

# Infectious Disease/HIV Research Newsletter

Fall 2021

## **Welcome** to the inaugural **TPMG ID/HIV Research Newsletter!**

Our newsletters present current or recently completed research projects led by infectious disease/HIV clinicians and investigators at the Division of Research.

In this issue, we will provide you with updates regarding research interests among TPMG physicians and DOR investigators, recent projects, and an impressive list of recent publications which demonstrate the breadth of our collective expertise and interests.



## **A Deeper Look Inside This Update:**

- HIV by the Numbers
- Research highlight
- ID/HIV research survey
- Upcoming events, funding & next steps
- Active and recent research projects
- Recent publications

# HIV by the Numbers:

## By The Numbers

as of 08/31/2021

CUMULATIVE  
PERSONS WITH HIV  
(PWH)



2020 (Aug) 2021 (Aug)  
30,388 31,360

CURRENT PWH  
IN CARE



2020 (Aug) 2021 (Aug)  
10,024 10,159

NEW PWH\* IN  
PRIOR 365 DAYS



2020 (Aug) 2021 (Aug)  
1,042 968

\*NEW DIAGNOSES AND  
TRANSFERS

All-Cause Death Rate\*



2020: 8.0  
2019: 8.6

Hepatitis C



491  
COINFECTED

Influenza\*



2.8% IN PRIOR  
FLU SEASON\*

\*ANNUALIZED RATE

\*JUL 1ST - AUG 31ST OF FLU SEASON

## PWH COVID Testing, Positivity, and Vaccination Status

as of 9/13/2021

	(n)	(%)
PWH in Care .....	<b>10,159</b>	<b>100%</b>
PWH Tested for COVID .....	<b>6,249</b>	<b>62%</b>
PWH Positive for COVID .....	<b>744</b>	<b>12%</b>
(% is of tested)		
PWH Fully Vaccinated .....	<b>8,612</b>	<b>85%</b>

# Research Highlight:

## Association of Mortality and Years of Potential Life Lost with Active Tuberculosis in the United States

Christian Lee-Rodriguez MD, Paul Y Wada MD, Yun-Yi Hung PhD, Jacek Skarbinski MD. JAMA Netw Open. 2020 Sep 1;3(9):e2014481. doi: 10.1001/jamanetworkopen.2020.14481.

**Importance:** Active tuberculosis (TB) disease leads to substantial mortality but is preventable through screening and treatment for latent TB infection. Early mortality after TB diagnosis ( $\leq 1$  year) is well described, but delayed mortality ( $> 1$  year) among patients with active TB is poorly understood.

**Objective:** To compare early and delayed mortality and years of potential life (YPL) lost among patients with active TB disease vs an age-, sex-, and year of diagnosis-matched comparison cohort without active TB disease.

**Design, setting, and participants:** This retrospective cohort study, conducted in the integrated health system of Kaiser Permanente Northern California, included patients with microbiologically confirmed active TB disease from January 1, 1997, to December 31, 2017, and a control cohort matched by age, sex, and year of diagnosis. Multivariable models were used to adjust for demographic and clinical characteristics. Patients with active TB disease prior to 1997 were excluded. Data were analyzed from January 1, 2019, to January 31, 2020.

**Exposure:** Microbiologically confirmed TB disease.

**Main outcomes and measures:** Early ( $\leq 1$  year after TB diagnosis) and delayed ( $> 1$  year after TB diagnosis) all-cause mortality.

**Results:** A total of 2522 patients who had active TB from 1997 to 2017 were identified, with 17 166 person-years of follow-up. The comparison cohort included 100 880 persons with 735 726 person-years of follow-up. In the active TB and comparison cohorts, similar percentages of persons were male (56.3% vs 55.6%), aged 45 to 64 years (33.7% vs 33.7%), and aged 65 years or older (24.7% vs 24.7%). Both early mortality (7.0%) and delayed mortality (16.3%) were higher among patients with active TB disease compared with those without active TB disease (1.1% and 12.0%, respectively). Patients with active TB disease had a significantly higher risk for early (adjusted hazard ratio [aHR], 7.29; 95% CI, 6.08-8.73) and delayed (aHR, 1.78; 95% CI, 1.61-1.98) mortality compared with the comparison cohort ( $P < .001$ ). Active TB disease was associated with an adjusted -7.0 (95% CI, -8.4 to -5.5) YPL lost compared with the comparison cohort.

