

Gillian AM Tarr
Curriculum Vitae

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EDUCATION

2017	PhD, Epidemiology	University of Washington
2006	MHS, Epidemiology	Johns Hopkins Bloomberg School of Public Health
2004	BA, Biology	Bard College

ACADEMIC APPOINTMENTS

2019-	Assistant Professor, Division of Environmental Health Sciences, University of Minnesota
2017-2019	Postdoctoral Fellow, Department of Pediatrics, University of Calgary

FELLOWSHIPS & AWARDS

2019-2021	Banting Postdoctoral Fellowship, Canadian Institutes of Health Research (CIHR) (terminated early, September 2019)
2019-2021	Alberta Innovates Postgraduate Fellowship, Alberta Innovates (terminated early, September 2019)
2018	Institute Community Support Travel Award, CIHR
2018	IPDLN Student Travel Bursary, International Population Data Linkage Network
2018	ACHRI Trainee Travel Award, Alberta Children's Hospital Research Institute
2017-2019	Eyes High Postdoctoral Fellowship, University of Calgary (terminated early, December 2018)
2017-2018	Predoxal Ruth L. Kirschstein National Research Service Award, F31AI126834, National Institute of Allergy and Infectious Diseases, National Institutes of Health (NIH) (terminated early, September 2017)
2016	Travel award, Graduate School Fund for Excellence and Innovation, University of Washington
2016	Travel award, Department of Epidemiology, University of Washington
2015-2017	Predoxal Trainee, Biostatistics, Epidemiologic, and Bioinformatic Training in Environmental Health Training Grant, T32ES015459, National Institute of Environmental Health Sciences, NIH
2015	Travel award, Department of Epidemiology, University of Washington
2015	Student scholarship, Summer Institute in Statistics and Modeling in Infectious Diseases and Summer Institute in Statistical Genetics, University of Washington

PUBLICATIONS

Refereed Journal Articles

1. **Tarr GAM**, Lin CY, Lorenzetti D, Chui L, Tarr PI, Hartling L, Vandermeer B, Freedman SB. Diagnostic Test Accuracy of Commercial Tests for Detection of Shiga Toxin-Producing *Escherichia coli*: A Systematic Review and Meta-Analysis. Clin Chem. In press.
2. **Tarr GAM**, Tarr PI, Freedman SB. Clinical Interpretation of Enteric Molecular Diagnostic Tests. Clin Microbiol Infect. In press.
DOI: <https://doi.org/10.1016/j.cmi.2019.08.018>
3. **Tarr GAM**, Lin CY, Lorenzetti D, Chui L, Tarr PI, Hartling L, Vandermeer B, Freedman SB. Performance of Commercial Tests for Molecular Detection of Shiga Toxin-producing *Escherichia coli* (STEC): A Systematic Review and Meta-analysis Protocol. BMJ Open. 2019;9(3):e025950.
4. **Tarr GAM**, Chui L, Lee B, Pang X-L, Nettel-Aguirre A, Ali S, Vanderkooi OG, Berenger BM, Dickinson J, Tarr PI, Drews S, MacDonald J, Kim K, Freedman SB. Performance of Stool Testing Recommendations for Acute Gastroenteritis when Used to Identify Children with Nine Potential Bacterial Enteropathogens. Clin Infect Dis. 2019 Oct;69(7):1173-1182.
5. Xie J, **Tarr G**, Ali S, Chui L, Pang X-L, Lee B, Vanderkooi O, Tarr P, Zhou R, Parsons B, Berenger B, Kim K, Freedman SB. Pigment Visibility on Rectal Swabs Used to Detect Enteropathogens: A Prospective Cohort Study. J Clin Microbiol. 2019 Jun;57(6): e00213-19.
6. **Tarr GAM**, Oltean HN, Rabinowitz P, Phipps AI, Tarr PI. Case definitions of hemolytic uremic syndrome following *Escherichia coli* O157:H7 infection vary in validity. Int J Med Microbiol. 2018 Dec;308(8):1121-1127.
7. **Tarr GAM**, Oltean HN, Rabinowitz P, Phipps AI, Tarr PI. Strength of the association between antibiotic use and hemolytic uremic syndrome following *Escherichia coli* O157:H7 infection varies with case definition. Int J Med Microbiol. 2018 Oct;308(7):921-926.
8. **Tarr GAM**, Shringi S, Oltean HN, Mayer J, Rabinowitz P, Wakefield J, Tarr PI, Besser TE, Phipps AI. Importance of Age in the Purported Association between Phylogenetics and Hemolytic Uremic Syndrome in *Escherichia coli* O157:H7 Infections. Epidemiol Infect. 2018 Sep;146(12):1550-1555.
9. Mishra S, Ulep V, Marquez P, Isenman P, Fuchs A, Llorente B, Banzon E, Dutta S, Guindon E, Hernández-Ávila M, Jamison DT, Lavado R, **Tarr G**, Postolovska I, Reynales-Shigematsu LM, Smith O, Jha P. The health, poverty and financial consequences of a cigarette price increase among 500 million male smokers in 13 middle-income countries. BMJ. 2018;361:k1162.

