# SHANTANU NUNDY, M.D., M.B.A.

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# **EDUCATION**

University of Chicago Medical Center T32 AHRQ Post-Doctoral Research Fellowship in Health Services Research	07/2011-06/2013	
The University of Chicago Booth School of Business M.B.A. with Honors, Graduate Program in Health Administration and Policy (GPHAP)	09/2011-06/2013	
Johns Hopkins University School of Medicine M.D., Alpha Omega Alpha	09/2004-06/2008	
Massachusetts Institute of Technology B.S. Management Science, Minor Economics, Minor Biology, GPA: 5.0/5.0	09/2000-12/2003	
CLINICAL APPOINTMENTS		
Neighborhood Health Internist	07/2019-Present	
Mary's Center Internist	07/2013-06/2019	
University of Chicago Medical Center Clinical Instructor, Department of Internal Medicine	07/2011-06/2013	
University of Chicago Medical Center Resident Physician, Department of Internal Medicine	07/2008-06/2011	
OTHER PROFESSIONAL APPOINTMENTS		
George Washington Milken Institute of Public Health Professorial Lecturer	07/2013-Current	
Accolade EVP& Chief Health Officer	11/2019-04/2025	
The World Bank Senior Health Specialist	02/2019-11/2019	
Human Diagnosis Project Nonprofit Director	01/2015-01/2019	
Evolent Health Managing Director, Clinical Innovations	07/2013-01/2015	

# **RESEARCH APPOINTMENTS**

SNEHA (maternal care NGO in Mumbai, India) Co-investigator on WHO grant to study the scale up of a provider participatory model to strength for maternal and newborn health in the slums of Mumbai.	2012-2014 en referral systems
Results for Development Conducted landscaping study funded by the Gates Foundation of new product R&D gaps to addre noncommunicable diseases (NCDs) in low- and middle-income countries.	2012 ess
Division of Parasitic Diseases, Centers for Disease Control and Prevention Studied the relationship between wealth and infectious diarrhea amongst children living in a Peru	2008 wian shantytown.
World Alliance for Patient Safety, World Health Organization Developed economic evaluation of the Cleaner Care is Safer Care initiative aimed at decreasing h infection. Member of the Safe Surgery Saves Lives initiative aimed at reducing harm from surger	
Quality and Safety Research Group, Johns Hopkins Evaluated patient safety initiatives to improve communication and teamwork in the operating roo compliance with DVT prophylaxis. Developed tools to estimate savings from quality improveme	
Department of Anesthesiology, Johns Hopkins Evaluated the largest randomized control trial to date of aminocaproic acid to reduce perioperativ orthopedic spine surgery.	2006-2007 re blood loss from
Division of Cardiology, Johns Hopkins Studied the mechanism of action of oxypurinol, an experimental agent for treating cardiac failure analysis.	2005 , using microarray
Wilmer Eye Institute, Johns Hopkins Compared the cost of chronic disease medications in the interim Medicare prescription program t	2004-2005 o retail.
Harvard Business School Evaluated potential drivers of the Lucas Paradox, the observation that capital does not flow from economies to developing ones.	2004 industrialized
MIT Economics Department Analyzed medical malpractice payments using the National Practitioner Data Bank.	2002-2003
Accenture (formerly Anderson Consulting) Researched a chapter for "Making Markets: How Firms Can Design and Profit from Online Auct Exchanges," published June 2002 by Harvard Business School Press.	2000-2001 ions and
Department of Radiology, Harvard Medical School Researched a new method of magnetic resonance imaging (MRI) using hyperpolarized noble gas	2000-2001

# **BOARD CERTIFICATION AND LICENSURE**

Licensed Physician and Surgeon, Washington DC, Department of Professional Regulation

Licensed Physician and Surgeon, State of Virginia, Department of Professional Regulation

Licensed Physician and Surgeon, State of Illinois, Department of Professional Regulation

