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Employment and Experience

Academic

Indiana University 2018-present

2023-present *Grainger Professor of Operations and Decision Technologies*
Research Co-Director Center for the Business of Life Sciences
Kelley School of Business, Bloomington, IN

2019-2023 *Grainger Fellow & Grant Thornton Associate Professor of Operations and Decision Technologies*
Research Co-Director Center for the Business of Life Sciences
Kelley School of Business, Bloomington, IN

2018-2019 *Grant Thornton Assistant Professor of Operations and Decision Technologies*
Kelley School of Business, Bloomington, IN

Arizona State University 2017-2018

2017-2018 *Assistant Professor of Supply Chain Management*
W.P. Carey School of Business, Tempe, AZ

Indiana University 2012-2017

2012-2017 *Assistant Professor of Operations and Decision Technologies*
Kelley School of Business, Bloomington, IN

Industry

Mayo Clinic May–Aug. 2011

Summer Research Intern, Department of Healthcare Policy and Research, Rochester, MN

General Electric Healthcare 2004–2006

Operations Management Leadership Program, Milwaukee, WI 2004–2006

Education

University of Michigan; Ph.D. Industrial and Operations Engineering, June 2012

Dissertation Title: Stochastic and Deterministic Methods for Patient Flow Optimization in Care Service Networks

Cornell University; M.Eng. Operations Research and Industrial Engineering, 2004

Thesis: Assisting a Public Transportation Agency with Planning of Bus Schedules Using Computer Simulation

GPA 4.1/4.0

◇ *Andrew Schultz, Jr. Award for Top GPA in ORIE Master's Program*

◇ *Silent Hoist and Crane (3rd) for top M.Eng. project*

Cornell University; B.A. Double Major in Mathematics and Computer Science, 2003

GPA 3.8/4.0

◇ *Cum Laude*

Business and Engineering Publications (A)

* = current/former doctoral student;

** = industry or clinical collaborator

- A19.** Mixing It Up: Operational Impact of Hospitalist Workload
Kamalahmadi M *, Mills AF, **Helm JE**, Bretthauer KM
Management Science 69(1): 283-307 (2023)
♣ 2017 POMS College of Healthcare Operations Management Paper Competition (first)
- A18.** Operations (Management) Warp Speed: Parsimonious Design for Rapid Deployment of Hospital Prediction and Decision Support Framework during a Pandemic
Shi, P, **Helm JE**, Chen C, Lim, J*, Parker R, Tinsley T**, Cecil J**
Production and Operations Management 30(3): 330-354 (2021)
- A17.** Medical Surge: Lessons for a Pandemic from Mass-Casualty Management
Mills AF, **Helm JE**
Health Management, Policy and Innovation (HMPL.org), 5(1): special issue on COVID-19, March 2020.
- A16.** Timing it Right: Readmission risk at discharge vs inpatient unit congestion
Shi P, **Helm JE**, Deglise-Hawkinson J **, Pan JF **
Operations Research, 69(6): 1842-1865 (2021)
♣ 2021 MSOM Responsible Research Award (Winner)
♣ 2020 INFORMS Innovative Applications in Analytics Award; Analytics Society of INFORMS (2nd Place)
♣ 2019 POMS CHOM Best Paper Competition (2nd place)
♣ 2018 Pierskalla Award for excellence in the field of health care management science
♣ SSRNs Top Ten download list for: Demand & Supply in Health Economics eJournal, HEN Subject Matter eJournals, HEN: Hospitals (Topic), Health Economics Network, MRN Production & Operations Management Network and PROD Subject Matter eJournals; Sept 2018
- A15.** An Operational Framework for the Adoption and Integration of New Diagnostic Tests
Shi P, **Helm JE**, Heese S, Mitchell A**
Production and Operations Management, 30(2): 330-354 (2021)
- A14.** Surge capacity deployment in hospitals: effectiveness of response and mitigation strategies
Mills AF, **Helm JE**, Wang Y*
Manufacturing and Service Operations Management, 23(2): 367-387 (2021)
♣ 2014 INFORMS Public Sector OR Best Paper Competition (2nd place)
- A13.** An Integrated Framework for Reducing Hospital Readmissions using Risk Trajectories Characterization and Discharge Timing Optimization
Alaeddini A, **Helm JE**, Shi P, Faruqui, SHA
IIE Transactions on Health Systems Engineering, 9(2): 172-185 (2019)
- A12.** Dynamic Monitoring and Control of Chronic Diseases With a Case Study of Glaucoma
Kazemian P*, **Helm JE**, Lavieri MS, Van Oyen MP, and Stein JD**
Production and Operations Management, 28(5): 1082-1107 (2019)
♣ 2017 SSRN All Time Top Papers (#8) in BioRN: Disease Surveillance 2 Jan 1997 through 13 Mar 2017
♣ 2016 POMS College of Healthcare Operations Management Paper Competition (first)
♣ 2015 Katta Murty Prize for the Best Research Paper on Optimization (1st)
♣ 2015, 2016 SSRN top 10 downloads in operations research, (1) Aug 20 – Oct 19, 2015; (2) Mar. 2016.
♣ 2015 INFORMS IBM Service Science Best Student Paper Award Finalist
- A11.** Missed Opportunities in Preventing Hospital Readmissions: Redesigning Post-discharge Checkup Policies
Liu X*, Hu M*, **Helm JE**, Lavieri MS, and Skolarus TA**
Production and Operations Management, 27(12): 2226-2250 (2018)
♣ 2019 Wickham Skinner Award for best paper published in POM (2nd place)

- A10.** An Outpatient Planning Optimization Model for Integrated Care and Access Management.
Deglise-Hawkinson JR, **Helm JE**, Huschka TR**, Kaufman DL, and Van Oyen MP
Production and Operations Management, 27(12): 2270-2290 (2018)
- A9.** Distribution of medication considering information, transshipment and clustering: Malaria in Malawi
Parvin H, AhmadBeygi S, **Helm JE**, Larson PS**, Van Oyen MP
Production and Operations Management, 27(4): 774-797 (2018)
♣ Finalist in POMS 2012 College of Healthcare Operations Management Paper Competition
- A8.** Coordination of Autonomous Healthcare Entities: Emergency Response to Multiple Casualty Incidents
Mills AF, **Helm JE**, Jola-Sanchez AF*, Tatikonda MV, and Courtney BA**
Production and Operations Management, 27(1): 184-205 (2018)
- A7.** Impact of Estimation: A New Method for Patient Clustering and Trajectory Estimation.
Ranjan C*, Paynabar K, **Helm JE**, and Pan JF**
Production and Operations Management 26(10): 1893-1914 (2017)
♣ POMS 2015 College of Healthcare Operations Management Paper Competition (first)
♣ 2013 INFORMS Data Mining Best Student Paper Competition (second)
- A6.** Dynamic Forecasting & Control Algorithms of Glaucoma Progression for Clinician Decision Support
Helm JE, Lavieri MS, Van Oyen MP, Stein JD**, Musch DC**
Operations Research 63(5): 979-999 (2015)
♣ First prize in the INFORMS Doing Good with Good OR Competition
♣ 2015 Ophthalmology times featured article
♣ This work led to *Provisional Patent* UM 5140
- A5.** Reducing Hospital Readmissions by Integrating Empirical Prediction with Resource Optimization
Helm JE, Alaeddini A, Stauffer JM*, Bretthauer KM, and Skolarus TA**
Production and Operations Management 25(2): 233-257 (2016).
♣ 2018 POMS 2015-2016 Most Influential Paper in Service Operations (Finalist)
- A4.** Design and Optimization Methods for Elective Hospital Admissions
Helm JE, Van Oyen MP
Operations Research 62(6): 1265-1282 (2014)
♣ First Prize in POMS 2011 College of Healthcare Operations Management Paper Competition
♣ 2011 Katta Murty Prize for the Best Research Paper on Optimization
- A3.** An IP-based Handoff-sensitive Shift Design Approach for Scheduling Critical Care Trainees.
Kazemian P*, Dong Y**, Rohleder T**, **Helm JE**, Van Oyen MP
Healthcare Management Science 17(1): 1-14 (2014).
♣ Feature article on MDLinx.com.
- A2.** Design and Analysis of Hospital Admission Control for Operational Effectiveness
Helm JE, AhmadBeygi S, Van Oyen MP
Production and Operations Management, 20(3): 359-374 (2011).
- A1.** Assisting a Public Transportation Agency w/ Planning of Bus Schedules Using Computer Simulation
Shah N, **Helm JE**, Dubey A, Xu W, Vanek F, Ghearing R**, Mengel D**
International Journal for Service Learning in Engineering 2(2): 148-163 (2007).