**Conclusions and relevance:** In this study, patients with active TB disease had significantly higher early and delayed all-cause mortality when adjusting for demographic and clinical characteristics. These findings suggest that TB prevention through screening and treatment of latent TB infection could reduce mortality and YPL lost due to active TB disease.

# Research Interests of KPNC ID/HIV Clinicians and DOR Investigators



17 ID/HIV clinicians and DOR investigators responded to our recent survey expressing interest

in research and provided recommendations about specific topic areas of interest.

76% of respondents indicated having previously participated in research by conducting patient chart reviews. 58% have participated in patient recruitment and have led their own research studies. 53% conducted research during residency or as a fellow.

Respondents indicated high interest in learning more about KPNC's Community Benefit, Delivery Science, clinical trials and quality improvement funding mechanisms.

## Survey Results

We asked you about high impact research questions related to infectious diseases that Kaiser

Permanente is uniquely positioned to answer.

Research ideas identified included:

- **Rare or emerging infections** and treatment options/outcomes
- **Travel acquired disease prevention** and impact of pre-travel consultations
- **HIV treatment care**, perceived risk, treatment adherence and management of comorbidities
- **Quality improvement** and evaluating knowledge gaps

## Who's Interested in What?

Opportunities for collaboration:

### **PREP and HIV prevention**

[Brad Hare](#)

[Charu Ramaprasad](#)

[Dana Clutter](#)

[Jacek Skarbinski](#)

[John Belko](#)

[Jonathan E Volk](#)

[Katherine Brown-Favrot](#)

[Michael Silverberg](#)

[Mitchell Luu](#)

[Pablo Sarmiento](#)

[Tadd Tobias](#)

[Derek Satre](#)

### **Sexually transmitted infections**

[Brad Hare](#)

[Charu Ramaprasad](#)

[Jacek Skarbinski](#)

[Jonathan E Volk](#)

[Katherine Brown-Favrot](#)

[Michael Silverberg](#)

[Pablo Sarmiento](#)

[Sumanth Rajagopal](#)

[Tadd Tobias](#)

[Jamila Champsi](#)

[Ousseny Zerbo](#)

### **Disparities in care**

[Brad Hare](#)

[Charu Ramaprasad](#)

[Dana Clutter](#)

[Jennifer Lam](#)

[Katherine Brown-Favrot](#)

[Matthew Eldridge](#)

[Derek Satre](#)

[Michael Silverberg](#)

[Mitchell Luu](#)

[Pablo Sarmiento](#)

[Tadd Tobias](#)

### **HIV treatment**

[Brad Hare](#)

[Dana Clutter](#)

[Jacek Skarbinski](#)

[Jonathan E Volk](#)

[Katherine Brown-Favrot](#)

[Michael Silverberg](#)

[Derek Satre](#)

[Pablo Sarmiento](#)

[Sumanth Rajagopal](#)

### **HIV and aging**

[Andrew McNeil](#)

[Dana Clutter](#)

[Jennifer Lam](#)

[Derek Satre](#)

[Katherine Brown-Favrot](#)

[Matthew Eldridge](#)

[Derek Satre](#)

[Michael Silverberg](#)

[Mitchell Luu](#)

[Pablo Sarmiento](#)

## **IT innovations and impact on clinical outcomes**

[Brad Hare](#)

[Charu Ramaprasad](#)

[Jacek Skarbinski](#)

[John Belko](#)

[Matthew Eldridge](#)

[Michael Silverberg](#)

## **COVID-19**

[Andrew McNeil](#)

[Brad Hare](#)

[David Miller](#)

[Jacek Skarbinski](#)

[Jonathan E Volk](#)

[Matthew Eldridge](#)