10. Postolovska I, Lavado R, **Tarr G**, Verguet S. The Health Gains, Financial Risk Protection Benefits, and Distributional Impact of Increased Tobacco Taxes in Armenia. *Health Syst Reform*. 2018;4(1):30-41.
11. **Tarr GAM**, Shringi S, Phipps AI, Besser TE, Mayer J, Oltean HN, Tarr PI, Wakefield J, Rabinowitz P. Geogenomic segregation and temporal trends of human pathogenic *Escherichia coli* O157:H7. *Emerg Infect Dis*. 2018 Jan;24(1):32-29.
12. Verguet S, **Tarr G**, Gauvreau CL, Mishra S, Jha P, Liu L, Xiao Y, Qiu Y, Zhao K. Distributional benefits of tobacco tax and smoke-free workplaces in China: a modeling study. *J Glob Health*. 2017 Dec;7(2):020701.
13. Westley EW, Greene SA, **Tarr GA**, Ryman TK, Gilbert SS, Hawes SE. Strengthening Paper Health Register Systems: Strategies from Case Studies in Ethiopia, Ghana, South Africa, and Uganda. *J Glob Health*. 2016 Dec;6(2):020303.
14. Sharma M, Ying R, **Tarr G**, Barnabas R. Systematic review and meta-analysis of community and facility-based HIV testing to address linkage to care gaps in sub-Saharan Africa. *Nature*. 2015 Dec 2; 528(7580):S77-S85.
15. **Tarr GA**, Eickhoff JC, Koepke R, Hopfensperger DJ, Davis JP, Conway JH. Using a Bayesian latent class model to evaluate the utility of investigating persons with negative polymerase chain reaction results for pertussis. *Am J Epidemiol*. 2013 Jul 15;178(2):309-18.
16. Hicks P, **Tarr GA**, Hicks XP. Reminder cards and immunization rates among Latinos and the rural poor in Northeast Colorado. *J Am Board Fam Med*. 2007 Nov-Dec;20(6):581-6.

Published Abstracts

1. **Tarr GAM**, Freedman SB. Linking Provincial and Prospective Cohort Study Data to Estimate the Incidence and Healthcare Burden of Viral Gastroenteritis. *Int J Popul Data Sci*. 2018 Sep;3(4):441.