Medical Publications (M)

- M15** Reframing Financial Incentives Around Reducing Readmission After Radical Cystectomy.
Sessine MS, Weizer A, Kirk PS, Borza T, Jacobs BL, Qin Y, Oerline M, Li B, Modi PK, Lavieri MS,

- Gilbert SM, Montgomery, JS, Hollenbeck, BK Urish, K, **Helm, JE**, Skolarus, TA.
Urology 142: 99-105 (2020).
- M14.** Comparison of readmission and early revision rates as a quality metric in total knee arthroplasty using the Nationwide Readmission Database.
Urish, KL, Qin, Y, Salka, B, Li, BY, Borza, T, Sessine, M, Kirk, P, Hollenbeck, BK, **Helm, JE**, Lavieri, MS and Skolarus, TA
Annals of Translational Medicine, 8(11): 687 (2020).
- M13.** Dynamic readmission prediction using routine postoperative laboratory results after radical cystectomy.
Kirk PS, Liu X, Borza T, Li BY, Sessine M, Zhu K, Lesse O, Qin Y, Jacobs B, Urish K, **Helm JE**, Gilbert, S, Weizer, A, Montgomery, J, Hollenbeck, BK, Lavieri, MS Skolarus, TA *Urologic Oncology: Seminars and Original Investigations* 38(4): 255-261. (2020).
- M12.** Inaugural Readmission Penalties for Total Hip and Total Knee Arthroplasty Procedures Under the Hospital Readmissions Reduction Program
Li BY, Urish KL, Jacobs BL, He C, Borza T, Qin Y, Min HS, Dupree JM, Ellimoottil C, Hollenbeck BK, Lavieri MS, **Helm JE**, and Skolarus TA
JAMA Network Open. 2(11) (2019).
- M11.** Characterizing “Bounce-back” Readmissions After Radical Cystectomy
Kirk PS, Skolarus TA, Jacobs BL, Qin Y, Li B, Sessine M, Liu X, Zhu K, Gilbert SM, Hollenbeck BK, Urish K, **Helm JE**, Lavieri MS, Borza T
British Journal of Urology International 124(6): 955-961 (2019).
- M10.** Role of Post-Acute Care on Hospital Readmission After High-Risk Surgery
Lee AJ, Lui X, Borza T, Qin Y, Li BY, Urish KL, Kirk PS, Gilbert S, Hollenbeck BK, **Helm JE**, Lavieri MS
Journal of Surgical Research 234: 116-122 (2019)
- M9.** Predictors and Cost of Readmission in Total Knee Arthroplasty.
Urish, K.L., Qin, Y., Li, B.Y., Borza, T., Sessine, M., Kirk, P., Hollenbeck, B.K., Helm, J.E., Lavieri, M.S., Skolarus, T.A. and Jacobs, B.L.
The Journal of Arthroplasty 33(9): 2759-2763 (2018).
- M8.** No Differences in Population-based Readmissions After Open and Robotic-assisted Radical Cystectomy: Implications for Post-discharge Care Urology
Borza, T, Jacobs, BL, Montgomery, JS, Weizer, AZ, Morgan, TM, Hafez, KS, Lee, CT, Li, BY, Min, HS, He, C, Gilbert, SM, **Helm JE**, Lavieri MS, Hollenbeck BK, Skolarus TA
Urology 104: 77-83 (2017).
- M7.** Variation in readmission expenditures after high-risk surgery: A population based study using all-payer data
Jacobs BJ, He C, Li B, Helfand, AM, Krishnan N, Borza T, Ghaferi A, Hollenbeck BK, **Helm JE**, Lavieri MS, Skolarus TA
Journal of Surgical Research 213: 60-68 (2017).
- M6.** The Fate of Radical Cystectomy Patients after Hospital Discharge: Understanding the Black Box of the Pre-readmission Interval
Krishnan N, Li B, Jacobs BL, Ambani SN, Borza T, He C, Hollenbeck BK, Morgan T, Hafez KS, Weizer AZ, Montgomery JS, Lee CT, Lesse O, Lavieri MS, **Helm JE**, Skolarus TA
European Urology Focus, 4(5): 711-717 (2018).
- M5.** A Model to Optimize Follow-up Care and Reduce Hospital Readmissions After Radical Cystectomy
Krishnan N, Liu X, Hu M, **Helm JE**, Helfand A, Li B, He C, Jacobs BJ, Hollenbeck BK, Lavieri MS, Skolarus TA
The Journal of Urology 195(5):1362-1367 (2016).

♣ This article was featured in *Renal & Neurology News* and *Urology Times*

- M4.** The joint structure-function dynamics of glaucoma progression
Racette L, **Helm JE**, Dul MW, and Marin-Franch I
Expert Review of Ophthalmology 10(5): 407–409 (2015).
- M3.** Understanding hospital readmission intensity after radical cystectomy
Skolarus TA, Jacobs BL, Schroeck FR, He C, Helfand AM, **Helm JE**, Hu M, Lavieri MS, Hollenbeck BK
The Journal of Urology 193(5): 1500-1506 (2015).
- M2.** Using Filtered Forecasting Techniques to Determine Personalized Monitoring Schedules for Patients with Open-Angle Glaucoma
Schell GJ, Lavieri MS, **Helm JE**, Liu X, Musch DC, Van Oyen MP, Stein JD
Ophthalmology 121(8): 1539–1546 (2014).
- M1.** Sharpening the focus on causes and timing of readmission after radical cystectomy for bladder cancer
Hu M, Jacobs BL, Montgomery JS, He C, Ye J, Zhang Y, Brathwaite J, Morgan T, Hafez KS, Weizer AZ, Gilbert SM, Lee CT, Lavieri MS, **Helm JE**, Hollenbeck BK, Skolarus TA
Cancer 120(9):1409-1416 (2014).

Under Review (R)

* = current/former doctoral student;

** = industry or clinical collaborator

- R5.** An Integrated Approach to Improving Itinerary Completion in Coordinated Care Networks
Liu Y*, Shi P, **Helm JE**, Van Oyen MP, Ying L, Huschka TR**
MSOM R&R 1st [major].
- R4.** Healthcare Reimbursement Policy Impact on Multiple-Provider Readmission Reduction Programs
Stauffer J, **Helm JE**, Bretthauer K
Management Science (Reject with invitation to resubmit; submitting Summer '23)
- R3.** Hiding Behind Complexity: Supply Chain, Oversight, Race, and the Opioid Crisis
Attari I, **Helm JE**, Mejia JM *Productions and Operations Management Special Issue on DEI (R&R 1st [major] submitted.)*
- R2.** Dynamic capacity planning for post-discharge follow-ups
Mills AF, **Helm JE**
Production and Operations Management (Working paper finished; submitting Fa' 23)
- R1.** Time for Accountability: Are Readmission Responsibility Windows too Long?
Liu X*, Helm JE, Lavieri M, Skolarus T
Operations Research R&R 2nd [major].
♣ SSRNs Top Ten download list for: *Operations Management eJournal*; Dec 2018

Working Papers and Work in Progress (W)

- W5.** Early detection and mitigation of wasteful, high-cost care paths for pain patients.
Helm JE, Lee, H**
- W4.** Delta Coverage: The Analytics Journey to Implement a Novel Nurse Deployment Solution
Shi P, **Helm JE**, Li, T, Drewes M**
- W3.** Improving Rural Access to Healthcare
Kamalamahdi M, **Helm JE**, Parker R, Bretthauer K

- W2.** Infection Aware Nurse Staffing
Li B, **Helm JE**, Shi P, Bretthauer K
- W1.** Collaboration or Conspiracy: Supply Chains Connectivity and the Opioid Crisis
Attari I, **Helm JE**, Mejia J

Other Publications

Technical Reports (T)

- T1.** Infinite Horizon Analysis of a Hospital Admission Control Model
Helm JE, Van Oyen MP
Technical Report TR10-01, University of Michigan (2010)

Refereed Conference Publications (C)

- C2.** Characterizing an Effective Hospital Admissions Scheduling and Control Management System: A Genetic Algorithm Approach
Helm JE, Lapp M, See BD
Proceedings of the 2010 Winter Simulation Conference, pp. 2387-2398 (2010).
- C1.** The Flexible Patient Flow Simulation Framework
Helm JE, AhmadBeygi S, Van Oyen MP
IIE Annual Conference and Expo 2009, IERC Healthcare Logistics Section Conference Proceedings (2009).

