SUMAN CHAKRABARTI

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9th Floor Agarwal Corporate Tower Rajendra Place New Delhi, 110008, India <u>Linkedin profile link</u> Email: s.chakrabarti@cgiar.org
Mobile: (+91) 9810753506
Google scholar link
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RESEARCH INTERESTS

Dietary risk factors and linkages with food systems

Maternal and child undernutrition in LMICs

Econometric evaluation/assessments of social safety nets and sanitation programs

Equity implications of health policies and programs

Economic evaluation of disease burden and health policies at scale

EDUCATION

2018-22 University of Washington, School of Public Health, Seattle, WA, USA

Doctor of Philosophy in Global Health: Metrics

- Fields of study: Global health; Global burden of disease; Applied quantitative methods; Implementation science; Nutrition
- <u>Dissertation</u>: Dietary patterns, metabolic mediators and racial disparities in all-cause mortality in the United States: pooled individual-level analyses of seven prospective cohorts, 1970-2016

2012-14 Indira Gandhi National Open University, New Delhi, India

Master of Arts in Economics

• Concentrations: Economic evaluation; Econometrics

2006-08 University of Delhi, New Delhi, India

Bachelor of Arts in Economics with Honors

RESEARCH EXPERIENCE

Associate Research Fellow

International Food Policy Research Institute, WA, USA (2023-)

Roles

Conduct research on maternal and child health and nutrition in India; and agricultural food systems in South Asia

Methods development, manuscript, and report preparation for peer-reviewed and non-peer reviewed publications

Managing a team of research analysts

Liaising with stakeholders

Postdoctoral Fellow

Health, Society, & Behavior, University of California, Irvine, USA (2022-2023)

Roles

Conduct independent research using US birth data (1995-2021) and vital statistics data Methods development, and manuscript preparation for peer-reviewed publications

Predoctoral Research Associate/ Teaching Assistant

Institute of Health Metrics and Evaluation, University of Washington, Seattle, USA (2018-2022)

Roles:

RA: Methods development, analytics support for projects and manuscript preparation for peer-reviewed publications.

- Synthesized unit level data from multiple US based cohorts and performed statistical analysis of dietary risk factors of mortality and morbidity and prepared three manuscripts for publication.
- Provided data support, created visualizations, and policy briefs for the IHME COVID-19 projections team in 2020
- Reviewed empirical literature on the costs of Alzheimer's disease and dementia for a meta-analysis and modeling study

TA: Assisted faculty member with classroom instruction, exams, and grading homework, lab sessions, and provided support and guidance to students for three graduate level courses (see below for course details)

Consultant

The World Bank, Washington DC, USA (2021)

Roles

Developed methods, performed statistical analysis, and led a report on food systems and fiscal policy to address obesity in South Asia

Research analyst, Senior Research Analyst, Consultant

International Food Policy Research Institute, New Delhi, India (Sept 2011-2018), (June-July 2021)

Roles:

- Provided research and analytical support to senior research staff on topics related to health and nutrition. Duties include econometric and statistical analyses of quantitative data from several pilot programs on multi-sectoral agriculture, health, and nutrition; organization, cleaning, and management of large datasets.
- Participated in the design of research protocols, quantitative survey instruments, programming in computer assisted personal interviewing software, data collection, and processing.
- Facilitated the dissemination of findings to government, research, and implementation partners domestically and internationally, including India, Thailand, Sri Lanka and Scaling-up Nutrition partner countries.
- Projects: Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition (POSHAN) in India, 2013-2018 http://poshan.ifpri.info/;

The World Bank JEEViKA women's self-help group project, 2016 -2018

https://projects.worldbank.org/en/projects-operations/project-detail/P090764;

Women Improving Nutrition through Group-based Strategies (WINGS), 2015-2016

https://gaap.ifpri.info/portfolio/south-asia/wings/;

Transform Nutrition, 2014-2016 http://www.transformnutrition.org/:

Leveraging Agriculture for Nutrition in South Asia (LANSA), 2013

https://www.eldis.org/collection/lansa;

Alive & Thrive – A comprehensive program to improve breastfeeding and complementary

feeding practices in Bangladesh, 2013 https://www.aliveandthrive.org/;

Suaahara – An integrated nutrition project in Nepal, 2013 https://2012-

2017.usaid.gov/nepal/fact-sheets/suaahara-project-good-nutrition;

Markets in Asia- A market value chains project in Indonesia, 2011-2012

Manager

Paradigm Associates, New Delhi, India (2009-2011)

Roles:

Data collection, statistical analyses, conceptualization of small scale urban pilot projects.