RESEARCH SUPPORT

Active

- | | |
|-----------|--|
| 2019-2022 | Abundance of Shiga Toxin-producing <i>Escherichia coli</i> (STEC) in Cattle and Association with Clinical Infections in the Same Geographic Region
Beef Cattle Research Council
Role: Co-I (PI: McAllister); \$97,875 |
| 2019-2020 | Contribution and Interaction of Shiga Toxin Subtypes to <i>Escherichia coli</i> O157:H7 Virulence
Clinical Research Fund Pre-submission Grant, Calgary Centre for Clinical Research
Role: Co-PI (PI: Freedman); \$10,000 |
| 2019-2020 | Detection of <i>Clostridioides difficile</i> in Asymptomatic Children: A systematic review
Systematic Review Grant Competition, Emergency Strategic Clinical Network |

- Role: Co-I (PI: Vanderkooi); \$14,750
 2018-2020 Estimating the Burden of Viral Acute Gastroenteritis in Alberta's Children
 Seed Grant Competition, Maternal Newborn Child & Youth Strategic Clinical
 Network
 Role: Co-PI (PI: Freedman); \$15,000

Completed

- 2018-2019 Contribution and Interaction of Shiga Toxin Subtypes to *Escherichia coli*
 O157:H7 Virulence
 Trainee Small Research Grant, Alberta Children's Hospital Research Institute
 Role: PI; \$3,000
- 2018-2019 Performance of Commercial Molecular Tests for Rapid Detection of Shiga
 Toxin-producing *Escherichia coli* (STEC): A Systematic Review and Meta-
 analysis
 Systematic Review Grant Competition, Emergency Strategic Clinical Network
 Role: Co-PI (PI: Freedman); \$14,750

PRESENTATIONS

Invited Presentations

- 2018 Phylogenetics of *Escherichia coli* O157:H7: Implications for distribution and
 virulence. Microbiology Section, Provincial Laboratory for Public Health,
 Edmonton, Alberta, Canada, June 14, 2018.

Conference Presentations

- 2019 **Tarr GAM**, Pang X-L, Lee B, Chui L, Ali S, MacDonald S, Freedman SB.
 Emergency Department Visits and Inpatient Hospitalizations Associated with
 Viral Gastroenteritis. [Poster] Society for Epidemiologic Research (SER)
 Meeting, Minneapolis, MN.
- 2019 **Tarr GAM**, Lin CY, Vandermeer B, Lorenzetti D, Chui L, Tarr PI, Hartling L,
 Freedman SB. Performance of Commercial Enzyme Immunoassay and
 Polymerase Chain Reaction Tests for Rapid Detection of Shiga Toxin-producing
Escherichia coli: A Systematic Review and Meta-Analysis. [Poster] Society for
 Epidemiologic Research (SER) Meeting, Minneapolis, MN.
- 2019 **Tarr GAM**, Chui L, Lee B, Pang X-L, Nettel-Aguirre A, Ali S, Vanderkooi
 OG, Berenger B, Dickinson JA, Tarr PI, Kim K, Freedman SB. Guideline
 Performance for the Detection of Bacteria in Children Presenting in the
 Emergency Department with Acute Gastroenteritis. [Oral Presentation] Pediatric
 Academic Societies (PAS) Meeting, Baltimore, MD.
- 2019 **Tarr GAM**, Pang X-L, Lee B, Chui L, Ali S, MacDonald S, Freedman SB.
 Emergency Department Visits and Inpatient Hospitalizations Associated with
 Viral Gastroenteritis. [Poster] Pediatric Academic Societies (PAS) Meeting,
 Baltimore, MD.