Board Certified, Internal Medicine, American Board of Internal Medicine

# HONORS AND AWARDS

MacArthur Foundation 100&Change, Semi-Finalist	2017
International Society for Research on Internet Interventions Travel Award	2013
Early Career Scientist Travel Award, Behavioral Research in Diabetes Group Exchange	2012
Ray E. Brown Fellow (\$10K), University of Chicago	2011
Booth Merit Scholarship (\$50K), The University of Chicago Booth School of Business	2011
Johns Hopkins General Internal Medicine Housestaff Award, Honorable Mention	2010
Alpha Omega Alpha, Johns Hopkins School of Medicine	2008
CDC O. C. Hubert Fellowship in International Health	2008
Infectious Disease Society of America Summer Scholarship for Medical Students	2007
International Academy of Achievement, Delegate	2007
Paul and Daisy Soros Fellowship for New Americans (\$70K)	2006
AFAR Medical Student Summer Research Training in Aging Program	2005
SOURCE Community Service Award, Johns Hopkins University	2005
Paul Ambrose Health Promotion Student Leadership Symposium	2005
Kawamura Fellowship: One of four student ambassadors to Japan from MIT and Harvard	2004
Paul E. Gray Award: Undergraduate research in medical malpractice	2003
MIT Community Service Grant: Funding to establish a medical clinic in rural India	2002

## FUNDING

Moore FoundationNundy (PI)01/01/2017-01/01/2019The goal of this study is to validate the efficacy of collective intelligence to reduce diagnostic error in an ambulatory<br/>setting, in conjunction with researchers at UCSF.

Rx FoundationNundy (PI)01/01/2017-01/01/2019The goal of this study is to pilot-test a system of collective intelligence in multiple safety net centers.

ABIM Foundation Nundy (PI) 01/01/2017-12/31/2017 The goal of this study is to develop and pilot-test a series of clinical case simulations based on the ABIM Choosing Wisely guidelines for value-based care.

T32 HS00084Nundy (Individual Grantee)07/01/2011-06/30/2013Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Training Grant, Agency for HealthcareResearch and Quality (AHRQ). Principal investigator: Kathleen Cagney, PhD.

PA-07-439Nundy (Individual Grantee)07/01/2011-06/30/2013National Institutes of Health (NIH) Health Disparities Loan Repayment Program (LRP). Funded by the National<br/>Center on Minority Health and Health Disparities (NCMHD).

### UL1 RR024999 Nundy (PI)

#### 02/01/2011-1/31/2012

Institute for Translational Medicine grant entitled "Using Text Messages to Improve Heart Failure Self-Management After Discharge." The goal of this study is to pilot a text message-based heart failure self-management program for patients discharged home after admission for acute decompensated heart failure and to plan future intervention trials.

UL1 RR024999 Nundy (PI) 02/24/2010-2/23/2010 Institute for Translational Medicine grant entitled "Assessing the usability, navigability, and content of a community Web-based preventive health tool." The goal of this study is to develop and study an online tool that a layperson can use to develop a personalized preventive health checklist based on guidelines from the USPSTF and CDC.

### TEACHING

2011-2013	Resident Clinic Preceptor, University of Chicago Medical Center Primary Care Group
2011-2013	Resident Clinic Preceptor, Community Health Clinic (free clinic)
2011-2013	Case Studies in Global Health Delivery, University of Chicago: co-designed and taught a campus- wide seminar course for graduate students

# LECTURES AND INVITED TALKS (SELECTED)

#### National

"How artificial intelligence can enhance clinical collaboration, mastery, and joy in practice." American Medical Association, Interim Meeting Leadership Council Luncheon. November 9, 2017. Honolulu, HI.

"Use of machine learning in health care." National Academy of Medicine, Advisory Committee for the Health and Medicine Division, Session on machine learning and artificial intelligence. September 15, 2017. Washington, D.C.

"AI in Medicine: An Opportunity to Serve More Patients, Beginning with the Underserved." American Medical Association, Council on Legislation. February 26, 2017. Washington, D.C.

"Text Messaging in the Management of Diabetes and Obesity." International Society for Research on Internet Interventions (ISRII), 6th Annual Scientific Meeting. May 18, 2013. Chicago, IL.

