CONTACT
INFORMATION

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312 Robinson Hall
Department of Public Health & Health Sciences
Bouvé College of Health Sciences, Northeastern University
360 Huntington Avenue
Boston, MA 02115

ACADEMIC
EMPLOYMENT

Bouvé College of Health Sciences, Northeastern University, Boston, MA

Department of Public Health and Health Sciences

Assistant Professor   August 2022 – present

Roux Institute of Northeastern University, Portland, ME

Affiliate Faculty   August 2022 – present

Postdoctoral Fellow   October 2021 – August 2022

École Polytechnique Fédérale de Lausanne, Switzerland

Department of Mathematics, Biostatistics Group

Visiting Scholar   August – September 2021

AFFILIATIONS

MaineHealth Institute for Research, Portland, ME

Center for Interdisciplinary & Population Health Research

Affiliate Faculty

Harvard TH Chan School of Public Health, Boston, MA

Department of Epidemiology

Adjunct Assistant Professor

Emory University Rollins School of Public Health, Atlanta, GA

Department of Epidemiology

Adjunct Assistant Professor

EDUCATION

Harvard T.H. Chan School of Public Health, Boston, MA

PhD, Population Health Sciences (Epidemiology)   2021

SM, Biostatistics   2021

University of California, Berkeley, Berkeley, CA

MS, Epidemiology   2016

Brown University, Providence, RI

AB, Comparative Literature and Community Health   2011

PUBLICATIONS

[1] Sun S, Lomachinsky V, **Smith LH,** Newhouse JP, Westover MB, Blacker DL, Schwamm LH, Haneuse S, Moura LMVR. Benzodiazepine Initiation and the Risk of Falls or Fall-Related Injuries in Older Adults Following Acute Ischemic Stroke. *Neurology Clinical Practice.* 2025; 15(3):e200452. doi:10.1212/CPJ.0000000000200452.

[2] *Goglichidze S, Wang W, **Smith LH,** Ezekiel-Herrera D, Heintzman JD, Marino M, Lucas JA, Crookes DM. Sanctuary policies and type 2 diabetes medication prescription trends among community health center patients. *Health Affairs Scholar.* 2025; 3(1):qxae178. doi:10.1093/haschl/qxae178.

[3] *Williams MP, Manjourides J, **Smith LH,** Rainer CB, Hightow-Weidman LB, Haley
     DF. Studying the Digital Intervention Engagement–Mediated Relationship Between
     Intrapersonal Measures and Pre-Exposure Prophylaxis Adherence in Sexual and Gen-
     der Minority Youth: Secondary Analysis of a Randomized Controlled Trial. *Journal
     of Medical Internet Research.* 2025; 27:e57619. doi:10.2196/57619.

[4] Tanios M, Wu TT, Nguyen H(Mark), **Smith L,** Mahidhara R, Devlin JW. Com-
     paring the impact of targeting limited driving pressure to low tidal volume ven-
     tilation on mortality in mechanically ventilated adults with COVID-19 ARDS:
     An exploratory target trial emulation. *BMJ Open Respiratory Research.* 2024;
     11(1):e002439. doi:10.1136/bmjresp-2024-002439.

[5] Peterson J, Kahrs JC, Adrien N, Wood ME, Olshan AF, **Smith LH,** Howley MM,
     Ailes EC, Romitti PA, Herring AH, Parker SE, Shaw GM, Politis MD, The National
     Birth Defects Prevention Study. Bias analyses to investigate the impact of differen-
     tial participation: Application to a birth defects case-control study. *Paediatric and
     Perinatal Epidemiology.* 2024; 38(8):535–543. doi:10.1111/ppe.13026.

[6] **Smith LH,** Cavanaugh R. Allofus: An R package to facilitate use of the *All of Us*
     Researcher Workbench. *Journal of the American Medical Informatics Association.*
     2024; 31(12):3013–3021. doi:10.1093/jamia/ocae198.

[7] **Smith LH,** Wang W, Keefe-Oates B. Pregnancy episodes in *All of Us*: Harnessing
     multi-source data for pregnancy-related research. *Journal of the American Medical
     Informatics Association.* 2024; 31(12):2789–2799. doi:10.1093/jamia/ocae195.

