

## Stephen P. Luby

Stanford University

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### **Education**

Creighton University 1981

Bachelor of Arts, *summa cum laude* (philosophy)

University of Texas -- Southwestern Medical School at Dallas

MD 1986

University of Rochester -- Strong Memorial Hospital

Internship and residency in Internal Medicine.

Centers for Disease Control -- Epidemic Intelligence Service 1990

Completed Preventive Medicine Residency 1993

### **Professional Experience**

Stanford University, 9/2012 – currently employed

- Professor of Medicine (Infectious Diseases & Geographic Medicine),
- Senior Fellow, Woods Institute for the Environment
- Senior Fellow, Freeman Spogli Institute for International Studies
- Associate Dean for Global Health Research
- Courtesy Appointment, Department of Epidemiology and Population Health

International Centre for Diarrheal Disease Research, Bangladesh (ICDDR,B)

Director, Centre for Communicable Diseases, 8/2004 – 8/2012

Country Director, US Centers for Disease Control, US Embassy Dhaka, 8/2004 – 8/2012

1. Secured funding for and oversaw an externally funded research program
  - a. Increased the annual research funding for the research program from \$400,000 in 2004 to > \$10 million
  - b. Increased the number of scientists working in the unit from 6 in 2004 to 44, and the number of employees from 22 to 500.
2. Coordinated collaboration between ICDDR,B and the Centers for Disease Control and Prevention
3. Facilitated multi-disciplinary research across the administrative divisions within ICDDR,B
4. Editor, *Health and Science Bulletin*, a quarterly surveillance update and original scientific report from ICDDR,B

Centers for Disease Control and Prevention

Medical Epidemiologist, Foodborne & Diarrheal Diseases Branch, 12/98 – 7/04

Major responsibilities

1. Direct the activities of the Cooperative Research and Development Agreement between the Procter and Gamble Company and Centers for Disease Control, Foodborne and Diarrheal Diseases
2. Direct a research program on typhoid fever epidemiology

3. Other principle collaborations
  - a. Consulted with the World Bank, Water and Sanitation Program on assessment of public private partnerships for handwashing promotion
  - b. Supervised Safe Water System collaboration between, *Projet Retro-CI* Abidjan, Ivory Coast and the Foodborne and Diarrheal Disease
  - c. Provided technical support and liaison with the Safe Injection Global Network

Aga Khan University, Karachi, Pakistan

Assistant Professor, Epidemiology, Community Health Sciences Department, 10/93 - 10/98

Major responsibilities:

Teaching:

1. Developed the curriculum and taught epidemiology to Masters of Science in Epidemiology students. Courses include Epidemiology I, Epidemiology II, Epidemiology III, Management Information Systems, Introduction to Microcomputers, Selected Topics in Advanced Epidemiology.
2. Taught epidemiology to medical undergraduates.

Research:

1. Developed an independently funded research program.
2. Supervised the research officer program, a program for recent medical graduates who performed epidemiologic research and prepared their findings for publication.

Service:

1. Chaired the committee that developed the successful proposal for a Master of Science in Epidemiology Program at the Aga Khan University.
2. Chaired the committee that restarted the Community Medicine Residency Program.
3. Directed the Information Services Unit for the Community Health Science Department.
4. Directed the epidemiology unit, for the Community Health Science Department.

Centers for Disease Control and Prevention, Atlanta, Georgia

Preventive Medicine Resident, Malaria Branch, 7/92 - 9/93

Major activities:

1. Field supervisor for Malaria case definition study, Mangochi and Nkhoma, Malawi 4/93-5/93
2. Supervised field activities and was malaria branch liaison to North Carolina state and local health departments during investigation of the rapid resettlement of Vietnamese Montagnard refugees.
3. Coordinated the field exercise study for the incoming class of 1993 Epidemic Intelligence Service officers.

Centers for Disease Control, Atlanta, Georgia

Epidemic Intelligence Service officer, Division of Field Epidemiology

Stationed at South Carolina Department of Health and Environmental Control, 7/90 - 6/92

Major activities:

1. Investigated 11 acute outbreaks
2. Served as a technical support officer for a UNICEF/USAID/WHO/CDC sponsored vaccine coverage and malaria and HIV/AIDS knowledge attitude and practices survey Haut-Zaire region, Zaire 2/91 - 3/91
3. Performed 2 analytic studies of statewide HIV surveillance data.

The Genesee Hospital, Rochester, New York

500 bed tertiary care inner city hospital

Attending physician, Emergency Division 6/89 - 6/90

Strong Memorial Hospital, Rochester, New York  
Internal medicine resident 6/86 - 6/89

University of Texas Health Science Center, Dallas  
Computer Programmer, Assembler language and FORTRAN  
Pulmonary physiology laboratory 1/84 - 5/86

Hartford Hospital, Hartford, Connecticut  
Computer Programmer, Event Driven Language and BASIC  
Pulmonary laboratory 6/81 - 8/82

## Certifications and Awards

Inaugural Oklahoma University International WaTER Prize, 2009 (to recognize an individual who has made significant international contributions, either through research or teaching or service activities, in the field of water supply and sanitation, with a focus on the world's poorest living in small villages/communities in rural or remote regions.)