"The State of Global NCDs: One year after the UN High Level Meeting." The George Washington University Center for Global Health. November 12, 2012. Washington, DC.

"A Text Message-Based Diabetes Self-Management and Behavioral Change Intervention." Behavioral Research in Diabetes Group Exchange (BRIDGE), 26th Annual Conference. February 16, 2012. Napa Valley, CA.

"Speak into the Microphone: Leveraging Social Media for Population Health Improvement." American College of Preventive Medicine, Preventive Medicine 2011. Feb 17, 2011. San Antonio, TX.

"Using Text Messaging to Reduce Health Disparities: A Pilot Study," 3rd mHealth Networking Conference. March 30, 2011. Chicago, IL.

#### <u>Regional</u>

"How to Stay Healthy At Every Age." PATH Headquarters, Seattle, WA. May 7, 2010.

"A Text-Message Diabetes Intervention in Urban African-Americans." Midwest SGIM Regional Meeting, Health Disparities: Recognition, Understanding & Intervention. September 24, 2010. Chicago, IL.

#### Local

"Using Text Messaging to Improve Primary Care in Low-Income Populations," Johns Hopkins Bloomberg School of Public Health, Department of Health Policy and Management. January 31, 2013.

"Diabetes: Epidemiology, Pathophysiology, and Management", Chicago Academic Medicine Program (CAMP), University of Chicago. July 6, 2012.

"Developing Research Instruments to Validate a Diabetes Mobile Health Behavioral Model," University of Chicago. Apr 27, 2012.

"Translating A Behavioral Model of Diabetes Mobile Phone Interventions into A Self-Management Program," University of Chicago. Mar 2, 2012.

"Understanding How Mobile-Phone-Based Self-Management Programs Affect Self-Management in African-Americans with Diabetes," University of Chicago. Feb 10, 2012

"Translating Evidence-Based Preventive Health Recommendations into Web-Based Patient Tool," Research-in-Progress Conference, University of Chicago, Nov 11, 2011.

"Using Text Messaging to Improve Diabetes Self-Management at The University of Chicago Health Plan," University of Chicago. Sept 9, 2011.

"Needs Assessment: Lessons from Ruhiira, Uganda." Concepts in Global Health Research Lecture Series, Pritzker School of Medicine. Oct 26, 2010.

"Use of Personal Health Technology to Improve Preventive Care and Chronic Disease Management." Pritzker School of Medicine, Oct 1, 2010.

"Creating an Online Preventive Health Checklist," Pritzker School of Medicine. Oct 12, 2009.

### **PEER-REVIEWED PUBLICATIONS**

Khoong EC, Nouri SS, Tuot DS, **Nundy S**, Fontil V, Sarkar U. Comparison of Diagnostic Recommendations from Individual Physicians versus the Collective Intelligence of Multiple Physicians in Ambulatory Cases Referred for Specialist Consultation. Med Decis Making. 2022 Apr;42(3):293-302. doi: 10.1177/0272989X211031209. Epub 2021 Aug 11.

**Nundy S**, Cooper LA, Mate KS. The Quintuple Aim for Health Care Improvement: A New Imperative to Advance Health Equity. JAMA. 2022 Feb 8;327(6):521-522. doi: 10.1001/jama.2021.25181.

Khoong EC, Fontil V, Rivadeneira NA, Hoskote M, **Nundy S**, Lyles CR, Sarkar U. Impact of digitally acquired peer diagnostic input on diagnostic confidence in outpatient cases: A pragmatic randomized trial. J Am Med Inform Assoc. 2021 Mar 1;28(3):632-637. doi: 10.1093/jamia/ocaa278.

Aggarwal N, Ahmed M, Basu S, Curtin JJ, Evans BJ, Matheny ME, Nundy S, Sendak MP, Shachar C, Shah RU, Thadaney-Israni S. Advancing Artificial Intelligence in Health Settings Outside the Hospital and Clinic. NAM Perspect. 2020 Nov 30:2020:10.31478/202011f. doi: 10.31478/202011f. eCollection 2020.