Projects:

- Revamping pedestrian subways in New Delhi via a PPP model.
- Address congestion in urban parking spaces in New Delhi

PRESENTATIONS AT PROFESSIONAL MEETINGS

- 9. "Role of data, technology and implementation research in maternal and child nutrition interventions" presented at Maternal Child Health and Nutrition Tackling anemia, malnutrition, and food systems affecting health in developing countries, New Delhi 2023.
- 8. "Impact of India's Sanitation campaign on infant mortality in India" presented at Population Association of America 2022.
- 7. "Intergenerational nutrition benefits of India's national school feeding program" IFPRI webinar 2021
- 6. "The impact of the one child policy on China's infant mortality from 1970-1989: a quasi-experimental study" presented at Population Association of America 2021 session on Child and infant mortality effects of non-health policies.
- 5. "Arbitrage and corruption in social safety-net programs: Evidence from India's Public Distribution System" presented at AAEA annual conference in Boston, USA, 2016.

- 4. "Strengthening nutrition-sensitivity of social protection programs in India" presented at POSHAN seminar on social protection, New Delhi 2015
- 3. "Enhancing the nutrition sensitivity of India's National Food Security Act interventions" presented at the Scaling up Nutrition annual conference in Bangkok, Thailand, 2015
- 2. "Estimating the Cost of Scaling Up Direct Nutrition Interventions in India" presented at the Stop Stunting conference in Colombo, Sri Lanka and India, 2015
- 1. "Introduction to Environmental Awareness" at the Clean Up the World Campaign, New Delhi, 2001.

TEACHING EXPERIENCE

Teaching Assistantships for Graduate Level Courses

Health Economics and Health Systems in Low-and-Middle Income Countries

Department of Health Metrics Sciences, University of Washington, USA (spring quarter, 2022)

Topics: Introduction to health economics, Health care markets and economics, Economic Returns to Health, Economic development and development assistance for health, Cost effectiveness analysis, Financing health care, Evidence on interventions: HIV/AIDS, Malaria, Health Insurance and Maternal Health.

Global Burden of Disease: Methods and Results

Department of Health Metrics Sciences, University of Washington, USA (winter quarter, 2022)

Topics: GBD analytical framework, Disability weights, GBD philosophical underpinnings, GBD results and implications, Spatiotemporal Gaussian process regression (ST-GPR), Garbage codes, Cause of Death Ensemble Model (CODEm), Disease modeling meta-regression (DisMod-MR), Meta-regression – Bayesian, regularized, trimmed (MR-BRT), Comparative risk assessment (CRA), COVID-19 estimation, GBD results and forecasting

Principles of Health Metrics

Department of Health Metrics Sciences, University of Washington, USA (fall quarter, 2021)

Topics: History of population health measurement, Measurement landscape, Data systems for population health, Principles for detecting and correcting bias, Data synthesis methods, Traditional metrics, Life tables. Summary metrics, Disability weights, Categorical and counterfactual approaches, Case study: COVID-19, Epidemiological and demographic transitions, Uncertainty, Metrics of inequality, Philosophical issues in population health metrics, Principles for indicator development, Global target setting

HONORS

2022	Commencement speaker at the graduation ceremony of the Department of Global Health, University of Washington
2021	Research on Intergenerational nutrition benefits of India's national school feeding program in featured in international news outlets – Altmetric 862
2019	Research on crop burning in featured in 36 news outlets – Altmetric 304
2018	Received the Health Metrics doctoral scholarship from Institute of Health Metrics and Evaluation
2007	Awarded Third position by the honorable President of India, Pratibha Patil, at the Indian National Human Rights Commission inter college national debate held at the University of Delhi
2003	Recipient of the Best Delegate Award at the Indian Model United Nations with member 150 schools