Manuscript awards:

- 2023 Top 10 Clinical Research Achievement Award by the Clinical Research Forum for "Impact of community masking on COVID-19: A cluster-randomized trial in Bangladesh"
- Shepard Award (Centers for Disease Control and Prevention)
  - Best Paper in the Prevention Category, 2015 (co-author) (Estívariz CF et al. Immunogenicity of three doses of bivalent, trivalent, or type 1 monovalent oral poliovirus vaccines with a 2 week interval between doses in Bangladesh: an open-label, non-inferiority, randomised, controlled trial. *Lancet Infect Dis.* 2015 Aug; 15(8):898-904.)
  - Best Paper in the Assessment Category, 2013 (senior author) (Sultana NK et al. Impact of introduction of the *Haemophilus influenzae* type b conjugate vaccine into childhood immunization on meningitis in Bangladeshi infants. *J Pediatr.* 2013 Jul; 163(1 Suppl):S73-8.)
  - Best Paper in the Prevention Category, 2005 (first author) (Luby SP et al. Effect of handwashing on child health: a randomised controlled trial. *Lancet.* 2005 Jul 16-22; 366 (9481):225-33.)
- *American Journal of Epidemiology* 2014 Article of the Year (co-author): Gurley ES et al. Indoor exposure to particulate matter and age at first acute lower respiratory infection in a low-income urban community in Bangladesh. *Am J Epidemiol.* 2014 Apr 15; 179(8):967-73.
- Favourite paper in infectious diseases, 2005. (Luby SP et al. Effect of handwashing on child health: a randomised controlled trial. *Lancet.* 2005 Jul 16-22; 366(9481):225-33.)
- Senior author on Alexander D. Langmuir Prize Manuscript, Center for Disease Control, 2001. (Brooks JT et al. *Salmonella* Typhimurium infections transmitted by chlorine-pretreated clover sprout seeds. *Am J Epidemiol.* 2001 Dec 1; 154(11):1020-8.)
- Nakano Award Manuscripts, Centers for Disease Control:
  - 2012 (Bowen A et al. Association between intensive handwashing promotion and child development in Karachi, Pakistan: a cluster-randomized, controlled trial. *Arch Pediatr Adolesc Med.* 2012 Nov; 166(11):1037-44.)
  - 2007 (Chiller TM et al. Reducing diarrhoea in Guatemalan children: randomized controlled trial of flocculant-disinfectant for drinking-water. *Bull World Health Organ.* 2006 Jan; 84(1):28-35.)

- o 2005 (Luby SP et al. Effect of intensive handwashing promotion on childhood diarrhea in high-risk communities in Pakistan: a randomized controlled trial. *JAMA*. 2004 Jun 2; 291(21):2547-54.)
- o 2004 (Reller ME et al. A randomized controlled trial of household-based flocculant-disinfectant drinking water treatment for diarrhea prevention in rural Guatemala. *Am J Trop Med Hyg*. 2003 Oct; 69(4):411-9.)

Begum Rokeya Sakhawat Hossain Teaching Excellence Award, James P Grant School of Public Health, BRAC University, Inaugural award 2012 with repeat award in 2014, 2015, 2017, 2018, 2019 and 2022.

Outstanding Teaching Award, Department of Community Health Sciences, Aga Khan University, 1996

Center for Global Health Director's Medal of Excellence in Global Health (CDC, 2012)

Diplomate, National Board of Medical Examiners, 1987, #332215

Diplomate, American Board of Internal Medicine, 1989, #127955

#### Medical License

- Georgia, 1992 - 2006, #035937
- Virginia, 2007 – 2014, #0101242859
- California, 2014 – current, #132799

US Government Top Secret Security Clearance, 2004 - 2014

HIV/AIDS Prevention Shield, for contributions to prevention of HIV/AIDS in Sindh, Pakistan, Government of Sindh, 2001

Contribution to water and health research profiled in *Lancet* (Kirby T, Profile Stephen Luby: promoting the importance of water for health, *Lancet*. 2009 Dec 12; 374:1961)

Work on Nipah virus profiled in *Science*. (Stone R. Breaking the chain in Bangladesh, *Science*. 2011 March 4; 331(6021):1128-1131)

#### Affiliations

BRAC University, James P. Grant School of Public Health

- Co-taught Introduction to Epidemiology Class with Dr. Shams el Arifeen, 2007 – 2011
- Co-directed and taught, The Epidemiology of Infectious Diseases of Public Health Importance, with Dr. Richard Cash 2006 – 2019.

Planetary Health Alliance Steering Committee 2020 - 2023

The American Society of Tropical Medicine and Hygiene, Member

Coalition Against Typhoid, Chair

One Health Bangladesh, Advisory Committee

Safe Injection Global Network, Member

Public Private Partnership for Handwashing Promotion, Global Steering Committee, Member

### **Languages**

English – native language, speak and write fluently

Bengali – fluent intermediate conversational and presentation skills

Spanish – Have worked professionally in Spanish speaking countries including negotiation of projects, protocols, and implementation details with Spanish speaking colleagues, scientific presentations, and routine correspondence

French – somewhat out of practice basic conversational, reading, and writing skills

Urdu – quite out of practice basic conversational skill

### **Research Projects**

Since moving to Pakistan in 1993, secured external research funding as a principal or co-principal investigator for >50 research projects with a total funding >\$80 million.