Honors and Awards

Honors & Awards (H)

- H39.** 2023 INFORMS IAAA Innovative Applications in Analytics Award (semi-finalist)
- H37.** 2022 INFORMS Chicago Chapter Impactful O.R./Analytics Prize (First)
- H36.** 2021-2022 Recently Tenured Faculty Working Group; 12 applicants accepted university-wide; Indiana University
- H35.** 2021 Faculty Assistance with Data Science program; Project accepted for data-science research and mentoring program in Computer Science, Indiana University (Deep Learning in Hospital Workload Prediction)
- H34.** 2021 MSOM Responsible Research in OM Award; Best paper published in an operations management journal in the last 3 years (A16)
- H33.** 2020 Nominated for the National Academy of Engineering's Standing Committee on Personal Protective Equipment for Workplace Safety and Health
- H32.** 2020 Invited to give a POMS CHOM Miniconference Showcase Presentation (1 of 3) (A19)
- H31.** 2020 INFORMS Innovative Applications in Analytics Award; Analytics Society of INFORMS (2nd Place) (A16)
- H30.** 2019 Indiana University Trustee's Teaching Award
- H29.** 2019 Indiana University Exceptional Inspiration and Guidance Award (Finalist)
- H28.** 2018 Kelley School of Business Assistant Professor Research Award Winner; (awarded 2019)
- H27.** 2019 Invited to give a POMS CHOM Miniconference Showcase Presentation (1 of 3) (A16)
- H26.** 2019 Wickham Skinner Award for Best Paper published in POM, (2nd place) (A11)

- H25.** 2019 POMS College of Healthcare Operations Management Best Paper Competition (2nd place) (A16)
- H24.** 2018 Pierskalla Award for excellence in the field of health care management science (First) (A16)
- H23.** 2018 POMS 2015-2016 Most Influential Paper in Service Operations (Finalist) (A5)
- H22.** 2018 POMS College of Healthcare Operations Management Best Paper Competition (1st place) (A19)
- H21.** 2016 POMS College of Healthcare Operations Management Best Paper Competition (1st place) (A12)
- H20.** 2015 Indiana University Trustee's Teaching Award (Finalist)
- H19.** 2015 INFORMS IBM Service Science Best Student Paper Award Finalist (A12)
- H18.** 2015 Katta Murty Prize for the Best Research Paper on Optimization (1st place) (A12)
- H17.** 2015 POMS College of Healthcare Operations Management Best Paper Competition (1st place) (A7)
- H16.** 2015 Invited to give a POMS CHOM Miniconference Showcase Presentation (1 of 3) (A8)
- H15.** 2014 INFORMS Public Sector OR Best Paper Competition (2nd place) (A14)
- H14.** 2014 invited to give a POMS CHOM Miniconference Showcase Presentation (1 of 3) (A4)
- H13.** 2013 INFORMS Data Mining Best Student Paper Competition (2nd place) (A7)
- H12.** 2013 POMS Emerging Scholars Program
- H11.** 2012 INFORMS Doing Good with Good OR Competition (1st place) (A6),
- H10.** 2012 Harvard Business Plan Competition, Social Venture Track, 1st place, \$50,000
- H9.** 2012 INFORMS George B. Dantzig Dissertation Award (Semi-Finalist)
- H8.** 2012 Richard and Eleanor Towner Prize for Distinguished Academic Achievement
 ♣ University of Michigan wide outstanding graduate student prize awarded annually to at most 1 graduate student per department based on excellence in leadership, academic performance, and research.
- H7.** 2012 POMS College of Healthcare Operations Management Best Paper Competition (Finalist) (A9)
- H6.** 2012 Selected for INFORMS Phoenix Teaching Effectiveness Colloquium
- H5.** 2011 POMS College of Healthcare Operations Management Best Paper Competition (1st place) (A4)
- H4.** 2011 Katta Murty Prize for the Best Research Paper on Optimization (1st place) (A4)
- H3.** 2004 Andrew Schultz, Jr. Award for top GPA in graduate Masters class (~90 students)- Cornell University
- H2.** 2004 Silent Hoist and Crane Award for top Master's Thesis Project – Cornell University, (3rd place)
- H1.** 2003 Graduated Cum Laude in Mathematics – Cornell University

Media Citations (C)

- C12. 2020 News at IU Business and Innovation
- C11. 2020 Chattanooga Times Free Press: Should Chattanooga reclose?
- C10. 2020 Indiana Daily Student News Article
- C9. 2020 Purdue Newsroom Article
- C8. 2020 Purdue Exponent News Article
- C7. 2018 ASU Now Feature Article on Healthcare Coalition Funding (A8)
- C6. 2017 Urology Times Featured Research on Readmission Reduction Application for Doctors (M5)
- C5. 2016 Renal & Neurology News Featured Research on Readmissions after Radical Cystectomy (M5)
- C4. 2016 Chicago Booth Capital Ideas magazine featured article on Reducing Readmission research (A5)
- C3. 2015 Ophthalmology times featured article about glaucoma paper (A6)
- C2. 2014 Indiana University Kelley School of Business On Analytics Magazine (Spring) featured article on Optimizing Efficiency through Patient Scheduling (A4)
- C1. 2013 MDLinx feature article on IP-Based Shift Design research (A3)

Fellowships and Scholarships (Major)

Univ. of Michigan Rackham Graduate School Predoctoral Fellowship, Sept. 2011 – June 2012

♣ 72 Fellowships awarded throughout the University of Michigan

National Science Foundation Graduate Research Fellowship (NSF GRFP); Sept. 2008 – Sept. 2011

IOE Bonder Fellowship Award in Applied Operations Research – 2008

Departmental Fellowship – University of Michigan, Industrial and Operations Engineering Department
– Sept. 2007 - May 2008

Research Grants (G)

- G1. 2022 **Purdue Shah Family Global Innovation Lab Seed Grant** External Collaborator: “Combatting Youth Substance Abuse in the Democratic Republic of Congo”; May 2022 - May 2023. \$38,000

Invited Academic Seminars (I)

- I28. Delta Coverage: The Analytics Journey to Implement a Novel Nurse Deployment Solution
Helm JE and Shi P – April 2023
Loyola University Chicago Parkinson School of Health Sciences and Public Health, *Health Informatics Seminar Series*
- I27. Delta Coverage: The Analytics Journey to Implement a Novel Nurse Deployment Solution
Helm JE – April 2023
University of Toronto Mechanical and Industrial Engineering
- I26. Delta Coverage: The Analytics Journey to Implement a Novel Nurse Deployment Solution
Helm JE – March 2023
University of Cincinnati Lindner College of Business

- I25. Delta Coverage: The Analytics Journey to Implement a Novel Nurse Deployment Solution
Helm JE – December 2022
University Wisconsin Industrial and Systems Engineering
- I24. Delta Coverage: The Analytics Journey to Implement a Novel Nurse Deployment Solution
Helm JE
University of Michigan, Dearborn College of Business – March 2022
- I23. Operations Management Warp Speed: Parsimonious Design for Rapid Deployment of Hospital Prediction and Decision Support Framework during a Pandemic – Nov 2021
Helm JE
Texas A&M Mays School of Business
- I22. Mixing it Up: Operational Impact of Hospitalist Workload
Helm JE
Cornell University, Johnson School of Business, Ithaca, NY – April 2021
- I21. Timing it Right: Balancing Inpatient Congestion versus Readmission Risk at Discharge
Helm JE
Michigan State University, Eli Broad College of Business, East Lansing, MI – January. 2020
- I20. Timing it Right: Analytical, data-driven methods to combat hospital inpatient readmissions
Helm JE
Rose-Hulman University, Terre Haute, IN – December. 2019
- I19. Timing it Right: Balancing Inpatient Congestion versus Readmission Risk at Discharge
Helm JE
University of Texas, Austin, Austin, Texas – September. 2019
- I18. Timing it Right: Balancing Inpatient Congestion versus Readmission Risk at Discharge
Helm JE
University of Alberta, Edmonton, AL, CA – December. 2018
- I17. Stalled progress and the role of operations in the next phase of readmission reduction
Helm JE
North Carolina State University, Raleigh, NC – April. 2018
- I16. A New Operational Framework for Reducing Hospital Readmissions
Helm JE
Ohio State University, Columbus, OH – Feb. 2018
- I15. A New Operational Framework for Reducing Hospital Readmissions
Helm JE
University of Minnesota, Minneapolis, MN – Sep. 2017
- I14. The Growing Role of Business, Technology, and Analytics in Healthcare
Helm JE
Indiana University Medical School, Bloomington, IN – Mar. 2016
- I13. What Happens Outside the Hospital Should Stay Outside the Hospital: Missed Opportunities in Preventing Readmissions
Helm JE
University of Wisconsin School of Business Dept. Seminar, Madison, WI – Feb. 2016
- I12. Careers with a Ph.D. in Operations Research
Helm JE
University of Michigan Industrial and Operations Engineering, Ann Arbor, MI – Feb. 2016

