

Curriculum Vitae

Date Prepared: 8/13/2020
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Place of Birth: Pompton Plains, NJ, USA

Education

2000-2004	BA (Phi Beta Kappa)	Biology	Johns Hopkins University
2004–2011	MD, PhD	Medicine and Epidemiology (Advisor: Josef Coresh, MD, PhD)	Johns Hopkins School of Medicine and Bloomberg School of Public Health
2009	MHS	Clinical Epidemiology	Johns Hopkins Bloomberg School of Public Health

Postdoctoral Training

07/2011-06/2012	Intern	General Surgery	Good Samaritan Hospital, Cincinnati, OH
07/2012-06/2016	Resident	Diagnostic Radiology	Johns Hopkins Hospital, Baltimore, MD
07/2016-06/2017	Fellow	Breast Imaging	Memorial Sloan Kettering, New York, NY

Faculty Academic Appointments

2016-2017	Instructor	Radiology	Weill-Cornell School of Medicine, New York, NY
2017-2018	Instructor	Radiology	Harvard Medical School, Boston, MA
2018-	Assistant Professor	Radiology	Harvard Medical School, Boston, MA

Hospital Appointments

2016-2017	Radiologist	Memorial Sloan Kettering Cancer Center, New York, NY
2017-	Radiologist	Massachusetts General Hospital, Boston, MA

Other Professional Positions

2005 – 2007	Board Member	Maryland Families for Stem Cell Research
2008	Organizer	Obama for America
2008 – 2011	Instructor	MCAT Test Preparation Course, Kaplan Test Preparation
2009-2010	Chair	Baltimore Chapter, Organizing for America
2018-	QA/QC Lead	Division of Breast Imaging, Department of Radiology, MGH
2019-	Diversity and Inclusion Officer	Department of Radiology, Massachusetts General Hospital

Committee Service

Local

2005 - 2006	President, Johns Hopkins Chapter, American Medical Student Association
2013 – 2016	Maryland Radiological Society
2013 - 2014	Co-Founder, Resident Fellow Section
2014 – 2015	Vice President
2015 - 2016	President
2017-	Co-Founder, Breast Cancer Disparities Work Group, Department of Radiology, Massachusetts General Hospital
2018-	Associate Chair, Diversity and Inclusion Committee, Department of Radiology, Massachusetts General Hospital
2020-	Co-Chair, Diversity and Inclusion Committee, Department of Radiology, Massachusetts General Hospital
2017-	Massachusetts Radiological Society
2018 –	Member, Breast Imaging Subcommittee
2018 -	Member, Executive Committee
2019 –	Member, Diversity Committee
2019 -	Co-Chair, Breast Imaging Subcommittee
2019 -	Alternate Councilor, Massachusetts Delegation, American College of Radiology
2019 -	Co-Chair, Young Professional Section

National and International

2016 -	Member, Doctors for America, Organizational Task Force
2018 -	Member, Curricular and Educational Resources Committee, Alliance of Medical Student Educators in Radiology, Association of University Radiologists
2018 -	Member, Membership Committee, Society of Breast Imaging

Professional Societies

2011 -	Radiological Society of North America
2013 –	American College of Radiology
2013 –	American Roentgen Ray Society
2014 -	Association of University Radiologists
2016 –	Society of Breast Imaging
2017 -	Massachusetts Radiological Society

Editorial Activities

Ad-Hoc Reviewer

Radiology
Journal of the American College of Radiology
American Journal of Roentgenology
Cancer
Breast Cancer Research
Cardiovascular and Interventional Radiology
European Journal of Radiology
European Journal of Surgical Oncology

Journal of the National Comprehensive Cancer Network
Cancer Causes and Control
The Neuroradiology Journal

Other Editorial Roles

2008-2011 Assistant Editor Medicine

Honors and Prizes

2003	Phi Beta Kappa	Johns Hopkins University	Academic
2002	Third Place, Poster Presentation	Society for Computed Applications in Radiology	Research
2006	First Place, Poster Presentation	Society for Computed Applications in Radiology	Research
2008	Academic Merit Award	Johns Hopkins Department of Epidemiology	Academic
2016	Roentgen Research Award	Radiological Society of North America	Research
2016	Special Distinction in Health Policy	Johns Hopkins Department of Radiology	Health Policy
2016	Finalist, Breast Cancer Research Symposium	Johns Hopkins Hospital	Research
2018	Faculty Development Program	Association of University Radiologists	Research
2020	Exceptional Manuscript Review	Journal of the American College of Radiology	Academic
2020	Bruce J. Hillman Fellowship in Scholarly Publishing	Journal of the American College of Radiology	Research

