

**Public Health
Services &
Systems
Research**

KEENELAND

CONFERENCE

Hilton Downtown Lexington
Lexington, Kentucky

2015

APRIL 20-22

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Public health services and systems research explored in latest issue of the American Journal of Public Health

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April 20, 2015

Dear Colleagues:

On behalf of the National Coordinating Center for Public Health Services and Systems Research, the Public Health Practice-Based Research Networks Program, and the Robert Wood Johnson Foundation, we are delighted to welcome you to the 2015 Keeneland Conference in Lexington, Kentucky.

We are thrilled that you can join us in this opportunity for researchers, practitioners, and policy analysts to share the latest research and insights on how to organize, finance, and deliver high-value public health strategies and how to mobilize multi-sectoral partnerships to build healthier communities.

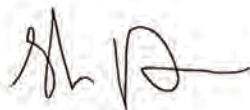
With this year's conference, we are extremely proud to bring you the perspectives of three prominent keynote speakers: Ian Galloway of the Federal Reserve Bank, Alonzo Plough from the Robert Wood Johnson Foundation, and Anita Chandra of the RAND Corporation. Plenary sessions include panel discussions of health reform implementation, international developments in the field, and meeting the needs of our knowledge users.

We received the largest number of abstract submissions in the conference's eight-year history, and our concurrent scientific sessions will bring you findings from innovative and insightful studies that can support decision-making to maximize population health impact, cost-effectiveness, and health equity.

Again, we welcome you to the Bluegrass! Our staff is committed to making your time with us both productive and enjoyable. We look forward to this opportunity to share our collective successes and to plan for tomorrow.

Thank you for joining us!

Sincerely,



Glen P. Mays , PhD, MPH



Anna Goodman Hoover, PhD, MA
Deputy Director



Glen P. Mays, PhD, MPH



Anna Goodman Hoover, PhD, MA

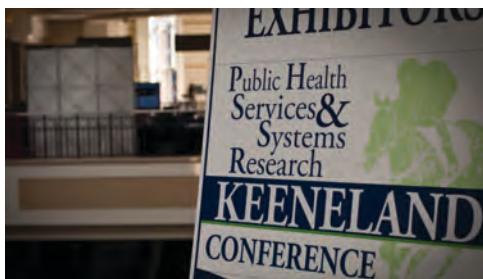


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The 2015 Keeneland Conference on Public Health Services & Systems Research is made possible with support from the Robert Wood Johnson Foundation

The Robert Wood Johnson Foundation (RWJF) and its partners have committed significant funding to further the field of Public Health Services & Systems Research (PHSSR). Under the Foundation's direction, the National Coordinating Center for PHSSR & Public Health PBRNs continues to build the evidence base, expand the research capacity, encourage translation of research into practice and expand the funding sources available to the community.

The Goals of this Conference

- Connect public health researchers, public health practitioners, and policymakers and provide a forum for them to exchange ideas about new research areas, meet new entrants to the discipline, and learn about data sources and methods
- Foster collaboration among scientists, practitioners and policy analysts with common research agendas
- Highlight the work of junior PHSSR researchers and encourage and support their mentors
- Recognize the recipients of PHSSR grants and their research efforts, and encourage mentoring of the new awardees
- Introduce several exciting developments indicative of the growth of the field of PHSSR
- Engage in a vital discussion of the future of the PHSSR research evidence and its role in practice, research and policy
- Focus on examples of successful translation of research to the field, both in practice and in policy

PUBLIC || SERVICES & SYSTEMS RESEARCH
HEALTH || PRACTICE-BASED RESEARCH NETWORKS
National Coordinating Center