[Derek Satre](#)

## **Pediatric Infectious Disease**

[Tara Greenhow](#)

[Michael Silverberg](#)

[Mitchell Luu](#)

[Ousseny Zerbo](#)

[Nicola Klein](#)

## **Vaccines**

[Ousseny Zerbo](#)

[Nicola Klein](#)

## **Clinical trials for HIV treatment and prevention**

[Andrew McNeil](#)

[Brad Hare](#)

[Jacek Skarbinski](#)

[Katherine Brown-Favrot](#)

[Matthew Eldridge](#)

[Sumanth Rajagopal](#)

[John Belko](#)

## **Upcoming Events**

### **CROI (Conference on Retroviruses and Opportunistic Infections)**

**Dates:** February 13-16 2022

**Location:** Hybrid; In-person - Denver, CO

**Abstract deadline:** November 1, 2021

**For more information:** <https://www.croiconference.org/>

### **WORLD AIDS (24<sup>th</sup> International AIDS Conference)**

**Dates:** July 29<sup>th</sup> - August 2<sup>nd</sup>

**Location:** Montreal, Canada & virtual

**For more information:** <https://www.aids2022.org/>

# Internal Research Resources



**Division of Research**



**Getting Started with Research**



**Delivery Science and Applied Research Program**



**Delivery Science and Applied Research Funding Opportunities**

## Next steps

An organizational meeting is planned for clinicians and investigators interested in infectious diseases or HIV research. The goal of this meeting will be to identify clinicians and investigators interested in infectious disease research, collectively brainstorm about high-impact research questions and establish a plan for ongoing research meetings and communications.

## Active or Recently Completed Research Projects and Collaborations

Thank you to all who responded to our survey. The results were truly impressive! We identified 16 current or recently completed research projects led by clinicians, as well as 55 additional studies led by Division of Research (DOR) investigators, representing a wide range of topics within Infectious Diseases and HIV. Many of these projects involve residents or fellows with support from GME, while others are funded by the Community Benefit Grant Program, the DARE (Delivery Science and Applied Research) Program, as well as outside sponsors, CDC, NIH and other federal agencies.

### Brad Hare

- PURPOSE 2: A Phase 3, Double-Blinded, Multicenter, Randomized Study to Evaluate Safety and Efficacy of Twice Yearly Long-Acting Lenacapavir for HIV Pre-Exposure Prophylaxis in Cisgender Men, Transgender Women, Transgender Men, and Gender Non-binary People  $\geq$  16 Years of Age who Have Sex with Male Partners and are at Risk of HIV Infection; Gilead Sciences; Hare
- Test and Be Treated: Faster and Easier Entry to HIV Care; California HIV/AIDS Research Program; Collaboration with UCSF; Christopoulos / Hare
- ATLAS-2M / ViiV 207966: A Phase IIIb, Randomized, Multicenter, Parallel-group, Non-inferiority, Open-label Study Evaluating the Efficacy, Safety, and Tolerability of Long-acting Cabotegravir Plus Long-acting Rilpivirine Administered Every 8 Weeks or Every 4 Weeks in HIV-1-infected Adults who are Virologically Suppressed; ViiV; Hare

