Cathy DiGennaro

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MIT Sloan School of Management

Education

Massachusetts Institute of Technology 2022-Present
Ph.D., Sloan School of Management; System Dynamics *Cambridge, MA*
Dissertation Advisor: Professor Nelson Repenning
Expected Graduation Date: May 2028

Wellesley College 2019
B.A., Neuroscience *Wellesley, MA*

Research Interests

Organizational management practices; workplace wellbeing; system dynamics.

Research Experience

Massachusetts General Hospital 2019-2022
Research Associate, Institute for Technology Assessment *Boston, MA*
PIs: Dr. Mohammad S. Jalali and Dr. Carrie Cunningham

- Conducted and wrote up systematic reviews of opioid simulation models, COVID-19 simulation models, and molecular tests for indeterminate thyroid nodules for submission to academic publications
- Analyzed electronic health records, state-, and national-level data to ascertain thyroid surgery and overdose trends
- Managed three interns (two undergraduates and one masters' level), supporting their tasks and collaboration

Fellowships, Grants, and Honors

Jay Wright Forrester Award 2025
System Dynamics Society

Dana Meadows Award, Honorable Mention 2024
System Dynamics Society

Winner, 2023 PwC Mark Paich Hackathon 2023
System Dynamics Society

Presidential Graduate Fellowship Award 2022-2023
Massachusetts Institute of Technology

Teaching Experience

- TA for Professor Deborah Ancona, 15.739 Discovering Your Leadership Signature, Sloan Fellows and EMBAs, Fall 2026
- TA for Professor Susan Silbey, 15.342 Organizations and Environments, Sloan Doctoral Students, Fall 2025
- TA for Professor John Sterman, 15.736 Introduction to System Dynamics, Sloan EMBAs, Summer 2025
- TA for Professor John Sterman, 15.736 Introduction to System Dynamics, Sloan EMBAs, Summer 2024
- TA for Professor Johan Chu, 15.873 System Dynamics for Business and Policy, Sloan MBAs, Fall 2023
- TA for Professor John Sterman, 15.736 Introduction to System Dynamics, Sloan EMBAs, Summer 2023

Methods and Skills

Ethnographic field research, R, Python

Publications

1. Shalmani, K. B., **DiGennaro, C.**, Rahmandad, H., & Ghaffarzadegan, N. (2026). Faster Uptake, Slower Let-Down: Asymmetric Community Responses to Changing Risks During a Pandemic. *Risk Analysis*, 46(4)e70228. [link]
2. Cunningham, C. E., Van Dijk, S., Langer, M. M., Moronta, S., Herman, T., Collins, R. A., **DiGennaro, C.**, Galvan, A. K., Varghese, J. M., Lango, M., Jalali, M. S., Fisher, S., Grubbs, E. G., Donelan, K., & Swan, J. S. (2026). A thyroid-cancer-specific utility index: Development and valuation of the Thyroid Cancer Quality of Life Index. *Thyroid*, 36(3)278-290. [link]
3. Claypool, A. L., **DiGennaro, C.**, Russell, W. A., Yildirim, M. F., Zhang, A. F., Reid, Z., Stringfellow, E. J., Bearnot, B., Schackman, B. R., Humphreys, K., & Jalali, M. S. (2023). Cost-effectiveness of Increasing Buprenorphine Treatment Initiation, Duration, and Capacity Among Individuals Who Use Opioids. *JAMA Health Forum*, 4(5):e231080. [link]
4. Stringfellow, E. J., Lim, T. Y., **DiGennaro, C.**, Hasgul, Z., & Jalali, M. S. (2023). Enumerating contributions of fentanyls and other factors to the unprecedented 2020 rise in opioid overdose deaths: model-based analysis. *PNAS Nexus*, 2(4):pgad064. [link]
5. Stringfellow, E. J., Lim, T. Y., **DiGennaro, C.**, Zhang, Z., Paramasivam, P., Bearnot, B., Humphreys, K., & Jalali, M. S. (2023). Long-term Effects of Increasing Buprenorphine Treatment-Seeking, Duration, and Capacity on Opioid Overdose Fatalities: a Model-based Analysis. *Journal of Addiction Medicine*, 17(4), 439–446. [link]

6. Collins, R. A. (co-first author), **DiGennaro, C.** (co-first author), Beninato, T., Gartland, R. M., Chaves, N., Broekhuis, J. M., Reddy, L., Lee, J., Dreimiller, A., Alterio, M. M., Campbell, M. J., Lee, Y. J., Khilnani, T. K., Stewart, L. A., O'Brien, M. A., Valdivia y Alvarado, M., Zheng, F., McAneny, D., Liou, R., McManus, C., Dream, S. Y., Wang, T. S., Yen, T. W., Alhefdhi, A., Finnerty, B. M., Fahey III, T. J., Graves, C. E., Laird, A. M., Nehs, M. A., Drake, F. T., Lee, J. A., McHenry, C. R., James, B. C., Pasieka, J. L., Kuo, J. H., & Cunningham Lubitz, C. (2023). Limited Disease Progression in Endocrine Surgery Patients with Treatment Delays Due to COVID-19. *Surgery*, 173(1), 93-100. [link]

