02	Samsung Scholarship
	Sungkyunkwan University, Korea
2007. 03 – 2012. 02	National Scholarship for Science and Engineering
	Korea Student Aid Foundation (KOSAF), Korea

#### PROFESSIONAL ORGANIZATIONS

- 2018 Present Korean Society of Epidemiology (KSE)
- 2018 Present The Pharmaceutical Society of Korea (PSK)
- 2017 Present Korean Association of Health Technology Assessment (KATHA)
- 2016 Present International Society for Pharmacoeconomics and Outcomes Research (ISPOR)
- 2016 Present Korean Academy of Social and Managed Care Pharmacy (KASMCP)

#### EXPERIENCE WITH HEALTH-RELATED DATABASE

# Claims data (Korea)

Health Insurance Review and Assessment Service (HIRA) database

Health Insurance Review and Assessment Service-National Patients Sample (HIRA-NPS)

Health Insurance Review and Assessment Service-National Inpatients Sample (HIRA-NIS)

National Health Insurance Service (NHIS) database

National Health Insurance Service-National Sample Cohort (NHIS-NSC)

# Claims data linked to Electronic Medical Record (EMR)

HIRA database linked to EMR of Asan Medical Center in Korea

# Registry data

Cohort for reality and evolution of adult asthma in Korea (COREA)

#### Panel data

Korea National Health and Nutrition Examination Survey (KNHANES)

#### **SKILLS & OTHERS**

#### Languages

English (intermediate conversational skills), Korean (native)

#### **Technical Skills**

SAS, TreeAge Pro Healthcare, Microsoft Excel, Review Manager (RevMan), ITC software provided by CADTH

# **Certifications & Training**

2017. 09 TreeAge 2-day training and TreeAge Advanced Healthcare Modeling Course Sydney, Australia