- Retreatment of Hepatitis C Infection in Patients who Previously Failed Sofosbuvir/Velpatasvir/Voxileprvir; Sexena
- A phase 3 randomized study to evaluate the safety and antiviral activity of remdesivir (GS-5734™) in participants with severe COVID-19 GS-US-540 -5773; Gilead Sciences; Skarbinski
- A phase 3 randomized study to evaluate the safety and antiviral activity of remdesivir (GS-5734™) in participants with moderate COVID-19 GS-US-540 -5774; Gilead Sciences; Skarbinski
- GS-US-380-4030: A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of Switching from a Regimen of Dolutegravir and Either Emtricitabine/Tenofovir Alafenamide or Emtricitabine/Tenofovir Disoproxil Fumarate to a Fixed Dose Combination of Bictegravir/Emtricitabine/Tenofovir Alafenamide in HIV-1 Infected Subjects who are Virologically Suppressed; Gilead Sciences, Shor
- DSICOVER / GS-US-412-2055: A Phase 3, Randomized, Double-blind Study to Evaluate the Safety and Efficacy of Emtricitabine and Tenofovir Alafenamide (F/TAF) Fixed-Dose Combination Once Daily for Pre-Exposure Prophylaxis in Men and Transgender Women Who Have Sex with Men and Are At Risk of HIV-1 Infection; Gilead Sciences; Flamm
- GS-US-283-1062: A Phase 2, Randomized, Double-Blind, Placebo-Controlled, Multi-center Study to Evaluate the Safety and Efficacy of GS-9620 in combination with Tenofovir Disoproxil Fumarate (TDF) for the Treatment of Subjects with Chronic Hepatitis B and who are currently not on Treatment; Gilead Sciences; Hare
- 024-A Phase III Multicenter, Open-Label, Randomized Study to Evaluate a Switch to MK-1439A in HIV-1-Infected Subjects Virologically Suppressed on a Regimen of a Ritonavir-boosted Protease Inhibitor and Two Nucleoside Reverse Transcriptase Inhibitors (NRTIs); Merck; Hare
- HIV Drug Resistance Mutation as Predictors of Clinical Outcome; Collaboration with Stanford; Shafer / Hare

### Dana Clutter

- Optimal Route and Duration of Antibacterial Therapy for Streptococcal Bacteremia (2021); Kaiser Permanente Community Benefit Grant; Dana Clutter (PI), Jamila Champsi and Michael Silverberg
- A retrospective analyses of emergent drug resistance in patients experiencing virological failure in Kaiser Permanente Medical Care Program - Northern California (KPNC) between 2010 and 2018; Janssen; Dana Clutter (PI) and Michael Silverberg

### David A. Miller

- An Assessment of the Status and Impact of Influenza and Influenza Vaccination on Patients with Acute Myocardial Infarction in Kaiser Permanente Northern California; Kaiser Permanente Community Benefit Grant; David Miller



## Derek Satre

- Implementing Computerized Substance Use and Depression Screening and Evidence-Based Treatments in an HIV Primary Care Population; NIH/NIDA; Michael Silverberg and Derek Satre (co PIs), Brad Hare, Jason Flamm, Mitchell Luu, Pablo Sarmiento
- 2/3 COMpAAAS Tripartite: ART-CC, KP, and VA; NIH//NIAAA; Michael Silverberg and Derek Satre (co PIs), Brad Hare, Jason Flamm

## Jacek Skarbinski

- SARS-CoV-2 serological antibody testing for disease surveillance and clinical use; NIH/NCI; Jacek Skarbinski, Larry Kushi and Douglas Corley
- Syndromic surveillance for early stage myalgic encephalitis/chronic fatigue syndrome; CDC; Jacek Skarbinski (PI), Jamila Champsi and Stacy Zambrano
- A new approach to an old problem: Redesigning latent tuberculosis screening and treatment; NIH/NIAID; Jacek Skarbinski and Sara Tartof
- California Emerging Infections Program: COVID-19-associated hospitalization surveillance in children and adults; CDC; Jacek Skarbinski
- Utilizing real world data to describe clinical and safety outcomes among hospitalized COVID-19 patients, and to create a comparator arm for a randomized controlled trial evaluating the efficacy and safety of Actemra; Genentech/Roche; Sara Tartof and Jacek Skarbinski
- A Pragmatic Randomized Trial of Icosapent Ethyl for High-Cardiovascular Risk Adults in the Era of Coronavirus Disease 2019 (MITIGATE COVID-19); Amarin Inc.; Alan Go and Jacek Skarbinski
- Establishment of group B streptococcal immunologic endpoints reasonably likely to predict clinical benefit against invasive disease among young infants: a multi-state case-control study; CDC; Jacek Skarbinski and Kristi Vanwinden
- Pilot to assess vaccine effectiveness (PAVE) against laboratory confirmed influenza hospitalizations among pregnant women in FluSurv-NET and Enhanced surveillance for influenza; CDC; Jacek Skarbinski
- A phase 3 randomized study to evaluate the safety and antiviral activity of remdesivir (GS-5734™) in participants with severe COVID-19 GS-US-540 -5773; Gilead Sciences; Jacek Skarbinski
- A phase 3 randomized study to evaluate the safety and antiviral activity of remdesivir (GS-5734™) in participants with moderate COVID-19 GS-US-540 -5774; Gilead Sciences; Jacek Skarbinski
- XPORT-CoV-1001: A phase 2 randomized single-blind study to evaluate the activity and safety of low dose oral selinexor (KPT-330) in patients with severe COVID-19 infection; KaryoPharm Inc.; Jacek Skarbinski
- Relative risk of active tuberculosis among patients with latent tuberculosis infection and immunosuppressive conditions; Community Benefit Grant; Jacek Skarbinski
- Assessment and validation of proposed Centers for Medicare and Medicaid Services (CMS) latent tuberculosis (LTB) screening and treatment quality; Kaiser Permanente Graduate Medical Education; Alex Pellicione and Jacek Skarbinski

