Peter M. Graffy, PhD, MPH

Population Health Epidemiologist and Informaticist
Center for Computational Medicine, University of Chicago
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Education

Ph.D., Health and Biomedical Informatics   Sep 2021 – June 2025
Northwestern University, Chicago, IL

MPH, Epidemiology and Biostatistics   Aug 2015 – May 2017
University of Wisconsin-Madison, Madison, WI

BA, Anthropology, Women & Gender Studies, Spanish   Aug 2008 – May 2012
Luther College, Decorah, IA

Employment History

Pulmonary/Critical Care Postdoctoral Fellow   July 2025 – Present
Healthcare Allocation Lab | PI: William Parker, MD, PhD
University of Chicago, Chicago, IL

American Heart Association Predoctoral Fellow   Jan 2024 – Dec 2025
Institute for Artificial Intelligence in Medicine | PI: Abel Kho, MD
Department of Preventive Medicine | PI: Norrina Allen, PhD
Northwestern University, Chicago, IL

Research Project Manager   Jan 2020 – Jan 2023
Surgical Outcomes and Quality Improvement Center | PI: Mehul Raval, MD
Department of Surgery, Northwestern University, Chicago, IL

Research Scientist   Aug 2015 – Jan 2020
Department of Radiology | PI: Perry Pickhardt, MD
University of Wisconsin Hospital and Clinics, Madison, WI

Teaching Experience

Northwestern University
PUB_HLTH 303: Environmental Health Sciences (TA)   Jun 2023 – Aug 2023
PUB_HLTH 422: Intermediate Epidemiology (Guest Lecturer)   Jan 2024 – Mar 2024

PUBLICATIONS

1. **Graffy, Peter**. The Effect of Masculinity on Sexual Health Practices among College-Age Students in the United States. The Journal of the National Association of Student Anthropologists (NASA), Vol. II, (2), pp. 12-19. 2011.

2. **Graffy P**, Loomis S, Hinshaw JL, Lee F, Kim D, Pickhardt P, Lubner M, Kitchin D, Ziemlewicz T. Pulmonary intraparenchymal blood patching decreases the rate of pneumothorax-related complications following percutaneous CT-guided needle biopsy. Journal of Vascular and Interventional Radiology (JVIR), 28(4): p. 608-613.e1.

3. **Graffy PM**, Pickhardt PJ. Quantification of hepatic and visceral fat by CT and MR imaging: relevance to the obesity epidemic, metabolic syndrome and NAFLD. British Journal of Radiology, 2016; 89: 20151024. http://dx.doi.org/10.1259/bjr.20151024 ***Best of BJR 2017**

4. **Graffy PM**, Lee SJ, Ziemlewicz TJ, Pickhardt PJ. Prevalence of Vertebral Compression Fractures on Routine Body CT scans according to L1 Trabecular Attenuation: Determining relevant thresholds for opportunistic osteoporosis screening. American Journal of Roentgenology, 2017;209: 491-496. 10.2214/AJR.17.17853.

5. Lee SJ, **Graffy PM**, Zea RD, Ziemlewicz TJ, Pickhardt PJ. Future Osteoporotic Fracture Risk related to Lumbar Vertebral Trabecular Attenuation Measured at Routine Body CT. Journal of Bone and Mineral Research, 2018 Jan 3. doi: 10.1002/jbmr.3383.

6. Pickhardt P, **Graffy P**, Li K, Hernando D, Reeder S. Quantification of Liver Fat Content with Non-contrast MDCT: Phantom and Clinical Correlation with MRI Proton Density Fat Fraction. American Journal of Roentgenology, 2018, W1-W7. 10.2214/AJR.17.19391

7. Lee S, Summers R, **Graffy P**, Pickhardt P. Population-Based Opportunistic Osteoporosis Screening: Validation of a fully-automated CT tool for assessing longitudinal BMD changes. British Journal of Radiology. 2018 Nov 28:20180726. doi: 10.1259/bjr.20180726.

8. O'Connor S, **Graffy P**, Zea R, Pickhardt P. Does Nonenhanced CT-based Quantification of Abdominal Aortic Calcification Outperform the Framingham Risk Score in Predicting Cardiovascular Events in Asymptomatic Adults? Radiology, 2018: p. 180562. doi: 10.1148/radiol.2018180562

9. Kupfer, Sonia; Lubner, Sam; Coronel, Emanuel; Pickhardt, Perry; Tipping, Matthew; **Graffy, Peter**; Keenan, Eileen; Ross, Eric; Li, Tianyu; Weinberg, David. Adherence to Post-Resection Colorectal Cancer Surveillance at National Cancer Institute-Designated Comprehensive Cancer Centers. Cancer Medicine, 2018. https://doi.org/10.1002/cam4.1678.

