

# CURRICULUM VITAE

Sena Chae, PhD, RN  
Assistant Professor  
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## EDUCATION

- 2020 PhD, Nursing, University of Iowa, Iowa City, IA  
PhD Dissertation: Clustering and Prediction of Cancer Symptom Trajectories Using Longitudinal Nursing Documentation Data
- 2018 MS, Health Informatics, University of Iowa, Iowa City, IA
- 2013 MSN, Nursing, Yonsei University, Seoul, South Korea
- 2006 BSN, Nursing, CHA University, Pocheon, South Korea

## LICENSURE

- 2016–present RN, Iowa Board of Nursing #143173
- 2009–2018 RN, New York Board of Nursing #622859
- 2006–present Health Teacher’s License, South Korea
- 2006–present Nurse’s License, South Korea #2171

## CERTIFICATIONS

- 2020–present Biostatistics Certificate, University of Iowa

## PROFESSIONAL EXPERIENCE

### Academic Appointments

- 08/2022–present Assistant Professor, University of Iowa, College of Nursing, Iowa City, IA
- 10/2020–08/2022 Associate Faculty, University of Iowa, College of Nursing, Iowa City, IA
- 09/2015–12/2019 Research Assistant, University of Iowa, College of Nursing, Iowa City, IA

### Clinical Appointments

- 2022–present Adjunct position of Assistant Professor, Department of Nursing Services and Patient Care, University of Iowa Health Care
- 2006–2015 Staff Nurse, Samsung Medical Center, Operating Room, Seoul, South Korea

## HONORS AND AWARDS

- 2026 Outstanding Presentation Award, Korean Society of Medical Informatics (KOSMI) Annual Conference, Cheongju, South Korea. Presentation: “Large Language Model–Based Symptom Severity Extraction from Clinical Note Summaries and Validation Using Nursing Outcomes Classification Scores in Acute Myeloid Leukemia.”
- 2026 International Travel Award, University of Iowa International Programs
- 2025 Grantsmanship Workshop Professional Development Funds, University of Iowa College of Nursing

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- 2025 Midwest Nursing Research Society (MNRS) Health Systems, Policy, & Informatics Research Interest Group Research Publication Award
- 2025 Investment in Strategic Priorities, Office of the Executive Vice President and Provost
- 2023 Teaching Development Summer Grant, University of Iowa College of Nursing
- 2022 Teaching Development Summer Grant, University of Iowa College of Nursing
- 2020 Ballard and Seashore Fellowship, University of Iowa Graduate College
- 2019 The Myrtle Aydelotte Doctoral Education Fund in Nursing, University of Iowa College of Nursing
- 2019 Digital Scholarship and Publishing Studio Fellowship, University of Iowa Graduate College
- 2018 Graduate College Summer Fellowship, University of Iowa Graduate College
- 2018 Sigma Theta Tau International Honor Society for Nursing Induction
- 2017 Frontier Co-op–Tippie Impact Competition, Second place, University of Iowa College of Business
- 2017 Travel Funds Award, University of Iowa, Graduate & Professional Student Government
- 2017 Travel Funds Award, University of Iowa, Graduate Student Senate
- 2006 Honor Student Award, Korean Association of College of Nursing, South Korea

### SCHOLARSHIP

**Publications** [KEY: \* = data-based; bold = my authorship; underline = student/mentee, <sup>†</sup> = lead author, IF=Impact Factor]

N=32 publications, 26 data-based, 13 first authored, 4 second authored

Google scholar citation as of 08/21/2026 = 555, h-index = 14, i10-index = 17

Scopus citations as of 08/21/2026 = 310, h-index = 12

### ***Peer Reviewed Papers***

1.     **\*Chae, S., Harb, A.**, Sutamtewagul, G., Perkhounkova, Y., Mueterthies, M., Hendricks, F., Hein, M., & Macieira, T. G. R. (2026). Early Unplanned Readmissions and Mortality After Induction Chemotherapy in AML. *JCO Clinical Cancer Informatics*, 10(3), e2600018. [\[link\]](#) (IF: 3.6)
2.     **\*Chae, S., Harb, A., Youn, N., Annan, P. A. M.**, & Lopez, K. D. (2026). Clinical Perspectives on Actionable Risk Factors for Deterioration in Acute Myeloid Leukemia: Implications for Clinical Decision Support. *Cancer Nursing* [\[link\]](#) (IF: 2.6)
3.     **\*Chae, S., Bae, J., Youn, N., Pham, H.**, Dunn Lopez, K., Sutamtewagul, G., & Rakel, B. (2026). Concordance between Patient-Reported and Symptoms Documented in Acute Myeloid Leukemia, *Oncology Nursing Forum*. 53(4), 1–13. [\[link\]](#) (IF: 1.4)
4.     **\*Chae, S., Bae, J., Maitra, P.**, Dunn Lopez, K., Sutamtewagul, G., Topaz, M., & Rakel, B., (2026). Leveraging Natural Language Processing for Symptom Identification in Acute Myeloid Leukemia using Clinical Notes from Electronic Health Records, *Cancer Nursing*. [\[link\]](#) (IF: 2.6)
5.     Song, J., Hobensack, M., Sequeira, L., Shin, D., Davies, S., Peltonen, L. M., Alhuwail, D., Alnomasy, N., Block, L., **Chae, S.**, Cho, H., Von Gerich, H., Lee, J., Mitchell, J., Ozbay, I.,