## Jamila Champsi

- Occult Hepatitis B Virus Infection and Risk of Hepatocellular Cancer and Cirrhosis (2019); Kaiser Permanente Community Benefit Grant; Jamila Champsi (PI), Dana Clutter, Jennifer Lam, Joanna Ready, Michael Silverberg, Varun Saxena, Sophie Jiang
- Syndromic surveillance for early stage myalgic encephalitis/chronic fatigue syndrome; CDC; Jacek Skarbinski (PI), Jamila Champsi, Stacy Zambrano

## Jennifer Lam

- Electronic Health Record-Based Dementia Prediction for HIV Primary Care; National Institute of Allergy and Infectious Diseases; Jennifer Lam (PI)
- Evaluation of electronic health-record based frailty indices in people with HIV; Permanente Medical Group Pilot Award; Jennifer Lam (PI)
- Neurocognitive impairment and dementia in patients with and without HIV; Kaiser Permanente Community Benefit Grant; Jennifer Lam (PI)
- Identification and description of dementia among patients with and without HIV using electronic health records data; Permanente Medical Group Pilot Award; Jennifer Lam (PI)

## Jonathan E Volk

- Closing Gaps in the HIV preexposure continuum of care 2019; Kaiser Permanente Community Benefit Grant; Jonathan Volk (PI)
- Leveraging EHR Data to Increase Uptake of HIV Preexposure Prophylaxis HIV Preexposure prophylaxis (PrEP); TPMG Delivery Science Grant; Michael Silverberg and Jonathan Volk (co PIs)

## Michael Silverberg

- North American AIDS Cohorts on Collaboration and Design (NAACCORD); NIH/NIAID; Michael Silverberg
- Implementing Computerized Substance Use and Depression Screening and Evidence-Based Treatments in an HIV Primary Care Population; NIH/NIDA; Michael Silverberg and Derek Satre (co PIs), Brad Hare, Jason Flamm, Mitchell Luu, Pablo Sarmiento
- HIV Status and Incidence and Outcomes of Heart Failure; NIH/NHLBI; Michael Silverberg and Alan Go
- Optimizing Cardiovascular Risk Prediction in HIV; NIH/NHLBI; Michael Silverberg
- California Emerging Infections Program: HPV Vaccine Impact Monitoring Through Surveillance of Cervical Precancerous Lesions; DHHS/CDC; Michael Silverberg
- Optimizing Lung Cancer Treatment in HIV Infected Persons; NIH/NCI; Michael Silverberg
- 2/3 COMpAAAS Tripartite: ART-CC, KP, and VA; NIH//NIAAA; Michael Silverberg and Derek Satre (co PIs), Brad Hare, Jason Flamm