10. Pickhardt P, **Graffy P**, Said A, Jones D, Malecki K, Welsh B, Zea R, Lubner M. Multi-parametric CT for Noninvasive Staging of HCV-related Liver Fibrosis: Correlation with Histopathologic METAVIR Fibrosis Score. American Journal of Roentgenology, 2019. doi.org/10.2214/AJR.18.20284.

11. **Graffy P**, Liu J, Summers R, Pickhardt P. Deep learning-based muscle segmentation and quantification at abdominal CT: application to a longitudinal adult screening cohort for sarcopenia assessment. British Journal of Radiology, 2019; 92: 20190327.

12. Jang S, **Graffy P**, Lee S, Summers R, Pickhardt P. Opportunistic Osteoporosis Screening at Routine Body CT: Normative L1 Trabecular Attenuation Values from over 20,000 Cases. Radiology, 2019 May;291(2):360-367. doi: 10.1148/radiol.2019181648.

13. **Peter Graffy**, Sara McKinnon, Garrett Lee & Patrick Remington (2018). Life Outside: A Narrative Ethnographic Inquiry into the Determinants of Homelessness. Journal of Poverty. DOI: 10.1080/10875549.2018.1550133

14. **Graffy P**, Liu J, O'Connor S, Summers R, Pickhardt P. Fully-Automated Segmentation and Quantification of Aortic Calcification at Abdominal CT: Application of a Deep Learning-Based Algorithm to a Longitudinal Screening Cohort. Abdominal Radiology, 2019 Apr 11. doi: 10.1007/s00261-019-02014-2.

15. **Graffy PM**, Sandfort V, Summers RM, Pickhardt PJ. Automated Liver Fat Quantification at Unenhanced Abdominal CT in a Longitudinal Screening Cohort: Application of a Deep Learning-Based Algorithm for Population-Based Steatosis Assessment. Radiology, 2019. https://doi.org/10.1148/radiol.2019190512.

16. Pickhardt PJ, **Graffy PM**, Zea R, Lee SJ, Liu J, Sandfort V, Summers RM. Automated CT biomarkers for opportunistic prediction of future cardiovascular events and mortality in an asymptomatic screening population: a retrospective cohort study. Lancet Digital Health 2020; 2: e192–200. March 2, 2020. https://doi.org/10.1016/S2589-7500(20)30025-X

17. Pickhardt PJ, **Graffy PM**, Weigman B, Deiss-Yehiely N, Hassan C, Weiss JM. Diagnostic performance of multi-target stool DNA and CT colonography for non-invasive colorectal cancer screening. Radiology, August 2020. DOI: 10.1148/radiol.2020201018

18. Pickhardt PJ, **Graffy PM**, Zea R, Lee SJ, Liu J, Sandfort V, Summers RM. Opportunistic Screening for Metabolic Syndrome in Asymptomatic Adults Utilizing Fully Automated Abdominal CT-based Biomarkers. American Journal of Roentgenology, June 2020. DOI: 10.2214/AJR.20.23049

19. Pickhardt PJ, **Graffy PM**, Zea R, Lee SJ, Liu J, Sandfort V, Summers RM. Automated Abdominal CT Imaging Biomarkers for Opportunistic Prediction of Future Major Osteoporotic Fractures in Asymptomatic Adults. Radiology, August 2020. DOI: 10.1148/radiol.2020200466

20. Ronald M. Summers, MD, PhD, Daniel C. Elton, PhD, Sungwon Lee, MD, Yingying Zhu, PhD, Jiamin Liu, PhD, Mohammedhadi Bagheri, MD, Veit Sandfort, MD, Peter C. Grayson, M.D., M.Sc., Nehal N. Mehta, MD, MSCE, Peter A. Pinto, MD[4], W. Marston Linehan, MD, Alberto A. Perez, **Peter M. Graffy, MPH**, Stacy D. O'Connor, MD, MPH, Perry J. Pickhardt, M.D. Atherosclerotic Plaque Burden on Abdominal CT: Automated Assessment with Deep Learning on Noncontrast and Contrast-enhanced Scans. Academic Radiology, 2020. 28 (11), 1491-1499.

21. PJ Pickhardt, **PM Graffy**, R Zea. CT-gestützte Prädiktion osteoporotischer Frakturen. Risk 2020, 297, 64-72.

22. Perry J. Pickhardt, MD, **Peter M. Graffy, MPH**, Alberto A. Perez, BE, Meghan G. Lubner, MD, Daniel C. Elton, PhD, Ronald M. Summers, MD, PhD. Opportunistic Screening at Abdominal CT: Use of Automated Body Composition Biomarkers for Added Cardiometabolic Value. RadioGraphics, 41 (2), 524-542, 2021.

23. Pickhardt PJ, Blake G, **Graffy PM**, Sandfort V, Elton DC, Perez AA, Summers RM. Liver Steatosis Categorization on Contrast-Enhanced CT Using a Fully-Automated Deep Learning Volumetric Segmentation Tool: Evaluation in 1,204 Heathy Adults Using Unenhanced CT as Reference Standard. American Journal of Roentgenology (AJR), 2020. 217 (2), 359-367.