SERVICE AND PROFESSIONAL ACTIVITIES

Ad-hoc reviewer: Food Policy, Social Science and Medicine Population Health, The World Bank Economic Review, British Journal of Nutrition, American Journal of Public Health, British Medical Journal, PLOS ONE, Atmospheric Environment, Communications medicine, Scientific Reports

Regular Reviewer: JAMA Network

SKILLS AND STATISTICAL SOFTWARE

Software: STATA (Advanced), R studio (Intermediate)

Fieldwork: Indian states Odisha, Madhya Pradesh, Bihar, Uttar Pradesh, Jharkhand

Languages: English (Fluent), Hindi (Native), Bengali (Intermediate)

PEER-REVIEWED JOURNAL ARTICLES

- 29. Bruckner TA, **Chakrabarti S**, Bustos B, Catalano R, Gemmill A, et al. Missing Black males among preterm births in the US, 1995 to 2019. *PLOS ONE* (2024).: https://doi.org/10.1371/journal.pone.0295557
- 28. Gordon M, Casey JA, McBrien H, Gemmill A, Hernández D, Catalano R, **Chakrabarti S**, & Bruckner TA. Disparities in Preterm Birth Following the July 1995 Chicago Heat Wave. *Annals of Epidemiology* (2023).: https://doi.org/10.1016/j.annepidem.2023.08.008
- 27. Hamlet LC, **Chakrabarti S**, & Kaminsky J. Environmental sanitation and undernutrition among China's children and adolescents from 1989 to 2011. *Nature Water* (2023). https://doi.org/10.1038/s44221-023-00112-6
- 26. **Global Burden of Disease Long COVID Collaborators**. Hanson SW. et al. Estimated global proportions of individuals with persistent fatigue, cognitive, and respiratory symptom clusters following symptomatic COVID-19 in 2020 and 2021. *JAMA* (2022). doi:10.1001/jama.2022.1893
- 25. **Chakrabarti S**, Scott SP, Alderman H, Menon P & Gilligan DO. Reply to: Intergenerational nutrition benefits of India's national school feeding program: Reality or a bridge too far? *Nature Communications* (2022). https://doi.org/10.1038/s41467-022-33338-1
- 24. Oddo VM, Roshita A, Khan T, Ariawan I, Wiradnyani L, **Chakrabarti** S, Izwardy D, Rah JH. Evidence-Based Nutrition Interventions Improved Adolescents' Knowledge and Behaviors in Indonesia. *Nutrients* (2022). https://doi.org/10.3390/nu14091717
- 23. **COVID-19 Cumulative Infection Collaborators**. Barber RM. et al. Estimating global, regional, and national daily and cumulative infections with SARS-CoV-2 through September 22, 2021: a statistical analysis. *The Lancet* (2022). https://doi.org/10.1016/S0140-6736(22)00484-6
- 22. **COVID-19 Excess Mortality Collaborators**. Wang H. et al. Estimating excess mortality due to the SARS-CoV-2 pandemic: a systematic analysis of COVID-19-related mortality between January 1, 2020 and September 26, 2021. *The Lancet* (2022). https://doi.org/10.1016/S0140-6736(21)02796-3
- 21. Pedroza PV; Miller-Petrie MK; Chen C; **Chakrabarti S**; Chapin A; Hay S; Tsakalos G; Wimo A; Dieleman JL. Global and regional spending on dementia care from 2000-2019 and expected future health spending scenarios from 2020-2050: an economic modelling exercise. *EClinicalMedicine* (2022). https://doi.org/10.1016/j.eclinm.2022.101337
- 20. **COVID-19 National Preparedness Collaborators.** Bollyky TJ. et al. Pandemic preparedness and COVID-19: an exploratory analysis of infection and fatality rates, and contextual factors associated with preparedness in 177 countries, from January 1, 2020, to September 30, 2021. *The Lancet* (2022). https://doi.org/10.1016/S0140-6736(22)00172-6
- 19. **Chakrabarti S**, Scott SP, Alderman H, Menon P & Gilligan DO. Intergenerational nutrition benefits of India's national school feeding program. *Nature Communications* (2021). https://doi.org/10.1038/s41467-021-24433-w
- 18. **Chakrabarti S**, Hamlet LC, Kaminsky J, Subramanian SV. Association of Human Mobility Restrictions and Race/Ethnicity–Based, Sex-Based, and Income-Based Factors With Inequities in Well-being During the COVID-19 Pandemic in the United States. *JAMA Network Open* (2021). doi:10.1001/jamanetworkopen.2021.7373