Nundy S, Kaur M, Singh P. Preparing for and responding to Covid-19's 'second hit'. Healthc (Amst). 2020 Dec;8(4):100461. doi: 10.1016/j.hjdsi.2020.100461. Epub 2020 Aug 13.

**Nundy S**, Patel KK. Hospital-at-Home to Support COVID-19 Surge-Time to Bring Down the Walls? JAMA Health Forum. 2020 May 1;1(5):e200504. doi: 10.1001/jamahealthforum.2020.0504.

**Nundy S**, Patel KK. Self-Service Diagnosis of COVID-19-Ready for Prime Time? JAMA Health Forum. 2020 Mar 2;1(3):e200333. doi: 10.1001/jamahealthforum.2020.0333.

**Nundy S**, Montgomery T, Wachter RM. Promoting Trust Between Patients and Physicians in the Era of Artificial Intelligence. JAMA. 2019 Aug 13;322(6):497-498. doi: 10.1001/jama.2018.20563.

Chatterjee S, Desai S, Manesh R, Sun J, **Nundy S**, Wright SM. Assessment of a Simulated Case-Based Measurement of Physician Diagnostic Performance. JAMA Netw Open. 2019 Jan 4;2(1):e187006. doi: 10.1001/jamanetworkopen.2018.7006.

Huffman M, Gustafson S, Chatterjee S, Rabner M, **Nundy S**, Gerkovich MM, Wright SM. Bolstering diagnostic reasoning skills with adaptive learning. Med Teach. 2018 Aug;40(8):845-849. doi: 10.1080/0142159X.2018.1484561. Epub 2018 Aug 9.

Semigran HL, Levine DM, Nundy S, Mehrotra A. Comparison of Physician and Computer Diagnostic Accuracy. JAMA Intern Med. 2016 Dec 1;176(12):1860-1861.

**Nundy S,** Oswald J. Relationship-centered care: A new paradigm for population health management. Healthc (Amst). 2014 Dec;2(4):216-9.

**Nundy S**, Mishra A, Hogan P, Lee SM, Solomon MC, Peek ME. How do mobile phone diabetes programs drive behavior change? Evidence from a mixed methods observational cohort study. Diabetes Educ. 2014 Nov-Dec;40(6):806-19.

Karter AJ, **Nundy S**, Parker MM, Moffet HH, Huang ES. Incidence of remission in adults with type 2 diabetes: the diabetes & aging study. Diabetes Care. 2014 Dec;37(12):3188-95.

**Nundy S**, Lu CY, Hogan P, Mishra A, Peek ME. Using Patient-Generated Health Data From Mobile Technologies for Diabetes Self-Management Support: Provider Perspectives From an Academic Medical Center. J Diabetes Sci Technol. 2014 Jan;8(1):74-82.

**Nundy S**, Dick JJ, Chou CH, Nocon RS, Chin MH, Peek ME. Mobile phone diabetes project led to improved glycemic control and net savings for Chicago plan participants. Health Aff (Millwood). 2014 Feb;33(2):265-72.

**Nundy S**, Razi RR, Dick JJ, Smith B, Mayo A, O'Connor A, Meltzer DO. A Text Messaging Intervention to Improve Heart Failure Self-Management After Hospital Discharge in a Largely African-American Population: Before-After Study. J Med Internet Res 2013;15(3):e53.

**Nundy S**, Dick JJ, Goddu A, Hogan P, Lu E, Solomon MC, Bussie A, Chin MH, Peek ME. Using Mobile Health to Support the Chronic Care Model: Developing an Institutional Initiative. International Journal of Telemedicine and Applications. Volume 2012 (2012).

**Nundy S**, Dick JJ, Solomon M, Peek ME. Developing a Behavioral Model for Mobile Phone-Based Diabetes Interventions. Patient Education and Counseling. 2012 Oct 9. pii: S0738-3991(12)00381-3.