24. **Graffy PM**, Summers RM, Perez AA, Sandfort V, Zea R, Pickhardt PJ. Automated assessment of longitudinal biomarker changes at abdominal CT: Correlation with subsequent cardiovascular events in an asymptomatic adult screening cohort. Abdominal Radiology, 2021 Jan 3. doi: 10.1007/s00261-020-02885-w.

25. Lubner, M.G., **Graffy PM**, Said A, Watson R, Malecki K, Pickhardt PJ. Utility of Multiparametric CT for Identification of High-Risk NAFLD. American Journal of Roentgenology, 2021: p. 1-10. DOI: 10.2214/AJR.20.22842

26. V Sandfort, K Yan, **PM Graffy**, PJ Pickhardt, RM Summers. Use of Variational Autoencoders with Unsupervised Learning to Detect Incorrect Organ Segmentations on CT. Radiology: Artificial Intelligence, 3 (3), e200218, 2021. https://doi.org/10.1148/ryai.2021200218

27. AA Perez, V Noe-Kim, MG Lubner, **PM Graffy**, JW Garrett, DC Elton, Pickhardt PJ. Automated Deep Learning CT-based Liver Volume Segmentation: Defining Normal and Hepatomegaly for Clinical Practice. Radiology, 2022. 302 (2), 336-342.

28. Sydney L Olson, BS; Matha-Conley E Ingram, MD MS; **Peter M Graffy, MPH**; Peggy M Murphy, MILS; Yao Tian, PhD MPH; Jill H Samis, MD; Jami L Josefson, MD; Jeffery C Rastatter, MD. Effect of Surgeon Volume on Pediatric Thyroid Surgery Outcomes: A Systematic Review. Journal of Pediatric Surgery, 2021.

29. Deiss-Yehiely N, **Graffy PM**, Weigman B, Hassan C, Pickhardt PJ, Weiss JM. High-risk serrated lesion detection at colorectal cancer screening with multi-target stool DNA versus CT colonography. American Journal of Roentgenology, 2022. 218 (4), 670-676.

30. Pickhardt PJ, Perez AA, Garrett JW, **Graffy PM**, Zea R, Summers RM. Fully-Automated Deep Learning Tool for Sarcopenia Assessment on CT: L1 Versus L3 Vertebral Level Muscle Measurements for Opportunistic Prediction of Adverse Clinical Outcomes. AJR Aug 18, 2021. doi:10.2214/AJR.21.26486 ***Best of MSK AJR 2022**

31. Zhe Guo, Glen M. Blake, **Peter M. Graffy**, Veit Sandfort, Ronald M. Summers, Lu Yin, Wei Li, Shaoqi Xu, Yizhong Chen, Jun Zhou, Jiman Shao, Yonghong Jiang, Haibo Qu, Li Baoqing, Xiaoguang Cheng, Perry J. Pickhardt. Hepatic Steatosis: CT-based Prevalence in Adults in China and the United States and Associations with Age, Sex, and Body Mass Index. American Journal of Roentgenology, 2022. 218 (5), 846-857.

32. PJ Pickhardt, T Nguyen, AA Perez, **PM Graffy**, S Jang, RM Summers, JW Garrett. Improved CT-based Osteoporosis Assessment with a Fully Automated Deep Learning Tool. Radiology: Artificial Intelligence 4 (5), e220042.

33. Lee M, Zea R, Garrett J, **Graffy PM**, Summers RM, Pickhardt PJ. Abdominal CT Body Composition Thresholds Using Automated AI Tools for Predicting 10-year Adverse Outcomes. Radiology, 2022: p. 220574.

34. **Graffy P**, Zimmerman L, Luo Y, Yu J, Choi Y, Zmora R, Lloyd-Jones D, Allen N. Longitudinal Clustering of Life's Essential 8 health metrics: Application of a novel unsupervised learning method in the CARDIA Study. Journal of the American Medical Informatics Association (JAMIA), 2024. 2024 Jan 18;31(2):406-415.

35. **Graffy, P. M.,** Sunderraj, A., Visa, M. A., Miller, C. H., Barrett, B. W., Rao, S., et al. (2024). Methodological approaches for measuring the association between heat exposure and health outcomes: A comprehensive global scoping review. GeoHealth, 8, e2024GH001071.

36. Maxime A. Visa, Helen Kemprecos, **Peter M. Graffy**, Benjamin W. Barrett, Erika Rasnick, Abel Kho, Daniel E. Horton. Degrees of difference: the impact of climate data resolution on mortality estimates using a novel geospatial linkage tool. Environmental Research Letters, 2025. Forthcoming.