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- Lozada-Perezmitre, E., Ronquillo. C.E, You, S.B., & Topaz, M. (2025) Social Determinants of Health in Digital Health Policies: An International Environmental Scan (*International Medical Informatics Association (IMIA) 2024 YEARBOOK*) [\[link\]](#) (IF: 4.9)
6. \*Min, SH., Song, J., Evans, L., Bowles, K., McDonald, M., **Chae, S.**, Sridharan, S., Barrón, Y., Topaz, M. (2025). Non-linear Relationship Between Vital Signs and Hospitalization/Emergency Department Visits Among Older Home Healthcare Patients and Critical Vital Sign Cut-Off for Adverse Outcomes: Application of Generalized Additive Model. *Clinical Nursing Research*. [\[link\]](#) (IF: 1.7)
  7. Tark, A., Bressler, T., Song, H., Song, J., **Chae, S.**, Kamalumpundi, V. (2025). Leveraging Artificial Intelligence/ Machine Learning Model to Identify Potential Palliative Care Beneficiaries: A Systematic Review. *Journal of Gerontological Nursing Special Issue: Technology Innovations* [\[link\]](#) (IF: 1.4)
  8. \*Topaz, M., Davoudi, A., Evans, L., Sridharan, S., Song, J., **Chae, S.**, Barrón, Y., Hobensack, M., Scharp, D., Cato, K., Collins, S. R., Kapela, P., Xu, Z., Gupta, P., Zhang, Z., McDonald, M., & Bowles, K. (2025). Building a time-series model to predict hospitalization risks in home healthcare: Insights into development, accuracy, and fairness. *Journal of the American Medical Directors Association* [\[link\]](#) (IF: 4.2)
  9. \***Chae, S.**, Davoudi A., Song, J., Evans. L., Bowles, K. H., McDonald, M. V., Barrón, Y., Min, S., Oh, S., Sharp, D., Xu, Z., & Topaz, M. (2025). Developing a clinical decision support framework for integrating predictive models into routine nursing practices in home health care for patients with heart failure. *Journal of Nursing Scholarship Special Issue: Transformative Role of Artificial Intelligence in Nursing* [\[link\]](#) (IF: 3.93)
  10. **Chae, S.**, Bae, J., Youn, N., Dunn Lopez, K., Sutamtewagul, G., & Rakel, B., (2025). Agreement between patient-reported and clinically documented symptoms of acute myeloid leukemia: study protocol, *Journal of Advanced Nursing*, 00, 1–9. [\[link\]](#) (IF:3.19)
  11. \*Xu, Z., Evans, L., Song, J., **Chae, S.**, Davoudi A., Bowles, K. H., McDonald, M. V., & Topaz, M. (2024). Exploring Home Healthcare Clinicians’ Needs for Using Clinical Decision Support Systems for Early Risk Warning. *Journal of the American Medical Informatics Association*. [\[link\]](#) (IF: 7.94)
  12. \*Davoudi, A., **Chae, S.**, Evans, L., Sridharan, S., Song, J., Bowles, K. H., McDonald, M. V., & Topaz, M. (2024). Fairness gaps in machine learning models for hospitalization and emergency department visit risk prediction in home healthcare patients with heart failure. *International Journal of Medical Informatics*, 105534. [\[link\]](#) (IF:4.05)
  13. \*Joseph, L., Williams, M., Reinke, K., Bair, H., **Chae, S.**, Hanrahan, K., St. Marie. B., Jenkins. P., ... Perkhounkova. Y. (2024). Development and testing of the relational and structural components of innovativeness across academia and practice for healthcare progress scale. *The Journal of Nursing Administration*. [\[link\]](#) (IF: 1.81)

14. **\*Chae, S.**, Street, W. N., Ramaraju, N. & Gilbertson-White, S. (2024). Prediction of cancer symptom trajectories using longitudinal EHR data and long short-term memory-based algorithm. *JCO Clinical Cancer Informatics*, 8, e2300039. [\[link\]](#) (IF: 4.2)
15. **\*Chae, S.<sup>†</sup>**, Davoudi, A.<sup>†</sup>, Song, J., Evans, L., Hobensack, M., Bowles, K. H., McDonald, M. V., Barrón, Y., Rossetti S., Cato K., Sridharan, S., & Topaz, M. (2023). Predicting emergency department visits and hospitalizations for patients with heart failure in home healthcare using a time series risk model. *Journal of the American Medical Informatics Association*. [\[link\]](#) (IF: 7.94) <sup>†</sup>these authors contributed equally to this work.
16. **\*Min, S.**, Song, J., Evans, L., Bowles, K. H., McDonald, M. V., **Chae, S.**, Topaz, M. (2023). Home healthcare patients with distinct psychological, cognitive, and behavioral symptom profiles and at-risk subgroup for hospitalization and emergency department visits using latent class analysis. *Clinical Nursing Research*. [\[link\]](#) (IF: 1.72)
17. **\*Song, J.**, Min, S. H., **Chae, S.**, Bowles, K. H., McDonald, M. V., Hobensack, M., Barron, Y., Sridharan, S., Davoudi, A., Oh, S., Evans, L., & Topaz, M. (2023). Uncovering hidden trends: Identifying time trajectories in risk factors documented in clinical notes and predicting hospitalizations and emergency department visits during home health care. *Journal of the American Medical Informatics Association*. [\[link\]](#) (IF: 7.94)
18. **\*Oh, H.**, Moorhead, S., & **Chae, S.**, (2023). Validation of the knowledge and self-management outcomes for adults with cardiac disease. *CIN: Computers, Informatics, Nursing*, 41(9), 655-664. [\[link\]](#) (IF: 2.14)
19. **Chae, S.**, Oh, H., Da Costa Ferreira Oberfrank, N., Schulman-Green, D., Moorhead, S., & Swanson, E. A. (2023). Linking nursing outcomes classification to the self- and family management framework. *Journal of Advanced Nursing*. 79, 832– 849. [\[link\]](#) (IF:3.19)
20. **\*Song, J.**, **Chae, S.**, Bowles, K. H., McDonald, M. V., Barrón, Y., Cato, K., Rossetti, S. C., Hobensack, M., Sridharan, S., Evans, L., Davoudi, A., & Topaz, M. (2022). The identification of clusters of risk factors and their association with hospitalization or emergency department visits in home health care. *Journal of Advanced Nursing*. 79, 593– 604. [\[link\]](#) (IF:3.19)
21. **Chae, S.**, Cherwin, C. H., Street, W. N., Moorhead, S., Brown, G., & Gilbertson-White, S. (2022). Longitudinal subgrouping of patients with cancer based on symptom experiences: An integrative review. *Oncology Nursing Forum*. 49(4), E17–E30. [\[link\]](#) (IF:2.17)
22. **\*Chae, S.**, Song, J., Ojo, M., Bowles, K. H., McDonald, M. V., Barrón, Y., Hobensack, M., Kennedy, E., Sridharan, S., Evans, L., & Topaz, M. (2022). Factors associated with poor self-management documented in home health care narrative notes for patients with heart failure. *Heart & Lung*, 55, 148-154. [\[link\]](#) (IF: 2.86)
23. **\*Song, J.**, Hobensack, M., Bowles, K. H., McDonald, M. V., Cato, K., Rossetti, S. C., **Chae, S.**, Kennedy, E., Barrón, Y., Sridharan, S., & Topaz, M. (2022). Clinical notes: An untapped