Report of Funded and Unfunded Projects

Funding Information

Past Funded Projects

2008 - 2011 Anatomic Risk Factors for Venous Thromboembolism
National Heart, Lung and Blood Institute (1F30HL094095-01), F30 Award
Principal Investigator, Total Direct Costs - \$138,222
This grant investigated the role of anatomic risk factors on the risk of venous thromboembolism utilizing cross sectional imaging and case control methodology.

2018 - 2019 Developing and implementing system for quality and safety in women's imaging in Qatar
Qatar National Research Foundation
Co-Principal Investigator, Total Costs - \$898,525
The purpose of this grant was to develop and implement a system for monitoring radiation dose and image quality at Hamad General Hospital.

Current Funded Projects

- 2019 External Validation of an AI Model Predicting Breast Cancer Risk in Black Women
MGH Center for Innovation in Early Cancer Detection, Innovation Grant
Principal Investigator, Total Direct Costs - \$86,956
This grant proposes to externally validate an artificial intelligence model predicting breast cancer risk in black women using standard breast cancer risk factors and digital mammograms.
- 2020 Developing Community for Prospective and Current Under-represented Minority Faculty Members
Massachusetts General Physician Organization, Frigoletto Uplift Grant
Principal Investigator, Total Direct Costs - \$14,400
This grant proposes to organize educational and social events to support under-represented minority faculty members at MGH.

Projects Submitted for Funding

- 2020 Reducing Breast Cancer Mortality Disparities: A Retrospective Cohort Study
Breast Cancer Alliance Young Investigator Award
Principal Investigator, Total Direct Costs - \$125,000
This grant proposes link artificial intelligence algorithms combining full digital mammograms, traditional breast cancer risk factors, polygenic risk scores and endogenous hormones to improve breast cancer risk factors in black women.
- 2020 Validation of an Artificial Intelligence Risk Prediction Model Predicting Breast Cancer Risk in Black Women
American Society of Clinical Oncology, Career Development Award
Principal Investigator, Total Direct Costs - \$180,000
This grant proposes link artificial intelligence algorithms combining full digital mammograms, traditional breast cancer risk factors, polygenic risk scores and endogenous hormones to improve breast cancer risk factors in black women.

Training Grants

- 2007-2008 Pre-doctoral Clinical Research Fellowship
National Institutes of Health, T32 Grant
Training Grant Recipient
I was the recipient of a T32 Grant providing funding for my graduate studies in clinical epidemiology

Current Unfunded Projects

- 2015 - Evaluation of population based mammography screening practices
Principal Investigator
This project uses national survey data to answer questions about population based breast cancer screening practices
- 2016 – Impact of health care policy changes on breast cancer screening.
Principal Investigator
These projects utilize national databases to evaluate the impact of recent health care policy changes (e.g. accountable care organizations, pay for performance, Medicaid expansion) on mammography screening

Report of Local Teaching and Training

Teaching of Students in Courses

2003-2004	MCAT Preparation Session (Undergraduate Students)	Chestnut Hill College (16 hours/year)
2008	Fundamentals of Epidemiology (Undergraduate Students)	Johns Hopkins University (60 hours)
2009	Scientific Foundations of Medicine, Epidemiology (2 nd year Medical Students)	Johns Hopkins School of Medicine (8 hours)
2012 – 2016	Radiology Elective (2 nd -4 th year Medical Students)	Johns Hopkins School of Medicine (8 hours/year)
2016	High Value Health Care Elective (1 st Year Medical Students)	Johns Hopkins School of Medicine (9 hours)