37. Harrison C. Garcia, **Peter M. Graffy**, Benjamin W. Barrett, Maxime A. Visa, Jenny Jia, Evan Mallen, Nik Prachand, Graham Briggs, Trent Ford, Don Wuebbles, Norrina Allen, Abel Kho, Daniel E. Horton. Increasing urban tree canopy is associated with reduced temperatures and mortality: a longitudinal analysis of Chicago neighborhoods. Journal of Urban Health, 2025. Under Review.

38. Benjamin W. Barrett, **Peter M. Graffy**, Erika Rasnick, Abel Kho, Daniel E. Horton. Daymet and DeGAUSS: Development of a Novel Method that Links High Spatial Resolution Gridded Meteorological Data with Geocoded Healthcare Encounters. JAMIA, 2025. Under Review.

39. **Peter M. Graffy**, Benjamin W. Barrett, Daniel E. Horton, Abel Kho, Norrina B. Allen. Critical temperature thresholds for identifying vulnerability to heat-related excess cardiovascular morbidity and mortality. Journal of the American Heart Association (JAHA), 2025. Under Review.

40. **Graffy, P. M.,** Barrett, B. W., Horton, D. E., Allen, N. B., Kho, A. N. (2025). Heat and hearts: computational phenotyping of cardiovascular disease during extreme heat events using electronic health record data. JAMIA, 2025. Under Review.

CONFERENCE ABSTRACTS

1. Coronel, E., et al., Adherence to Colorectal Cancer Surveillance Guidelines at 3 United States Academic Cancer Centers. Gastroenterology. 150(4): p. S766-S767. 2016. http://dx.doi.org/10.1016/S0016-5085(16)32598-7

2. **Graffy P**, Ziemlewicz T, Pickhardt P. Prevalence of vertebral compression fractures at abdominal CT according to trabecular attenuation. Radiology (RSNA) 2016 Annual Scientific Meeting. November, 2016. Chicago, IL.

3. Ziemlewicz TJ, **Graffy PM**, Lee SJ, Pickhardt PJ. Prevalence of Vertebral Compression Fractures on Routine Thoracoabdominal Imaging According to L1 Trabecular Attenuation: A Step in the Validation of Opportunistic Osteoporosis Screening. Society of Abdominal Radiology 2017 Annual Scientific Meeting and Educational Course. Hollywood, Florida. March 26 - 31, 2017.

4. **Graffy P**, McKinnon S, Lee G, Remington P. Life Outside: An Investigation into the Lived Experiences of the Madison homeless. University of Wisconsin Population Health Sciences Annual Poster Presentation. Madison, WI. April 2017.

5. **Graffy P**, Pickhardt P, Said A, Jones D, Malecki K, Welsh B, Zea R, Lubner M. Multi-parametric CT for Noninvasive Staging of Liver Fibrosis from HCV: Correlation with the Histopathologic METAVIR Score. Society of Abdominal Radiology 2018 Annual Scientific Meeting. Scottsdale, AZ. March 4-9, 2018.

6. **Graffy P**, Pickhardt P, Said A, Jones D, Malecki K, Welsh B, Zea R, Lubner M. Multi-parametric CT for Noninvasive Staging of Liver Fibrosis from HCV: Correlation with the Histopathologic METAVIR Score. American Roentgen Ray Society 2018 Annual Scientific Meeting. Washington, DC. April 21-27, 2018.

7. **Graffy P**, Li K, Hernando D, Reeder S, Pickhardt P. Quantification of Liver Fat Content with Non-contrast MDCT: Correlation with MRI Proton Density Fat Fraction (PDFF). American Roentgen Ray Society 2018 Annual Scientific Meeting. Washington, DC. April 21-27, 2018.

8. **Graffy P**, Pickhardt P, Said A, Jones D, Malecki K, Welsh B, Zea R, Lubner M. Multi-parametric CT for Noninvasive Staging of Liver Fibrosis from HCV: Correlation with the Histopathologic METAVIR Score. 2018 Zachary Clark Radiology Research Symposium. Madison, WI. May 5, 2018.

9. **Graffy P**, Li K, Hernando D, Reeder S, Pickhardt P. Quantification of Liver Fat Content with Non-contrast MDCT: Correlation with MRI Proton Density Fat Fraction (PDFF). 2018 Zachary Clark Radiology Research Symposium. Madison, WI. May 5, 2018.

10. **Graffy P**, Lubner M, Pickhardt P. Can Multiparametric CT Predict the Presence of NASH and Fibrosis in Patients with NAFLD? American Roentgen Ray Society's 119th Annual Meeting. Honolulu, HI. May 5-10, 2019.

11. Pickhardt PJ, **Graffy PM**, Zea R, Lee SJ, Liu J, Sandfort V, Summers RM. Fully-Automated Analysis of Abdominal CT Scans for Opportunistic Prediction of Cardiometabolic Events: Initial Results in a Large Asymptomatic Adult Cohort. Society of Abdominal Radiology (SAR) Annual Scientific Meeting. Orlando, Florida. 2019. ***Roscoe E. Miller Best Scientific Paper Award**

12. **Graffy P**, Jang S, Lee S, Summers M, Liu J, Pickhardt P. Opportunistic Osteoporosis Screening at Routine Body CT: Normative L1 Trabecular Attenuation Values from Over 20,000 Data Points. American Roentgen Ray Society's 119th Annual Meeting. Honolulu, HI. May 5-10, 2019.