opportunity for improving risk prediction for hospitalization and emergency department visit during home health care. *Journal of Biomedical Informatics*, 128, 104039. [\[link\]](#) (IF: 8).

24. \*Hobensack, M., Ojo, M., Barrón, Y., Bowles, K. H., Cato, K., **Chae, S.**, Kennedy, E., McDonald, M. V., Song, J., Sridharan, S., & Topaz, M. (2022). Documentation of hospitalization risk factors in EHRs: A qualitative study with home healthcare clinicians. *Journal of the American Medical Informatics Association*, 29(5), 805-812. [\[link\]](#) (IF: 7.94) Harriet H. Werley Award at AMIA
25. \*Song, J., Ojo, M., Bowles, K., McDonald, M., Cato, K., Rossetti, S. C., Adams, V., **Chae, S.**, Hobensack, M., Kennedy, E., Tark, A., Kang, M. J., Woo, K., Barrón, Y., Sridharan, S., & Topaz, M. (2021). Detecting language associated with home healthcare patient's risk for hospitalization and emergency department visit: A natural language processing study. *Nursing Research*, 71(4), 285-294. [\[link\]](#) (IF: 2.36)
26. \*Tark, A., Kamalumpundi, V., Song, J., **Chae, S.**, Stone, P. W., Gilbertson-White, S., & Buck, H. (2021). A review of web-based covid-19 resources for palliative care clinicians, patients, and their caregivers. *Journal of Hospice and Palliative Nursing*, 23(4), 316-322. [\[link\]](#) (IF: 2.13)
27. \*Dunn Lopez, K., **Chae, S.**, Girgis, M., Fraczkowski, D., Habibi, P., Chattopadhyay, D., & Donevant, S. (2021). Improved readability and functions needed for MHealth targeting patients with heart failure: An app store review. *Research in Nursing and Health*, 44(1), 71-80. [\[link\]](#) (IF: 2.24) Top Cited Article 2021-2022 in *Research in Nursing & Health*
28. \*Tark, A., Song, J., Parajuli, J., **Chae, S.**, & Stone, P. W. (2021). Are we getting what we really want? A systematic review of concordance between Physician Orders for Life-Sustaining Treatment (POLST) documentation and subsequent care delivered at end-of-life. *American Journal of Hospice and Palliative Medicine*, 38(9), 1142-1158. [\[link\]](#) (IF: 2.09)
29. **Chae, S.**, Oh, H., & Moorhead, S. (2020). Effectiveness of nursing interventions based on nursing outcomes using standardized nursing terminologies: An integrative review. *Western Journal of Nursing Research*. 42(11). [\[link\]](#) (IF: 1.77)
30. \*Steelman, V. M., **Chae, S.**, Duff, J., Anderson, M. J., & Zaidi, A. (2018). Warming of irrigation fluids for prevention of perioperative hypothermia during arthroscopy: A systematic review and meta-analysis. *Arthroscopy: The Journal of Arthroscopic & Related Surgery*, 34(3). [\[link\]](#) (IF4.43)
31. \*Downing, N. R., Goodnight, S., **Chae, S.**, Perlmutter, J. S., McCormack, M., Hahn, E., Barton, S. K., & Carlozzi, N. E. (2018). Factors associated with end-of-life planning in Huntington disease. *American Journal of Hospice and Palliative Care*, 35(3), 440-447. [\[link\]](#) (IF: 2.09)

32. \***Chae, S.**, Ko, I. S., Kim, I. S., & Yoon, K. S. (2015). Effect of perception of career ladder system on job satisfaction, intention to leave among perioperative nurses. *Journal of Korean Academy of Nursing Administration*, 21(3), 233. [\[link\]](#) (IF: 1.28)

### ***Manuscripts Under Review***

33. \***Chae, S.**, Street, W. N., Wang, S., & Gilbertson-White, S. (under review). A novel method for subgrouping symptom trajectories using longitudinal electronic health record (EHR) data. *Cancer Nursing*.
34. Moorhead, S., Swanson, E., Wagner, C., Clarke, M. F., Da Costa Ferreira Oberfrank, N., Watkinson, E., & **Chae, S.** (under review). Addressing the impact of climate change on human health—Part 2: Linkages of nursing diagnoses, outcomes, and interventions. *International Journal of Nursing Knowledge*.