[8] *Wong CN, **Smith LH,** Cavanaugh R, Kim DH, Streed CG, Kapadia F, Olivieri-
     Mui B. Assessing how frailty and healthcare delays mediate the association between
     sexual and gender minority status and healthcare utilization in the *All of Us* Re-
     search Program. *Journal of the American Medical Informatics Association.* 2024;
     31(12):2916–2923. doi:10.1093/jamia/ocae205.

[9] *Wu TT, Steiger G, **Smith L,** Devlin JW, Slooter AJC. Research letter: Clonidine
     is associated with faster first resolution of incident ICU delirium than antipsychotics.
     Journal of Critical Care. 2024; 79:154433. doi:10.1016/j.jcrc.2023.154433.

[10] Bu F, Schuemie MJ, Nishimura A, **Smith LH,** Kostka K, Falconer T, McLeggon
     J-A, Ryan PB, Hripcsak G, Suchard MA. Bayesian safety surveillance with adaptive
     bias correction. *Statistics in Medicine.* 2023; 43(2):395–418. doi:10.1002/sim.9968.

[11] *Wu TT, **Smith LH,** Vernooij LM, Patel E, Devlin JW. Data Missingness Report-
     ing and Use of Methods to Address It in Critical Care Cohort Studies. *Critical Care
     Explorations.* 2023; 5(11):e1005. doi:10.1097/CCE.0000000000001005.

[12] *Wong CN, Wilczek MP, **Smith LH,** Bosse JD, Richard EL, Cavanaugh R, Man-
     jourides J, Orkaby AR, Olivieri-Mui B. Frailty Among Sexual and Gender Minority
     Older Adults: The All of Us Database. *The Journals of Gerontology: Series A.* 2023;
     78(11):2111–2118. doi:10.1093/gerona/glad149.

[13] Juhel BC, Brunelle CL, Bernstein MC, **Smith LH,** Jung AW, Ababneh HS, Haus-
     man EK, Bucci LK, Bernstein T, Naoum GE, Taghian AG. Side effects of COVID-
     19 vaccinations in patients treated for breast cancer. *Clinical and Experimental
     Medicine.* 2023; 23(7):3671–3680. doi:10.1007/s10238-023-01050-z.

[14] Moura LMVR, Donahue MA, Yan Z, **Smith LH,** Hsu J, Newhouse JP, Schwamm LH, Haneuse S, Hernandez-Diaz S, Blacker D. Comparative Effectiveness and Safety of Seizure Prophylaxis Among Adults After Acute Ischemic Stroke. *Stroke.* 2023; 54(2):527–536. doi:10.1161/strokeaha.122.039946.

[15] Moura LMVR, Yan Z, Donahue MA, **Smith LH,** Schwamm LH, Hsu J, Newhouse JP, Haneuse S, Blacker D, Hernandez-Diaz S. No short-term mortality from benzodiazepine use post-acute ischemic stroke after accounting for bias. *Journal of Clinical Epidemiology.* 2023; 154:136–145. doi:10.1016/j.jclinepi.2022.12.013.

[16] Stensrud MJ, **Smith L.** Identification of Vaccine Effects When Exposure Status Is Unknown. *Epidemiology.* 2023; 34(2):216–224. doi:10.1097/ede.0000000000001573.

[17] **Smith LH,** García-Albéniz X, Chan JM, Zhao S, Cowan JE, Broering JM, Cooperberg MR, Carroll PR, Hernán MA. Emulation of a target trial with sustained treatment strategies: An application to prostate cancer using both inverse probability weighting and the g-formula. *European Journal of Epidemiology.* 2022; 37(12):1205–1213. doi:10.1007/s10654-022-00929-7.

[18] **Smith LH,** Dollinger CY, VanderWeele TJ, Wyszynski DF, Hernández-Díaz S. Timing and severity of COVID-19 during pregnancy and risk of preterm birth in the International Registry of Coronavirus Exposure in Pregnancy. *BMC Pregnancy and Childbirth.* 2022; 22(1):775. doi:10.1186/s12884-022-05101-3.

[19] Hernández-Díaz S, **Smith LH,** Wyszynski DF, Rasmussen SA. First trimester COVID-19 and the risk of major congenital malformations–International Registry of Coronavirus Exposure in Pregnancy. *Birth Defects Research.* 2022; 114(15):906–914. doi:10.1002/bdr2.2070.