13. **Graffy P**, Liu J, Summers M, Pickhardt P. Deep Learning-Based Segmentation and Quantification of Muscle Density and Area at Abdominal CT in a Longitudinal Adult Screening Cohort. American Roentgen Ray Society's 119th Annual Meeting. Honolulu, HI. May 5-10, 2019.

14. Sandfort V, Yan K, **Graffy PM**, Pickhardt PJ, Summers RM. CT Organ Segmentation: Use of variational autoencoders to detect incorrect segmentations in a large (> 10k CT scan) dataset. Radiology (RSNA) 2019 Annual Scientific Meeting. November, 2019. Chicago, IL.

15. Pickhardt PJ, **Graffy PM**, Weigman B, Deiss-Yehiely N, Weiss JM. Diagnostic performance of multi-target stool DNA test and CT colonography for non-invasive colorectal cancer screening in clinical practice. Society of Abdominal Radiology 2020 Annual Scientific Meeting. March 1-6, 2020. Maui, Hawaii.

16. Pickhardt PJ, **Graffy PM**, Zea R, Summers RM. Prediction of Metabolic Syndrome at Abdominal CT in Asymptomatic Adults using Automated CT-based Biomarkers. Society of Abdominal Radiology 2020 Annual Scientific Meeting. March 1-6, 2020. Maui, Hawaii.

17. Pickhardt PJ, **Graffy PM**, Weigman B, Deiss-Yehiely N, Weiss JM. Diagnostic performance of multi-target stool DNA test and CT colonography for non-invasive colorectal cancer screening in clinical practice. American Roentgen Ray Society's 120th Annual Meeting. May 3-8, 2020. Chicago, Illinois.

18. Pickhardt PJ, **Graffy PM**, Zea R, Summers RM. Prediction of Metabolic Syndrome at Abdominal CT in Asymptomatic Adults using Automated CT-based Biomarkers. American Roentgen Ray Society's 120th Annual Meeting. May 3-8, 2020. Chicago, Illinois.

19. Deiss-Yehiely N, **Graffy PM**, Weigman B, Hassan C, Pickhardt PJ, Weiss JM. High-risk serrated lesion detection at CRC screening: multi-target stool DNA versus CT colonography. Digestive Disease Week 2020. May 2-5, 2020. Chicago, IL.

20. **Graffy P**, Ziemlewicz T, Pickhardt P. Prevalence of vertebral compression fractures at abdominal CT according to trabecular attenuation. Radiology (RSNA) 2016 Annual Scientific Meeting. Chicago, IL. November 2016. Oral Presentation.

21. Ziemlewicz TJ, **Graffy PM**, Lee SJ, Pickhardt PJ. Prevalence of Vertebral Compression Fractures on Routine Thoracoabdominal Imaging According to L1 Trabecular Attenuation: A Step in the Validation of Opportunistic Osteoporosis Screening. Society of Abdominal Radiology 2017 Annual Scientific Meeting

and Educational Course. Hollywood, Florida. March 26 - 31, 2017. Oral Presentation.

22. **Graffy P**, McKinnon S, Lee G, Remington P. Life Outside: An Investigation into the Lived Experiences of the Madison Homeless. University of Wisconsin Population Health Sciences Annual Poster Presentation. Madison, WI. April 2017. Poster Presentation.

23. **Graffy P**, McKinnon S, Lee G, Remington P. Life Outside: An Investigation into the Lived Experiences of the Madison Homeless. UW-Madison Preventive Health Fellowship Meeting. Madison, WI. February 2018. Oral Presentation.

24. Pickhardt P, **Graffy P**, Said A, Jones D, Malecki K, Welsh B, Zea R, Lubner M. Multi-parametric CT for Noninvasive Staging of Liver Fibrosis from HCV: Correlation with the Histopathologic METAVIR Score. Society of Abdominal Radiology 2018 Annual Scientific Meeting. Scottsdale, AZ. March 4-9, 2018. Oral Presentation.

25. **Graffy P**, Pickhardt P, Said A, Jones D, Malecki K, Welsh B, Zea R, Lubner M. Multi-parametric CT for Noninvasive Staging of Liver Fibrosis from HCV: Correlation with the Histopathologic METAVIR Score. American Roentgen Ray Society 2018 Annual Scientific Meeting. Washington, DC. April 21-27, 2018. Oral Presentation.

26. **Graffy P**, Li K, Hernando D, Reeder S, Pickhardt P. Quantification of Liver Fat Content with Non-contrast MDCT: Correlation with MRI Proton Density Fat Fraction (PDFF). American Roentgen Ray Society 2018 Annual Scientific Meeting. Washington, DC. April 21-27, 2018. Oral Presentation.