- I11.** Healthcare Response to Disasters: Showcase Presentation (1 of 3)
Helm JE, Mills AF, Jola-Sanchez AF, Tatikonda MV
Production and Operations Management Society Healthcare Miniconference, Washington, D.C. – May 2015.
- I10.** What Happens Outside the Hospital Should Stay Outside the Hospital: Missed Opportunities in Preventing Readmissions
Helm JE
Purdue University, Krannert School of Business Dept. Seminar, West Lafayette, IN – Dec. 2014
- I9.** Coordinating Care Services in Complex Health Care Networks
Helm JE
University of Texas at San Antonio, Mechanical Engineering Departmental Seminar, San Antonio, TX – Nov. 2014
- I8.** Theory and Implementation Insights for Hospital Admission Scheduling and Control: Showcase Presentation (1 of 3)
Helm JE, Pan JF, Krautman M, and Van Oyen MP
Production and Operations Management Society Healthcare Miniconference, Atlanta, GA – May 2014.
- I7.** Operations Research for Better Healthcare Delivery
Helm JE
Indiana University Department of Statistics Seminar Series, Bloomington, IN - Oct 2012
- I6.** Coordinating Care Services in Complex Health Care Networks
Helm JE and Van Oyen MP
University of Cincinnati Linder College of Business Operations and Business Analytics Seminar Series, Cincinnati, OH – Oct 2011
- I5.** Coordinating Care Services for Stabilizing Workloads in Complex Health Care Networks
Helm JE and Van Oyen MP
Eastern Michigan University APICS Seminar Series, Ypsilanti, MI – Oct 2011
- I4.** Design and Optimization Methods for Elective Hospital Admissions
Helm JE and Van Oyen MP
Mayo Clinic Systems Engineering and Operations Research (SEOR) Departmental Seminar, Rochester, MN – June 2011
- I3.** Design and Optimization Methods for the Hospital Admission Scheduling and Control Problem
Helm JE and Van Oyen MP
University of Toronto Mechanical and Industrial Engineering Departmental Seminar, Toronto, ON – April 2011
- I2.** Hospital Occupancy Modeling Advances
Van Oyen MP and Helm JE,
Hamilton Health Sciences, McMaster University Medical Centre, Hamilton, ON – April 2011
- I1.** Dynamic Patient Flow Management in Hospitals
Helm JE and Van Oyen MP
Vrije Universiteit Mathematics Departmental Seminar, Amsterdam, Netherlands – July 2010

Invited Industry Seminars (N)

- N10.** Mixing It Up: Operational Impact Of Hospitalist Workload
Kamalahmadi, M, Helm JE, Mills AF, Bretthauer KM
KEYNOTE: Hospitalist Continuing Medical Education Conference (CME), Indianapolis – Nov. 2021

- N9. Delta Coverage Pilot Project: A Road Map for Implementation of Machine Learning at IU Health
Helm JE, Shi, P (Purdue), and Tinsley, T (IU Health)

IU Health Attendees included: Executive Associate Chief Nursing Officer, Chief Information Officer for Nursing, Director of Workforce Strategy & Operational Excellence, Director of Decision Support, Director of Resource Nurse Staffing.

Student presentations from IU and Purdue.

IU Health: Report to Executive Leadership – Sep. 2021

- N8. CBOC Expansion Effect on Veteran Reliance and Enrollment
Kamalahmadi, M, Helm JE, Bretthauer KM, Parker R
• VA Health *Executive Leadership* from Indiana, Michigan, and Ohio
KEYNOTE: Veteran’s Administration (VA) VISN 10 Healthcare Strategy & Market Development Committee – Aug. 2021

- N7. A New Era of Care Delivery: Deep-learning enhanced Hospital Workload Prediction and Resource Allocation for COVID19 and Beyond
Helm JE (Workshop Organizer & Lead); joint with Tinsley, T (IU Health) and Shi, P (Purdue)

~30 participants

IU Health Attendees included: Executive Associate Chief Nursing Officer, Chief Information Officer for Nursing, Director of Workforce Strategy & Operational Excellence, Director of Decision Support, Director of Resource Nurse Staffing.

Student attendees from IU and Purdue.

IU Health 2-day Delta Coverage Workshop, Indianapolis – June 2021

- N6. From Incident to Inpatient: How Healthcare Coalitions can Improve Community Response
Mills AF, Helm JE, Jola-Sanchez AF, and Tatikonda MV
MESH Healthcare Coalition (CEO and executive team), Indianapolis – Nov. 2015

- N5. Improving Surge Capacity Through Information Sharing
Mills AF, Helm JE, Jola-Sanchez AF, and Tatikonda MV
National Healthcare Coalition Resource Center Webinar – Mar. 2015

- N4. Hospital Bed Management and Optimization Systems
Helm JE
National University Hospital of Singapore (NUH), Singapore – Oct. 2012

- N3. Coordinating Care Services in Health Care Networks
Helm JE
University of Michigan Health System Seminar Series, Ann Arbor, MI – Apr 2012

- N2. Outpatient Access Redesign – Integrated Outpatient Planning Support Tool
Helm JE, Rohleder TR, and Van Oyen MP
Mayo Clinic Office of Access Management, Rochester, MN – Aug 2011
♣ Decision was made to pilot the research in Mayo Clinic’s (1) breast diagnostic clinic and (2) General Internal Medicine

- N1. Design and Optimization Methods for Elective Hospital Admissions
Pan JF, Helm JE, and Van Oyen MP
Executive Board (CEO, COO, Director of Bed Management)
National University Hospital, National University Health System, Singapore – June 2011

Conferences Sessions Organized and Chaired (SC)