**Nundy S**, Surati M, Nwadei I, Singal G, Peek ME. A Web-Based Patient Tool for Preventive Health: Preliminary Report. Journal of Primary Care & Community Health. Volume 3, Issue 4, October 2012.

Duval-Arnould J, Mathews SC, Weeks K, Colantuoni E, Mukherjee A, **Nundy S**, Watson SR, Holzmueller CG, Lubomski LH, Goeschel CA, Pronovost PJ, Pham JC, Berenholtz SM. Using the Opportunity Estimator Tool to Improve Engagement in a Quality and Safety Intervention. The Joint Commission Journal on Quality and Patient Safety. Volume 38, Number 1. January 2012.

Kishore SP, Siegel KR, Ahmad A, Aitsi-Selmi AA, Ali MK, Baker P, Basu S, Bitton A, Bloomfield GS, Bukhman G, Emery E, Feigl AB, Grepin K, Huffman MD, Kajana K, Khandelwal S, Kolappa K, Liu C, Lokhandwala N, Marwah V, Mwatsama M, Novak N, **Nundy S**, Park PH, Perez CP, Price MR, Rapkin N, Rice H, Seligman B, Shah S, Silva J, Sridhar D, Stuckler D, Vedanthan R, Zaman J. Youth Manifesto on Non-Communicable Diseases. Global Heart. Vol. 6, No. 4, 2011.

Dick JJ, **Nundy S**, Solomon MC, Bishop KN, Chin MH, Peek ME. The Feasibility and Usability of a Text-Message-Based Program for Diabetes Self-Management in an Urban African-American Population. Journal of Diabetes Science and Technology, Volume 5, Issue 5. Sept 2011.

**Nundy S**, Gilman RH, Xiao L, Cabrera L, Cama R, Ortega Y, Kahn G, Cama VA. Wealth and its associations with enteric parasitic infections in a low-income community in Peru: Use of principal component analysis. American Journal of Tropical Medicine and Hygiene. 2011 Jan;84(1):38-42.

Berenholtz SM, Pham JC, Garrett-Mayer E, Atchison CW, Kostuik JP, Cohen DB, **Nundy S**, Dorman T, Ness PM, Klag MJ, Pronovost PJ, Kebaish KM. Effect of Epsilon Aminocaproic Acid on Red-Cell Transfusion Requirements in Major Spinal Surgery. Spine. 2009 Sep 1;34(19):2096-103.

Nundy S. Adverse Events: Learning the Science Behind the Art. Academic Medicine 83(12):1164, Dec 2008.

**Nundy S**, Mukherjee A, Sexton JB, Pronovost PJ, Knight A, Rowen L, Duncan M, Syin D, Makary M. Impact of Preoperative Briefings on Operating Room Delays. Archives of Surgery 2008; 143: 1068-1072.

Mahadevia AA, Nundy S, Frick KD, Jampel HD. Medicare prescription drug cards: effectiveness for patients with glaucoma. Arch Ophthalmol. 2006 Aug;124(8):1175-9.

Chandra A, **Nundy S**, Seabury SA. The growth of physician medical malpractice payments: evidence from the National Practitioner Data Bank. Health Aff (Millwood). 2005 Jan-Jun;Suppl Web Exclusives: 240-249.

### **POLICY PAPERS**

**Nundy S**, Han E. New Technology Needs for Noncommunicable Diseases in Developing Countries: a landscaping study. Results for Development Institute (R4D). Washington DC. (accessible at <u>http://healthresearchpolicy.org/</u> assessments/new-technology-needs-noncommunicable-diseases-landscaping-study)

WHO Guidelines for Safe Surgery, First Edition. World Alliance for Patient Safety. World Health Organization, 2008. [contributing author]

#### BOOKS

**Nundy, S**. Care After Covid: What the Pandemic Revealed Is Broken About Healthcare and How To Reinvent It. McGraw Hill, May 2021.

**Nundy, S.** Stay Healthy At Every Age: What Your Doctor Wants You to Know. The Johns Hopkins University Press, April 2010.