27. **Graffy P**, Pickhardt P, Said A, Jones D, Malecki K, Welsh B, Zea R, Lubner M. Multi-parametric CT for Noninvasive Staging of Liver Fibrosis from HCV: Correlation with the Histopathologic METAVIR Score. 2018 Zachary Clark Radiology Research Symposium. Madison, WI. May 5, 2018. Oral Presentation.

28. Pickhardt PJ, **Graffy PM**, Zea R, Lee SJ, Liu J, Sandfort V, Summers RM. Fully-Automated Analysis of Abdominal CT Scans for Opportunistic Prediction of Cardiometabolic Events: Initial Results in a Large Asymptomatic Adult Cohort. Society of Abdominal Radiology (SAR) Annual Scientific Meeting. Orlando, Florida. 2019.

29. **Graffy P**, Li K, Hernando D, Reeder S, Pickhardt P. Quantification of Liver Fat Content with Non-contrast MDCT: Correlation with MRI Proton Density Fat Fraction (PDFF). 2018 Zachary Clark Radiology Research Symposium. Madison, WI. May 5, 2018. Oral Presentation.

30. **Graffy P**, Lubner M, Pickhardt P. Can Multiparametric CT Predict the Presence of NASH and Fibrosis in Patients with NAFLD? American Roentgen Ray Society's 119th Annual Meeting. Honolulu, HI. May 8th, 2019.

31. **Graffy P**, Jang S, Lee S, Summers M, Liu J, Pickhardt P. Opportunistic Osteoporosis Screening at Routine Body CT: Normative L1 Trabecular Attenuation Values from Over 20,000 Data Points. American Roentgen Ray Society's 119th Annual Meeting. Honolulu, HI. May 9th, 2019. ***ARRS 2019 Cum Laude Award for Best Oral Presentation**

32. **Graffy P**, Liu J, Summers M, Pickhardt P. Deep Learning-Based Segmentation and Quantification of Muscle Density and Area at Abdominal CT in a Longitudinal Adult Screening Cohort. American Roentgen Ray Society's 119th Annual Meeting. Honolulu, HI. May 10th, 2019.

33. Sandfort V, Yan K, **Graffy PM**, Pickhardt PJ, Summers RM. CT Organ Segmentation: Use of variational autoencoders to detect incorrect segmentations in a large (> 10k CT scan) dataset. Radiology (RSNA) 2019 Annual Scientific Meeting. November, 2019. Chicago, IL.

34. **Graffy P**, Zimmerman L, Luo Y, Yu J, Choi Y, Zmora R, Lloyd-Jones D, Allen N. Longitudinal Clustering of Life's Essential 8 health metrics: Application of a novel unsupervised learning method in the CARDIA Study. The American Medical Informatics Association (AMIA) Annual Meeting. New Orleans, LA. November 11-14th, 2023.

35. **Graffy P**, Zimmerman L, Luo Y, Yu J, Choi Y, Zmora R, Lloyd-Jones D, Allen N. Clustering in CARDIA: Longitudinal Analysis of Life's Essential 8 using a Novel Machine Learning Method. 17th Annual Feinberg Lewis Landsberg Research Day. Northwestern University, Chicago, IL. September 14th, 2023. Poster Presentation.

36. **Graffy P**, Zimmerman L, Luo Y, Yu J, Choi Y, Zmora R, Lloyd-Jones D, Allen N. Clustering in CARDIA: Longitudinal Analysis of Life's Essential 8 using a Novel Machine Learning Method. 8th Annual Chicago Biomedical Informatics Data Jam. Loyola University, Maywood, IL. October 6th, 2023. Poster Presentation.

37. **Peter M. Graffy**, Ashwin Sunderraj, Maxime A. Visa, Corinne Miller, Ben Barrett, Sheetal Rao, Sara F. Camilleri, Ryan D. Harp, Chuxuan Li, Anne Brenneman, Abel Kho, Daniel E. Horton, Norrina Allen. Climate-Related Heat Exposure and Cardiovascular Health: A Global Scoping Review. American Heart Association EPI Lifestyle Meeting. March 18-21st, 2024. Chicago, IL. Poster Presentation.

38. Benjamin W. Barrett, **Peter M. Graffy**, Daniel E. Horton, Abel Kho. Daymet and DeGAUSS: Development of a Novel Method that Links High Spatial Resolution Gridded Meteorological Data with Geocoded Healthcare Encounters. International Population Data Linkage Network Annual Meeting. Chicago, IL. September 18th, 2024. Rapid Oral Presentation.