- HIV Infection, Use of Tenofovir and Other Antiretrovirals, and Risk of Fatal and Non-Fatal Comorbidities: Cohort Study in Kaiser Permanente; Gilead Sciences, Inc.; Michael Silverberg
- Leveraging EHR Data to Increase Uptake of HIV Preexposure Prophylaxis HIV Preexposure prophylaxis (PrEP); TPMG Delivery Science Grant; Michael Silverberg and Jonathan Volk (co PIs)
- Impact of COVID-19 Epidemic on Transgender People Risk of acute thrombotic events such as venous thromboembolism (VTE) and ischemic stroke (IS) in transgender women receiving hormone therapy was addressed in our longitudinal Study of Transition, Outcomes & Gender (STRONG); PCORI; Michael Silverberg
- North American Aids Cohort Collaboration on Research and Design (NA-ACCORD) COVID-19 Supplement; NIH/NIAID; Michael Silverberg (PI), Jacek Skarbinski
- Implementing Computerized Substance Use and Depression Screening and Evidence-Based Treatments in an HIV Primary Care Population – Administrative Supplement; NIH/NIDA; Michael Silverberg and Derek Satre (co PIs), Brad Hare, Jason Flamm, Mitchell Luu, Pablo Sarmiento

## Nicola Klein

- Phase 1/2/3, Placebo-controlled, Randomized, Observer-blind, Dose-finding Study to Evaluate the Safety, Tolerability, Immunogenicity, and Efficacy of SARS-CoV-2 RNA Vaccine Candidates Against COVID-19 in Healthy Individuals (closed to enrollment) Klein, N
- A Phase 3, Randomized, Observer-Blind Study to Evaluate the Safety, Tolerability, and Immunogenicity of Multiple Production Lots and Dose Levels of the Vaccine Candidate BNT162b2 Against COVID-19 in Healthy Participants 12 Through 50 Years of Age (closed to enrollment) Klein, N
- CISA COVID-19 Pediatric Study Kaiser (CDC/DHHS) (closed to enrollment) Klein, N
- A Phase 1, Open-Label Dose-Finding Study To Evaluate Safety, Tolerability, and Immunogenicity and Phase 2/3 Placebo Controlled, Observer-Blinded Safety, Tolerability, and Immunogenicity Study of SARS-CoV-2 RNA Vaccine Candidate Against COVID-19 In Healthy Children <12 Years of Age (Closed to enrollment) N. Klein
- A Phase 3 Master Protocol to Evaluate Additional Dose(s) of BNT162B2 in Health Individuals Previously Vaccinated with BNT162B2. N Klein (closed to enrollment)
- COVID surveillance (CDC Vaccine Safety Datalink population-based surveillance) (Division of Research) Klein, N
- Innovative Methods to Inform Estimates of Vaccine Effectiveness Using Information on the Epidemiology and Incidence of Influenza and Other Acute Respiratory Illnesses (Division of Research) Klein, N
- COVID-19 Population Based evaluation of COVID-19 cases (CDC/DHHS) Klein, N
- Rapid Cycle Analysis of COVID-19 vaccine(s) (CDC) Klein, N

- Assessing the impact of changes in health care utilization during the COVID-19 pandemic on background rate trends and use of telemedicine encounters for vaccine adverse events of special interest. (CDC) Klein, N
- Vaccine Enhanced COVID-19 Disease monitoring (CDC) Klein, N
- SARS-COV-2 vaccine safety evaluation in pregnant women and their infants (CDC) Klein, N
- COVID-19 Pregnancy and Fetal Death (CDC) Klein, N
- Assess influenza and COVID-19 vaccination coverage among pregnant women using automated data in VSD. (CDC) Klein, N
- COVID-19 Infrastructure and Activities Vaccine Safety Datalink Project, VSD COVID-19 Infrastructure and Participating Activities (Centers for Disease Control and Prevention) Klein, N
- Innovative Methods to Inform Estimates of Vaccine Effectiveness
- Using Information on the Epidemiology and Incidence of Influenza and Other Acute Respiratory Illnesses (CDC) Klein, N