[20] Ramjee D, **Smith LH,** Doanvo A, Charpignon M-L, McNulty-Nebel A, Lett E, Desai AN, Majumder MS. Evaluating criminal justice reform during COVID-19: The need for a novel sentiment analysis package. *PLOS Digital Health.* 2022; 1(7):e0000063. doi:10.1371/journal.pdig.0000063. ***Co-first author***.

[21] Mathur MB, **Smith LH,** Yoshida K, Ding P, VanderWeele TJ. E-values for effect heterogeneity and approximations for causal interaction. *International Journal of Epidemiology.* 2022; 51(4):1268–1275. doi:10.1093/ije/dyac073.

[22] Westhoff WJ, **Smith LH,** Wyszynski DF, Hernandez-Diaz S. COVID-19 pharmacotherapy utilization patterns during pregnancy: International Registry of Coronavirus Exposure in Pregnancy. *Pharmacoepidemiology and Drug Safety.* 2022; 31(7):804–809. doi:10.1002/pds.5440.

[23] Hernández-Díaz S, **Smith LH,** Dollinger C, Rasmussen SA, Schisterman EF, Bellocco R, Wyszynski DF. International Registry of Coronavirus Exposure in Pregnancy (IRCEP): Cohort Description and Methodological Considerations. *American Journal of Epidemiology.* 2022; 191(6):967–979. doi:10.1093/aje/kwac046.

[24] Petito LC, **Smith LH.** Important Questions Deserve Rigorous Analysis: A Cautionary Note About Selection Bias. *Journal of the American Heart Association.* 2022; 11(6):e023234. doi:10.1161/jaha.121.023234.

[25] Modest AM, **Smith LH,** Toth TL, Collier AY, Hacker MR. Multifoetal gestations mediate the effect of in vitro fertilisation (IVF) on ischaemic placental disease in autologous oocyte IVF more than donor oocyte IVF. *Paediatric and Perinatal Epidemiology.* 2022; 36(2):181–189. doi:10.1111/ppe.12857.

[26] Cohen AK, Ryan S, **Smith LH,** Ream RK, Glymour MM, Lopez A, Yen IH. Educational Attainment Past the Traditional Age of Completion for Two Cohorts of US Adults: Inequalities by Gender and Race/Ethnicity. *Race and Social Problems.* 2021; 14(3):208–222. doi:10.1007/s12552-021-09352-1.

[27] **Smith LH,** Mathur MB, VanderWeele TJ. Multiple-bias Sensitivity Analysis Using Bounds. *Epidemiology.* 2021; 32(5):625–634. doi:10.1097/ede.0000000000001380.

[28] **Smith LH,** Schwartz GL. Mediating to Opportunity: The Challenges of Translating Mediation Estimands into Policy Recommendations. *Epidemiology.* 2021; 32(3):347–350. doi:10.1097/ede.0000000000001335.

[29] **Smith LH,** VanderWeele TJ. Simple Sensitivity Analysis for Control Selection Bias. *Epidemiology.* 2020; 31(5):e44–e45. doi:10.1097/ede.0000000000001207.

[30] **Smith LH.** Selection Mechanisms and Their Consequences: Understanding and Addressing Selection Bias. *Current Epidemiology Reports.* 2020; 7(4):179–189. doi:10.1007/s40471-020-00241-6.

[31] Farland LV, Correia KFB, Dodge LE, Modest AM, Williams PL, **Smith LH,** Toth TL, Hacker MR, Missmer SA. The importance of mediation in reproductive health studies. *Human Reproduction.* 2020; 35(6):1262–1266. doi:10.1093/humrep/deaa064.

[32] **Smith LH,** VanderWeele TJ. Mediational E-values. *Epidemiology.* 2019; 30(6):835–837. doi:10.1097/ede.0000000000001064.

[33] **Smith LH,** VanderWeele TJ. Bounding Bias Due to Selection. *Epidemiology.* 2019; 30(4):509–516. doi:10.1097/ede.0000000000001032.

[34] Deardorff J, **Smith LH,** Petito L, Kim H, Abrams BF. Maternal Prepregnancy Weight and Children's Behavioral and Emotional Outcomes. *American Journal of Preventive Medicine.* 2017; 53(4):432–440. doi:10.1016/j.amepre.2017.05.013.