39. Harrison Garcia, **Peter Graffy**, Benjamin Barrett, Maxime Visa, Ashwin Sunderraj, Jenny Jia, Daniel E. Horton. Urban Tree Canopy, Temperature, and Mortality: A Machine Learning Analysis of Chicago Neighborhoods. 18th Annual Feinberg Lewis Landsberg Research Day. Northwestern University, Chicago, IL. September 12th, 2024. Poster Presentation. ***Social and Public Health Section Finalist**

40. Maxime Visa, Helen Kemprecos, Benjamin Barrett, **Peter Graffy**, Daniel Horton. Development and validation of a novel method for healthcare data linkage to high-resolution gridded coordinate temperature and climate variables. 18th Annual Feinberg Lewis Landsberg Research Day. Northwestern University, Chicago, IL. September 12th, 2024. Poster Presentation.

41. **Peter Graffy**, Maxime Visa, Benjamin Barrett, Abel Kho, Daniel Horton. A comparison of heat exposure measurement methods to determine the effect of extreme heat on cardiovascular disease mortality in Chicago. 18th Annual Feinberg Lewis Landsberg Research Day. Northwestern University, Chicago, IL. September 12th, 2024. Poster Presentation.

42. Mehul V. Raval, Yao Tian, Lynn Huang, Erin Wymore, Deysi Paniagua-Perez, Kirsty M. Engelhardt, Mallory N. Perez, Alison Lehane, Charesa Smith, Gwyneth Sullivan, Audra J. Reiter, Andrew Hu, Martha-Conley E. Ingram, **Peter Graffy**, et al. "Implementation Yields Success – Results of the ENhanced Recovery In CHildren Undergoing Surgery (ENRICH-US) Randomized Controlled Trial." American Pediatric Surgical Association (APSA) Annual Meeting, 2025. Quebec, Canada. May 7-10th, 2025.

43. Mehul V. Raval, Willemijn Schafer, Yao Tian, Mallory N. Perez, Lynn Huang, Alison Lehane, Erin Wymore, Deysi Paniagua-Perez, Charesa Smith, Gwyneth Sullivan, Audra J. Reiter, Andrew Hu, Martha-Conley E. Ingram, Kirsty M. Engelhardt, **Peter Graffy**, et al. "Preliminary Analysis of Implementation Drivers in the Enhanced Recovery In CHildren Undergoing Surgery (ENRICH-US) Randomized Controlled Trial." American Surgical Association (ASA) Annual Meeting, 2025. San Diego, CA. April 24-26th, 2025.

44. **Peter Graffy**, Benjamin Barrett, Daniel Horton, Abel Kho, Norrina Allen. Critical temperature thresholds for identifying vulnerability to heat-related excess cardiovascular morbidity and mortality in Chicago. 19th Annual Feinberg Lewis Landsberg Research Day. Northwestern University, Chicago, IL. September 11th, 2025. Poster Presentation.

45. **Peter Graffy**, Benjamin Barrett, Daniel Horton, Norrina Allen, Abel Kho. Heat and hearts: computational phenotyping of cardiovascular disease during extreme heat events using electronic health record data. 19th Annual Feinberg Lewis Landsberg Research Day. Northwestern University, Chicago, IL. September 11th, 2025. Poster Presentation.

46. Hyojung Jang, **Peter Graffy**, Benjamin Barrett, Abel Kho. Diagnosis-Specific Heat-Related Emergency Department Visits Among Adults in Chicago: A Time-Stratified Case-Crossover Study Using Distributed Lag Nonlinear Models. 19th Annual Feinberg Lewis Landsberg Research Day. Northwestern University, Chicago, IL. September 11th, 2025. Poster Presentation.

AWARDS AND HONORS
A. Personal
- Invited speaker for the University of Hamburg climate and health workshop (2025)
- Selected to present at inaugural AI in Healthcare Forum: NYUTron and LLMs in Medicine (2023)
- Recipient of Society of Abdominal Radiology Roscoe E. Miller Best Paper Award (2019)
- American Roentgen Ray Society Cum Laude Best Oral Presentation Award (2019)
- Delta Omega Public Health Honor Society (2017)
- Recipient of Best of British Journal of Radiology Award (2016)

- All-American Ultimate Frisbee Association 1st Team (2014 – 2018)
- Senior Honors Thesis Award (2012)
- Presidential Scholarship (2008 – 2012)
- NCAA Division III All-Academic 1st Team (Men's Soccer) (2008 – 2012)
- Dean's List (2008 – 2012)

B. Students
- Poster Finalist, 18th Annual Lewis Landberg Research Day, Harrison Garcia (2024)

SERVICE

A. Invited Professional and Public Lectures
1. "Data linkage, electronic health records, and CVD," University of Hamburg, Hamburg, Germany, July 2025

B. University, School and Departmental Committees
Northwestern University
- Northwestern Institute for Artificial Intelligence in Medicine: AI in Healthcare Forum Student Organizer
- Health Sciences Integrated Program Student Organization Sports Chair
- Youth Sports Coach (Soccer and Ultimate Frisbee)

C. Organization Membership
- American Heart Association (AHA) (2023 – Present)
- American Medical Informatics Association (AMIA) (2023 – Present)