- SC24.** POMS Annual Conf., Orlando, FL (2023). "Panel: Academia-Industry Collaborations in Research" [Invited Speakers: Stephanie Gravenor (Co-founder, CEO Medecipher Solutions), Natalia Summerville (Director, Memorial Sloan Kettering Cancer Center), Tinglong Dai (Prof Johns Hopkins), Anita Carson (Prof Boston University) , Alex Mills, Yunan Liu, Frank Chen]
- SC23.** INFORMS Annual Conf., Virtual (2020). "Data-driven modeling and decision making in emergency care and hospitals" [Invited Speakers: Dmitry Anokhin, Alex Mills, Yunan Liu, Frank Chen]
- SC22.** INFORMS Annual Conf., Virtual (2020). "Data-driven modeling and decision making in emergency care and hospitals" [Invited Speakers: Dmitry Anokhin, Alex Mills, Yunan Liu, Frank Chen]
- SC21.** POMS Annual Conf., Washington D.C. (2019). "Patients and Process: Changing Healthcare through Analytics" [Invited Speakers: Alex Mills, David Kaufmann, Yunan Liu, Joonyup Eun]. *Session Chair.*
- SC20.** INFORMS Annual Conf., Houston, TX (2017). "Doing Good with Good OR," [Invited Speakers: Madeleine Udell, Karthik Balasubramanian, Can Zhang]. *Session Co-Chair* with Turgay Ayer.
- SC19.** INFORMS Annual Conf., Houston, TX (2017). "Managing Capacity and Demand to Improve Efficiency in Healthcare Delivery," [Invited Speakers: Ozden Cakici, Esmaeil Keyvanshokoo, Ali Dogru, Amirhossein Meisami]. *Session Chair.*
- SC18.** INFORMS Annual Conf., Nashville, TN (2016). "Patients and Practice: Using the Right Resources to Deliver Care," [Invited Speakers: Yunchao Xu, Liu X, Eric Webb]. *Session Chair.*
- SC17.** POMS Annual Conf., Orlando, FL (2016). "Matching Patients to the Right Resources," [Invited Speakers: Ozden Cakici, Kaufman DL, Elliot Lee, Eric Webb]. *Session Chair.*
- SC16.** INFORMS Annual Conf., Philadelphia, PA (2015). "Patients and Practice: Using the Right Resources to Deliver Care," [Invited Speakers: Yunchao Xu, Liu X, Eric Webb]. *Session Chair.*
- SC15.** POMS Annual Conference, Washington D.C. (2015). "Improving Patient Surveillance," [Invited Speakers: F. Erenay, Kazemian P, Eric Park, Manaf Zargoush]. *Session Chair.*
- SC14.** INFORMS Annual Conf., San Francisco, CA (2014). "Tackling Readmissions: From Policy to Practice," [Invited Speakers: Hu M, Song-Hee Kim, Dennis Zhang]. *Session Chair.*
- SC13.** POMS Annual Conference, Atlanta, GA (2014). "Patient Flow: Hospitals and Beyond," [Invited Speakers: Deglise-Hawkinson JR, Pengyi Shi, Shanshan Qiu, Aaron Ratcliffe]. *Session Chair.*
- SC12.** POMS Annual Conference, Atlanta, GA (2014). "Decision Making in Healthcare," [Invited Speakers: Joel Goh, Alireza Sabouri, Song-Hee Kim]. *Co-Session Chair with Vishal Ahuja.*
- SC11.** INFORMS Annual Conf., Minneapolis, MN (2013). "Patient Flow: Hospitals and Beyond," [Invited Speakers: Deglise-Hawkinson JR, Pengyi Shi, Shanshan Qiu, Aaron Ratcliffe]. *Session Chair.*
- SC10.** INFORMS Healthcare Conference, Chicago, IL (2013). "Impact of Patient Flow Management on Patient Service," [Invited Speakers: Jan Schoenfelder, Asli Ozen, Wang Y]. *Session Chair.*
- SC9.** POMS Annual Conference, Denver, CO (2013). "Modeling and Optimization of Healthcare Delivery Systems," [Invited Speakers: Mills AF, Jacqueline Griffin, Otis Jennings]. *Session Chair.*
- SC8.** POMS Annual Conference, Denver, CO (2013). "Hospital Admissions and Readmissions," [Invited Speakers: Christiane Barz, Alaeddini A, Sriram Venkataraman, Jillian Berry Jaeker]. *Session Chair.*
- SC7.** INFORMS Annual Conf., Phoenix, AZ (2012). "Healthcare Operations and Patient Flow Management," [Invited Speakers: Martin Puterman, Retsef Levi, Deglise-Hawkinson JR]. *Session Chair.*
- SC6.** ORAHS Annual Conference, Enschede, Netherlands (2012). "Patient Flow," [Invited Speakers: Nelly Litvak, Izabela Komenda, Kiok Liang Teow]. *Session Chair.*

- SC5.** POMS Annual Conf., Chicago (2012). "Healthcare Operations Management," [Invited Speakers: Debasree DasGupta, Louis Luangkesorn, Sriram Thirumalai, Deglise-Hawkinson JR]. *Session Chair*.
- SC4.** INFORMS Conf., Charlotte (2011). "Disease Monitoring and Medical Decision Making," (co-chaired with Lavieri MS), [Invited Speakers: Larry Wein, Steven Shechter, Nan Kong]. *Session Co-Chair*.
- SC3.** INFORMS Midwest Regional Conference (2011). "Managing Resources in Healthcare Delivery Systems," (co-chaired with Van Oyen MP and Parvin H), [Invited Speakers: Mark Lawley, Mike Magazine, Deglise-Hawkinson JR]. *Session Co-Chair*.
- SC2.** University of Michigan Engineering Graduate Symposium (2009). "Industrial and Financial Engineering Oral Presentation Session," [Judges: Edwin Romeijn and AhmadBeygi S. Speakers: Brian Rumao, Parvin H, Juan Carlos Espinoza, Dan Nathan-Roberts, Thomas Ferris, Swapnaa Jayaraman, Oben Ceryan, Helen Fuller]. *Session Chair*.
- SC1.** University of Michigan Engineering Graduate Symposium (2009). "Industrial and Financial Engineering Poster Presentation Session," [Judges: Bernard Martin and AhmadBeygi S]. *Session Chair*.

Conference Presentations (P)

- P45.** Expanding Healthcare Services in Underserved Rural Areas
Kamalahmadi, M, Helm JE, Bretthauer KM, Parker R
(1) *INFORMS, Indianapolis, IN, Oct 2022*
- P44.** Caring for Those Who Care: Analytics for Community Health
Helm JE
(1) *INFORMS, Indianapolis, IN, Oct 2022*
- P43.** Supply Chain Responsibility for the Opioid Crisis
Attari I, Helm JE, Mejia JM
(1) *INFORMS, Indianapolis, IN, Oct 2022*
- P42.** Delta Coverage: The Analytics Journey to Implement a Novel Nurse Deployment Solution
Helm JE, Shi P, Li T
(2) *INFORMS, Indianapolis, IN, Oct 2022, (1) MSOM, Munich, Germany, June 2022*
- P41.** A New Era of Care Delivery: Machine-learning Enhanced Hospital Workload Prediction and Resource Allocation
Li T, Shi P, Helm JE
(2) *INFORMS, Indianapolis, IN, Oct 2022; (1) POMS, Virtual, May 2022*
- P39** Prioritizing Substance Abuse Treatment In Community Corrections Centers.
Attari, I, Shi P, Helm J, Adams N
(2) *Winter Simulation Conference, Virtual, Dec. 2021; (1) INFORMS, Anaheim, CA, Oct 2021*
- P38.** Operations Management Warp Speed: Parsimonious Design for Rapid Deployment of Hospital Prediction and Decision Support Framework during a Pandemic
Shi P, Helm JE, Chen C, Lim J, Parker, R
(3) *INFORMS, Anaheim, CA, Oct 2021; (2) POMS, Virtual, May 2021; (1) INFORMS Healthcare, Virtual, Jul. 2021*
- P37.** Panelist for INFORMS New Faculty Colloquium on "Time Management and Work-life Balance"
(1) *INFORMS, Virtual, Nov. 2020*
- P36.** Equity And Efficiency In Hospital Physicians' Work Structure
Kamalahmadi M, Bretthauer KM, Helm JE, Mills A
(3) *POMS, Virtual, May 2022; (2) INFORMS, Anaheim, CA, Oct 2021; (1) INFORMS, Virtual, Nov. 2020;*