### **Current Projects**

#### 1. Health and Economic Benefits of Water-Sensitive Revitalisation in informal Urban Settlements

Goal: Rigorously evaluate a new model for managing wastewater and floodwater in informal settlements in Suva, Fiji and Makassar, Indonesia  
Funder: Wellcome Trust; \$548,469 (Stanford budget; >\$20 million total); 2017 - 2025  
Investigators: Brown R, Wong T, Leder K, Luby SP, Chown S  
Role: Co-Principal Investigator – Oversee the health outcome evaluation

#### 2. Amplifying the value of rural WASH investments

Goal: Overall all Wash investments  
Funder: Conrad and Hilton Foundation; \$2.1 million; 2018 - 2023  
Investigators: Davis J, Luby SP  
Role: Co-investigator

#### 3. Effect of household concrete floors on child health

Goal: Measure child health outcomes of installing concrete floors in rural Bangladesh  
Funder: National Institutes of Health / NICHD (\$3,400,000), 2022-2027  
Investigators: Benjamin-Chung J, Luby S  
Role: Co-Investigator

#### 4. Reducing spread of Covid-19 in households using low cost box fans

Goal: Evaluate the effectiveness of box fans on secondary transmission of Covid-19  
Funder: Stanford Center for Innovation in Global Health; \$40,000; 2022 - 2023  
Investigators: Karan A, Hildemann L, Luby SP  
Role: Co-investigator

#### 5. COVID-19 and society

Goal: Cross-country comparative analysis of risk communication, expertise and citizenship  
Funder: Waseda University /Hitachi Foundation (\$72,666), 2022-2024  
Investigators: Luby S, Sato K.  
Role: Principal-Investigator

#### 6. Fractional dose COVID-19 vaccine trial

Goal: Evaluate the immunogenicity of fractional doses of COVID-19 vaccines  
Funder: CEPI / Albert B. Sabin Vaccine Institute; \$598,161 (Stanford budget) 2022 - 2023  
Investigators: Luby SP, Rosser J  
Role: Co-principal investigator

#### 7. PHV/VSV-Nipah vaccine trial support

Goal: Generate recommendations for Phase II trial; understand willingness to receive vaccine  
Funder: CEPI; (Stanford budget; \$1.1 million total); 2020 - 2024  
Investigators: Luby S  
Role: Principal Investigator

#### 8. Solving Opportunities for Spillover

Goal: Better understand and prevent spillovers of bat borne viruses into intermediate hosts and humans  
Funder: National Institutes of Health / NIAID (\$3,356,000), 2022-2027  
Investigators: Gurley E, Luby S  
Role: Co-Investigator

#### 9. Typhoid Surveillance for impact

Goal: Population based surveillance for typhoid fever in Nepal, Bangladesh and Pakistan  
Funder: Sabin Vaccine Institute; \$256,211; 2022 - 2024  
Investigators: Andrews J, Luby SP  
Role: Co-investigator

#### 10. Assessing Salmonella typhi contamination of drinking water sources in urban Liberia

Goal: Use phage to detect Salmonella typhi contamination of drinking water sources  
Funder: Stanford Center for Innovation in Global Health; \$40,000; 2022 - 2023  
Investigators: Hoffman S, Andrews J, Luby SP  
Role: Co-investigator

#### 11. Reducing lead exposure in South Asia

Goal: Develop and pilot incentive-compatible solutions to reduce lead exposure  
Funder: Stanford Center on Global Poverty and Development; \$1,800,000; 2019 - 2025  
Investigators: Luby S, Fendorf S, Hildemann L, Fukuyama F.  
Role: Principal Investigator

12. Identifying the most significant contributors to child blood lead levels in Dhaka, Bangladesh
- Goal: Identify contributors to child BLL  
Funder: Thrasher Research Fund; \$348,273; 2021 - 2023  
Investigators: Luby S  
Role: Principal Investigator
13. Reducing lead exposure in LMICs
- Goal: Assess impact of interventions to reduce Pb in turmeric on child blood lead levels  
Funder: Pure Earth; \$776,543; 2021 - 2023  
Investigators: Luby S, Forsyth J  
Role: Principal Investigator
14. Heavy metal pollution and maternal health in Bangladesh
- Goal: Identify risk factors for stillbirths  
Funder: Stanford Woods Institute; \$200,000; 2021 - 2023  
Investigators: Luby S, Forsyth J  
Role: Principal Investigator
15. Clean Air and Better Health in Bangladesh
- Goal: Brick Kiln pollution mitigation  
Funder: Stanford Impact Labs; \$500,000; 2021 - 2023  
Investigators: Luby SP, Brooks NR  
Role: Principal Investigator
16. Refining a technology to reduce black carbon emission from South Asian brick kilns
- Goal: Refine kiln automatic coal feeder design  
Funder: Stanford Sustainability Accelerator; \$100,000; 2022 - 2023  
Investigators: Luby SP, Wood J  
Role: Principal Investigator
17. Transforming Brick Manufacturing in Bangladesh to Promote Clean Air and Better Health
- Goal: Improve brick manufacturing methods  
Funder: Abdul Latif Jameel Poverty Action Lab Global; \$398,000; 2022 - 2023  
Investigators: Luby S, Miller G  
Role: Principal Investigator
18. Pigs and Parasites: Developing Interventions to End Cycles of Poverty Caused by *Taenia solium* and Neurocysticercosis
- Goal: Assess the pathways of *Taenia solium* transmission in rural Sichuan District, China.  
Develop and iteratively revise interventions to interrupt transmission  
Funder: Stanford SEED; \$307,663; 2016 - 2024  
Investigators: Luby SP, Rozelle S, Felt S, Openshaw J  
Role: Principal Investigator
19. Transforming greenhouse gases into high-value aquaculture feed in Bangladesh
- Goal: Develop and pilot a methanotrophic reactor that collects methane from a landfill in Bangladesh and converts it to aquaculture feed

Funder: Stanford TomKat Center; \$250,000; 2022 - 2024  
Investigators: Luby S, Criddle C  
Role: Principal Investigator

20. Global epidemiology of infectious diseases

Goal: Training Grant  
Funder: National Institutes of Health; \$2.8 million; 2003 - 2027  
Investigators: Luby SP, LaBeaud, AD  
Role: Project Director

## Bibliography

Published work includes >500 original peer reviewed manuscripts including

- 42 as first author
- 161 as senior author
- 55 manuscripts represent the first scientific publication of the mentored first author.