### ***Manuscripts in Preparation***

### ***Peer-reviewed Conference Proceedings***

1. \*Hobensack, M., Song, J., **Chae, S.**, Kennedy, E. E., Zolnoori, M., Bowles, K. H, McDonald, M. V., Evans, L., & Topaz, M. (2022). Capturing concerns about patient deterioration in narrative documentation in home healthcare. *Annual Symposium Proceedings. AMIA Symposium, 2022*, 552–559. [\[link\]](#) (IF: 0/92)
2. \***Chae, S.**, Song, J., Ojo, M., & Topaz, M. (2021). Identifying heart failure symptoms and poor self-management in home healthcare: A natural language processing study. *Studies in Health Technology and Informatics*, 284, 15-19. [\[link\]](#) (IF: 0.28)

### ***Published Abstracts***

1. **Chae, S.**, Harb, A., & Youn, N. (2026, June). Clinician-Informed Design of a Clinical Decision Support Tool to Prevent Acute Myeloid Leukemia Readmissions: Bridging Practice and Informatics. *Western Journal of Nursing Research*, 48 (1\_suppl), pp. 2S-2S [\[link\]](#)
2. Annan, P. A. M., Dunn Lopez, K., & **Chae, S.**<sup>†</sup> (2026). What does “nursing data” mean? A concept analysis and Delphi study [Abstract]. In Proceedings of the 50th Annual *Midwest Nursing Research Society Annual Research Conference*. St. Louis, MO. pp. 57S-58S [\[link\]](#)
3. \*Kuyoro, A., Dunn Lopez, K., & **Chae, S.**<sup>†</sup> (2025, April). From clinical notes to predictive models for acute myeloid leukemia readmissions: A pre-machine learning analysis [Abstract]. *Western Journal of Nursing Research*, 47(1\_suppl), pp. 14S-14S. [\[link\]](#)
4. \***Chae, S.**, Bae, J., Maitra, P., Lopez, K. D., & Rakel, B. (2025, April). Uncovering Hidden Symptom Clusters in Patients With Acute Myeloid Leukemia Using Natural Language Processing. *Western Journal of Nursing Research*, 47(1\_suppl), pp. 6S-6S [\[link\]](#)

5. \*Jeon, B., & **Chae, S.** (2024). 0906 Free-text documentation of sleep disturbance in Acute Myeloid Leukemia: A natural language processing study. *Sleep*, 47(Supplement\_1), A389-A389. [[link](#)]
6. Gilbertson-White, S., Srivastava, S., Li, Y., Laures, E., Saeidzadeh, S., Yeung, C., & **Chae, S.** (2020). Multimorbidity and cancer: Using electronic health record (EHR) data to cluster patients in multimorbidity phenotypes (gp735). *Journal of Pain and Symptom Management*, 60(1), 266. [[link](#)]
7. Gilbertson-White, S., Srivastava, S., Li, Y., Laures, E., Saeidzadeh, S., Yeung, C., & **Chae, S.** (2019). Multimorbidity, cancer, and symptoms: Using electronic health record data to cluster patients in multimorbidity phenotypes. *Journal of Clinical Oncology*, 37(31\_suppl), 130-130. [[link](#)]

### **Books/Book Chapters**

1. Moorhead, S., **Chae, S.**, & Oh, H. (2020). Impact of the nursing process and clinical decision-making models on research focused on the linkages between nursing diagnoses, outcomes and interventions. In Echevarría, P. P., Giménez, F. M., Giró, F. M. D., & Romero, S. J. M. *Investigación en metodología y lenguajes enfermeros*, Chapter 23, second edition, Elsevier España, Barcelona. 2020.

### **Scientific and Educational Research Grants**

#### **Intramural Research Grants**

1. 01/2023-01/2025 Symptoms and multiple chronic conditions associated with post-induction unplanned readmissions in patients with acute myeloid leukemia, Seeding Excellence Initiative-Office of the Vice President for Research Early Career Scholars, **PI: Chae**, University of Iowa Office of the Vice President for Research, \$30,000
2. 02/2022-01/2024 Advancing symptom science using hidden symptoms and chronic conditions in patients with acute myeloid leukemia, Lila M Johnson Internal Grant, **PI: Chae**, University of Iowa, College of Nursing, \$10,000
3. 2019 Prediction of cancer symptom trajectories using longitudinal EHR data and long short-term memory-based algorithm, Alma Miller Ware Nursing Endowment, **PI: Chae**, University of Iowa, College of Nursing, \$3,000
4. 2019 Comparison of Groups with Different Patterns of Symptom Cluster Intensity across the Cancer Treatment Trajectory, **PI: Chae**, University of Iowa Institute for Clinical and Translational Science, \$1,440

#### **Extramural Research Grants**

1. 10/2025 Submitted PROTECT-AML: A Time-Series Risk Prediction and Clinical Decision Support Framework for Acute Myeloid Leukemia Patients, NIH/NCI, PA-25-

172, Tracking Number: GRANT14514417, **PI: Chae**, University of Iowa, College of Nursing, Total Budget Requested: \$1,250,000  
Status: Designated as “competitive” by the review committee and under funding consideration (not discussed).

2. 02/2022-05/2024 Advancing symptom science using hidden symptoms and chronic conditions in patients with acute myeloid leukemia, Center for Advancing Multimorbidity Science: Profiling risk and symptom expression to develop customized therapies for adults with multiple chronic conditions (CAMS) NIH / NINR P20 NR018081-01(MPI: Gardner & Rakel), Pilot Grants, **PI: Chae**, University of Iowa, College of Nursing, \$63,000
3. 09/2020-2024 Homecare-CONCERN: Building risk models for preventable hospitalization and emergency department visits in homecare, Agency for Healthcare Research and Quality, R01HS027742, (PI: Topaz), Visiting Nursing Service of New York, Columbia University, Collaborator (role: building natural language processing algorithms), \$369,427.
4. 2018 Warming of irrigation fluids for prevention of perioperative hypothermia during arthroscopy: A systematic review and meta-analysis, PI: Steelman, Research team member, Sigma Theta Tau/Association of Perioperative Registered Nurses, \$5,000