- P35.** Practice Oriented Session: Putting Theory to Work: Insights from Recent Implementation Efforts
Helm JE
(1) *INFORMS Healthcare, Boston, MA, Jul. 2019*
- P34.** A New Value Proposition For Reducing Readmissions: Dynamic Staffing For Post-discharge Follow-ups
Helm JE, Mills AF, Pan J
(4) *INFORMS, Anaheim, CA, Oct 2021; POMS, Virtual, 2021; (2) POMS, Washington D.C., 2019, (1) INFORMS, Phoenix, AZ 2018*
- P33.** Timing it Right: Balancing In-Patient Congestion versus Readmission Risk at Discharge
Shi P, Helm JE, Deglise-Hawkinson JR**
(7) *INFORMS, Virtual, Nov. 2020; (6) POMS, Washington D.C., 2019; (5) INFORMS, Phoenix, AZ 2018 (4) MSOM, Dallas, TX 2018 (3) INFORMS, Phoenix, AZ, 2018, (2) MSOM, Dallas, TX, July, 2018; (1) INFORMS, Houston, TX, Oct. 2017*
- P32.** An Operational Framework for the Adoption and Integration of New Diagnostic Tests into Emergency Department Workflow
Shi P, Helm JE, Heese S, Mitchell AM
(5) *POMS, Virtual, May 2021; (4) INFORMS, Virtual, Nov. 2020; (3) POMS, Washington D.C., 2019; (2) INFORMS, Phoenix, AZ 2018 (1) INFORMS, Houston, TX, Oct. 2017*
- P31.** Time For Accountability: Are Readmission Responsibility Windows Too Long?
Liu X, Helm JE, Lavieri MS, and Skolarus TA
(5) *INFORMS, Anaheim, CA, 2021; (4) INFORMS, Phoenix, AZ 2018 (3) INFORMS, Houston, TX, Oct. 2017 (2) INFORMS Healthcare, Rotterdam, NL, Jul. 2017 (1) INFORMS, Nashville, TN, Nov. 2016*
- P30. ♣** Mixing It Up: Operational Impact Of Hospitalist Workload
(1) Finalist POMS CHOM Best Paper Competition (2015)
Kamalahmadi M, Mills AF, Helm JE, Bretthauer KM
(5) *INFORMS Healthcare, Boston, MA, Jul. 2019; (4) INFORMS, Phoenix, AZ 2018 (3) POMS, Houston, TX, May 2018; (2) INFORMS, Houston, TX, Oct. 2017; (1) INFORMS, Nashville, TN, Nov. 2016;*
- P29.** From Incident To Inpatient: How Healthcare Coalitions Can Improve Community Response [also: Information Sharing in Urban Incident Response]
Mills AF, Helm JE, Jola-Sanchez AF, Tatikonda MV, Bobby Courtney
(4) *INFORMS, Nashville, TN, Nov. 2016; (3) INFORMS, Philadelphia, PA, Nov. 2015; (2) INFORMS Healthcare, Nashville, TN, Jul 2015; (1) POMS, Washington D.C., May 2015*
- P28.** Surge capacity deployment in hospitals: effectiveness of response and mitigation strategies
Mills AF, Helm JE, and Wang Y
(6) *POMS, Washinton D.C., 2019; (5), INFORMS, Philadelphia, PA, Nov. 2015; (4) INFORMS Healthcare, Nashville, TN, Jul 2015; (3) DSI, Tampa, FL, Nov. 2014; (2) INFORMS, San Francisco, CA, Nov. 2014; (1) POMS, Atlanta, GA , May. 2014*
- P27.** Missed Opportunities in Preventing Readmissions: Redesigning Post-discharge Checkup Policies
Liu X, Hu M, Helm JE, Lavieri MS, and Skolarus TA
(4) *INFORMS, Phoenix, AZ 2018; (3) INFORMS, Philadelphia, PA, Nov. 2015; (2) INFORMS Healthcare, Nashville, TN, Jul 2015; (1) INFORMS, San Francisco, CA, Nov. 2014;*
- P26.** Reducing Readmissions through Scheduling and Staffing a Follow-up Organization
Helm JE, Xiaoyang Yu, and Shanshan Hu
(6) *POMS, Houston, TX, May 2018; (5) POMS International, Havana, Cuba, Sep. 2016; (4) INFORMS, Philadelphia, PA, Nov. 2015; (3) INFORMS Healthcare, Nashville, TN, Jul 2015; (2) INFORMS, San Francisco, CA, Nov. 2014; (1) POMS, Atlanta, GA, May 2014*

- P25.** OptiCare: An Outpatient Capacity Planning Tool for Integrated Care Access
 Deglise-Hawkinson JR, Helm JE, Huschka TR, Kaufman DL, Tom Rohleder, and Van Oyen MP
 (6) *INFORMS, Philadelphia, PA, Nov. 2015*; (5) *INFORMS Healthcare, Nashville, TN, Jul 2015*; (4) *POMS, Washington D.C., May 2015*; (3) *INFORMS, San Francisco, CA, Nov. 2014*; (2) *POMS, Atlanta, GA, May 2014*; (1) *INFORMS, Minneapolis, MN, Oct. 2013*
- P24.** ♣ Dynamic Personalized Monitoring and Treatment Control of Chronic Diseases
(1) First Prize POMS CHOM Best Paper Competition (2015)
 Kazemian P, Helm JE, Lavieri MS, Van Oyen MP, and Stein JD
 (8) *POMS, Orland, FL, May 2016*; (7) *INFORMS, Philadelphia, PA, Nov. 2015*; (6) *INFORMS Healthcare, Nashville, TN, Jul 2015*; (5) *POMS, Washington D.C., May 2015*; (4) *INFORMS, San Francisco, CA, Nov. 2014*; (3) *POMS, Atlanta, GA, May 2014*; (2) *INFORMS, Minneapolis, MN, Oct. 2013*; (1) *INFORMS Healthcare, Chicago, IL, 2013*
- P23.** Healthcare Reimbursement Policy Impact on Multiple-Provider Readmission Reduction Programs
 Stauffer JM, Helm JE, Bretthauer KM
POMS, Virtual, May 2021; (6) *INFORMS, Anaheim, CA, Oct 2021* (5) *INFORMS Healthcare, Boston, MA, Jul. 2019*; (4) *INFORMS, Phoenix, AZ 2018*; (3) *POMS, Houston, TX, May 2018*; (2) *INFORMS, Nashville, TN, Nov. 2016*; (1) *INFORMS Healthcare, Nashville, TN, Jul. 2015*;
- P22.** ♣ Reducing Hospital Readmissions by Integrating Empirical Prediction with Resource Optimization
 Helm JE, Alaeddini A, Stauffer JM, Bretthauer KM, and Skolarus TA
(1) Finalist POMS 2015-2016 Most Influential Publication in Service Operations
 (6) *POMS, Houston, 2016*; (5) *INFORMS, Philadelphia, PA, 2015*; (4) *INFORMS, San Francisco, CA, Nov. 2014*; (3) *POMS, Atlanta, GA, May 2014*; (2) *INFORMS Healthcare, Chicago, IL, 2013*; (1) *POMS, Denver, CO, Jun. 2013*
- P21.** A Comprehensive Probabilistic Framework for Prediction of Patients' Readmission to Medical Centers
 Adel Alaeddini, Stauffer JM, Helm JE, Bretthauer KM, and Skolarus TA
 (2) *INFORMS, San Francisco, CA, Nov. 2014*; (1) *INFORMS Healthcare, Chicago, IL, 2013*
- P20.** ICU and PCU Admission Control Incorporating Patient Mortality Risk
 Jeffrey Kritzman, Deglise-Hawkinson JR, Helm JE, Mark Cowen, and Van Oyen MP
 (2) *POMS, Atlanta, GA, May 2014*; (1) *INFORMS Healthcare, Chicago, IL, 2013*
- P19.** Comparison of Control Algorithms for Scheduling Testing Visits
 Gregg Schell, Helm JE, Lavieri MS, Van Oyen MP, Stein JD, Musch DC
 (1) *Society for Medical Decision Making, Baltimore, MD, Oct. 2013*
- P18.** ♣ Flow Modeling and Prediction of Heterogeneous Patients Using Semi-Markov Mixture Clustering
(1) First Prize POMS CHOM Best Paper Competition (2015)
(2) INFORMS Data Mining Best Student Paper Competition (2013, Finalist)
 Ranjan C, Paynabar K, Helm JE,
 (3) *INFORMS Healthcare, Nashville, TN, Jul 2015*; (2) *POMS, Washington D.C., May 2015*; (1) *INFORMS, Minneapolis, MN, Oct 2013*
- P17.** Efficient Transition to Post-Acute Care [also: Coordinating Transitions from Hospital to Skilled Nursing Facilities]
 Helm JE and Mills AF
 (7) *POMS, Virtual, May 2021* (6) *INFORMS, Virtual, Nov. 2020*; (5) *INFORMS Healthcare, Boston, MA, Jul. 2019*; (4) *INFORMS, Houston, TX, Oct. 2017*; (3) *INFORMS, Nashville, TN, Nov. 2016*; (2) *INFORMS, Minneapolis, MN, Oct. 2013*; (1) *INFORMS Healthcare, Chicago, IL, 2013*
- P16.** Sharpening the focus on readmissions after radical cystectomy for bladder cancer
 Hu M, Jacobs BL, Montgomery JS, He C, Ye J, Brathwaite J, Morgan T, Hafez KS, Weizer AZ, Gilbert SM, Lee CT, Lavieri MS, Helm JE, Hollenbeck BK, Skolarus TA
 (1) *North Central Section of the American Urological Association, Naples, FL, Oct. 2013*