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

2012-2016	Radiology-Pathology Correlation (Radiology and Pathology Residents/Fellows)	Johns Hopkins Hospital (3 hours/year)
2013-2015	Introductory Abdominal Lecture (1 st year Radiology Residents)	Johns Hopkins Hospital (1 hour/year)
2014-2016	Breast Imaging Lecture Series (Radiology Residents)	Johns Hopkins Hospital (1 hour/year)
2014-2016	Introduction to the American College of Radiology (1 st year Radiology Residents)	Johns Hopkins Hospital (1 hour/year)
2017-	Breast Imaging Case Conference (Radiology Residents)	Massachusetts General Hospital (3 hours/year)
2017-	Breast Imaging Lecture Series (Breast Imaging Fellows/Residents)	Massachusetts General Hospital (6 hours/year)

Laboratory and Other Research Supervisory and Training Responsibilities

2005	Laboratory Manager (4 Students)/ Johns Hopkins University	Project management/laboratory meetings (180 hours)
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Clinical Supervisory and Training Responsibilities

2016-2017	Radiography Preceptor/Memorial Sloan Kettering Cancer Center	Teaching residents interpretation of chest and abdominal radiographs (360 hours)
2017-	Breast Imaging Suite Preceptor/ Massachusetts General Hospital	Teaching and supervising fellows, residents and medical students in the breast imaging suite (1,000 hours/year)

Local Invited Presentations

04/2016 – 05/2016	Primer on Appropriate Use of Imaging Johns Hopkins Hospital, Department of Medicine Baltimore, MD	Medicine Sub-Intern Rounds (2 hours)
06/2017	Breast Cancer Screening in Transgender Patients Department of Medicine, Memorial Sloan Kettering Cancer Center, New York, NY	Breast Medicine Conference (0.5 hours)
09/2018	Introduction to Breast Cancer Screening Department of Radiation Oncology Massachusetts General Hospital Boston, MA	Radiation Oncology Conference (1.0 hours)
01/2019	A Review of Quality Metrics in Radiology Department of Radiology Massachusetts General Hospital Boston, MA	Radiology Leadership Track Series (1.0 hours)
05/2019	Case Based Review of 3D Mammography Advances in Surgical Oncology 2019 Harvard Medical School Boston, MA	Surgical Oncology Conference (0.5 hours)
07/2020	Diversity, Equity and Inclusion in Radiology Department of Radiology Massachusetts General Hospital Boston, MA	Radiology Leadership Track Series (1.0 hours)

Report of Regional, National and International Invited Teaching and Presentations

Regional

09/2009	Challenges and Opportunities with Health Care Reform Stevenson University, Baltimore, MD	Invited Lecture (1 hour)
10/2019	Introduction to the Society of Breast Imaging New England Society of Breast Imaging/Massachusetts Radiological Society Boston, MA	Invited Lecture (0.5 hours)
11/2019	Breast Cancer Screening Guideline Controversies Northeastern University, Boston, MA	Invited Lecture (1 hour)
6/2020	Society of Breast Imaging Resources during COVID-19 New England Society of Breast Imaging/Massachusetts Radiological Society	Invited Lecture (0.5 hours)

National

2010	“Iliac Vein Compression as a Risk Factor for Left Versus Right Sided Deep Venous Thrombosis” (selected oral abstract presentation) Radiological Society of North America National Meeting, Chicago, IL	
2015	“Quality Measurements in Radiology: A Systematic Review of the Literature	

- and Survey of Radiology Benefit Management Groups” (selected oral abstract presentation)
 Association of University Radiologists National Meeting, New Orleans, LA
- 2016 “The Impact of ACOs on Screening Mammography” (selected oral abstract presentation)
 American Roentgen Ray Society National Meeting, Los Angeles, CA
- 2016 “Comparative Effectiveness of Breast MRI and Mammography in Screening Young High-Risk Women: A Retrospective Cohort Study” (selected oral abstract presentation)
 Society of Breast Imaging National Meeting, Austin, TX
- 2018 “Nationwide, Longitudinal Trends in CT Colonography Usage: Cross Sectional Survey Results from the 2010 and 2015 National Health Interview Survey” (selected oral abstract presentation)
 Radiological Society of North America, Chicago, IL
- 2019 “When to Stop Breast Cancer Screening” (invited grand rounds lecture)
 Washington University Department of Radiology, St. Louis, MO
- 2019 Interesting Case Conference (invited resident lecture)
 Washington University Department of Radiology, St. Louis, MO
- 2019 “Update on Lung Cancer Screening Utilization: Results from the 2017 Behavioral Risk Factor Surveillance System Cross-Sectional Survey” (selected oral abstract presentation)
 Radiological Society of North America, Chicago, IL
- 2019 MR Imaging-guided Breast Biopsy (Hands-on) (invited lecture).
 Radiological Society of North America, Chicago, IL
- 2020 Breast Cancer Screening Guideline Controversies (invited resident lecture)
 Johns Hopkins Department of Radiology, Baltimore, MD

