

**BIOGRAPHICAL SKETCH**

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NAME: In, Haejin

eRA COMMONS USERNAME (credential, e.g., agency login): haejinin

POSITION TITLE: Associate Professor of Surgery, Associate Professor of Health Behavior, Society and Policy (pending)

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Dong-Guk University, Kyung-Ju	MD	02/2000	Medicine
Boston University, Boston, MA	MBA	05/2003	Healthcare Management
Harvard School of Public Health, Boston, MA	MPH	05/2011	Clinical Effectiveness

**A. Personal Statement**

I am a surgical oncologist specializing in gastrointestinal cancers and a cancer researcher at Rutgers Cancer Institute of New Jersey and hold a joint faculty position as Associate Professor in the Department of Surgery at the Rutgers Robert Wood Johnson Medical School and Associate Professor in the Department of Health Behavior, Society and Policy at Rutgers School of Public Health. I was recruited to CINJ in October 2021 and took on the role of the inaugural Associate Director (AD) of Diversity, Equity and Inclusion (DEI) and Chief Diversity Officer at Rutgers Cancer Institute of New Jersey (CINJ). I serve on and chair multiple national society committees devoted to DEI, including American College of Surgeons, Society for Surgery of Alimentary Tract, and Society of Asian Academic Surgeons.

As a researcher, my interests are in developing and implementing strategies to reduce cancer mortality, improve outcomes in cancer surgery, and reduce cancer health disparities for gastrointestinal cancers. I have a deep interest developing and implementing strategies for cancer early detection and prevention for gastric cancer. I have conducted numerous projects investigating strategies for gastric cancer screening. With funding from the Alliance for Clinical Trials in Oncology, I conducted a pilot study to better understand populations at high risk for gastric cancer. This study showed that nativity outside the US as well as ethnic food consumption identified subjects who appeared to be at high risk for gastric cancer. I have also received funding from the Montefiore-Einstein Clinical and Translational Science Awards (CTSA) to collect and analyze *H pylori* (HP) and Pepsinogen (PG) as a biomarker for gastric cancer in minority underserved populations. In a nested case control study using the Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial Data, we found that PG was predictive of GC. Recently, I was awarded the 2022 Cancer Health Equity and Catchment Area Research Pilot Award to conduct a study examining the acceptability and feasibility of conducting EGD during screening colonoscopy. My work also focused on understanding and developing interventions to address racial/ethnic disparities in GI cancer outcomes. Funded by the Paul Calabresi Career Development Award for Clinical Oncology (K12), we found large differences in cancer outcomes among patients presenting to the emergency room with a first-time diagnosis of cancer, both overall and controlled for stage. Given that lower SES and racial minorities have higher propensity to delay seeking care resulting in urgent needs at time of cancer diagnosis, as well as increased ED use in general in this population, subpar cancer care resulting from initial entry into the healthcare system via the ED disproportionately impacts lower SES and racial minorities. Our work has also shown that blacks disproportionately get less surgery for GI cancers, which results in large differences in mortality and contribute to disparities in cancer outcomes for minorities.

## **B. Positions, Scientific Appointments, and Honors**

### **Positions and Scientific Appointments**

2021 -	Surgical Oncologist, Rutgers Cancer Institute of New Jersey, New Brunswick, NJ
2021-	Associate Director, Diversity, Equity, and Inclusion. Rutgers Cancer Institute of New Jersey, New Brunswick, NJ
2021-	Chief Diversity Officer. Rutgers Cancer Institute of New Jersey, New Brunswick, NJ
2021 -	Associate Professor of Surgery, Rutgers Robert Wood Johnson Medical School. New Brunswick, NJ
2021 -	Associate Professor of Health Behavior, Society and Policy, Rutgers School of Public Health. Piscataway, NJ
2020 - 2021	Associate Professor of Surgery, Albert Einstein College of Medicine, Bronx, NY
2020 - 2021	Associate Professor of Epidemiology & Population Health, Albert Einstein College of Medicine, Bronx, NY
2014 - 2021	Attending Surgeon, Montefiore Medical Center, Bronx, NY
2014 - 2020	Assistant Professor of Surgery, Albert Einstein College of Medicine, Bronx, NY
2014 - 2020	Assistant Professor of Epidemiology & Population Health, Albert Einstein College of Medicine, Bronx, NY
2011 - 2014	Surgical Oncology Fellow, Department of Surgery, University of Chicago Medical Center, Chicago, IL
2011 - 2014	American College of Surgeons Clinical Scholar, American College of Surgeons, Chicago, IL
2009 - 2011	Research Fellow, Institute for Technology Assessment, Massachusetts General Hospital, Boston, MA
2009 - 2011	Research Fellow, Center for Surgery and Public Health, Brigham and Women's Hospital, Boston, MA
2003 - 2009	Resident, General Surgery Residency Program, Boston Medical Center, Boston, MA
2003 - 2003	Operations Assistant, Dept of Operations Management, Boston University, Boston, MA
1999 - 1999	Research Assistant, Dept. of Public Health and Epidemiology, Dong-Guk University, Kyung-Ju