- P15.** An IP-based Handoff-sensitive Shift Design Method for Scheduling Critical Care Trainees
Kazemian P, Dong Y, Thomas Rohleder, Helm JE, Van Oyen MP
(1) *POMS, Denver, CO, Jun. 2013*
- P14.** ♣ Dynamic Monitoring of Chronic Diseases.
(1) First Prize INFORMS Doing Good with Good OR Competition
Helm JE, Gregg Schell, Lavieri MS, Van Oyen MP, Stein JD, Musch DC
(1) *INFORMS, Phoenix, AZ, Oct 2012*
- P13.** Dynamic Forecasting and Control Algorithms of Glaucoma Progression for Clinician Decision Support
Helm JE, Lavieri MS, Van Oyen MP, Stein JD, Musch DC
(5) *INFORMS, Phoenix, AZ, Oct 2012*; (4) *POMS, Chicago, IL, Apr 2012*; (3) *INFORMS, Charlotte, NC, Nov 2011*; (2) *INFORMS Healthcare, Montreal, CA, Jun 2011*; (1) *INFORMS, Austin, TX, Nov 2010*
- P12.** Improving Itinerary Completion at a Destination Healthcare Institution [Also: Fast-tracking Priority Customers through Queueing Networks with Application to Destination Hospital]
Shi P, Liu Y, Helm JE, Ying L, Van Oyen MP, Huschka T
(4) *POMS, Virtual, May 2021*; (4) *INFORMS, Virtual, Nov. 2020*; (3) *POMS, Washington D.C., 2019*; (2) *INFORMS, Houston, TX, Oct 2017*; (1) *INFORMS, Phoenix, AZ, Oct 2012*
- P11.** Discharge Planning to Mitigate Hospital Congestion and Bed Block [also: Timing of Discharges Matters]
Helm JE, Rene Bekker, Van Oyen MP
(4) *INFORMS, Nashville, TN, Nov. 2016*; (3) *ORAHs, Enschede, Netherlands, July 2012*; (2) *INFORMS, Phoenix, AZ, Oct 2012*; (1) *INFORMS Healthcare, Montreal, CA, Jun 2011*
- P10.** National Science Foundation CMMI Engineering Research and Innovation Conference
Boston, MA, July 2012
- P9.** ♣ Combating Malaria in Malawi: A Dynamic Approach to Pharmaceutical Distribution
(1) POMS CHOM Best Paper Competition (Finalist) 2012
Parvin H, AhmadBeygi S, Helm JE, Van Oyen MP, and Larson PS
(3) *INFORMS, Nashville, TN, Nov. 2016*; (2) *POMS, Chicago, IL, April 2012*; (1) *INFORMS Midwest, Columbus, OH, Aug 2011*
- P8.** ♣ Design and Optimization Methods for Elective Hospital Admissions.
(1) First Prize CHOM Best Paper Competition, 2011
(7) *INFORMS, Charlotte, NC, Nov 2011*; (6) *MSOM, Ann Arbor, MI, June 2011*; (5) *INFORMS Healthcare, Montreal, CA, Jun 2011*; (4) *POMS, Reno, NV, Apr 2011*; (3) *INFORMS, Austin, TX, Nov 2010*; (2) *ORAHs, Genova, Italy, Jul 2010*; (1) *POMS, Vancouver, BC, May 2010*
- P7.** Flow Modeling and Workload Smoothing for Outpatient Clinic Services (Poster Presentation)
Helm JE, Rohleder TR, and Van Oyen MP
(1) *Mayo Clinic Conf. on Systems Eng. and Operations Research in Health Care, Rochester, MN, Aug 2011*
- P6.** Characterizing an Effective Hospital Admissions Scheduling and Control Management System: A Genetic Algorithm Approach
Helm JE, Lapp M, See BD
(1) *2010 Winter Simulation, Baltimore, MD, Dec 2010*
- P5.** Stabilizing Hospital Workloads through Patient Flow Management (Poster Presentation)
Helm JE, Van Oyen MP
(1) *SHS/ASQ, Atlanta, GA, Feb. 2010*
- P4.** Design and Analysis of Hospital Admission Control for Operational Effectiveness
Helm JE, AhmadBeygi S, Van Oyen MP
(3) *INFORMS, San Diego, CA, Oct 2009*; (2) *Mayo Clinic Conf. on Sys. Eng. & OR in Healthcare, Rochester, MN, Aug. 2009*; (1) *ORAHs, Leuven, Belgium, July 2009*

- P3. Improved Cost and Quality of Care through Patient Flow Management and Hospital Admission Control**
Helm JE, AhmadBeygi S, Arthur Adisusanto, Van Oyen MP
(1) *INFORMS, San Diego, CA, Oct 2009*
- P2. Graduate Student Tips on Research Ethics**
Helm JE, Lapp M
Responsible Conduct in Research Seminar and Workshop
(1) *Summer Undergraduate Research in Eng. (SURE) Seminar, Ann Arbor, MI, Jun 2009*
- P1. The Flexible Patient Flow Simulation Framework**
Helm JE, AhmadBeygi S, Van Oyen MP
(3) *IIE Annual Conf., Miami, FL, May 2009*, (2) [Poster] *U. of Michigan Eng. Graduate Symposium, Ann Arbor, MI, Nov. 2008*, (1) [Poster] *Improving Healthcare Delivery (U. of Cincinnati Conf.), Cincinnati, OH, Sept. 2008*

Teaching

Primary Instructor

- K635 Special Topics in Decision Sciences: Probability and Stochastics [Proposed and Designed]** (IU, Fa '21, '22, '23)
Two week short course (bootcamp) to provide methodological background on Probability and Markov Chain theory to incoming Kelley School of Business doctoral students open to all departments.
- E732: Supply Chain Analytics** (IU, Fa '20, Fa '21)
Formerly *Supply Chain Planning, Distribution, and Inventory*. Online MBA course covering topics in supply chain strategy, network design, forecasting, deterministic and stochastic inventory models, optimal product availability, and pricing and revenue management.
- K604: Stochastic Processes** (IU, Sp '19, Sp '21)
Doctoral course in stochastic processes, covering topics including conditional probability and expectation, exponential distribution and Poisson processes, DTMC and CTMC, including Chapman-Kolmogorov, state classification, limiting probabilities, time reversibility, and uniformization. Some queueing topics are introduced.
- P481: Supply Chain Planning and Analytics** (IU, Sp '19, Fa '19, Fa '20, Fa '21, Fa '22)
Undergraduate course for supply chain majors covering topics in forecasting, aggregate planning, sales and operations planning, deterministic and stochastic inventory models, optimal product availability, and pricing and revenue management.
- SCM502: Operations and Supply Management** (ASU, Fa '17)
MBA Core course with topics in process design, inventory management, capacity and flow time analysis, queueing, and lean manufacturing.
- P635 Managing Patient Flow Systems:** (IU, Sp '13, Sp '15, Sp '17)
Ph.D. seminar in the department of Operations and Decision Technologies. Students develop a theoretical framework in which to investigate patient flow problems and apply the theory in and outside of class to solve high impact healthcare problems.
- P429 Operations Processes:** (IU, Sp '13, Sp '14, Sp '15, Fa '15, Sp '17)
Undergraduate major course that focuses on the study of the processes by which products are created and delivered to customers. The course emphasizes the process flow method using three measures of process achievement: throughput, flowtime, and inventory. Computational analysis using computer simulation (Promodel) is emphasized.

Executive Education.

Discovering Process Excellence: Single Corporation (ASU, SP '18)

3-day lean and value stream mapping workshop. Day 1: basics of lean, managing process variability, theory of constraints. Day 2: application of value stream mapping in house building manufacturing simulation. Day 3: VSM mini-kaizen event on-site at manufacturing plant.

Managing Patient Flow: Kelley Connect Week (IU, SP '17)

For online MBA students' one week in-person session. Discussion of the role of operations management in managing variability in healthcare delivery, followed by case discussion of "Quali Health: Creating Access to Quality Healthcare for South Africa's Excluded Majority."

Guest lectures

OM392: Doctoral Seminar in Healthcare Management (UT Austin, FA '19, Guest Lecture)

Guest lecture on development of research in the the hospital readmissions space. Discussion of a research project and the technical aspects of analysis for [A16] Timing it Right: Readmission risk at discharge vs inpatient unit congestion.

BUS790: Doctoral Seminar Operations and Supply Chain Management (NC State, SP '18, Guest Lecture)

Guest lecture on development of research in the the hospital readmissions space. Discussion of a research project and the technical aspects of analysis for [A11] Missed Opportunities in Preventing Hospital Readmissions: Redesigning Post-discharge Checkup Policies.

HSM552: Healthcare Supply Chain Management (ASU, SP '18, Guest Lecture)

Guest lecture on the role of business analytics in healthcare. Included topics in personalized medicine, hospital management, readmissions, pharmaceutical distribution, hospital coalitions, and a mini-case on Emergency Department management.

OR801: Operations Research Doctoral Seminar (NCSU, SP '18, Guest Lecture)

Guest lecture on healthcare operations and methodological focus on stochastic modeling and optimization.