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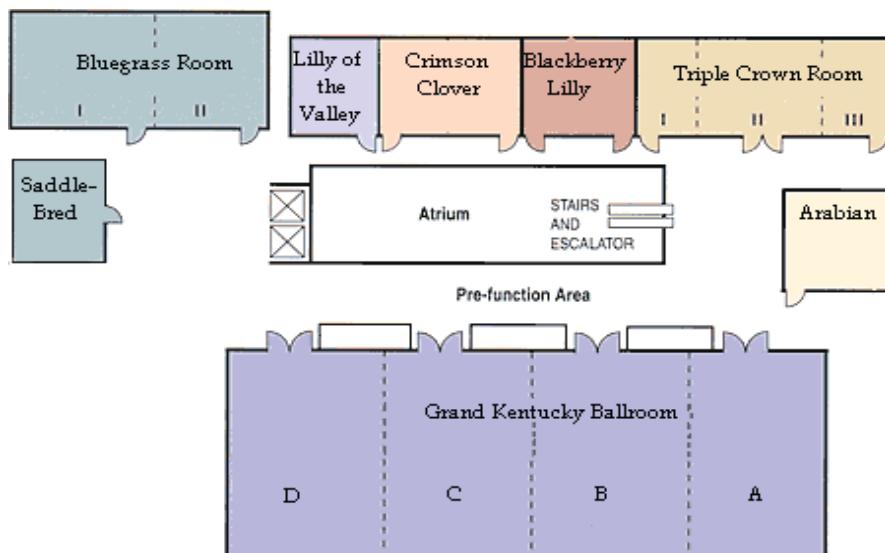


Have a scanner on your smartphone? Give this code a try.

When posting, please make sure to use
the official conference hashtag:
#PHSSRKC15

HILTON DOWNTOWN

2nd Floor – Meeting Rooms



ADDRESS:

Hilton Downtown Lexington
369 West Vine Street
Lexington, KY 40507
Tel: (859) 231-9000
Fax: (859) 281-3737

GENERAL INFORMATION

Check-in and Check-out

- Check-in: 3:00 p.m.
- Check-out: 12:00 p.m.

Parking

- On-site self-parking: \$8 per day
- Valet parking: \$14 per day
- Complimentary for hotel guests

Airport Shuttle

- Free shuttle service to and from the Bluegrass Airport (5 a.m. to midnight)

Amenities

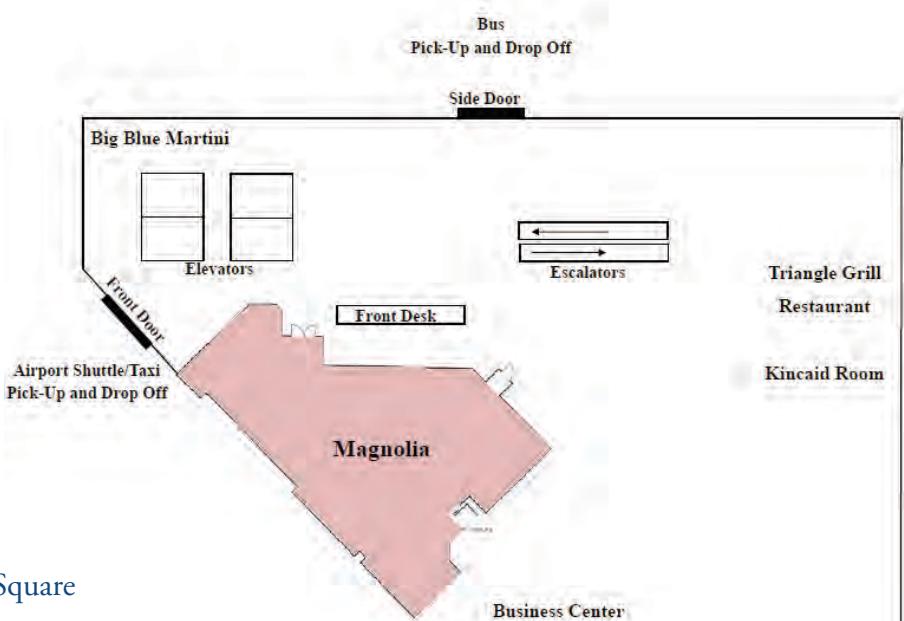
- Fitness Room and Indoor Heated Pool
- The Shops at Lexington Center and The Square

Internet Access

Locations & Connectivity

- Public Areas
 - Wireless free for hotel guests
- Guest Rooms
 - Wireless is \$9.95 per night, per device.