7. **DiGennaro, C.**, Vahdat, V., Jalali, M. S., Toumi, A., Watson, T., Gazelle, G. S., Mercaldo, N., & Cunningham Lubitz, C. (2022). Assessing Bias and Limitations of Clinical Validation Studies of Molecular Diagnostic Tests for Indeterminate Thyroid Nodules: Systematic Review and Meta-Analysis. *Thyroid*, 32(10), 1144-1157. [link]

8. Stringfellow, E. J., Lim, T. Y., Humphreys, K., **DiGennaro, C.**, Stafford, C., Beaulieu, E., Homer, J., Wakeland, W., Bearnot, B., McHugh, R. K., Kelly, J., Glos, L., Eggers, S., Kazemi, R., & Jalali, M. S. (2022). Reducing opioid use disorder and overdose in the United States: A dynamic modeling analysis. *Science Advances*, 8(25), eabm8147. [link]

9. Horvat, A., Rommens, E., **DiGennaro, C.**, van Daalen, E., Koene, M., Luning, P. A., & Jalali, M. S. (2022). Simulating Impact of Biosecurity Measures on *Campylobacter* Contamination in Broiler Houses and Slaughtering – a System Dynamics Approach. *Food Control*, 109151. [link]

10. Lim, T. Y., Stringfellow, E. J., Stafford, C., **DiGennaro, C.**, Homer, J., Wakeland, W., Eggers, S., Kazemi, R., Glos, L., Ewing, E. G., Bannister, C. B., Humphreys, K., Throckmorton, D. C., & Jalali, M. S. (2022). Modeling the evolution of the U.S. opioid crisis for national policy development. *Proceedings of the National Academy of Sciences*, 119(23)e2115714119. [link]

11. Weiner, S., Carroll, A., Brisbon, N., Rodriguez, C., Covahey, C., Stringfellow, E. J., **DiGennaro, C.**, Jalali, M. S., & Wakeman, S. (2022). Evaluating Disparities in Prescribing of Naloxone after Emergency Department Treatment of Opioid Overdose. *Journal of Substance Abuse Treatment*, 108785. [link]

12. Liao, C. Y., Garcia, G.-G. P., **DiGennaro, C.**, & Jalali, M. S. (2022). Racial Disparities in Opioid Overdose Deaths in Massachusetts. *JAMA Network Open*, 2022;5(4):e229081. [link]

13. Garcia, G.-G. P., Stringfellow, E. J., **DiGennaro, C.**, Poellinger, N., Wood, J., Wakeman, S., & Jalali, M. S. (2022). Opioid Overdose Decedent Characteristics during COVID-19. *Annals of Medicine*, 54:1, 1081-1088. [link]

14. **DiGennaro, C.**, Garcia, G.-G. P., Stringfellow, E. J., Wakeman, S., & Jalali, M. S. (2021). Changes in Characteristics of Drug Overdose Death Trends during the COVID-19 Pandemic. *International Journal of Drug Policy*, 98, 103392. [link]

15. Jalali, M. S., **DiGennaro, C.**, Guitar, A., Lew, K., & Rahmandad, H. (2021). Evolution and Reproducibility of Simulation Modeling in Epidemiology and Health Policy Over Half a Century. *Epidemiologic Reviews*, mxab006. [link]

16. Toumi, A., **DiGennaro, C.**, Vahdat, V., Jalali, M. S., Gazelle, G. S., Chhatwal, J., Kelz, R. R., & Cunningham Lubitz, C. (2021). Trends in Thyroid Surgery and Guideline-Concordant Care in the United States, 2007–2018. *Thyroid*, 31(6), 941-949. [link]