Google Scholar:

- Hirsch index = 97
- > 37,000 citations

### In Press

1. Rahman M, Jahir T, Akter F, Yeasmin F, Pitchik HO, Hasan R, Das JB, Grant HX, Hossain K, Sultana J, Huda TMN, Shoab A, Khan R, Tofail F, **Luby SP**, Fernald LCH, Rashid J, Ashrafee S, Leontsini E, Winch PJ. Implementing a group-based multi-component early child development intervention through the government health system in rural Bangladesh: A feasibility study. *Int J Health Plann Manage*. In Press.
2. Shanta IS, **Luby SP**, Hossain K, Heffelfinger JD, Kilpatrick AM, Haider N, Rahman T, Chakma S, Ahmed SSU, Sharker Y, Pulliam JRC, Kennedy ED, Gurley ES. Human Exposure to Bats, Rodents and Monkeys in Bangladesh. *Ecohealth*. In Press..
3. Hoffman SA, LeBoa C, Date K, Haldar P, Harvey P, Shimpi R, An Q, Zhang C, Jayaprasad N, Horng L, Fagerli K, Borhade P, Chakraborty D, Bahl S, Katkar A, Kunwar A, Yewale V, Andrews JR, Bhatnagar P, Dutta S, **Luby SP**. Programmatic Effectiveness of a Pediatric Typhoid Conjugate Vaccine Campaign in Navi Mumbai, India. *Clin Infect Dis*. In Press.
4. Dewey KG, Arnold CD, Wessells KR, Prado EL, Abbeddou S, Adu-Afarwuah S, Ali H, Arnold BF, Ashorn P, Ashorn U, Ashraf S, Becquey E, Brown KH, Christian P, Colform JM, Dulience SJL, Fernald LCH, Galasso E, Hallamaa L, Hess SY, Humphrey JH, Huybregts L, Iannottie LL, Jannat K, Lartey A, Port AL, Leroy JL, **Luby SP**, Maleta K, Matias SL, Mbuya MNN, Mridha MK, Nkhoma M, Null C, Paul RR, Okronipa H, Ouedraogo JB, Pickering AJ, Prendergast AJ, Ruel M, Shaikh S, Weber AM, Wolff P, Zongrone A, Stewart CP. Preventive small-quantity lipid-based nutrient supplements reduce severe wasting and severe stunting among young children: an individual participant data meta-analysis of randomized controlled trials. *Am J Clin Nutr*. In Press.

5. Grembi JA, Lin A, Karim MA, Islam MO, Miah R, Arnold BF, McQuade ETR, Ali S, Rahman MZ, Hussain Z, Shoab AK, Famida SL, Hossen MS, Mutsuddi P, Rahman M, Unicomb L, Haque R, Taniuchi M, Liu J, Platts-Mills JA, Holmes SP, Stewart CP, Benjamin-Chung J, Colford JM, Houpt ER, **Luby SP**. Effect of water, sanitation, handwashing and nutrition interventions on enteropathogens in children 14 months old: a cluster-randomized controlled trial in rural Bangladesh. *J Infect Dis*. In Press.

### Original Scientific Publications

1. Islam M, Rahman M, Kafi MAH, Unicomb L, Rahman M, Mertens A, Benjamin-Chung J, Arnold BF, Colford JM Jr, **Luby SP**, Ercumen A. Assessing sustained uptake of latrine and child feces management interventions: Extended follow-up of a cluster-randomized controlled trial in rural Bangladesh 1-3.5 years after intervention initiation. *Int J Hyg Environ Health*. 2023 May; 250:114149. doi: 10.1016/j.ijheh.2023.114149
2. Arthur RF, Horng LM, Tandanpolie AF, Gilstad JR, Tantum LK, **Luby SP**. The lasting influence of Ebola: a qualitative study of community-level behaviors, trust, and perceptions three years after the 2014-16 Ebola epidemic in Liberia. *BMC Public Health*. 2023 Apr 12; 23(1):682. doi: 10.1186/s12889-023-15559-1
3. Pitchik HO, Tofail F, Akter F, Shoab AKM, Sultana J, Huda TMN, Rahman M, Winch PJ, **Luby SP**, Fernald LCH. Concurrent validity of the Ages and Stages Questionnaire Inventory and the Bayley Scales of Infant and Toddler Development in rural Bangladesh. *BMC Pediatr*. 2023 Mar 1; 23(1):93. doi: 10.1186/s12887-022-03800-6
4. Mertens A, Arnold BF, Benjamin-Chung J, Boehm AB, Brown J, Capone D, Clasen T, Fuhrmeister E, Grembi JA, Holcomb D, Knee J, Kwong LH, Lin A, **Luby SP**, Nala R, Nelson K, Njenga SM, Null C, Pickering AJ, Rahman M, Reese HE, Steinbaum L, Stewart J, Thilakaratne R, Cumming O, Colford JM Jr, Ercumen A. Effects of water, sanitation, and hygiene interventions on detection of enteropathogens and host-specific faecal markers in the environment: a systematic review and individual participant data meta-analysis. *Lancet Planet Health*. 2023 Mar; 7(3):e197-e208. doi: 10.1016/S2542-5196(23)00028-1
5. Islam A, Cannon DL, Rahman MZ, Khan SU, Epstein JH, Daszak P, **Luby SP**, Montgomery JM, Klena JD, Gurley ES. Nipah Virus Exposure in Domestic and Peridomestic Animals Living in Human Outbreak Sites, Bangladesh, 2013-2015. *Emerg Infect Dis*. 2023 Feb; 29(2):393-396. doi: 10.3201/eid2902.221379
6. Islam MT, Date K, Khan AI, Bhuiyan TR, Khan ZH, Ahmed S, Hossain M, Khaton F, Zaman K, McMillan NAJ, Anand A, An Q, Zhang C, Weldon WC, Yu A, **Luby S**, Qadri F. Co-administration of Oral Cholera Vaccine with Oral Polio Vaccine among Bangladeshi Young Children: A Randomized Controlled Open Label Trial to Assess Interference. *Clin Infect Dis*. 2023 Jan 13; 76(2):263-270. doi: 10.1093/cid/ciac782
7. Tanmoy AM, Hooda Y, Sajib MSI, da Silva KE, Iqbal J, Qamar FN, **Luby SP**, Dougan G, Dyson ZA, Baker S, Garrett DO, Andrews JR, Saha SK, Saha S. Paratype: a genotyping tool for *Salmonella* Paratyphi A reveals its global genomic diversity. *Nat Commun*. 2022 Dec 23; 13(1):7912. doi: 10.1038/s41467-022-35587-6