Lobby Level – Restaurants and Magnolia Meeting Room



Contacts

Calvina Mason 859.684.3971
Kim Page 859.608.0602
Kara Richardson 859.327.2825

Meeting Venue

Hilton Downtown Lexington
369 West Vine Street
Lexington, KY 40507
(859) 231-9000

Conference Registration/ Information Desk Hours

Monday, April 20

7:30 a.m.-4:00 p.m. – Hilton Prefunction Atrium

Tuesday, April 21

7:30 a.m.-5:00 p.m. – Hilton Prefunction Atrium

Wednesday, April 22

7:30 a.m.-5:00 p.m. – Hilton Prefunction Atrium

Exhibitor's Table

Located next to the registration table in the Hilton Prefunction Atrium, an exhibitor's table is available for conference attendees to place materials and other resources to share with other attendees.

Airport & Transportation

Lexington's Blue Grass Airport, a 10-minute drive from downtown, is located near Keeneland Race Course and surrounded by horse farms — creating one of America's most beautiful air approaches. A number of car rental companies have airport locations.

In the downtown area, many attractions, restaurants and shops are within walking distance of the Lexington Convention Center and major hotels. All of the buildings surrounding Triangle Park in the heart of downtown are connected by pedways. An intra-city bus system (Lextran: 859-253-4636 or www.lextran.com) and taxicabs (859-231-8294 or 859-381-1010) provide convenient transportation.

Blue Grass Airport

www.bluegrassairport.com
Info: (859) 425-3114
4000 Terminal Dr.
Lexington, KY 40510

Transportation from Blue Grass Airport

Taxi: Approximately \$18
City limousine: Approximately \$9 per person

Hilton Transportation

For Hilton Downtown Lexington guests, courtesy car service is available between the airport and the Hilton on a complimentary basis from 5 a.m. to midnight daily. A courtesy phone is available near the baggage claim area. Return times must be arranged through the Hilton's guest department at the hotel. A van bearing the insignia of Hilton Downtown Lexington provides service to the hotel.

Lexington Visitors Information

Visit www.visitlex.com to view the virtual Visitor Planning Guide online, download the free epub for a phone or ereader, or stop by our conference registration/information table to pick up a copy.

Speaker Presentations & Other Conference Materials

Full conference materials, including speaker bios and presentations, will be available on our website, www.keenelandconference.org.

Meeting Evaluation

Shortly after our conference concludes, you will receive a survey asking for feedback about the 2015 Keeneland Conference. We thank you in advance for taking a few minutes to complete the survey to provide us with your valuable feedback.

Social Media

Tell the rest of the world what's happening at the Keeneland Conference! Please use the hashtag #PHSSRKC15 when posting on Twitter.

NOTES:

Anita Chandra, DrPH, MPH

Director, Justice, Infrastructure, and Environment

RAND

Senior Policy Researcher and Affiliated Faculty

Pardee RAND Graduate School

Santa Monica, California

Dr. Chandra's background is in public health, child and adolescent development, and community-based participatory research and evaluation. She currently leads or co-leads studies on community well-being, deployment and military families, community resilience and long-term disaster recovery, and child health and development.



Throughout her career, Dr. Chandra has engaged government and nongovernmental partners to consider cross-sector solutions for improving child and community well-being and to build systems and evaluation capacity. This work has taken many forms including engaging with the Department of Health and Human Services and local government agencies on building systems for emergency preparedness and resilience both in the US and globally; partnering with private sector organizations to build the science base around child systems; and collaborating with city governments and foundations to measure well-being, sustainability, and health transformation. She has also partnered with community organizations to conduct broad-scale health needs assessments, to examine the integration of health and human service systems, and to determine how to address the needs of historically vulnerable populations in health and social services. These projects have occurred in partnership with local health systems, foundations, and other community organizations.

Dr. Chandra earned a DrPH in population and family health sciences from the Johns Hopkins Bloomberg School of Public Health and a MPH in maternal and child health from the University of North Carolina at Chapel Hill School of Public Health.