17. Beaulieu, E., **DiGennaro, C.**, Stringfellow, E., Connolly, A., Hamilton, A., Hyder, A., Cerdá, M., Keyes, K. M., & Jalali, M. S. (2021). Economic Evaluation in Opioid Modeling: Systematic Review. *Value in Health*, 24(2), 158-173. [link]
18. Cerdá, M., Jalali, M. S., Hamilton, A. D., **DiGennaro, C.**, Hyder, A., Santaella-Tenorio, J., Kaur, N., Wang, C., & Keyes, K. M. (2021). A Systematic Review of Simulation Models to Track and Address the Opioid Crisis. *Epidemiologic Reviews*, mxab013. [link]
19. Xu, R., Rahmandad, H., Gupta, M., **DiGennaro, C.**, Ghaffarzadegan, N., Amini, H., & Jalali, M. S. (2021). Weather, Air Pollution, and SARS-CoV-2 Transmission: a Global Analysis. *The Lancet Planetary Health*, 5(10), e671-e680. [link]
20. Jalali, M. S., **DiGennaro, C.**, & Sridhar, D. (2021). The Need for a Prediction Model Assessment Framework—Authors' Reply. *The Lancet Global Health*, 9(4), e405. [link]
21. Namin, A. T., Vahdat, V., **DiGennaro, C.**, Amid, R., & Jalali, M. S. (2020). Adoption of New Medical Technologies: The Effects of Insurance Coverage vs Continuing Medical Education. *Health Policy and Technology*, 9(1), 39-41. [link]
22. Jalali, M. S., **DiGennaro, C.**, & Sridhar, D. (2020). Transparency Assessment of COVID-19 Models. *The Lancet Global Health*, 8(12), e1459-e1460. [link]

Working Papers

1. Commitment and Concealed Cynicism in a Mission-Driven Organization.
2. Addressing Novel Issues in a Polarized Organization, with Vicky Chuqiao Yang.

Conference Presentations

Oral presentations

1. **DiGennaro, C.** (2026). Concealed Cynicism in Mission Driven Organizations. *TOM Society Annual Meeting*, Barcelona, Spain.
2. **DiGennaro, C.** (2026). Concealed Cynicism in Mission Driven Organizations. *Academy of Management*, Philadelphia, Pennsylvania.
3. **DiGennaro, C.**, & Yang, V. C. (2025). Facing Common Threats in a Polarized Environment. *11th International Conference on Computational Social Science*, Norrköping, Sweden.
4. **DiGennaro, C.**, & Yang, V. C. (2025). Facing Common Threats in a Polarized Environment. *INFORMS Annual Meeting*, Atlanta, Georgia.
5. **DiGennaro, C.**, & Yang, V. C. (2025). Facing Common Threats in a Polarized Environment. *Academy of Management*, Copenhagen, Denmark.
6. Shalmani, K. B., **DiGennaro, C.**, Rahmandad, H., & Ghaffarzadegan, N.(2024). Debiasing Human Response Estimations in Dynamic Models: Exploring the Significance of Delay Structure and Asymmetries. *The 42nd International Conference of the System Dynamics Society*, Bergen, Norway.
7. **DiGennaro, C.** & Yang, V. C. (2023). Modeling the impact of decision-making power on trust and success in public schools. *The 41st International Conference of the System Dynamics Society*, Chicago, Illinois.

8. Claypool, A., **DiGennaro, C.**, Russell, W. A., Yildirim, M. F., Reid, Z., Zhang, A., Stringfellow, E. J., Jalali M. S. (2022). Cost-Effectiveness of Interventions to Increase Buprenorphine Treatment Capacity, Initiation, and Duration: A Modeling Analysis. *The 40th International Conference of the System Dynamics Society*, Frankfurt, Germany.
9. **DiGennaro, C.**, Vahdat, V., Toumi, A., Jalali, M. S., Mercaldo, N., Gazelle, S., & Cunningham Lubitz, C. (2021). Biases Within Clinical Validations of Molecular Tests for Thyroid Nodules: A Systematic Review. *The 16th Annual Academic Surgical Congress* (held virtually).
10. **DiGennaro, C.**, Vahdat, V., Toumi, A., Chhatwal, J., Jalali, M. S., & Cunningham Lubitz, C. (2020). Adoption of Thyroid Nodule Management Practices Following Revised 2015 ATA Guidelines. *The 15th Annual Academic Surgical Congress*, Orlando, Florida.

Poster presentations

1. **DiGennaro, C.** (2026). Concealed Cynicism in Mission-Driven Organizations. *Carnegie School of Organizational Learning*, Hanover, New Hampshire.
2. **DiGennaro, C.** & Yang, V. C. (2025). Facing Common Threats in a Polarized Environment. *The 43rd International Conference of the System Dynamics Society*, Boston, Massachusetts.
3. Jalali, M. S., **DiGennaro, C.**, Guitar, A., Lew, K., Rahmandad, H., & Burke, D. (2019). The Evolution of Simulation Modeling in Health Policy: A Review of the Literature. *The 41st Annual Meeting of the Society for Medical Decision Making*, Portland, Oregon.
4. Jalali, M. S., **DiGennaro, C.**, Guitar, A., Lew, K., & Rahmandad, H. (2019). Simulation Modeling in Health Policy: A Systematic and Critical Review of the Literature. *The 37th International Conference of the System Dynamics Society*, Albuquerque, New Mexico.