### ABSTRACTS

**Nundy S**, Hogan P, Dick JJ, Goddu A, Solomon MC, Chin MH, Peek ME. How Can Mobile Phone Diabetes Programs Change Behavior? American Diabetes Association 73<sup>rd</sup> Scientific Sessions, June 2013.

**Nundy S**, Hogan P, Goddu A, Dick JJ, Bussie A, Chin MH, Peek ME. Using Text Messaging to Provide Self-Management Support and Care Coordination for Individuals With Chronic Disease. Society of General Internal Medicine, National Meeting, April 2013.

**Nundy S**, Dick JJ, Hogan P, Lu E, Solomon MC, Bussie A, Goddu A, Chin MH, Peek ME. Developing an Integrated Text Message-Based Care Management Program for Diabetes. Society of General Internal Medicine, Midwest Regional Conference, September 2012.

**Nundy S**, Dick JJ, Solomon MC, Peek ME. Developing a Behavioral Model for Mobile Phone-Based Diabetes Interventions. Society of General Internal Medicine, Midwest Regional Conference, September 2012.

**Nundy S**, Razi RR, Dick JJ, Smith B, Mayo A, O'Connor A, Meltzer DO. Using Text Messaging to Improve Heart Failure Self-Management After Discharge in an Urban African-American Population. Society of General Internal Medicine, Midwest Regional Conference, September 2012.

Quinn MT, Steenes AM, Solomon MC, Gawin A, **Nundy S**, McClinton-Powel L, Embil FK, Burnet DL. Text Messaging to Engage Parents of Children Participating in a Community-Based After-School Nutrition and Physical Activity Program. Society of General Internal Medicine, Annual Meeting, May 2012.

Surati M, Nwadei I, Bishop B, Peek M, Singal G, **Nundy S**. Translating Evidence-Based Preventive Health Recommendations into a Web-Based Patient Checklist. Preventive Medicine 2011, February 2011.

Chung C, Dekosky A, Georgitis E, Jih J, Kalscheur M, Matus H, **Nundy S**, Retzer E, Van Opstal E, Vinci L, Oyler J, Arora, V. Improving Patient Perceptions on Preventive Cardiovascular Care in the Primary Care Group. The University of Chicago Quality Fair, Chicago IL, October 2010.

**Nundy S**, Dick JJ, Solomon MC, Bishop KN, Chin MH, Peek ME. A Text-Message-Based Diabetes Intervention in Urban African-Americans. Society of General Internal Medicine, Midwest Regional Conference, September 2010.

**Nundy S**, Cama V, Cabrera L, Cama R, Gilman R, Xiao L. Development of a Statistical Tool for Assessing Relative Poverty Within A Low-Income Community. Unite for Sight Global Health and Innovation Conference at Yale, April 2010.

Cama V, **Nundy S**, Cabrera L, Cama R, Gilman R, Xiao L. Use of Principal Component Analysis to Evaluate Wealth and Its Associations With Enteric Parasitic Infections in a Low-Income Community in Peru. American Society of Tropical Medicine and Hygiene (ASTHMH) 57th Annual Scientific Meeting, December 2008.

Sinha S, Nundy S, Carr G, Sandbo N. Is all Angina Really Chest Pain? A Case Report of Ludwig's Angina. Abstract. Presented at American College of Physicians (ACP) Northern Illinois Chapter Meeting, October 2008.

## PRESS (SELECTED)

Doctors Get Their Own Second Opinions. The Atlantic. Olga Khazan. October 10, 2017.

Can a Crowdsourced AI Medical Diagnosis App Outperform Your Doctor? Scientific American. Jeremy Hsu. August 11, 2017.

Want a Diagnosis Tomorrow, Not Next Year? Turn to AI. Wired. Megan Molteni. August 10, 2017.

How Text Messages Can Help Diabetic Patients. Health Affairs podcast. February 5, 2014.

Text Messaging System Helps Diabetics Keep In Touch With Doctors. CBS Chicago. October 18, 2012.