International

- 2019 “Basics of Breast Cancer Screening” (invited lecture)
 Breast Imaging Workshop, Doha, Qatar
- 2019 “BI-RADS reporting standards for Mammography and Ultrasound” (invited lecture)
 Breast Imaging Workshop, Doha, Qatar
- 2019 “Basics of Evaluating Mammography Image Quality” (invited lecture)
 Breast Imaging Workshop, Doha, Qatar
- 2019 “Supplemental Breast Cancer Screening with Ultrasound and Breast MRI” (invited lecture)
 Breast Imaging Workshop, Doha, Qatar
- 2019 “Tomosynthesis Imaging” (invited lecture)
 Breast Imaging Workshop, Doha, Qatar
- 2019 “Mammography Case Quiz” (invited lecture)
 Breast Imaging Workshop, Doha, Qatar

Report of Clinical Activities and Innovations

Current Licensure and Certification

2011 - 2018	Maryland Medical License
2016 – 2018	New York Medical License
2017 –	Massachusetts Medical License

Report of Scholarship

Peer reviewed original research publications

1. Gitlin JN, Scott WW, Bell K, **Narayan A**. Interpretation accuracy of a CCD film digitizer. *J Digit Imaging*. 2002;15 Suppl 1:57-63. Epub 2002 Mar 21.
2. Gitlin JN, **Narayan AK**, Mitchell CA, Akmal AM, Eisner DJ, Peterson LM, Nie D, McClintock TR. A comparative study of conventional mammography film interpretations with soft copy readings of the same examinations. *J Digit Imaging*. 2007 Mar;20(1):42-52.
3. Kim HS, Young MJ, **Narayan AK**, Hong K, Liddell RP, Streiff MB. A comparison of clinical outcomes with retrievable and permanent inferior vena cava filters. *J Vasc Interv Radiol*. 2008 Mar;19(3):393-9.
4. **Narayan A**, Lee AS, Kuo GP, Powe N, Kim HS. Uterine artery embolization versus abdominal myomectomy: a long-term clinical outcome comparison. *J Vasc Interv Radiol*. 2010 Jul;21(7):1011-7.
5. **Narayan A**, Eng J, Carmi L et al. Iliac vein compression as risk factor for left- versus right-sided deep venous thrombosis: case-control study. *Radiology*. 2012 Dec;265(3):949-57
6. Shinohara RT, **Narayan AK**, Hong K et al. Estimating parsimonious models of longitudinal causal effects using regressions on propensity scores. *Stat Med*. 2013 Sep 30;32(22):3829-37.
7. **Narayan A**, Cinelli C, Carrino JA et al. Quality measurements in radiology: a systematic review of the literature and survey of radiology benefit management groups. *J Am Coll Radiol*. 2015 Nov;12(11):1173-81.e23.
8. Wagner MW, **Narayan AK**, Bosemani T, Huisman TA, Poretti A. Histogram analysis of diffusion tensor imaging parameters in pediatric cerebellar tumors. *J Neuroimaging*. 2016 May;26(3):360-5.
9. **Narayan A**, Hong K, Streiff M et al. The impact of cancer on the clinical outcome of patients after inferior vena cava filter placement: a retrospective cohort study. *Am J Clin Oncol*. 2016 Jun;39(3):294-301.
10. **Narayan AK**, Brotman D, Feldman LS, Mahesh M, Lewin J, Durand DJ. Physicians' perceptions of radiation dose quantity depend on the language in which it is expressed. *J Am Coll Radiol*. 2016 Aug;13(8):909-13.
11. **Narayan AK**, Visvanathan K, Harvey SC. Comparative effectiveness of breast MRI and mammography in screening young women with elevated risk of developing breast cancer: a retrospective cohort study. *Breast Cancer Res Treat*. 2016 Aug;158(3):583-9.
12. **Narayan AK**, Harvey SC, Durand DJ. Impact of medicare shared savings program accountable care organizations at screening mammography: A retrospective cohort study. *Radiology*. 2017 Feb;282(2):437-448.
13. **Narayan A**, Dromi S, Meeks A, Gomez E, Lee B. Breaking Bad News: A Survey of Radiology Residents' Experiences Communicating Results to Patients. *Curr Probl Diagn Radiol*. 2018 Mar - Apr;47(2):80-83.
14. **Narayan A**, Fischer A, Zhang Z, Woods R, Morris E, Harvey S. Nationwide cross-sectional adherence to mammography screening guidelines: national behavioral risk factor surveillance system survey results. *Breast Cancer Res Treat*. 2017 Aug;164(3):719-725.
15. **Narayan A**, Lebron-Zapata L, Morris E. Breast cancer screening in transgender patients: findings from the 2014 BRFSS survey. *Breast Cancer Res Treat*. 2017 Dec;166(3):875-879.
16. **Narayan A**, Lobner K, Fritz J. Open Access Journal Policies: A Systematic Analysis of Radiology Journals. *J Am Coll Radiol*. 2018 Feb;15(2):237-242.
17. **Narayan AK**, Flores EJ, Harvey HB, Lehman CD. Population-Based Health Engagement Opportunities Through Breast Imaging: A Population-Based Cross-Sectional Survey. *J Am Coll Radiol*. 2018 Oct;15(10):1401-1407.