**Research and Clinical Presentations** [KEY: \* = data-based; bold = my authorship; underline = student/mentee]

### **International**

1. 2026 \***Chae, S.**, Maitra, P., Albashayreh, A., Annan, P. A. M., & Dunn Lopez, K. (2026). Large language model–based symptom severity extraction from clinical note summaries and validation using Nursing Outcomes Classification scores in acute myeloid leukemia. Poster abstract accepted at the AMIA 2026 Annual Symposium.
2. 2026 \***Chae, S.**, Maitra, P., Albashayreh, A., Annan, P. A. M., & Dunn Lopez, K. (2026). Evaluating quality of large language model–based clinical note summarization of electronic health records in patients with acute myeloid leukemia. Poster abstract accepted at the AMIA 2026 Annual Symposium.
3. 2026 **Chae, S.**, Annan, P. A. M., Dunn Lopez, K., Aggarwal, S., & Gilbertson White, S. (2026). Defining nursing data: Findings from a concept analysis and proposed Delphi validation. Podium presentation accepted at the AMIA 2026 Annual Symposium.
4. 2025 \***Chae, S.**, Maitra, P., & Albashayreh, A. (2025, November). Automated symptom severity detection in acute myeloid leukemia using large language models. Poster presentation at the AMIA 2025 Annual Symposium, Atlanta, GA.
5. 2025 \***Chae, S.**, Shelton, J., & Harb, A. (2025, November). Identifying co-occurrence patterns of chronic conditions in acute myeloid leukemia: An EHR-based analysis. Poster presentation

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at the AMIA 2025 Annual Symposium, Atlanta, GA.

6. 2023 \***Chae, S.**, Davoudi A., Song, J., Evans. L., Hobensack, M., Bowles, K. H., McDonald, M. V., Barrón, Y., Sharp, D., Oh, S., Min, S., & Topaz, M. (2023). A framework for developing clinical decision support tools in home health care patients with heart failure based on time-series risk models. Podium presentation at AMIA 2023 Annual Symposium, New Orleans, LA
7. 2023 \*Davoudi A., **Chae, S.**, Evans. L., Sridharan, S., Barrón, Y., Song, J., Hobensack, M., Bowles, K. H., McDonald, M. V., Min, S., Oh, S., & Topaz, M. (2023). Fairness analysis in the prediction of hospitalization or emergency department visits in home healthcare patients with heart failure. Podium presentation at AMIA 2023 Annual Symposium, New Orleans, LA
8. 2023 \*Song, J., Min, S. H., **Chae, S.**, Bowles, K. H., McDonald, M. V., Hobensack, M., Barron, Y., Sridharan, S., Davoudi, A., Oh, S., Evans, L., & Topaz, M. (2023). Identifying time trajectories in risk factors documented in clinical notes and predicting hospitalizations and emergency department visits during home health care. Podium presentation at AMIA 2023 Annual Symposium, New Orleans, LA
9. 2023 \*Dunn Lopez, K., **Chae, S.**, Litwiller, D., Wagner, C., Moorhead, S., & Swanson, E. (March 2023). Searching for nurse generated interventions from medical-surgical nurses' documentation of care provided to patients with covid-19 in large vendor's electronic health record's flowsheets. Paper presentation at ACENDIO Conference. Rome, Italy.
10. 2022 \***Chae, S.**, Song, J., Barrón, Y., Bowles, K. H, McDonald, M. V., Rossetti S., Cato K., Hobensack, M., Evans. L., & Topaz, M. (2022). Heart failure patient characteristics and symptoms documented in home health care clinical notes associated with emergency department visits and hospitalizations. Podium presentation at AMIA 2022 Annual Symposium, Washington, DC.
11. 2022 \***Chae, S.**, Dunn Lopez, K., & Rakel, B. (2022). A first step to uncovering hidden symptoms and in patients with acute myeloid leukemia using natural language processing. Poster presentation at AMIA 2022 Annual Symposium, Washington, DC.
12. 2021 \*Hobensack, M., Song, J., Zolnoori, M., Ojo, M., Bowles, K. H., **Chae, S.**, Kennedy, McDonald, M. V., & Topaz, M. (2021). Identifying narrative documentation of clinician concern about patient deterioration in home healthcare: A text mining study. Poster presentation at AMIA 2021 Annual Symposium, San Diego, CA.
13. 2021 \*Song, J., Ojo, M., McDonald, M.V., Cato, K., Rossetti S., Barrón, Y., Sridharan, S., **Chae S.**, Hobensack, M., Bowles, K. H., & Topaz, M. (2021). Developing a natural language processing algorithm to detect terms representing risk of hospitalization or emergency department visits during home health care. Poster presentation at AMIA 2021 Annual Symposium, San Diego, CA.
14. 2021 \*Dunn Lopez, K., Swanson, E., **Chae, S.**, Litwiller, D., Moorhead, S., Wagner, C., & Abe, N. (2021). Unearthing nursing documentation within electronic health record data to

determine the impact of nursing care for hospitalized patients with COVID-19, Work in Progress. Poster presentation at Health Information Management System and Society. Global Health Conference, Nursing Informatics Symposium. Las Vegas, NV.