### Ousseny Zerbo

- Effect of Maternal Influenza Vaccination During Pregnancy on Risk of Infant Influenza (NIAID) Zerbo, O
- Analysis to evaluate the effectiveness of a serogroup B outer membrane vesicle meningococcal vaccine against gonorrhea (CDC) Zerbo, O
- Innovative Methods to Inform Estimates of Vaccine Effectiveness Using Information on the Epidemiology and Incidence of Influenza and Other Acute Respiratory Illnesses (CDC) Klein, N and Zerbo, O
- COVID and Influenza Near Real-Time Surveillance (CDC) Klein, N and Zerbo, O  
Healthcare Utilization Patterns Post-acute COVID-19 (Division of Research) Zerbo, O

### Tara Greenhow

- A retrospective review of pediatric patients with E. coli O157:H7 or Shiga 1 or 2 toxin diarrhea with subsequent development of hemolytic uremic syndrome; Greenhow
- Development of a clinical-decision-making tool on the 'Approach of the Febrile Infant 7 - 365 days (Garfield Memorial Grant) Greenhow and Ballard
- Predictors of Serious Bacterial Infection and Invasive Bacterial Infection in Febrile Infants 7-60 days old (Community Benefit Grant) Young
- Outcomes of Children with Bacteriuria without Inflammation/Pyuria (Collaboration with Stanford) Kane
- Study the epidemiology of non-typhoidal Salmonella bacteremia and gastroenteritis in children (Community Benefit Grant) Greenhow
- Study the management and outcomes of children with urinary tract infections caused by third-generation cephalosporin-resistant Enterobacteriaceae (Collaboration with Stanford) Greenhow

- Study the epidemiology of serious bacterial infections in infants 1 week to 3 months old (Community Benefit Grant) Greenhow
- Performance characteristics of a new algorithm for the evaluation and management of febrile young infants (Community Benefit Grant) Young
- Community - associated *Clostridium difficile* (Community Benefit Grant) Greenhow

## Recent Peer Reviewed Publications authored by HIV/ID Investigators (2019-present).

1. Althoff KN, Chandran A, Zhang J, Arevalo WM, Gange SJ, Sterling TR, Gill MJ, Justice AC, Palella FJ, Rebeiro PF, **Silverberg MJ**, Mayor AM, Horberg MA, Thorne JE, Rabkin CS, Mathews WC, Klein MB, Humes E, Lee J, Hogg R, Moore RD. Life-Expectancy Disparities Among Adults With HIV in the United States and Canada: The Impact of a Reduction in Drug- and Alcohol-Related Deaths Using the Lives Saved Simulation Model. *Am J Epidemiol*. Dec 31 2019;188(12):2097-2109. doi:10.1093/aje/kwz232
2. Althoff KN, Gebo KA, Moore RD, Boyd CM, Justice AC, Wong C, Lucas GM, Klein MB, Kitahata MM, Crane H, **Silverberg MJ**, Gill MJ, Mathews WC, Dubrow R, Horberg MA, Rabkin CS, Klein DB, Lo Re V, Sterling TR, Desir FA, Lichtenstein K, Willig J, Rachlis AR, Kirk GD, Anastos K, Palella FJ, Jr., Thorne JE, Eron J, Jacobson LP, Napravnik S, Achenbach C, Mayor AM, Patel P, Buchacz K, Jing Y, Gange SJ. Contributions of traditional and HIV-related risk factors on non-AIDS-defining cancer, myocardial infarction, and end-stage liver and renal diseases in adults with HIV in the USA and Canada: a collaboration of cohort studies. *Lancet HIV*. Feb 2019;6(2):e93-e104. doi:10.1016/s2352-3018(18)30295-9
3. Althoff KN, Wong C, Hogan B, Desir F, You B, Humes E, Zhang J, Jing Y, Modur S, Lee JS, Freeman A, Kitahata M, Van Rompaey S, Mathews WC, Horberg MA, **Silverberg MJ**, Mayor AM, Salters K, Moore RD, Gange SJ. Mind the gap: observation windows to define periods of event ascertainment as a quality control method for longitudinal electronic health record data. *Ann Epidemiol*. May 2019;33:54-63. doi:10.1016/j.annepidem.2019.01.015
4. Barnell GM, Merchant M, **Lam JO**, **Silverberg MJ**. Early Outcomes of a High-Resolution Anoscopy-Based Anal Cancer Screening Program Among People With HIV Enrolled in an Integrated Health Care System. *J Acquir Immune Defic Syndr*. Jul 1 2019;81(3):292-299. doi:10.1097/qai.0000000000002040