- 2019 **Tarr GAM**, Lin CY, Vandermeer B, Lorenzetti D, Chui L, Tarr PI, Hartling L, Freedman SB. Performance of Commercial Enzyme Immunoassay and Polymerase Chain Reaction Tests for Rapid Detection of Shiga Toxin-producing *Escherichia coli*: A Systematic Review and Meta-Analysis. [Poster] Pediatric Academic Societies (PAS) Meeting, Baltimore, MD.
- 2019 **Tarr GAM**, Zhuo R, Pang X-L, Lee B, Chui L, Ali S, Freedman SB. Natural History of Astrovirus- and Sapovirus-associated Gastroenteritis in Children Visiting the Emergency Department. [Poster] Pediatric Academic Societies (PAS) Meeting, Baltimore, MD.
- 2018 **Tarr GAM**, Freedman SB. Linking Provincial and Prospective Cohort Study Data to Estimate the Incidence and Healthcare Burden of Viral Gastroenteritis. [Oral Presentation] International Population Data Linkage Network Conference, Banff, Alberta, Canada.
- 2018 **Tarr GAM**, Chui L, Lee B, Pang X-L, Nettel-Aguirre A, Ali S, Vanderkooi OG, Berenger B, Dickinson JA, Tarr PI, Drews S, MacDonald J, Kim K, Freedman SB. Predicting Bacteria Detection in Pediatric Acute Gastroenteritis to Encourage Appropriate Treatment. [Poster] International Conference on Emerging Infectious Diseases, Atlanta, GA.
- 2018 **Tarr GAM**, Zhuo R, Parsons B, Pang X-L, Lee B, Chui L, Ali S, Freedman SB. Natural History of Astrovirus- and Sapovirus-associated Gastroenteritis in Children Visiting the Emergency Department. [Poster] International Conference on Emerging Infectious Diseases, Atlanta, GA.
- 2018 **Tarr GAM**, Oltean HN, Rabinowitz P, Phipps AI, Tarr PI. Definitions of hemolytic uremic syndrome following *Escherichia coli* O157:H7 infection vary in validity. [Poster] VTEC 2018, Florence, Italy.
- 2017 **Tarr GAM**, Oltean HN, Phipps AI, Tarr PI. Concordance between case definitions and public health reporting of hemolytic uremic syndrome in *Escherichia coli* O157:H7 infections. [Poster] Society for Epidemiologic Research, Seattle, WA.
- 2016 **Tarr GAM**, Shringi S, Wakefield J, Phipps AI, Besser TE, Tarr PI, Rabinowitz P, Mayer J. The role of phylogenetic lineage in *Escherichia coli* O157:H7 risk: location, location, location. [Oral Presentation] International Meeting on Emerging Diseases and Surveillance, Vienna, Austria.
- 2015 **Tarr GAM**, Mayer J, Phipps A, Wakefield J, Besser TE, Rabinowitz P. Methods for Optimizing the Power of Phylogenetic Data to Better Understand the Epidemiology of *Escherichia coli* O157. [Poster] VTEC 2015, Boston, MA.

Internal Presentations

- 2019 Challenges in Detecting the Etiologic Agent in Pediatric Gastroenteritis. Child Health Research Symposium 2019, Alberta Children's Hospital Research Institute, University of Calgary, Calgary, Alberta, Canada, May 29, 2019.
- 2019 Norovirus Visit Rates in Alberta. APPETITE Symposium, Canmore, Alberta, Canada, March 1, 2019.

- 2018 Linking Provincial and Prospective Cohort Study Data to Estimate the Incidence and Healthcare Burden of Viral Gastroenteritis. APPETITE Seminar Series, Calgary, Alberta, Canada, November 7, 2018.
- 2018 Targeted testing of children with diarrhea: Predicting bacteria detection. APPETITE Symposium, Edmonton, Alberta, Canada, March 2, 2018.

RESEARCH EXPERIENCE

- 2017-2018 Consultant (vaginal microbiome study), Department of Global Health, University of Washington
- 2014-2017 Data Manager, Kiwoko NICU Study, University of Washington
- 2013-2015 Research Assistant, START Program, Department of Global Health, and International Clinical Research Institute, University of Washington
- 2010-2011 Epidemiologist, Department of Pediatrics, University of Wisconsin
- 2005-2006 PHASE Intern, Maryland Department of Health and Mental Hygiene
- 2004-2005 Research Assistant, Johns Hopkins Cameroon Program, Johns Hopkins Bloomberg School of Public Health
- 2002-2003 AmeriCorps Volunteer, Salud Family Health Center, Fort Morgan, CO