15. 2021 \*Song, J., McDonald, M., Barrón, Y., Cato, K, Rossetti, S. C., Sridharan, S., **Chae S.**, Tark A., Adams, V., Woo, K., Kang, M. J., Hobensack, M., Ojo, M., Bowles, K., & Topaz, M. (2021). Identifying factors associated with patient's risk for hospitalization or emergency department visits in home health care. Conference presentation abstract at AMIA Clinical Informatics Conference, Virtual.
16. 2020 Gilbertson-White, S., Srivastava, S. Li, Y., Laures, E., Saeidzadeh, S., Yeung, C., **Chae, S.** (2020) Data mining and the electronic health record: Identify multimorbidity phenotypes to advanced cancer symptom science. The ONS 45th Annual Congress. San Antonio, TX. (CANCELED d/t Covid).
17. 2020 Gilbertson-White, S., Srivastava, S., Li, Y., Laures, E., Saeidzadeh, S., Yeung, C., **Chae, S.** (2020) Multimorbidity and cancer: Using electronic health record (EHR) data to cluster patients in multimorbidity phenotypes. The 2020 Annual Assembly of Hospice and Palliative Care. San Diego, CA (CANCELED d/t Covid).
18. 2020 Gilbertson-White, S., Srivastava, S. Li, Y., Laures, E., Saeidzadeh, S., Yeung, C., **Chae, S.** (2020) Multimorbidity and cancer: Using electronic health record (EHR) data to cluster patients in multimorbidity phenotypes. The Inaugural State of the Science in Hospice and Palliative Care Meeting. San Diego, CA (CANCELED d/t Covid).
19. 2018 **Chae, S.**, Oh, H. K., & Moorhead, S. (2018). Effectiveness of nursing interventions using standardized nursing languages: An integrative review. American Medical Informatics Association Symposium 2018, San Francisco, CA. Peer reviewed poster.
20. 2017 \***Chae, S.**, Steelman, V. M., & Chung, S. J. (2017). Simulation-based education in the operating room. Association of perioperative Registered Nurses Global Surgical Conference & Expo 2017. Boston, MA. Peer reviewed poster.
21. 2016 \*Downing, N. R., **Chae, S.**, Goodnight, S., & Carlozzi, N. E. (2016). Factors associated with end-of life planning in Huntington disease. International Society of Nurses in Genetics. Dublin, Ireland. Podium Presentation.
22. 2014 \***Chae, S.**, Ko, I. S., & Kim, I. S. (2014). Relation between perception of the Career Ladder System, job satisfaction, and intention to leave among perioperative nurses. Sigma Theta Tau. International 25th International Nursing Research Congress, Hong Kong. Peer reviewed poster.

## National

1. 2026 \***Chae, S.**, Maitra, P., Albashayreh, A., Annan, P. A. M., & Dunn Lopez, K. (2026). Large language model-based symptom severity extraction from clinical note summaries and validation using Nursing Outcomes Classification scores in acute myeloid leukemia. Korean Society of Medical Informatics (KOSMI) Annual Conference; Cheongju, South

Korea; 2026. Recipient of Outstanding Presentation Award.

2. 2026 Joseph, L., Williams, M., **Chae, S.**, & St. Marie, B. (2026). Leadership for Innovation: American Organization for Nursing Leadership (AONL) 2026 Annual Conference, Chicago, IL.
3. 2020 **Chae, S.**, Preparing for Graduate Nursing School in the US, International Nursing Leaders Association. Guest lecturer. Seoul, South Korea. Oral presentation.
4. 2014 \***Chae, S.**, Ko, I. S., & Kim, I. S. Relation between perception of the Career Ladder System, job satisfaction, and intention to leave among perioperative nurses. Korea Association of Operation Room Nurses. KwangJu, South Korea. Oral presentation.

### State/Regional

1. 2027 **Chae S.**, Annan, P. A. M., Topaz M. An AI-Assisted, Automated Telephone System to Extend Post-Discharge Symptom Monitoring Access for Acute Myeloid Leukemia Patients in the Rural Midwest. Abstract submitted for presentation at: Health Systems, Policy & Informatics (HSPI) RIIG Symposium, Advancing Healthcare Access through Health Systems, Informatics, and Policy Research; Midwest Nursing Research Society (MNRS) 51st Annual Research Conference; March 31–April 3, 2027; Grand Rapids, MI.
2. 2026 Annan, P. A. M., Dunn Lopez, K., & **Chae, S.**<sup>†</sup> (2026). What does “nursing data” mean? A concept analysis and Delphi study. MNRS 50th Annual Research Conference, St. Louis, MO.
3. 2026 **Chae, S.**, Harb, A., & Youn, N. (2026). *Clinician-informed design of a clinical decision support tool to prevent acute myeloid leukemia readmissions: Bridging practice and informatics*. Accepted for presentation in Health Systems, Policy & Informatics (HSPI) RIIG Symposium, *Innovating for Impact: Informatics, Policy, and Systems Science to Drive the Future of Nursing Research*, at the MNRS 50th Annual Research Conference, St. Louis, MO.
4. 2025 \*Kuyoro, A., Dunn Lopez, K., & **Chae, S.**<sup>†</sup> (2025). From Clinical Notes to Predictive Models for Acute Myeloid Leukemia Readmissions: A Pre-Machine Learning Analysis. Midwestern Nursing Research Society’s 49th Annual Research Conference, Indianapolis, IN. Peer-reviewed poster discussion.
5. 2025 Delaney, C., Wieben, A., Wolfe, I., & **Chae, S.** (2025). Examination of Education, Clinical, Ethics, and Research Implications of AI Transformation. Special Session. Midwestern Nursing Research Society’s 49th Annual Research Conference, Indianapolis, IN.
6. 2025 \***Chae, S.**, Bae, J., Maitra, P., Dunn Lopez, K., & Rakel, B. (2025). Uncovering Hidden Symptom Clusters in Patients with Acute Myeloid Leukemia using Natural Language Processing. Guaranteed Symposium Session. Midwestern Nursing Research Society’s 49th Annual Research Conference, Indianapolis, IN.