[35] Cohen AK, Richards T, Allen BL, Ferrier Y, Lees J, **Smith LH.** Health issues in the industrial port zone of Marseille, France: The FOS EPSEAL community-based cross-sectional survey. *Journal of Public Health.* 2017; 26(2):235–243. doi:10.1007/s10389-017-0857-5.

* indicates mentee first author

AWARDS		
Harvard Biostatistics Certificate of Distinction in Teaching		2020
Harvard Epidemiology Teaching Assistant Award		2020
Winner, Harvard Epidemiology Student Podcast Competition		2020
Bok Center Certificate of Distinction in Teaching (×3)		2017, 2018, 2019
Runner-up, Harvard T.H. Chan School Poster Day		2019
Ralph & June Catalano Award Scholarship		2015
Reshetko Scholarship		2014
U.C. Berkeley Graduate Division Block Grant		2014
Phi Beta Kappa		2011
Magna cum laude; Brown University departmental honors		2011
C.V. Starr Fellowship for Public Service		2008

05/2024-04/2025
May 2024 – April 2025; $5,000

RMOMS Assessment of the Obstetrics Workforce in Rural Maine: Follow up Studies
Role: Subaward Co-I (Subaward PI: Simmonds)
Prime sponsor HRSA (PI: Mills; MaineHealth)
May 2024 – December 2024; $34,853

Rural Maternity and Obstetrics Management Strategies (RMOMS): Workforce Needs Assessment of Rural Labor and Delivery Units in Maine
Role: Subaward Co-I (Subaward PI: Simmonds)
Prime sponsor HRSA (PI: Mills; MaineHealth)
September 2023 – December 2023; $73,434

INVITED TALKS   "allofus: an R package to facilitate use of the All of Us Researcher Workbench"
- All of Us Researcher Workbench Office Hours. November 8, 2024. (Virtual, with Rob Cavanaugh)
- Division of Medical and Scientific Research, All of Us Research Program. November 7, 2024. (Virtual, with Rob Cavanaugh)

"Second-guessing selection bias." Society for Epidemiologic Research (SER). June 20, 2024. (Austin, TX)

"Introduction to causal inference." MaineHealth Institute for Research. June 26 & July 17, 2023. (Portland, ME)

"Closing remarks." Annual Symposium on Risks and Opportunities of AI in Pharmaceutical Medicine (AIPM). June 5, 2023. (Portland, ME)

"Intro to {targets}." Maine R User Group. May 31, 2023. (Portland, ME)

"Challenges in estimating effects of time-varying exposures during pregnancy." Advanced Methods Workshop, Society for Pediatric and Perinatal Epidemiologic Research (SPER). June 16, 2022. (Chicago, IL)

"Causal inference in epidemiology using target trial principles: Applications in pregnancy and prostate cancer." Statistics seminar, École Polytechnique Fédérale de Lausanne. September 17, 2021. (Lausanne, Switzerland)

"Multiple-bias sensitivity analysis using bounds." Joint Statistical Meetings (JSM). August 9, 2021. (Virtual)

"Simple sensitivity analysis for selection bias using bounds." 13th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics). December 19, 2020. (Virtual)

"Discussion of 'Selection bias in 2020.' " Online Causal Inference Seminar. December 8, 2020. (Virtual)

"The magic of R." Master of Food and Resource Economics Program, University of British Columbia. August 20, 2020. (Virtual)

"Data gets personal." Maine Medical Center R User Group. July 16, 2020. (Virtual)

"Data manipulation in R." Maine Medical Center R Group. July 14, 2020. (Virtual)

"Data gets personal." RLadies Boston, January 29, 2020. (Boston, MA)

"Simple sensitivity analysis for selection bias"
- Koenen trauma epidemiology research group, Harvard T.H. Chan School of Public

Health. December 4, 2019. (Boston, MA)

  - Department of Medical Epidemiology and Biostatistics student seminar, Karolinksa Institute. November 12, 2019. (Stockholm, Sweden)

  - Monthly methods call, Vaccine Safety Datalink. September 12, 2019. (Virtual)

CONTRIBUTED PRESENTATIONS & WORKSHOPS	"Evaluating missingness assumptions for items in a frailty index." Society for Epidemiologic Research (SER). June 14, 2023 (Portland, OR). *Oral Abstract Session.*