- 17. **Chakrabarti S**, Pan A & Singh P. Maternal and child health benefits of the Mamata conditional cash transfer program in Odisha, India. *Journal of Nutrition* (2021). https://doi.org/10.1093/jn/nxab129
- 16. **COVID-19 Mental Disorders Collaborators**., Santomauro DF, Herrera ANM, et al. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. *The Lancet* (2021). https://doi.org/10.1016/S0140-6736(21)02143-7
- 15. Hamlet LC, **Chakrabarti S**, & Kaminsky J. Reduced water collection time improves learning achievement among primary school children in India. *Water Research* (2021). https://doi.org/10.1016/j.watres.2021.117527
- 14. **IHME COVID-19 Forecasting Team**., Reiner RC, Barber RM. et al. Modeling COVID-19 scenarios for the United States. *Nature Medicine* (2021). https://doi.org/10.1038/s41591-020-1132-9
- 13. **Chakrabarti S**, Singh P, Bruckner T. Association of Poor Sanitation With Growth Measurements Among Children in India. *JAMA Network Open* (2020). doi:10.1001/jamanetworkopen.2020.2791
- 12. Perkins J, **Chakrabarti S**, Joe W, Lee H, Heo J, Lee J, ... Subramanian SV. Changes in socio- economic patterns of energy consumption and insufficient energy intake across India from 1993–94 to 2011–12, *Public Health Nutrition* (2020). doi:10.1017/S1368980019001484
- 11. **Chakrabarti S**, Raghunathan K, Alderman H, Menon P & Nguyen P. India's Integrated Child Development Services programme; equity and extent of coverage in 2006 and 2016. *Bulletin of the World Health Organization*, World Health Organization (2019). http://dx.doi.org/10.2471/BLT.18.221135
- 10. **Chakrabarti S**, Khan MT, Kishore A, Roy D, Scott SP. Risk of acute respiratory infection from crop burning in India: estimating disease burden and economic welfare from satellite and national health survey data for 250 000 persons, *International Journal of Epidemiology* (2019). https://doi.org/10.1093/ije/dyz022
- 9. **Chakrabarti S**; Kishore A; Raghunathan K; and Scott SP. Impact of subsidized fortified wheat on anaemia in pregnant Indian women. *Maternal and Child Nutrition* (2019). https://doi.org/10.1111/mcn.12669
- 8. Kumar N, Raghunathan K, Arrieta A, Jilani A, **Chakrabarti S**, Menon P, Quisumbing AR. Social networks, mobility, and political participation: The potential for women's self-help groups to improve access and use of public entitlement schemes in India, *World Development* (2018). https://doi.org/10.1016/j.worlddev.2018.09.023.
- 7. **Chakrabarti S**, George N, Majumder M, Raykar N, & Scott SP. Identifying sociodemographic, programmatic and dietary drivers of anaemia reduction in pregnant Indian women over 10 years. *Public Health Nutrition* (2018). doi:10.1017/S1368980018000903
- 6. **Chakrabarti S**, Kishore A, & Roy. Effectiveness of Food Subsidies in Raising Healthy Food Consumption: Public Distribution of Pulses in India. *American Journal of Agricultural Economics* (2018). https://doi.org/10.1093/ajae/aay022
- 5. Raghunathan K, **Chakrabarti S**, Avula R & Kim S. Can conditional cash transfers improve the uptake of nutrition interventions and household food security? Evidence from Odisha's Mamata scheme, *PLoS One* (2017). https://doi.org/10.1371/journal.pone.0188952
- 4. Raghunathan K, **Chakrabarti S**, Alderman H & Menon P. Deploying the power of social protection to improve nutrition in India: What will it take?, *Economic and Political Weekly* (2017).
- 3. Menon P, McDonald CM, & **Chakrabarti S**. Estimating the cost of delivering direct nutrition interventions at scale: national and subnational level insights from India, *Maternal and Child Nutrition* (2016).