7. 2023 \***Chae, S., Bae, J., & Rakel, B.,** (2023). Agreement between patient-report and electronic health record on symptoms of acute myeloid leukemia. Poster presentation. Midwestern Nursing Research Society's 47th Annual Research Conference, Des Moines, IA.
8. 2022 \***Song, J., Chae, S.,** Bowles, K. H., McDonald, M.V., Barron, Y., Cato, K., Rossetti, S., Hobensack, M., Sridharan, S., Evans, L., Davoudi, A., & Topaz, M. (2022). The identification of clusters of risk factors and their association with hospitalizations or emergency department visits in home health care. Poster presentation at the 1st annual PhD and Post-Doctoral Fellow Scholars' Day, Columbia University School of Nursing, NY.
9. 2020 \***Dunn Lopez, K., Chae, S.,** Girgis, M., Fraczkowski, D., Habibi, P., Chattopadhyay, D., & Donevant, S. B. (2020). Improved readability and functions needed for mHealth targeting patients with heart failure: An app store review. A Distinguished Abstract. Midwest Nursing Research Society's 44th Annual Research Conference, Chicago, IL. Peer reviewed postcard.
10. 2020 \***Chae, S.,** Gilbertson-White, S., Street, W. N., & Ramaraju, N. (2020). Prediction of cancer symptom trajectories using longitudinal EHR data and long short-term memory-based algorithm. Student Poster Competition. Midwestern Nursing Research Society's 44th Annual Research Conference, Chicago, IL. Peer reviewed poster.
11. 2019 \***Chae, S.,** Gilbertson-White, S., Street, W. N., Moorhead, S., & Wang, S. Comparison of groups with different patterns of symptom cluster intensity across the Cancer Treatment Trajectory. Student Poster Competition. Midwestern Nursing Research Society's 43rd Annual Research Conference. Kansas City, MO. Peer reviewed poster.
12. 2018 \***Chae, S.,** Steelman, V. M., Duff, J., Anderson, M. J., & Zaidi, A. (2018). Warming of irrigation fluids for prevention of perioperative hypothermia during arthroscopy: A systematic review and meta-analysis. Student Poster Competition. Midwestern Nursing Research Society's 42nd Annual Research Conference, Cleveland, OH. Peer reviewed poster.
13. 2017 **Chae, S.,** Moorhead, S., & Oh, H. K. The use of Nursing Interventions and Outcomes Classifications focused on effectiveness: An integrative review. Midwestern Nursing Research Society's 41st Annual Research Conference, Minneapolis, MN. Peer reviewed poster.

### **Local**

1. 2025 **Chae, S.** Conceptual models in the "informatics" based research, theory and model development, PhD program, University of Iowa, College of Nursing, Invited Speaker.
2. 2022 **Chae, S.** Conceptual models in the "informatics" based research, theory and model development, PhD program, University of Iowa, College of Nursing, Invited Speaker.
3. 2020 **Chae, S.** A spotlight on CON PhD student research, Research Forum, University of Iowa, College of Nursing, Invited Speaker.

4. 2019 **Chae, S.** Data Science, Research Design, PhD program, University of Iowa, College of Nursing, Invited Speaker.
5. 2019 **Chae, S.** Discussion using EHR data, CAMS Research Seminar, University of Iowa, College of Nursing, Invited Speaker.
6. 2019 **Chae, S.** Discussion on scholarly writing, PhD Student Orientation, University of Iowa, College of Nursing, Invited Speaker.
7. 2019 **\*Chae, S.,** Comparison of groups with different patterns of symptom cluster intensity across the Cancer Treatment Trajectory. Spring Reception of the Center for Advancement Board of Directors, Iowa City, IA. University of Iowa, College of Nursing. Poster.
8. 2019 **\*Chae, S.,** Prediction of cancer symptom trajectories using longitudinal EHR data and long short-term memory-based algorithm. Data Mining Iowa Group, University of Iowa Tippie College of Business. Invited Speaker.
9. 2018 **Chae, S.,** Using NANDA-I, NIC and NOC, Samsung Medical Center, Health Informatics Department, Seoul, South Korea. Invited Speaker.
10. 2018 **\*Chae, S., & Steelman, V. M.** Warming of irrigation fluids for prevention of perioperative hypothermia during arthroscopy: A systematic review and meta-analysis. Research Forum. University of Iowa, College of Nursing, Iowa City, IA, Invited Speaker.

## **SERVICE**

### **Editorial and Peer Review Service**

#### **Peer review of scholarly products**

- |              |                                                                                                                                                 |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 2016-present | Center for Nursing Classification and Clinical Effectiveness (CNC), Nursing Outcomes Classifications (NOC), Peer Reviewer and Outcome Developer |
| 2018-present | American Medical Informatics Association, Annual Symposium, Abstract Reviewer                                                                   |
| 2021         | American Journal of Hospice and Palliative Medicine, Manuscript Reviewer                                                                        |
| 2021         | Birth, Manuscript Reviewer                                                                                                                      |
| 2022         | Journal of the American Heart Association, Manuscript Reviewer                                                                                  |
| 2022         | International Journal of Nursing Knowledge, Manuscript Reviewer                                                                                 |
| 2022         | International Journal of Nursing Studies, Manuscript Reviewer                                                                                   |

#### **Mock Reviewer**

- |      |                                                                                                                                                                               |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2026 | National Cancer Institute K99/R00 award application (PI: Lee, University of Michigan School of Nursing), Invited as External Reviewer                                         |
| 2023 | National Institute on Minority Health and Health Disparities Parent R01 award application (PI: Lee, University of Pittsburgh School of Nursing), Invited as External Reviewer |

#### **Section Editor**

- |           |                                                           |
|-----------|-----------------------------------------------------------|
| 2025-2027 | Nurse Leader, Innovativeness for Progress, Section Editor |
|-----------|-----------------------------------------------------------|

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## **Professional Service**

### **Society/Association membership, participation, and leadership**

|              |                                                                                                                                                                                                           |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2026-present | Co-lead the Alliance for Nursing Informatics (ANI) Interoperability and Nursing Data working group                                                                                                        |
| 2026-2028    | An Ambassador for the Friends of the National Institute of Nursing Research (FNINR) Ambassador Program                                                                                                    |
| 2016-present | Midwest Nursing Research Society (MNRS), member<br>Health Systems, Policy, & Informatics Research Interest Group, member (2019-present)<br>Symptom Science Research Interest Group, member (2019-present) |
| 2024-2026    | Chair, Health Systems, Policy, & Informatics Research Interest Group (elected 3 year term)                                                                                                                |
| 2023-present | International Medical Informatics Association (IMIA): The Students and Emerging Professionals Special Interest Group Nursing Informatics (SEP SIG NI), Member                                             |
| 2019         | Global Korean Nursing Foundation (GKNF)-USA, Student member                                                                                                                                               |
| 2018-present | American Medical Informatics Association, member<br>Nursing Informatics Working Group (2021-present)                                                                                                      |
| 2018         | Sigma Theta Tau International Honor Society for Nursing, Gamma Chapter, member                                                                                                                            |
| 2017         | Association of Perioperative Registered Nurses, Student member<br>Poster Judge, Global Surgical Conference & Expo 2016 (2016)                                                                             |
| 2008-2015    | Korean Academy of Nursing Administration, member                                                                                                                                                          |
| 2006-2015    | Korean Association of Operating Room Nurses, member                                                                                                                                                       |
| 2006-2015    | Korean Nurses Association, member                                                                                                                                                                         |