"Reproducible epidemiology in R." Society for Epidemiologic Research (SER). June 13, 2023 (Portland, OR). *Pre-Conference Workshop.*

"COVID-19 and preterm birth: Understanding the relationship." Society for Pediatric and Perinatal Epidemiologic Research (SPER). June 16, 2021 (Virtual). *Speed Talk Session.*

"Challenges in estimating effects of COVID-19 on preterm birth." Society for Epidemiologic Research (SER). June 23, 2021 (Virtual). *Oral Abstract Session.*

"E-values, unmeasured confounding, measurement error, and selection bias." Society for Epidemiologic Research (SER). June 18, 2019 (Minneapolis, MN); December 11, 2020 (Virtual); May 21, 2021 (Virtual). *Pre-Conference Workshop, with Tyler VanderWeele / Maya Mathur.*

"Simple sensitivity analysis for selection bias." Society for Epidemiologic Research (SER). June 20, 2019 (Minneapolis, MN). *Concurrent Contributed Session Oral Presentation.*

POSTERS (FIRST OR SENIOR AUTHOR ONLY)

Bennett CR, Cavanaugh R, **Smith LH**. Using a target trial to estimate the causal effect of health technology on racial disparities. Society for Epidemiologic Research (SER). Austin, TX, June 2024.

Bennett CR, Cavanaugh R, **Smith LH**. Social and structural determinants of diabetes technology use: A descriptive analysis. Society for Epidemiologic Research (SER). Austin, TX, June 2024.

Gorsky KG, Keefe-Oates B, Lakshmanan A, Rogers EE, **Smith LH**. Leave practices and association with breastfeeding and postpartum depression among mothers of infants with prolonged postnatal hospitalization. Pediatric Academic Societies Meeting (PAS). Toronto, Canada, May 2024.

Gorsky KG, Keefe-Oates B, Lakshmanan A, Rogers EE, **Smith LH**. Leave practices and postpartum return-to-work plans among mothers of infants with prolonged postnatal hospitalization. Pediatric Academic Societies Meeting (PAS). Toronto, Canada, May 2024.

Smith LH, Bu F, Nishimura A, Kostka K, McLeggon J, Ryan PB, Hripcsak G, Madigan D, Suchard MA. Bayesian evidence synthesis with bias correction. Observational Health Data Sciences and Informatics (OHDSI) Global Symposium. East Brunswick, NJ, October 2023. *Finalist: Best Community Contribution.*

Smith LH, Zaidi J. Identifying direct effects of in vitro fertilization on placental disease. Harvard T.H. Chan School of Public Health Poster Day. Boston, MA, April 2019. *Runner-up: Best graduate student poster.*

Smith LH, Deardorff J, Petito L, Kim H, & Abrams BF. Maternal prepregnancy weight and children's behavioral and emotional outcomes. Society For Research in Child Development (SCRD). Austin, TX, April 2017.

Smith LH, Petito L, Cohen A, Deardorff J, & Abrams B. Gestational weight gain and math and reading achievement among U.S. children. Society for Pediatric and Perinatal Epidemiologic Research (SPER). Miami, FL, June 2016.

SOFTWARE & ONLINE TOOLS	Cavanaugh R, **Smith LH**. *allofus*: R package to streamline use of the All of Us Researcher Workbench. *R Package on CRAN*.

Smith LH. Simple sensitivity analysis for selection bias. *Online tool available at selection-bias.louisahsmith.com*.

Mathur MB, **Smith LH**, Ding P, VanderWeele TJ. *EValue*: Sensitivity analyses for unmeasured confounding or selection bias in observational studies and meta-analyses. *R Package on CRAN*.

Smith LH. PHS Summer Prep. *Online introduction to R, probability, and statistics for incoming PhD students available at bit.ly/phs-prep*.

TEACHING: PRIMARY INSTRUCTOR	**Northeastern University**, Boston, MA

PHTH 2210: Foundations of Biostatistics   Fall 2024, Spring 2025
4 Credits; ~120-180 students

PHTH 6800: Causal Inference in Public Health Research   Spring 2023, 2024
3 Credits; ~10 students

Emory University Rollins School of Public Health, Atlanta, GA

EPI590R: R Bootcamp   Summer 2023, 2024
1 Credit; ~50 students

Harvard T. H. Chan School of Public Health, Boston, MA

ID 543: Introduction to R   Summer 2023, 2024
1.25 Credits; ~20 students

Guest lectures

HSCI 6110: Advanced Population Characterization, Northeastern University.