https://doi.org/10.1111/mcn.12257

- 2. Kishore A, & **Chakrabarti S**. Is more inclusive more effective? The 'New Style' public distribution system in India, *Food Policy* (2015).
- https://doi.org/10.1016/j.foodpol.2015.06.006
- 1. **Chakrabarti S** & Rajkhowa P. What is the cost of providing a one-rupee support to the poor? Assessing the 'New Style' public distribution system, *Economic and Political Weekly* (2015)

OTHER (NON-PEER REVIEWED/POLICY WRITING)

- 22. Scott SP, Patwardhan S, **Chakrabarti S**, Chauhan A. et al. What are people eating in Nalanda, India? Food consumption, food security, food sources, and food perceptions. 2023. CGIAR Transforming Agrifood Systems in South Asia (TAFSSA) Initiative.
- 21. Scott SP, Patwardhan S, **Chakrabarti S**, Chauhan A. et al. What are people eating in Rangpur, Bangladesh? Food consumption, food security, food sources, and food perceptions. 2023. CGIAR Transforming Agrifood Systems in South Asia (TAFSSA) Initiative.
- 20. Scott SP, Patwardhan S, **Chakrabarti S**, Chauhan A. et al. What are people eating in Rajshahi, Bangladesh? Food consumption, food security, food sources, and food perceptions. 2023. CGIAR Transforming Agrifood Systems in South Asia (TAFSSA) Initiative.
- 19. Scott SP, Patwardhan S, **Chakrabarti S**, Chauhan A. et al. What are people eating in Banke, Nepal? Food consumption, food security, food sources, and food perceptions. 2023. CGIAR Transforming Agrifood Systems in South Asia (TAFSSA) Initiative.
- 18. Scott SP, Patwardhan S, **Chakrabarti S**, Chauhan A. et al. What are people eating in Surkhet, Nepal? Food consumption, food security, food sources, and food perceptions. 2023. CGIAR Transforming Agrifood Systems in South Asia (TAFSSA) Initiative.
- 17. Patwardhan S, **Chakrabarti S**, Neupane S, A Chauhan S. et al. Adolescents' diets and aspirations in Nalanda, India: Food consumption, task allocation, and future aspirations. 2023. CGIAR Transforming Agrifood Systems in South Asia (TAFSSA) Initiative.
- 16. Patwardhan S, **Chakrabarti S**, Neupane S, A Chauhan S. et al. Adolescents' diets and aspirations in Rangpur, Bangladesh: Food consumption, task allocation, and future aspirations. 2023. CGIAR Transforming Agrifood Systems in South Asia (TAFSSA) Initiative.
- 15. Patwardhan S, **Chakrabarti S**, Neupane S, A Chauhan S. et al. Adolescents' diets and aspirations in Rajshahi, Bangladesh: Food consumption, task allocation, and future aspirations. 2023. CGIAR Transforming Agrifood Systems in South Asia (TAFSSA) Initiative.
- 14. Patwardhan S, **Chakrabarti S**, Neupane S, A Chauhan S. et al. Adolescents' diets and aspirations in Banke, Nepal: Food consumption, task allocation, and future aspirations. 2023. CGIAR Transforming Agrifood Systems in South Asia (TAFSSA) Initiative.
- 13. Patwardhan S, **Chakrabarti S**, Neupane S, A Chauhan S. et al. Adolescents' diets and aspirations in Surkhet, Nepal: Food consumption, task allocation, and future aspirations. 2023. CGIAR Transforming Agrifood Systems in South Asia (TAFSSA) Initiative.
- 12. **Chakrabarti S**, Choo E, He Y. The impact of the one child policy on China's infant mortality from 1970-1989: a quasi-experimental study. medRxiv. doi: https://doi.org/10.1101/2022.03.09.22272156
- 11. Avula, Rasmi; Sarswat, Esha; **Chakrabarti, Suman**; Nguyen, Phuong Hong; Mathews, Pratima; and Menon, Purnima. 2018. District-level coverage of interventions in the Integrated Child Development Services (ICDS) scheme during pregnancy, lactation and early childhood in India: Insights from the National Family Health Survey-4. POSHAN Data Note 4. New Delhi, India: International Food Policy Research Institute (IFPRI). http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/132803