18. **Narayan AK**, Elkin EB, Lehman CD, Morris EA. Quantifying performance thresholds for recommending screening mammography: a revealed preference analysis of USPSTF guidelines. *Breast Cancer Res Treat*. 2018 Nov;172(2):463-468.
19. **Narayan AK**, Keating DM, Morris EA, Mango VL. Calling all calcifications: a retrospective case control study. *Clin Imaging*. 2019 Jan - Feb;53:151-154.
20. Flores EJ, López D, Miles RC, Glover M 4th, Lehman CD, Harvey HB, **Narayan AK**. Impact of Primary Care Physician Interaction on Longitudinal Adherence to Screening Mammography Across Different Racial/Ethnic Groups. *J Am Coll Radiol*. 2019 Feb 5.
21. Miles RC, **Narayan AK**, Lopez DB, Lehman CD, Harvey HB, Mishra V, Glover M 4th, Flores EJ. Chronic Medical Illness as a Risk Factor for Poor Mammography Screening Adherence. *J Womens Health (Larchmt)*. 2018 Dec 19.
22. **Narayan AK**, Lopez DB, Kambadakone AR, Gervais DA. Nationwide, Longitudinal Trends in CT Colonography Utilization: Cross-Sectional Survey Results From the 2010 and 2015 National Health Interview Survey. *J Am Coll Radiol*. 2019 Mar 9.
23. **Narayan AK**, Lopez DB, Miles RC, Dontchos B, Flores EJ, Glover M 4th, Lehman CD. Implementation of an Intimate Partner Violence Screening Assessment and Referral System in an Academic Women's Imaging Department. *J Am Coll Radiol*. 2019 Apr;16(4 Pt B):631-634.
24. **Narayan AK**, Tekes A, Greene A, Mahesh M, Jackson EM, Huisman TAGM, Durand DJ. Radiation Dose Reduction in Children With Hydrocephalus Using Ultrafast Brain MRI. *J Am Coll Radiol*. 2019 Apr 29.
25. López D, Flores EJ, Miles RC, Wang G, Glover M 4th, Shepard JA, Lehman CD, **Narayan AK**. Assessing Eligibility for Lung Cancer Screening Among Women Undergoing Screening Mammography: Cross-Sectional Survey Results From the National Health Interview Survey. *J Am Coll Radiol*. 2019 May 8.
26. **Narayan AK**, Rosenkrantz AB, Wang GX, Daye D, Durand DJ. Trends in Hospital Performance on the Medicare National Outpatient Imaging Metrics: A 5-Year Longitudinal Cohort Analysis. *J Am Coll Radiol*. 2019 May 21.
27. Dontchos BN, **Narayan A**, Seidler M, Mercaldo SF, Miles RC, Ebert E, Lehman CD. Impact of a Same-Day Breast Biopsy Program on Disparities in Time to Biopsy. *J Am Coll Radiol*. 2019 May 29.
28. Miles RC, Lehman CD, Mercaldo SF, Tamimi RM, Dontchos BN, **Narayan AK**. Obesity and breast cancer screening: Cross-sectional survey results from the behavioral risk factor surveillance system. *Cancer*. 2019 Aug 8. doi: 10.1002/cncr.32430.
29. Wang GX, **Narayan AK**, Park ER, Lehman CD, Gorenstein JT, Flores EJ. Screening Mammography Visits as Opportunities to Engage Smokers With Tobacco Cessation Services and Lung Cancer Screening. *J Am Coll Radiol*. 2020 Jan 10. pii: S1546-1440(19)31450-4.
30. Lopez D, Miles RC, Flores EJ, Lehman CD, **Narayan AK**. Breast Cancer Screening in Puerto Rico and Other US Territories: Findings from the 2016 Behavioral Risk Factor Surveillance System Survey. *J Health Care Poor Underserved*. 2020;31(1):340-352.
31. **Narayan AK**, Pourvaziri A, Lopez DB, Miles RC, Kambadakone A, Flores EJ. Using CT Encounters to Improve Colorectal Cancer Screening Utilization: Cross-Sectional Survey Results From the National Health Interview Survey [published online ahead of print, 2020 Mar 3]. *Curr Probl Diagn Radiol*. 2020;S0363-0188(20)30043-8.
32. **Narayan AK**, Al-Naemi H, Aly A, et al. Breast Cancer Detection in Qatar: Evaluation of Mammography Image Quality Using A Standardized Assessment Tool. *Eur J Breast Health*. 2020;16(2):124-128. Published 2020 Apr 1. doi:10.5152/ejbh.2020.5115