### **Honors**

2018	Visiting Professorship (University of Colorado to deliver Ko SAAS Lectureship), Society of Asian Academic Surgeons
2018	Health Care Disparities Award, Society for Surgery of the Alimentary Track
2010	Excellence in Research Award, American College of Surgeons 96th Clinical Congress
2009	American Board of Surgery In-Training Exam Award, Boston Medical Center General Surgery Program
2009	Lester F. Williams, Jr., M.D. Teaching Award, Boston Medical Center General Surgery Program
2008	Poster of Distinction Award, Massachusetts Chapter of the American College of Surgeons
2008	Grant V. Rodkey, M.D. Award for Scholarship, Humanism, Professionalism, Leadership and Technical Excellence, Boston Veterans Association
2007	Sigvaris Traveling Fellowship Award, American Venous Forum
2007	Resident Teaching Award, Boston Medical Center General Surgery Program

## **C. Contributions to Science**

1. Gastric cancer is considered a lethal disease 75% of patients diagnosed in later stages of cancer resulting in 5-year survival of only 32%. However, countries that screen gastric cancer, namely Korea and Japan, diagnose the 50-60% of their cancers in early stage when cure is possible and report 5-year survival of 40-60%. While a population-based screening program as conducted in Korea and Japan is not feasible in the US due to low incidence rate of gastric cancer, a targeted screening program would be cost-effective. A targeted screening program for gastric cancer has the potential to decrease gastric cancer mortality rates in the US. I have thus far conducted a developmental study to identify items that could be used as a survey-based risk prediction tool for a targeted screening program. We have expanded on this work by examining the role of Pepsinogen and H. Pylori as high-risk biomarkers gastric cancer in the PLCO cohort.

- a. **In H**, Langdon-Embry M, Gordon L, Schechter C, Wylie-Rosett J, Castle P, Kemeny M, Rapkin B. Can a Gastric Cancer Risk Survey Identify High-Risk Patients for Endoscopic Screening? A Pilot Study. *J Surg Res*. 2018 Jul;227:246-256. PMID: PMC5972059.
  - b. Solsky I, Parides M, Schechter C, Rapkin B, **In H**. Utilizing Cultural and Ethnic Variables in a Survey to Identify Individuals at High Risk for Gastric Cancer. *J. Surg Res*. 2018 Jul; 227-256 NIHMSID 1589486 PMID: PMC5972059.
  - c. Sarkar S, Dauer MJ, **In H**. Socioeconomic Disparities in Gastric Cancer and Identification of a Single SES Variable for Predicting Risk. *J Gastrointest Cancer*. 2021 Jan 6. doi: 10.1007/s12029-020-00564-z. Epub ahead of print. PMID: PMC8257773.
  - d. **In H**, Sarkar S, Ward J, Friedmann P, Parides M, Yang J, Castle P, Epplein M. Serum Pepsinogen as a Biomarker for Gastric Cancer in the US: A Nested Case-Control Study using The Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial Data. *Cancer Epidemiol Biomarkers Prev*. 2022 Jul 1;31(7):1426-1432. doi: 10.1158/1055-9965.EPI-21-1328.PMID: 35534235
2. My expertise in gastric cancer, cancer registries, and analysis of large databases led to my selection as an expert panel member for the analysis and revision of the AJCC 8<sup>th</sup> edition gastric cancer chapter. I was the principle member in charge of the analysis that resulted in the introduction of a new neoadjuvant and clinical staging system for the in the AJCC 8<sup>th</sup> edition. I have also continued to contribute effort to improving our understanding between cancer stage and prognosis.
- a. **In H**, Palis B, Ravetch E, Langdon-Embry M, Hofstetter W, Kelsen D, Sano T, Ajani J. The Newly Proposed Clinical and Post-Neoadjuvant Treatment Staging Classifications for Gastric Adenocarcinoma for the American Joint Committee on Cancer (AJCC) Staging. *Gastric Cancer* 2018;21(1) 1-9. PMID: 28948368.
  - b. **In H**, Palis B, Solsky I, Langdon-Embry M, Ajani J, Sano T. Validation of the 8th Edition of the AJCC TNM Staging System for Gastric Cancer using the National Cancer Database. *Ann Surg Oncol*. 2017; 24(12):3683-3691. PMID 28895113.
  - c. Ajani JA, **In H**, Sano T, Gaspar LE, Erasmus JJ, Tang LH, Washington MK, Gerdes H, Wittekind CW, Mansfield PF, Rimmer C, Hofetetter WL, Kelson D. Stomach. In: Amin, M.B., Edge, S.B., Greene, F.L., et al. (Eds.) AJCC Cancer Staging Manual. 8th Ed. New York: Springer; 2017: 203-220.
  - d. Kim G, Friedmann P, Muscarella P, McAuliffe JC, **In H**. Gastric cancer staging in the era of neoadjuvant therapy and its prognostic implications. *J Clin Oncol*. 2019;37(4):22-22. Doi: 10.1200/JCO.2019.37.4\_suppl22.
3. Cancers of the GI tract are often asymptomatic or have non-specific symptoms at the time of diagnosis. When they do have symptoms, often these symptoms are non-acute. However, many individuals are being diagnosed with cancer in the ED. There is poor understanding of how often this occurs and if this leads to worst outcomes. Our investigations have discovered that using administrative data alone, about 18% of upper GI cancers and 11% of lower GI cancers appear to be diagnosed in the ED. However, when a chart review was conducted, we found 54% of stomach cancers and 42% of colorectal cancers were diagnosed after a visit to the ED. Patients who had their cancers diagnosed in the ED had worst outcomes, including later stages of cancer, larger tumors, and higher overall mortality. However, even after stage adjustment, ED diagnosed cancers had worst outcomes. Using the National Inpatient Sample dataset, which captures a 20% representative sample of all hospital discharges across the US, we also found that persons undergoing surgery after presenting to the emergency room had worst outcomes. This evidence will be used to develop interventions to further investigate reasons for poor outcomes when cancers are diagnosed in the ED to identify factors that could be modified to improve outcomes.
- a. Solsky I, Friedmann P, Muscarella P, **In H**. Poor Outcomes of Gastric Cancer Surgery Following Admission through the Emergency Department. *Ann Surg Oncol* 2017; 24(5):1180-87, PMID: 27909825.
  - b. Solsky I, Rapkin B, Friedmann P, Muscarella P, **In H**. Gastric Cancer Diagnosis after Presentation to the ED: The Independent Association of Presenting Location and Outcomes. *Am J Surg* 2018 Aug; 216(2):286-292. PMID: 29108643.
  - c. Mehta V, Friedmann P, McAuliffe JC, Muscarella P. **In H**. Pancreatic Cancer Surgery Following Emergency Department Admission: Understanding Poor Outcomes and Disparities in Care. *J*