8. Lopez AM, Nicolini CM, Aeppli M, **Luby SP**, Fendorf S, Forsyth JE. Assessing Analytical Methods for the Rapid Detection of Lead Adulteration in the Global Spice Market. *Environ Sci Technol.* 2022 Dec 6; 56(23):16996-17006. doi: 10.1021/acs.est.2c03241
9. Sultana R, Nahar N, **Luby SP**, Swarna ST, Gurley ES, Tamason CC, Khan S, Rimi NA, Kabir H, Saifullah MK, Howlader SR, Jensen PKM. Measuring Water Quantity Used for Personal and Domestic Hygiene and Determinants of Water Use in a Low-Income Urban Community. *Int J Environ Res Public Health.* 2022 Nov 25; 19(23):15656. doi: 10.3390/ijerph192315656
10. Montealegre MC, Greenwood EE, Teichmann L, Nadimpalli ML, Caduff L, Swarthout JM, Nydegger T, Sultana S, Islam MA, Lanza VF, **Luby SP**, Pickering AJ, Julian TR. Drinking Water Chlorination Impact on Fecal Carriage of Extended-Spectrum Beta-Lactamase-Producing *Enterobacteriaceae* in Bangladeshi Children in a Double-Blind, Cluster-Randomized Controlled Trial. *Environ Health Perspect.* 2022 Nov; 130(11):117702. doi: 10.1289/EHP11359
11. Aluri KZ, Halder AK, Islam M, Benjamin-Chung J, Alam M, Shoab AK, Rahman M, Unicomb L, **Luby SP**. The effect of a large-scale water, sanitation and hygiene intervention in Bangladesh on knowledge, behavior and health: Findings from an endline programme evaluation. *Trop Med Int Health.* 2022 Oct; 27(10):913-924. doi: 10.1111/tmi.13813
12. Guo Y, Li X, **Luby S**, Jiang G. Vertical outbreak of COVID-19 in high-rise buildings: The role of sewer stacks and prevention measures. *Curr Opin Environ Sci Health.* 2022 Oct; 29:100379. doi: 10.1016/j.coesh.2022.100379
13. Salem MK, Pitchik HO, Sultana J, Rahman M, Jannat KK, **Luby SP**, Mridha MK, Winch PJ, Fernald LCH. Prevalence of sugar-sweetened food consumption in rural Bangladeshi children aged 6-24 months. *J Nutr.* 2022 Sep 6; 152(9):2155-2164. doi: 10.1093/jn/nxac11
14. Reitzug F, **Luby SP**, Pullabhotla HK, Geldsetzer P. The Effect of Particulate Matter Exposure During Pregnancy on Pregnancy and Child Health Outcomes in South Asia: Protocol for an Instrumental Variable Analysis. *JMIR Res Protoc.* 2022 Aug 10; 11(8):e35249. doi: 10.2196/35249
15. Contreras JD, Islam M, Mertens A, Pickering AJ, Arnold BF, Benjamin-Chung J, Hubbard AE, Rahman M, Unicomb L, **Luby SP**, Colford JM Jr, Ercumen A. Evaluation of an on-site sanitation intervention against childhood diarrhea and acute respiratory infection 1 to 3.5 years after implementation: Extended follow-up of a cluster randomized controlled trial in rural Bangladesh. *PLoS Med.* 2022 Aug 8; 19(8):e1004041. doi: 10.1371/journal.pmed.1004041
16. Contreras JD, Islam M, Mertens A, Pickering AJ, Kwong LH, Arnold BF, Benjamin-Chung J, Hubbard AE, Alam M, Sen D, Islam S, Rahman M, Unicomb L, **Luby SP**, Colford JM Jr, Ercumen A. Influence of community-level sanitation coverage and population density on environmental fecal contamination and child health in a longitudinal cohort in rural Bangladesh. *Int J Hyg Environ Health.* 2022 Aug; 245:114031. doi: 10.1016/j.ijheh.2022.114031
17. da Silva KE, Tanmoy AM, Pragasam AK, Iqbal J, Sajib MSI, Mutreja A, Veeraraghavan B, Tamrakar D, Qamar FN, Dougan G, Bogoch I, Seidman JC, Shakya J, Vaidya K, Carey ME, Shrestha R, Irfan S, Baker S, **Luby SP**, Cao Y, Dyson ZA, Garrett DO, John J, Kang G, Hooda Y, Saha SK, Saha S, Andrews JR. The international and intercontinental spread and expansion of