33. Febbo J, Little B, Fischl-Lanzoni N, **Narayan AK**, Tiersma KM, Glover M, Shepard JO, Flores EJ. Analysis of Out-of-Pocket Cost of Lung Cancer Screening for Uninsured Patients Among ACR-Accredited Imaging Centers. *J Am Coll Radiol*. 2020 Apr 9:S1546-1440(20)30248-9.
34. Wang GX, Pizzi BT, Miles RC, Dontchos BN, LaPointe AP, Lehman CD, **Narayan AK**. Implementation and Utilization of a "Pink Card" Walk-In Screening Mammography Program Integrated With Physician Visits [published online ahead of print, 2020 Jul 30]. *J Am Coll Radiol*. 2020;S1546-1440(20)30752-3. doi:10.1016/j.jacr.2020.07.007
35. Stowell JT, Parikh Y, Tilson K, **Narayan AK**. Lung cancer screening eligibility and utilization among transgender patients: an analysis of the 2017-2018 United States Behavioral Risk Factor Surveillance System survey [published online ahead of print, 2020 Jul 5]. *Nicotine Tob Res*. 2020;ntaa127. doi:10.1093/ntr/ntaa127
36. Joseph NP, Reid NJ, Som A, Li MD, Hyle EP, Dugdale CM, Lang M, Betancourt JR, Deng F, Mendoza DP, Little BP, **Narayan AK**, Flores EJ. Racial/Ethnic Disparities in Disease Severity on Admission Chest Radiographs among Patients Admitted with Confirmed COVID-19: A Retrospective Cohort Study. *Radiology*. 2020 Jul 16:202602. doi: 10.1148/radiol.2020202602. Epub ahead of print. PMID: 32673191; PMCID: PMC7370353.
37. Whorms DS, **Narayan AK**, Pourvaziri A, et al. Analysis of the Effects of a Patient-Centered Rideshare Program on Missed Appointments and Timeliness for MRI Appointments at an Academic Medical Center [published online ahead of print, 2020 Aug 10]. *J Am Coll Radiol*. 2020;S1546-1440(20)30789-4. doi:10.1016/j.jacr.2020.05.037
38. Stowell JT, **Narayan AK**, Wang GX, et al. Factors affecting patient adherence to lung cancer screening: A multisite analysis [published online ahead of print, 2020 Aug 26]. *J Med Screen*. 2020;969141320950783. doi:10.1177/0969141320950783