*Gastrointest Surg* 2021; 25(5):1261-1270 PMID: PMC7644583.

- d. Weithorn D, Arientyl V, Solsky I, Umadat G, Levine R, Rapkin B, Leider J, **In H**. Characteristics of Patients Presenting to the Emergency Department for Diagnosis of Colon Cancer – *J Surg Res* 2020; 255:164-171 PMID: PMC8029600 (available 11-01-2021).
4. Racial and socioeconomic disparities in cancer outcomes exist for GI cancers. Our investigations aim to identify modifiable causes of disparities. Thus far, we have found that disparities in the receipt of surgery plays a large role in the differences in cancer outcomes. However, we found no evidence of disparities in the perioperative setting, suggesting that difference in mortality may be largely related to reasons beyond hospital care. Planned next investigations include further understanding reasons for lack of surgery for cancer to better understand reasons for these differences based on SES and race/ethnicity.
    - a. Bliton J, Muscarella J, Friedmann P, Parides M, Papalezova K, McAuliffe J, **In H**. Perioperative Mortality Does Not Explain Racial Disparities in Gastrointestinal Cancer. *J Gastrointest Surg* 2019 23(8)1631-1642. PMID: 30652243
    - b. Bliton JN, Parides M, Muscarella P, Papalezova KT, **In H**. Understanding Racial Disparities in Gastrointestinal Cancer Outcomes: Lack of Surgery Contributes to Lower Survival in African American Patients. *Cancer Epidemiol Biomarkers Prev.* 2021; 30(3)529-538. PMID: PMC8049948
    - c. Bliton J, Parides M, Sreeramoju P, Malcher F, **In H**. Racial Differences in Receipt of Surgery for Appendicitis, Cholecystitis, and Gallstone Pancreatitis. – Manuscript in preparation
    - d. Kim G, Qin J, Hall C, **In H**. Impact of socioeconomic and insurance status on delayed diagnosis of gastrointestinal cancers. *Journal of Surgical Research* – *Submitted*
  5. Cancer recurrence is a critical outcome in cancer care, however, is not available for use in most cancer registries. Our investigation found that hospital cancer registries have incomplete recurrence information on more than half their patients. Inconsistencies in coding standards and recurrence definitions, as well as other hospital operational factors, including registry staffing, staff qualifications and medical chart access, contributed to incomplete and inaccurate recurrence data. This body of work identified key issues and developed a roadmap for the collection of cancer recurrence information that was a pivotal to the development of the cancer recurrence variable that was included for cancer registry collection starting 2018, as a part of the Facility Oncology Registry Data Standards (FORDS) Manual Revision Project.
    - a. **In H**, Bilimoria KY, Stewart AK, Wroblewski KE, Posner MC, Talamonti MS, Winchester DP. Cancer recurrence: an important but missing variable in national cancer registries. *Ann Surg Oncol.* 2014; 21(5):1520-9. PubMed PMID: 24504926.
    - b. **In H**, Simon CA, Phillips JL, Posner MC, Ko CY, Winchester DP. The quest for population-level cancer recurrence data; current deficiencies and targets for improvement. *J Surg Oncol.* 2015;111(6):657-62. PubMed PMID: 25690414.
    - c. **In H**, Solsky I, Simon CA, Winchester DP. Lack of Cancer Recurrence Data in Large Databases: A National Survey of Hospital Cancer Registries. *J Surg Res* 2019 (235) 551-559. PMID: 03691842.

**Complete List of Published Work in My Bibliography:**

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