- antimicrobial-resistant *Salmonella* Typhi: a genomic epidemiology study. *Lancet Microbe*. 2022 Aug; 3(8):e567-e577. doi: 10.1016/S2666-5247(22)00093-3
18. Aiemjoy K, Seidman JC, Saha S, Munira SJ, Islam Sajib MS, Sium SMA, Sarkar A, Alam N, Zahan FN, Kabir MS, Tamrakar D, Vaidya K, Shrestha R, Shakya J, Katuwal N, Shrestha S, Yousafzai MT, Iqbal J, Dehraj IF, Ladak Y, Maria N, Adnan M, Pervaiz S, Carter AS, Longley AT, Fraser C, Ryan ET, Nodoushani A, Fasano A, Leonard MM, Kenyon V, Bogoch II, Jeon JH, Haselbeck A, Park SE, Zellweger RM, Marks F, Owusu-Dabo E, Adu-Sarkodie Y, Owusu M, Teunis P, **Luby SP**, Garrett DO, Qamar FN, Saha SK, Charles RC, Andrews JR. Estimating typhoid incidence from community-based serosurveys: a multicohort study. *Lancet Microbe*. 2022 Aug; 3(8):e578-e587. doi: 10.1016/S2666-5247(22)00114-8
19. McKee CD, Islam A, Rahman MZ, Khan SU, Rahman M, Satter SM, Islam A, Yinda CK, Epstein JH, Daszak P, Munster VJ, Hudson PJ, Plowright RK, **Luby SP**, Gurley ES. Nipah Virus detection at bat roosts after spillover events, Bangladesh, 2012-2019. *Emerg Infect Dis*. 2022 Jul; 28(7):1384-1392. doi: 10.3201/eid2807.212614
20. Garrett DO, Longley AT, Aimejoy K, Yousafzai MT, Hemlock C, Yu AT, Vaidya K, Tamrakar D, Saha S, Bogoch II, Date K, Saha S, Islam MS, Sayeed KMI, Bern C, Shakoor S, Dehraj IF, Mehmood J, Sajib MSI, Islam M, Thobani RS, Hotwani A, Rahman N, Irfan S, Naga SR, Memon AM, Pradhan S, Iqbal K, Shrestha R, Rahman H, Hasan MM, Qazi SH, Kasi AM, Saddal NS, Jamal R, Hunzai MJ, Hossain T, Marks F, Carter AS, Seidman JC, Qamar FN, Saha SK, Andrews JR, **Luby SP**. Incidence of typhoid and paratyphoid fever in Bangladesh, Nepal, and Pakistan: results of the Surveillance for Enteric Fever in Asia Project. *Lancet Glob Health*. 2022 Jul; 10(7):e978-e988. doi: 10.1016/S2214-109X(22)00119-X
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#### Reviews and Commentaries

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### Textbook Chapters

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### Selected Invited Presentations

“Conceptual and practical barriers to integrating concerns with human health and nature” Integrating Public and Ecosystem Health Systems to Foster Resilience: Identifying Research to Bridge the Knowledge-To-Action Gap. National Academies Workshop. Washington DC. September 19, 2022

“Water quality and child mortality.” Center for Global Development. February 16, 2022.

“Preventing human extinction as a public health priority.” University of Louisville. April 20, 2022.

“Improving water and sanitation services in cities with endemic typhoid transmission.” 12th International Conference on Typhoid & Other Invasive Salmonelloses, December 6, 2021

“RISE: Assessment of the Environment and Human Health Impact.” American Society of Tropical Medicine and Hygiene. Virtual Conference. November 19, 2020.

“Environmental Surveillance for Typhoid”. World Water Week at Home. Virtual Conference. August 26, 2020.

“A Timeline for Typhoid Elimination.” 11<sup>th</sup> International Conference on Typhoid and Other Invasive Salmonelloses. Hanoi, Vietnam. March 28, 2019.

“Nipah virus: Pandemic threats and countermeasures.” The American Society of Microbiology Biothreats 2019. Arlington, VA, USA. January 30, 2019.

“Thirsty Cities in the 21st Century: The Need for New Approaches.” American Society of Tropical Medicine and Hygiene Global Health pre-meeting course. New Orleans, LA, USA. October 28, 2018.

“Can global health efforts avert imminent human extinction?” 2018 Stanley O. Foster lecture. Emory University. Atlanta, GA, USA. March 19, 2018.

“Pandemic/Epidemic Potential of Nipah virus.” Nipah Research and Development Roadmap Consultation. Wellcome Trust, London, UK. March 1, 2018.

“Spectacular Growth of Megacities Requires New Approaches to Water & Sanitation for the Urban Poor.” National Academy of Medicine Annual Meeting. Washington, DC, USA. October 15, 2017.

“WASH + Nutrition Benefits Bangladesh: Initial Outcomes.” Experimental Biology 2017. Chicago, IL, USA. April 24, 2017.

“The cultural anthropological contribution to diarrheal disease prevention.” American Society of Tropical Medicine and Hygiene Annual meeting, Atlanta, GA, USA. November 14, 2016

“Can public health efforts avert imminent human extinction?” Richard V. Lee, MD Lectureship in Global Health. University at Buffalo, New York, NY, USA. September 9, 2016.

“The contribution of water sanitation and hygiene interventions to healthy child growth and interrupting enteric parasite transmission.” The 3<sup>rd</sup> Symposium on Surveillance Response System Leading to Tropical Diseases Elimination. Shanghai, China. June 16, 2016.

“Emerging viruses with special emphasis on the epidemiology and natural history of Nipah virus.” International Scientific Symposium, Institut Pasteur International Network. Paris, France. October 14, 2015.