Other peer reviewed publications

Reviews, Chapters, Monographs and Editorials:

1. Durand DJ, **Narayan AK**, Rybicki FJ et al. The health care value transparency movement and its implications for radiology. *J Am Coll Radiol*. 2015 Jan;12(1):51-8.
2. **Narayan A**, Jallo G, Huisman TA. Extracranial, peritoneal seeding of primary malignant brain tumors through ventriculo-peritoneal shunts in children: Case report and review of the literature. *Neuroradiol J*. 2015 Oct;28(5):536-9.
3. **Narayan A**, Trimble C, Seeburg D, Minwell G, Meeks AK, Macura KJ. Fostering longitudinal involvement in state chapter resident and fellow sections: The maryland experience. *J Am Coll Radiol*. 2016 May;13(5):598-600.
4. **Narayan AK**, Durand DJ, Feldman LS. Avoiding contrast-enhanced computed tomography scans in patients with shellfish allergies. *J Hosp Med*. 2016 Jun;11(6):435-437.
5. **Narayan AK**, Baer A, Fradin J. Sonographic findings of IgG4-related disease of the salivary glands: Case report and review of the literature. *J Clin Ultrasound*. 2017 May 11.
6. **Narayan A**, Bynum J, Demehri S, Fayad L. Radiation-related soft tissue sarcoma in a veterinary technician. *Diagn Interv Imaging*. 2018 Mar;99(3):181-182.'
7. Flores EJ, **Narayan AK**. The Role of Radiology in Intimate Partner Violence. *Radiology*. 2019 Apr;291(1):70-71.

8. **Narayan AK**, Lehman CD. Mammography Screening Guideline Controversies: Opportunities to Improve Patient Engagement in Screening. J Am Coll Radiol. 2020 Feb 3. pii: S1546-1440(20)30011-9.
9. **Narayan AK**. Commentary on "Continuation of Annual Screening Mammography and Breast Cancer Mortality in Women Older Than 70 Years" [published online ahead of print, 2020 Jul 22]. AJR Am J Roentgenol. 2020;10.2214/AJR.20.23693. doi:10.2214/AJR.20.23693

Books/Textbooks for the medical or scientific community:

1. **Narayan A**, Jochelson MS. Contrast Enhanced Mammography. In: Fuchsjäger, M, Morris E., Helbich T, editors. Breast Imaging – Diagnosis and Intervention. Medical Radiology: Diagnostic Imaging. New York, USA: Springer. In Press.

Thesis

Narayan, A (2011). Risk Factors for and the management of venous thromboembolism. Thesis (Ph. D. dissertation). Johns Hopkins University Press.

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings (Last 3 years, not published/accepted as full length manuscripts)

1. Johnson PT, Shahid A, **Narayan A** et al. High value body CT practice: evidence based guidance for protocol optimization. Radiological Society of North America. Poster Presentation. Radiological Society of North America, Chicago, IL. 2015.
2. **Narayan A**, Harvey SC. A readers' guide on modeling strategies used in recent ACS and USPTF guidelines on mammography screening. Poster Presentation. Society of Breast Imaging. Austin, TX. April 2016.
3. **Narayan A**, Elkin E, Morris EA. Revealed preference theory and US preventative services task force (USPSTF) breast cancer screening recommendations. Poster Presentation. American College of Radiology Annual Meeting. Washington D.C., May 2017.
4. **Narayan A**, Durand D. Performance of nation's hospitals on medicare's outpatient imaging measures. Poster Presentation. Radiological Society of North America, Chicago, IL. 2017.
5. **Narayan A**, Flores EJ, Harvey HB, Lehman CD. Population based health engagement opportunities through mammography screening: a population based cross sectional survey. Poster Presentation. Radiological Society of North America, Chicago, IL. 2017.