PHS 2000B: Quantitative Research Methods, Harvard T.H. Chan School of Public Health.

SBS 245: Social and Behavioral Research Methods, Harvard T.H. Chan School of Public Health.

MPH 677: Regression Models in the Health Sciences, University of Southern Maine.

PHTH 5202: Epidemiology, Northeastern University.

TEACHING: STUDENT INSTRUCTOR	**Harvard T. H. Chan School of Public Health**, Boston, MA

EPI 207: Advanced Epidemiologic Methods   2018 − 2020
Head teaching fellow
Instructor: James Robins

BST 256: Theory and Methods for Causality I   2020
Teaching fellow
Instructor: Andrea Rotnitzky

Introduction to R   2019 − 2020

Instructor and course developer

Introduction to Epidemiology   2019 – 2020
Co-instructor
Co-instructor: David Cote

PHS 2000: Quantitative Research Methods   2017 – 2019
Teaching fellow
Instructors: Tyler VanderWeele, Jarvis Chen, Michael Hughes, Jessica Cohen

University of California, Berkeley, Berkeley, CA

PH 150A: Introduction to Epidemiology and Human Disease   2016
Graduate student instructor
Instructor: Lisa Barcellos and Mahasin Mujahid

PH 250A: Epidemiologic Methods   2015
Graduate student instructor
Instructor: Sandra McCoy

Mentoring
Postdoctoral advising
  Brianna Keefe-Oates, PhD

Doctoral advising
  Natalia Coriano-Díaz
  Supritha Nimmala
  Catherine Saltus

Doctoral committee member
  Chloe Bennett
  Darien Mather
  Victoria Nielson
  Ting-Ting Wu, PhD 2024 (Currently: Postdoc, Department of Population Medicine, Harvard Medical School)
  Michael Williams, PhD 2024 (Currently: Postdoc, Center for Health Outcomes and Interdisciplinary Research, Massachusetts General Hospital/Harvard Medical School)

Master's committee member
  Salome Goglichidze, MPH 2023 (Currently: PhD student, Population Health, Northeastern)

Undergraduate
  Rohin Nyugen (Institute for Health Equity and Social Justice Research intern, 2024-)
  Sanjana Sinha (Institute for Health Equity and Social Justice Research intern, 2024-)
  Alexandra Blaise (Health Sciences capstone, Spring 2025)

External
  Chelsea Wong, MD, T32 Postdoctoral Fellow, Harvard Translational Research in Aging Training Program
  K. Griffin Gorsky, MD MPH, Neonatal-Perinatal Medicine Fellow, University of California, San Francisco

Other
Member, Society for Epidemiologic Research (SER), 2019-
   - Education Committee, 2020-2023

Member, Society for Pediatric and Perinatal Epidemiologic Research (SPER), 2016-

Co-Lead, OHDSI Perinatal and Reproductive Health Group (PRHeG), 2022-

Faculty, NIH Inspire Maternal Health OHDSI Data Network Fellowship, 2024-

Planning Committee, Annual Symposium on Risks and Opportunities of AI in Pharmaceutical Medicine (AIPM), 2023-2024

Ad-hoc Reviewer: *American Journal of Epidemiology, Biometrika, BMC Medical Research Methodology, BMJ Open, Epidemiologic Methods, Epidemiologic Reviews, Epidemiology, European Journal of Epidemiology, International Journal of Epidemiology, JAMA Network Open, JAMA Psychiatry, Journal of Causal Inference, Journal of Epidemiology, Patient Preference and Adherence, Paediatric and Perinatal Epidemiology, Scientific Reports, Sociological Methods and Research*

Early Career Reviewer, NIH Analytics and Statistics for Population Research Panel A (ASPA) Study Section, 2025

OTHER PROFESSIONAL EXPERIENCE	**Little Wound School**, Kyle, SD	
	Elementary school teacher	2011 – 2014

3rd grade teacher of 10-20 students
Taught reading, writing, math, science, social studies