Research Mentorship

Advisees (DC)

DC5. Buyun Li (Indiana U.); Infection Aware Nurse Staffing

DC4. Iman Attari (Indiana U.); Supply Chain, the DEA, and the Opioid Crisis

DC3. Masoud Kamalahmadi (Indiana U., Co-Chair with Kurt Bretthauer); Assistant Professor, University of Miami, Herbert Business School; Graduate Sp 2020

Thesis Title: *Mixing it up: Managing Work Variety to Optimize Productivity in Healthcare and Hospitality.*

DC2. Xiang (Shawn) Liu (Univ. of Michigan, IOE, Co-Chair with Mariel Lavieri); Assistant Professor, Tsinghua University; Graduated SP 2018

Thesis Title: *Using Operations Research Models to Reduce Hospital Readmission.*

DC1. Xiaoyang (Sean) Yu; Associate with AlixPartners; Graduated SP 2016

Thesis Title: *Efficient Post-Acute Care Management: The Next Frontier in Hospital Operations.*

Dissertation Committees (D)

D5. Masoud Kamalamahdi (IU); Assistant Professor, Univ of Miami Herbert Business School; Graduated SP 2019.

D4. Jon M Stauffer (IU); Assistant Professor, Texas A& M Mays School of Business, Information and Operations Management; Graduated SP 2016.

Thesis Title: *Care as Needed: Tailored Response in Healthcare Operations and Humanitarian Logistics.*

D3. Chitta Ranjan (GA Tech); Scientist at Pandora Media; Graduated SP 2016

Thesis Title: *Novel Statistical Learning and Data Mining Methods for Service Systems Improvement.*

D2. Pooyan Kazemian (U. Michigan); Research Fellow Harvard Medical School and Massachusetts General Hospital; Graduated SP 2016

Thesis Title: *Stochastic Control and Optimization Methods for Chronic Disease Monitoring and Control, Hospital Staffing, and Surgery Scheduling.*

D1. David Cho (IU); Graduated SP 2015

Thesis Title: *Behavior, Flexibility, and Quality in Service Operations Management.*

Undergraduate and Masters Research Mentorship (U)

Each students academic level is listed in brackets []. [U/G] = undergraduate, [MS] = master's, [PhD] = doctoral

U21. Akhila Sakiramolla¹ (Indiana U., [MS] CS); 2022–present

U22. Puskar Peshande² (Indiana U., [MS] CS); 2022–present

U20. Shilpa Kumari² (Indiana U., [MS] CS); 2022

U19. Ruchik Dama² (Indiana U., [MS] CS); 2022

U18. Venkatesh Thota² (Indiana U., [MS] CS); 2021–2022

U17. Evan Gnott (Indiana U., [U/G] SCM); 2021–2022

U16. Edison Wang³ (Indiana U., [U/G] SCM); 2021

U15. Yaswanth Karri (Indiana U., [MS] CS)³; 2021–2022

U14. Sriharsha Srungaram (Indiana U., [MS] CS)³; 2021–2022

U13. Tianchun Li (Purdue, [U/G, MS] CS)³; 2021

U12. Josep Han^{1,3} (Indiana U., [MS] CS); 2021–2022

U11. Tony Ha (Indiana U., [MS] CS)³; 2020–2021

U10. Pratyush Battacharya (Indiana U., [MS] CS)³; 2021

U9. Akshada Joshi (Indiana U., [MS] CS)³; 2021

U8. Makkari Peter Cheng (Indiana U., [MS] CS)³; 2021

¹Machine learning prediction models for predicting Opioid Use Disorder

²Using machine learning to detect repeat criminal activity

³A New Era of Care Delivery: Deep-learning enhanced Hospital Workload Prediction and Resource Allocation for COVID19 and Beyond

- U7. Jeff Lim⁴ (Indiana U., [MSIS]); 2020–2021
- U6. Sarah Rutkowski⁵ (ASU, [U/G] SCM); 2017–2018
- U5. Mehrdad Moatamed⁶ (Indiana Univ., Informatics [U/G]); 2015–2016
- U4. Michael Hu⁷ (Univ. of Michigan, [U/G] IOE; PhD MIT, Operations Research Center) 2010–2012
- U3. Kedi Wu (Univ. of Michigan, [MSE] IOE)
- U2. Benjamin Li⁸ (Univ. of Michigan, [U/G] Neuroscience, [MD]) 2012–2014
- U1. Arthur Adisusanto⁹ (Univ. of Michigan., [U/G] IOE) 2008–2010

Professional Activities

Service (S)

- S27. **IU Kelley ODT 3 Day Stochastics Bootcamp Short Course**; Designed and taught; Fa' 2021, Fa' 2022.
- S26. **IU Kelley School of Business; Teaching Awards Committee**; 2021–2022
- S25. **Senior Editor *Production and Operations Management***, Healthcare Operations Management; 2021–present
- S24. **DSI Annual Conference Post-COVID Operations Cluster Chair**; 2021
- S23. **Faculty Assistance in Data Science: Research Mentor**; 2021
 - ◇ Project proposal select from University-wide competitive pool of applications to mentor two students in machine learning research.
- S22. **IU Kelley School of Business; Business Outlook Committee**; 2020–2021
- S21. **INFORMS Pierskalla Award Judge**; 2020–2022
- S20. **Senior Editor *Production and Operations Management***, POM Practice; 2019–present
- S19. **Area Editor *Healthcare Management Science***; 2019–present
- S18. **Center for the Business of Life Sciences Co-Director**; 2019–present
- S17. **INFORMS Healthcare Conference Supply Chain Cluster Chair**; 2019
- S16. **INFORMS Pierskalla Award Co-Chair**; 2019
- S15. **MSOM Healthcare SIG Judge**; 2019
- S14. **Co-chair INFORMS Doing Good with Good OR Best Paper Competition**; 2017–2018
- S13. **IU Kelley School of Business ODT Faculty Search Committee**; 2016–2017
- S12. **IU Kelley School of Business Undergraduate Programs Committee**; 2016–2017
- S11. **INFORMS Committee for the Doing Good with Good OR Best Paper Competition**; 2016–2019
 - ◇ Organizing member of the DGWGOR Best Paper Competition

⁴Prediction modeling of hospital workloads during COVID-19

⁵Honors Thesis: A Supply Chain Analysis of Drug Surplus

⁶Patient flow modeling

⁷Understanding the impact of readmissions in radical cystectomy

⁸Understanding the impact of readmissions in radical cystectomy

⁹Optimization of surgical scheduling for hospital inpatient workload smoothing.

- S10. IU Kelley School of Business Research Policy Board; 2015–2016**
- ◊ Committee Member
- S9. POMS Doctoral Consortium Faculty Mentor; 2015**
- S8. INFORMS MSOM Best Paper Competition Judge; 2014 – 2017, 2020**
- S7. IU Kelley School of Business Healthcare Operations and Information Systems Conference and POM Special Issue Organizing Committee; Aug 2013–Oct 2015**
- ◊ Member of the committee to organize a two day international conference held at Indiana University’s Kelley School of Business.
 - ◊ Involved in creating a special issue of Production and Operations Management on “Patient-Centric HealthCare Management in the Age of Analytics” that will be open to conference attendees.
 - ◊ Helped managing onsite logistics of conference.
- S6. INFORMS Health Applications Society Student Paper Competition Judge; 2013, 2015, 2019**
- S5. POMS College of Healthcare Operations Management Paper Competition Judge; 2013, 2015, 2020,2021**
- S4. IU Kelley School of Business ODT Supply Chain and Operations Management Undergraduate Major Curriculum Committee; 2013–Present**
- ◊ Member of the committee to redesign the curriculum for the SC/OM major in the ODT department.
- S3. INFORMS Pierskalla Award Committee for Best Paper in Healthcare Operations Research; 2013**
- ◊ Invited to review paper submissions for the prestigious Pierskalla best paper competition in healthcare OR.
- S2. INFORMS Section on Public Programs, Services and Needs (SPPSN) Annual Best Paper Competition Judge; 2013**
- S1. IU Kelley ODT Doctoral Recruiting Committee; 2012–present.**

Memberships

Institute for Operations Research and Management Sciences (INFORMS), Production and Operations Management Society (POMS), Manufacturing and Service Operations Management Society (MSOM), Institute of Industrial Engineers (IIE), Operational Research Applied to Health Services (ORAHHS)

Journal Referee and Review Experience

Operations Research, Management Science, Manufacturing & Service Operations Management (M&SOM), Information Systems Research (ISR), Production & Operations Management (POM), Naval Research Logistics, IIE Transactions, IIE Transactions on Healthcare Systems Engineering, Annals of OR, European Journal of Operations Research (EJOR), Transportation Science, Decision Science, INFORMS J on Computing, OR Spectrum