TEACHING ACTIVITIES

Instruction

- 2019 Co-Instructor, Research in Healthcare Epidemiology and Infection Control Cumming School of Medicine, University of Calgary
- 2016 Academic Support Teaching Assistant, Introductory epidemiology and biostatistics courses
School of Public Health, University of Washington
- 2016 Co-Instructor & Course Developer, Epi/Biostats Bootcamp
School of Public Health, University of Washington
- 2015-2016 Teaching Assistant, Epidemiologic Methods I and II
Department of Epidemiology, University of Washington
- 2014 Teaching Assistant, Introduction to Epidemic Modeling of Infectious Diseases
Department of Epidemiology, University of Washington
- 2006 Teaching Assistant, Epidemiology 3: Cohort Studies
Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health

Guest Lectures

- 2019 Environmental Health Sciences Doctoral Seminar, University of Minnesota

Supervision & Mentorship

- 2019 Summer student supervisor, primary mentor: Emily Downey, BHS student, University of Calgary

2018 Summer student supervisor, secondary mentor: Chu Yang Lin, MD student, University of Alberta

SERVICE

Professional Service

2018 Abstract peer review
Annual Meeting, Society for Epidemiologic Research

2018 Grant peer review
Project Support Grant, Glasgow Children's Hospital Charity Research Fund

2017- Journal peer review
Clinical Infectious Diseases, Clinical Microbiology and Infection, Epidemiology & Infection, European Journal of Pediatrics, Journal of the Pediatric Infectious Disease Society, PLoS ONE, Zoonoses and Public Health

Institutional Service

2019 Committee member
Banting Postdoctoral Fellowship Adjudication Committee, University of Calgary

2019 Grant peer review
Healthy Outcomes Theme Collaborative Research Grants, Alberta Children's Hospital Research Institute

2018 Internal pre-submission peer review
CIHR Doctoral Scholarship, Alberta Children's Hospital Research Institute

2016-2017 PhD Student Representative, Curriculum Committee
Department of Epidemiology, University of Washington

PROFESSIONAL DEVELOPMENT

2018 Summer Institute in Statistics and Clinical Research, University of Washington

2018 Causal Diagrams: Draw Your Assumptions Before Your Conclusions, HarvardX, certificate: <https://courses.edx.org/certificates/f19082131dee49e68db362a8048b431d>

2016, 2017 Causal Inference Methods for PCOR using Observational Data (CIMPOD) Workshop, Washington, D.C.

2015 Summer Institute in Statistics and Modeling in Infectious Diseases and Summer Institute in Statistical Genetics, University of Washington

2006 Certificate in Vaccine Science and Policy, Johns Hopkins Bloomberg School of Public Health

PROFESSIONAL MEMBERSHIP

2018-2019 Canadian Society for Epidemiology and Biostatistics

2016- Society for Epidemiologic Research

2008- Certified in Public Health (CPH), National Board of Public Health Examiners
(renewed biannually)

INDUSTRY EXPERIENCE

2011-2013 EMFI Engineer, Providence Health & Services, Renton, WA
2008-2010 EMFI and Data Courier Quality Assurance, Epic, Verona, WI
2006-2008 Clinical Practice Model Technical Services Lead, Epic, Verona, WI

MEDIA & COMMUNICATIONS

1. IDPractitioner. September 16, 2018. Natural history is comparable for astrovirus, sapovirus, norovirus.
<https://www.mdedge.com/pediatricnews/article/174915/pediatrics/natural-history-comparable-astrovirus-sapovirus-norovirus/page/0/1>. MDedge.
2. *Emerging Infectious Diseases* Podcast. May 17, 2018. *E. coli* Variations in Washington State. <https://tools.cdc.gov/medialibrary/index.asp#/media/id/380518>. Centers for Disease Control and Prevention, Atlanta, Georgia.
3. UToday. March 26, 2018. What bugs are making Alberta kids sick?
http://www.ucalgary.ca/utoday/issue/2018-03-26/what-bugs-are-making-alberta-kids-sick?utm_source=UToday&utm_medium=Email&utm_campaign=March-26-2018&utm_term=What%20bugs%20are%20making%20Alberta%20kids%20sick?
University of Calgary, Calgary, Alberta, Canada.