5. Brazier E, Maruri F, Duda SN, Tymejczyk O, Wester CW, Somi G, Ross J, Freeman A, Cornell M, Poda A, Musick BS, Zhang F, Althoff KN, Mugglin C, Kimmel AD, Yotebieng M, Nash D. Implementation of "Treat-all" at adult HIV care and treatment sites in the Global IeDEA Consortium: results from the Site Assessment Survey. *J Int AIDS Soc.* Jul 2019;22(7):e25331. doi:10.1002/jia2.25331
6. **Clutter DS**, Mazarei G, Sinha R, Manasa J, Nouhin J, LaPrade E, Bolouki S, Tzou PL, Hannita-Hui J, Sahoo MK, Kuimelis P, Kuimelis RG, Pinsky BA, Schoolnik GK, Hassibi A, Shafer RW. Multiplex Solid-Phase Melt Curve Analysis for the Point-of-Care Detection of HIV-1 Drug Resistance. *J Mol Diagn.* Jul 2019;21(4):580-592. doi:10.1016/j.jmoldx.2019.02.005
7. Croen LA, Qian Y, Ashwood P, Daniels JL, Fallin D, Schendel D, Schieve LA, Singer AB, **Zerbo O**. Family history of immune conditions and autism spectrum and developmental disorders: Findings from the study to explore early development. *Autism Res.* Jan 2019;12(1):123-135. doi:10.1002/aur.1979
8. Croen LA, Qian Y, Ashwood P, **Zerbo O**, Schendel D, Pinto-Martin J, Daniele Fallin M, Levy S, Schieve LA, Yeargin-Allsopp M, Sabourin KR, Ames JL. Infection and Fever in Pregnancy and Autism Spectrum Disorders: Findings from the Study to Explore Early Development. *Autism Res.* Oct 2019;12(10):1551-1561. doi:10.1002/aur.2175
9. Curran D, Andrew MK, Levin MJ, Turriani E, Matthews S, Fogarty C, **Klein NP**, Gruppung K, Oostvogels L, Schmader KE. Evaluation of two frailty indices, with practical application in a vaccine clinical trial. *Hum Vaccin Immunother.* 2019;15(12):2960-2968. doi:10.1080/21645515.2019.1622974
10. Delamater PL, Pingali SC, Bottenheim AM, Salmon DA, **Klein NP**, Omer SB. Elimination of Nonmedical Immunization Exemptions in California and School-Entry Vaccine Status. *Pediatrics.* Jun 2019;143(6)doi:10.1542/peds.2018-3301
11. Desir FA, Lesko CR, Moore RD, Horberg MA, Wong C, Crane HM, Silverberg M, Thorne JE, Rachlis B, Rabkin C, Mayor AM, Mathews WC, Althoff KN. One Size Fits (n)One: The Influence of Sex, Age, and Sexual Human Immunodeficiency Virus (HIV) Acquisition Risk on Racial/Ethnic Disparities in the HIV Care Continuum in the United States. *Clin Infect Dis.* Feb 15 2019;68(5):795-802. doi:10.1093/cid/ciy556

12. Donahue JG, Kieke BA, King JP, Mascola MA, Shimabukuro TT, DeStefano F, Hanson KE, McClure DL, Olaiya O, Glanz JM, Hechter RC, Irving SA, Jackson LA, **Klein NP**, Naleway AL, Weintraub ES, Belongia EA. Inactivated influenza vaccine and spontaneous abortion in the Vaccine Safety Datalink in 2012-13, 2013-14, and 2014-15. *Vaccine*. Oct 16 2019;37(44):6673-6681. doi:10.1016/j.vaccine.2019.09.035
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