D. Reviewer of Manuscripts
- Reviewer, *Osteoporosis International* (2019 – Present)
- Reviewer, *Artificial Intelligence in Medicine* (2020 – Present)
- Reviewer, *Journal of Computer Assisted Tomography (JCAT)* (2020 – Present)
- Reviewer, *Journal of Gerontology: Medical Sciences* (2023 – Present)
- Reviewer, *Journal of the American Medical Informatics Association (JAMIA)* (2023 – Present)

E. Research Mentoring
Ben Weigman, PGY3 Diagnostic Radiology (2017 – 2018)
Department of Radiology
University of Wisconsin Hospital and Clinics

Nimrod Deiss-Yehiely, PGY2 Internal Medicine (2018 – 2019)
Department of Radiology
University of Wisconsin Hospital and Clinics

Maxime Visa, Medical Student (2022 – 2025)
Feinberg School of Medicine
Northwestern University

Harrison Garcia, Medical Student (2024 – 2025)
Feinberg School of Medicine
Northwestern University

Helen Kemprecos, Medical Student (2024 – 2025)
Carle School of Medicine
University of Illinois Urbana-Champaign

Jake Mackie, PhD Candidate (2024 – 2025)
Health Services and Outcomes Research
Northwestern University

Mercy Berchi, PhD Candidate (2024 – 2025)
Health and Biomedical Informatics
Northwestern University

Donna Hooshmand, PhD Candidate (2025)
Computer Science
Northwestern University

Hyojung Jang, PhD Candidate (2025 – Present)
Biostatistics
Northwestern University

Rachel Zuo, HS student (2025)
Research project mentorship

Aarin Bothra, HS student (2025)
Research project mentorship

RESEARCH SUPPORT

A. Ongoing Research Support

5T32HL007605-40   Gokhan (PI)   06/30/2025 – Present
NIH, NHLBI
Research Training in Pulmonary Critical Care Computational Medicine
The goal of this project is to design and develop a national place-based vulnerability index for patients with acute respiratory failure within the CLIF consortium. This work integrates geospatial, sociodemographic, and granular clinical ICU data to quantify how exposome factors influence patient outcomes. By linking longitudinal ICU datasets with national vulnerability metrics, the project aims to identify communities and patient populations at greatest risk, informing targeted prevention and resource allocation strategies for critical care.
Role: Trainee

B. Completed Research Support

24PRE1193628   Graffy (PI)   01/01/2024 – 6/30/2025
Predoctoral Fellowship
American Heart Association
Heat and Hearts: Computational Phenotyping Cardiovascular Disease in the Context of Extreme Heat
The primary goals were to investigate the impact of extreme heat on CVD morbidity and mortality across Chicago, integrating mortality records, emergency department data, climate variables, and sociodemographic characteristics. This work advanced methods for linking climate and health datasets at high spatial and temporal resolution, producing evidence to guide heat-warning systems and precision public health interventions.
Role: Trainee

MEDIA

Work featured in: "OEMC, cooling centers, air conditioning & more: What's changed in extreme heat response since deadly 1995 Chicago heat wave." ABC 7 Chicago, July 16, 2025. [Link here](#).

Work featured in: "Heat Study: Chicago Temperatures Vary as Much as 22 Degrees Between Neighborhoods." *Borderless Magazine*, by Liuan Huska, January 29, 2024. [Link here](#).

Work featured in: "As Chicago Survives Another Heat Wave, the City Reassesses Its Disaster Plan." *Chicago Tribune*, July 16, 2025. [Link here](#).

Featured in broadcast: "Chicago Park District Announces Extended Pool Operations Through Labor Day." *WGN-TV*, August 8, 2025. Highlighted the district's use of the Heat Vulnerability Index to guide a phased closure of pools and beaches—keeping 22 beaches, 19 neighborhood pools, and one inland beach open through Labor Day amid staffing and extreme heat considerations. [Link here](#).

SKILLS AND LANGUAGES

Programming & Scripting: R, Python, SQL, Java, HTML, MATLAB, LaTeX
Data Science & ML: scikit-learn, TensorFlow, PyTorch, Jupyter Notebooks, R Shiny
Statistical Software: SAS, Stata
GIS & Spatial Tools: ArcGIS, DeGAUSS

Version Control & Documentation: Git, GitHub, Markdown
Survey & Research Tools: REDCap, Qualtrics, eIRB, ClinicalTrials.gov
Visualization & Reporting: Tableau, PowerBI
Reference Management: EndNote, Zotero, Mendeley
Qualitative Research: Dedoose, Qualitative methods
EHR Systems: EPIC, Cerner
Other Tools: Census.gov
Languages: Bilingual (English/Spanish)

PUBLICATION METRICS

Total Citations (All Time): **2,403**
Citations Since 2020: **2,280**
h-index: **24 (both overall and since 2020)**
i10-index: **29 (both overall and since 2020)**