“Evaluating the impact of new vaccine introduction in Bangladesh.” Expert Consultation on Measuring the Effectiveness and Impact of Japanese Encephalitis Vaccines. WHO, Geneva, Switzerland. May 27, 2015.

“WASH Benefits: Connecting the Environment to Enteropathy.” Gut Function Biomarkers Consortium. London, UK. January 29, 2015.

“Nipah virus epidemiology and pandemic risk.” Center for Biodefense and Emerging Infectious Diseases Infectious Disease & Immunity Colloquium. University of Texas Medical Branch in Galveston, Texas. September 9, 2014.

“Human Nipah infection in Bangladesh: Establishing meningoencephalitis surveillance for emerging pathogens.” ASM Biodefense and Emerging Diseases Research Meeting. January 29, 2014.

“Global crisis in water supply and quality: The need for innovation.” Water and Health Conference. Chapel Hill, NC, USA. October 16, 2013.

“Why highly polluting kilns are used to manufacture bricks in Bangladesh.” Brick Manufacturing and Public Health Stakeholders Dialogue. Dhaka, Bangladesh. October 1, 2013.

“Developing and evaluating interventions to reduce pandemic risk – The case of henipaviruses and influenza.” Institute of Medicine – Forum on Microbial Threats. Washington DC. September 25, 2013.

“Sanitation and child development.” Program in International and Community Nutrition Seminar. University of California, Davis. February 27, 2013.

“Repeated emergence of Nipah virus in Bangladesh via novel pathways: Lessons for at risk countries.” Prince Mahidol Award Conference. Bangkok, Thailand. January 31, 2013.

“Water management for a healthy Bangladesh: The need for multi-sector collaboration.” National Public Health Conference. Dhaka, Bangladesh. January 15, 2013.

“Global water shortages and health: Agenda for the coming decades.” McKinlay Oration for the Otago International Health Research Annual Conference. Dunedin, New Zealand. November 7, 2012.

“Household water treatment: A failed public health strategy?” Environmental Engineering Seminar. University of California, Berkeley. September 7, 2012.

“Nipah virus outbreaks in Bangladesh.” Asia-Pacific Congress of Medical Virology. Adelaide, South Australia. June 7, 2012.

“Nipah virus in Bangladesh.” Institute of Medicine/Forum on Microbial Threats. Washington DC, USA. December 13, 2011.

“Cholera: Interrupting transmission with environmental measures.” American Society of Tropical Medicine & Hygiene Conference. Atlanta, GA, USA. November 5, 2010.

“Epidemiology, surveillance and control of Nipah virus infections in Bangladesh.” WHO Joint Intercountry Workshop on Nipah, Hendra and Ebola-Reston viruses, Research and Public Health.

Maroochydore, Queensland, Australia. October 13, 2010.

“Epidemiology and prevention of human Nipah virus infection.” Plenary presentation, The Fourth ASEAN Congress of Tropical Medicine and Parasitology. Singapore, June 2, 2010.

“Frontline of the Global Water Crisis: Efforts to Secure Safe Water in High Need Communities.” Keynote presentation, OU International WaTER Conference. Norman, Oklahoma, USA. October 27, 2009.

“What is known and not known about the benefits of hand washing promotion.” 3<sup>rd</sup> International Health and Hygiene Symposium. Beijing, China. August 12, 2009.

“Water and Health.” Water and Human Well Being Executive Session on Grand Challenges of the Sustainability Transition. Venice International University, San Servolo, Italy. July 20, 2009.

“Foodborne transmission of Nipah Virus in Bangladesh.” International Meeting on Emerging Diseases and Surveillance. Vienna, Austria. February 14, 2009.

“Nipah virus transmission in Bangladesh.” International Conference of Emerging Infectious Diseases. Atlanta, GA, USA. March 18, 2008.

“The role for hand washing in improving hygiene and health in low income countries.” Institute Pasteur Euroconference on Hygiene and Health. Paris, France. January 26, 2001.

“Injection Safety: The special role of immunization programs.” International Emerging Infectious Disease Conference. Atlanta, GA, USA. July 19, 2000.

“Assessing injection use and safety.” Safe Injection Global Network (SIGN) Initial Meeting. Geneva, Switzerland. October 14, 1999.

“Risks of blood transfusion in Karachi.” Plenary Session, National HIV Surveillance Conference. Karachi, Pakistan. December 14, 1995.

“A nosocomial outbreak of *Mycobacterium tuberculosis* from an unrecognized case.” American Lung Association. Tuberculosis and Respiratory Diseases Conference. Black Mountain, North Carolina, US. July 10, 1992.

### **Theses Supervision**

1. Jehan I. “The role of interspousal communication in use of modern contraceptives in a middle income area of Karachi.” MSc Epidemiology, McGill University, 1994.
2. NoorAli R. “Does use of a government service depend on how far one lives from the health facility?” MSc Epidemiology, McGill University, 1994.
3. Quddus A. “Neonatal tetanus, mortality rates and risk factors, district Loralai, Balochistan.” MSc Epidemiology, Aga Khan University, 1998.