### ***University of Iowa***

|              |                                                                                                |
|--------------|------------------------------------------------------------------------------------------------|
| 2024 Fall    | Interprofessional Education Program, Facilitator                                               |
| 2022-present | Informatics Journal Club at The University of Iowa, Member                                     |
| 2017-present | Data Mining in Iowa Group (DMIG) at The University of Iowa, Tippie College of Business, Member |
| 2022-present | Holden Comprehensive Cancer Center at The University of Iowa, Associate Member                 |
| 2022         | Spring Undergraduate Research Festival (SURF) Judge                                            |

### **University of Iowa College of Nursing**

|              |                                                                                                                                            |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 2025         | Contributed significantly to the PhD Forum Self-Study Task force by completing the Outline IV. f.-i. portion of the initial draft version. |
| 2024-2025    | Task Force to Develop Informatics/Data Science/Project Design and Evaluation Courses for DNP and PhD programs                              |
| 2024         | CON Faculty Awards Committee                                                                                                               |
| 2020-present | Technology committee, member                                                                                                               |

## **Professional Development**

|              |                                                                             |
|--------------|-----------------------------------------------------------------------------|
| 2021-present | Pain and Associated Symptoms: Nurse Research Training (T32NR011147), junior |
|--------------|-----------------------------------------------------------------------------|

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faculty

### **CHA University**

#### **CHA University of Iowa Collegiate Service**

2017 CHA Global Health Program, CHA University, College of Nursing, South Korea, Interpreter  
2024 Preparing for Graduate Nursing School in the US, CHA University, College of Nursing, South Korea, Guest lecturer

## **TEACHING**

### **Instructional Activities**

#### **Course Instruction**

*NURS:5010 Clinical Data Management and Evaluation. Graduate.*

2026 Fall (enrollment = 11), Primary instructor  
2026 Spring (enrollment = 47), Primary instructor  
2025 Fall (enrollment = 22), Primary instructor  
2025 Spring (enrollment = 39), Primary instructor  
2024 Fall (enrollment = 28), Primary instructor  
2023 Fall (enrollment = 29), Primary instructor  
2022 Fall (enrollment = 38), Primary instructor  
2022 Spring (enrollment = 19), Team-teacher  
2021 Fall (enrollment = 20), Team-teacher  
2021 Spring (enrollment = 46), Team-teacher  
2020 Fall (enrollment = 45), Team-teacher

*NURS:6828 Doctor of Nursing Practice Project III. Graduate.*

2026 Fall (enrollment = 55), Team-teacher  
2025 Fall (enrollment = 59), Team-teacher  
2024 Fall (enrollment = 76), Team-teacher

*NURS:3151 Intro to Clinical Concepts for Nursing. Nursing MSN Entry into Practice Program.*

2025 Spring (enrollment = 6), Team-teacher

#### **Guest Lectures**

*NURS:7006:0001 Theory and Model Development, Favorite Models, Frameworks, and Theories Used by CON Nursing Informatics faculty, Graduate, Spring 2022, Spring 2025*

*NURS:3438 Nursing and Pharmacological Intervention, Perioperative Nursing. Undergraduate*  
2018 Spring – 2021 Fall [total number of semesters: 8]

*CS 4980:000 Computational Epidemiology, An Untapped Opportunity for Bringing EHRs and Advanced Data Analytics to Nursing Science. Undergraduate & graduate*  
2023 Spring

### **Mentoring and Advisement**

August 21, 2026

## **Mentoring**

### *Undergraduate students*

|                     |                                                                                                                                                                 |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2022 Fall–2023 Fall | Claire Brown, BSN student, member of research team                                                                                                              |
| 2022 Spring–present | Marisa K Mueterthies, BSN student, member of research team                                                                                                      |
| 2021 Fall           | Kelly Bush, BSN student, member of research team                                                                                                                |
| 2019 Summer         | Prisca Anugom, Pre-nursing student, member of research team, Longitudinal subgrouping of cancer patients with similar symptom experiences: an integrated review |

### *Graduate students*

|                          |                                                              |
|--------------------------|--------------------------------------------------------------|
| Fall 2025– Spring 2027   | Priscilla Annan, Nursing PhD student, Grad RA                |
| Spring 2025– Summer 2025 | Alaa Harb, Nursing PhD student, Grad RA                      |
| Fall 2023– Spring 2024   | Adeola Kuyoro, Nursing PhD student, Grad RA                  |
| 2023                     | Nayung Youn, Nursing PhD student, Grad RA                    |
| Fall 2022–Spring 2023    | Jaewon Bae, Nursing PhD student, Grad RA                     |
| Fall 2022–Spring 2026    | Pratik Maitra, Masters' student in Computer Science, Grad RA |

## **Advisement**

### **DNP project Committee**

|                         |                     |
|-------------------------|---------------------|
| Fall 2024 – Spring 2026 | Andrea Damon, Chair |
|-------------------------|---------------------|

### **Independent Study**

|           |                                                      |
|-----------|------------------------------------------------------|
| 2023 Fall | Jaewon Bae (Training in natural language processing) |
|-----------|------------------------------------------------------|

### **PhD Dissertation Committee**

|                        |                                                                                                                                                        |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fall 2023 –Spring 2025 | Lynette Ramlogan, Molloy University. Exploring the socioeconomic impact of SDOH on heart failure patients: a secondary data analysis, Committee Member |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|