- 10. Avula, Rasmi; Sarswat, Esha; **Chakrabarti, Suman**; Mani, Sneha; Nguyen, Phuong Hong; and Menon, Purnima. 2018. Status of nutrition-relevant interventions during pregnancy in India: Insights from the National Family Health Survey-4. POSHAN Data Note 3. New Delhi, India: International Food Policy Research Institute (IFPRI). http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/132368
- 9. **Chakrabarti, Suman**; Kapur, Avani; Vaid, Abhilasha; and Menon, Purnima. 2017. Achieving the 2025 World Health Assembly targets for nutrition in India: What will it cost? POSHAN Policy Note 2. New Delhi, India: International Food Policy Research Institute (IFPRI). http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/131083
- 8. **Chakrabarti, Suman**; Purnima Menon & Subroto Das. "Panel 7.2 Budgeting for nutrition in India." Global Nutrition Report, 2016 https://globalnutritionreport.org/reports/2016-global-nutrition-report/
- 7. **Chakrabarti, Suman**. & Purnima Menon. "Budgeting to deliver for nutrition: Reflections from a costing study on nutrition specific interventions in India." Centre for Budget and Governance Accountability, Budget Track Series, 2016 http://www.indiaenvironmentportal.org.in/files/file/Budget%20Track%20on%20Nutrition.pdf
- 6. **Chakrabarti, Suman**; Kishore, Avinash; and Roy, Devesh. 2016. Entitlement fetching or snatching? Effects of arbitrage on India's public distribution system. IFPRI Discussion Paper 1588. Washington, D.C.: International Food Policy Research Institute (IFPRI). https://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/131008
- 5. **Chakrabarti, Suman**; Kishore, Avinash; and Roy, Devesh. 2016. Arbitrage and corruption in food subsidy programs: Evidence from India's public distribution system. Selected Paper prepared for presentation at the Agricultural & Applied Economics Association's Annual Meeting, Boston, MA, July 31 August 2, 2016. http://purl.umn.edu/235763
- 4. Menon, Purnima; McDonald, C. M.; and **Chakrabarti, Suman**. 2015. Estimating the cost of delivering direct nutrition interventions at scale: National and subnational level insights from India. POSHAN Report No 9. New Delhi: International Food Policy Research Institute. http://ebrary.ifpri.org/cdm/singleitem/collection/p15738coll2/id/130079
- 3. Avula, Rasmi; Kim, Sunny S.; **Chakrabarti, Suman**; Tyagi, Parul; Kohli, Neha; Kadiyala, Suneetha; and Menon, Purnima. 2015. Delivering for Nutrition in Madhya Pradesh: Insights from a Study on the State of Essential Nutrition Interventions. POSHAN Report No 8. New Delhi: International Food Policy Research Institute. http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/129644
- 2. Avula, Rasmi; Kim, Sunny S.; **Chakrabarti, Suman**; Tyagi, Parul; Kohli, Neha; and Menon, Purnima. 2015. Delivering for nutrition in Odisha: Insights from a study on the state of essential nutrition interventions. POSHAN Report 7. New Delhi, India: International Food Policy Research Institute (IFPRI). http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/129277
- 1. Cunningham, Kenda, Suneetha Kadiyala, **Suman Chakrabarti**, Hazel Malapit, Purnima Menon, Kavita Singh, Parul Tyagi & Wahid Quabili. 2013. Suaahara Baseline Survey Report. United States Agency for International Development.

ACADEMIC REFERENCES

Purnima Menon, Director Food and Nutrition Policy, International Food Policy Research Institute, Washington DC USA

Samuel Scott, Research Fellow, International Food Policy Research Institute, Washington DC USA Harold Alderman, Senior Research Fellow, International Food Policy Research Institute, Washington DC USA Avinash Kishore, Senior Research Fellow, International Food Policy Research Institute, Washington DC USA Joseph Dieleman, Associate Professor, Health Metrics Sciences, University of Washington, Seattle, WA Jessica Jones-Smith, Associate Professor, Health Systems and Population Health, and Epidemiology, University of Washington, Seattle, WA