4. Hozhabri S. "Prevalence and predictors of malaria among febrile children attending the rural health centre of Jhangara, in Sindh, Pakistan." MSc Epidemiology, Aga Khan University, 1999.
5. Siddiqui, Azfar A. "Risk of development of clinical tuberculosis among infected individuals identified by a single blood PCR test." MSc Epidemiology, Aga Khan University, 1999.
6. Bari A. "Risk factors associated with serological status against hepatitis C virus infection: a hospital based case-control study in Islamabad-Rawalpindi, Pakistan." MSc Epidemiology, Aga Khan University, 1999.
7. Raza MI. "Factors associated with sexually transmitted diseases among men attending STD clinics in Karachi, Pakistan." MSc Epidemiology, Aga Khan University, 1999.
8. Laorakpong P. "Case control study to evaluate risk factors for typhoid fever in Egypt." MPH, Emory University, 2001.
9. Raza H. "A case-control study of risk factors for hepatitis B virus infection among adults in Karachi." Msc Epidemiology, Aga Khan University, 2001.
10. Tanaka G. "Burden of rotavirus gastroenteritis in children under 5 years of age in Bangladesh: A hospital-based surveillance." MPH, Emory University, 2005.
11. Bhuiya F. "Enteric disease and consumption of street-vended food among children under five years old in Kamalapur, Bangladesh." MPH, Emory University, 2006.
12. Alamgir NI. "Coping strategies for financial burdens in families with ARI." MPH, BRAC University, 2007.
13. Chisolm KV. "Predictors of care-seeking behavior for respiratory illness in children under age five in Dhaka, Bangladesh." MPH, Emory University, 2007.
14. Nygren B. "Household sanitation characteristics as predictors of diarrhea in children in Bangladesh." MPH, Emory University, 2008.
15. Najnin N. "Understanding health care seeking behaviour of children under five years of age with fever in urban Dhaka, Bangladesh." MPH, University of Melbourne, 2008.
16. Rahman J. "Poverty and Diarrheal Disease in Rural Bangladesh: An evaluation from the SHEWA-B Intervention, ICDDR,B/UNICEF." MPH, Emory University, 2009.
17. Titu AMN. "The economic burden of influenza like illness in Bangladesh: A cost of illness study from household perspective in Mirpur, Dhaka." MPH, BRAC University, 2010.
18. Khanom GA. "Knowledge on respiratory infection and acceptability of the respiratory hygiene intervention in an urban slum." MPH, BRAC University, 2010.
19. Chowdhury M. "Postpartum hospital stay in a tertiary care hospital in Bangladesh: Factors responsible." MPH, BRAC University, 2011.

20. Singer TG. "Potential effects of increased global temperatures on neurological development factors in children under 5 years in east Africa: a modeling study." MSc, Stanford (Emmett Interdisciplinary Program in Environment and Resources), 2015.
21. Nahar N. "A behavior change communication intervention trial to reduce the risk of Nipah virus spillover in Bangladesh." PhD, Swiss Tropical and Public Health Institute, 2017.
22. Bagge W. "The landscape epidemiology of zoonotic diseases: Rodent-borne Bartonella and livestock anthrax." PhD, Stanford (Emmett Interdisciplinary Program in Environment and Resources), 2017.
23. Arthur R. "Epidemics and adaptive behavior as a coupled human natural system: Trust and response to the 2014-15 Ebola epidemic in Liberia" PhD, Stanford (Emmett Interdisciplinary Program in Environment and Resources), 2019.
24. Forsyth J. "Root causes of lead exposure in rural Bangladesh." PhD, Stanford (Emmett Interdisciplinary Program in Environment and Resources), 2019.
25. Kwong L. "Elucidating pathways of fecal exposure: Evidence from young children in rural Bangladesh." Stanford (Civil and Environmental Engineering), 2019.
26. Grembi J. "Enteric pathogens: Measurement, metrics and mitigation" Stanford (Civil and Environmental Engineering), 2019.

### **External Thesis Review Committees**

Hutin Y. "Evidence and information for national injection safety policies." PhD Epidemiology, Swiss Tropical Institute, 2003.

Kermode MA. "Safer injections, fewer infections: management of needles and sharps and occupational blood exposure in rural north Indian health settings." PhD Epidemiology, Deakin University (Australia), 2004.

Danquah L. "Measuring hand washing behaviour in low income settings: methodological and validity issues." PhD School of Social Sciences, University of Southampton, Southampton (UK), 2010.

Saha D. "Acute diarrhea in children in rural Gambia: Knowledge, attitude and practice, etiology, risk factors and consequences among children less than 5 years of age." PhD, University of Otago (New Zealand), 2013.

Clayton BA. "Nipah viruses from Malaysia and Bangladesh: comparisons of viral infection and shedding, and investigation of transmission in the ferret model." PhD Veterinary Science, The University of Melbourne (Australia), 2014.

### **Editorial Roles**

Editor, *Health and Science Bulletin*, 2004 – 2012

Section Editor, Emerging Infections, *Journal of Health, Population and Nutrition* (2005 – 2012)

Section Editor, Water and Sanitation, *Journal of Health, Population and Nutrition* (2007 – 2014)

Review Editor, EcoHealth, 2013 – current

International Editorial Board, *Journal of Water, Sanitation and Hygiene for Development* (2011 – current)

3IE, Expert Roster

**Journal Reviewer (since 2015)**

*Lancet , British Medical Journal, Proceedings of the National Academy of Sciences, Emerging Infectious Diseases, JAMA, PLoS Medicine, New England Journal of Medicine, Clinical Infectious Diseases, Bulletin of the World Health Organization, Lancet Infectious Diseases, Lancet Global Health, American Journal of Tropical Medicine and Hygiene, Epidemiology and Infection, Vaccine, Tropical Medicine and International Health, Environmental Science & Technology, PLoS One, BMJ Open, Social Science and Medicine, Health Policy and Planning, The Pediatric Infectious Disease Journal, PLoS Neglected Tropical Diseases, Water Research, Journal of Water and Health, American Journal of Infection Control, International Journal of Infectious Diseases, Journal of Environmental Management, Review of Environmental Health, Preventive Medicine, Journal of Water Sanitation and Hygiene for Development, International Journal of Environmental Health Research, Journal of Environmental Research and Public Health, BMC Public Health*

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