Ian Galloway, MPP

Senior Research Associate, Community Development
Federal Reserve Bank
San Francisco, California

Mr. Galloway researches and presents regularly on a variety of community development topics including crowdfunding, investment tax credits, the social determinants of health, impact investing, and Pay for Success financing (Social Impact Bonds).



He recently co-edited *Investing in What Works for America's Communities*, a collection of essays jointly published with the Low Income Investment Fund on the future of anti-poverty policy. He also published the article "Using Pay for Success to Increase Investment in the Nonmedical Determinants of Health" in the November, 2014 issue of the health policy journal *Health Affairs*. Previously, Mr. Galloway developed a social enterprise (virginiawoof.com) for the Portland, Oregon, homeless youth agency Outside In.

Mr. Galloway holds a master's degree in public policy from the University of Chicago and a bachelor's degree in political science and philosophy from Colgate University.

Alonzo L. Plough, PhD, MPH

Vice President, Research-Evaluation-Learning

Chief Science Officer

Robert Wood Johnson Foundation

Princeton, New Jersey

Dr. Plough came to the Robert Wood Johnson Foundation from the Los Angeles County Department of Public Health, where he served as director of emergency preparedness and response. In that role, he was responsible for the leadership and management of the public health preparedness activities protecting the ten million residents of Los Angeles County from natural disasters and threats related to disease outbreaks and other public health emergencies. He coordinated activities in emergency operations, infections disease control, risk communication, planning, and community engagement.



Prior to this position, Dr. Plough served as vice president of strategy, planning, and evaluation for The California Endowment. He was responsible for the leadership of the Endowment's strategic planning and development, evaluation, research, and organizational learning. He also served ten years as director and health officer for the Seattle and King County Department of Public Health, and professor of health services at the University of Washington School of Public Health in Seattle. He previously served as director of public health in Boston for eight years.

Dr. Plough earned his PhD and MA at Cornell University and his MPH at Yale University School of Medicine's Department of Epidemiology and Public Health. He did his undergraduate work at St. Olaf College, where he earned a BA. He has held academic appointments at Harvard University School of Public Health, Tufts University Department of Community Medicine, and Boston University School of Management. He has been the recipient of numerous awards for public service and leadership and is the author of an extensive body of scholarly articles, books, and book chapters.

MONDAY, APRIL 20, 2015

7:30 am to 4:00 pm	Registration Open	<i>Prefunction Atrium</i>
7:30 am to 5:00 pm	Speaker Ready Room Open	<i>Lilly of the Valley</i>
7:30 am to 4:00 pm	Public Health PBRN DIRECTIVE Grantee Meeting <i>This is a working meeting for the DIRECTIVE grantees, but other PBRN grantees who are on site are welcome to attend.</i>	<i>Grand Kentucky Ballroom A</i>

TUESDAY, APRIL 21, 2015

7:30 am to 5:00 pm	Registration Open	<i>Prefunction Atrium</i>
7:30 am to 5:00 pm	Speaker Ready Room Open	<i>Lilly of the Valley</i>
7:30 to 8:30 am	Breakfast Available for All Attendees	<i>Grand Kentucky Ballroom BCD</i>
8:30 to 10:30 am	Grantee Meeting <i>Open to all PHSSR and Public Health PBRN & Grantees</i>	<i>Grand Kentucky Ballroom A</i>
10:30 to 11:30 am	Poster Session A See page 82 for full details	<i>Magnolia Ballroom</i>
12:00 to 1:30 pm	 Lunch: <i>Keynote Speaker</i> Ian Galloway, MPP <i>Senior Research Associate, Community Development</i> Federal Reserve Bank San Francisco	<i>Grand Kentucky Ballroom BCD</i>
2:00 to 3:30 pm	Concurrent Scientific Session I See page 23 for full details 1A: Program Evaluation & Leadership 1B: Information Technology & Social Media 1C: Finance I 1D: Public Health Workforce Interests & Needs Survey (PH WINS)	<i>Triple Crown I, II, & III</i> <i>Blackberry Lilly</i> <i>Crimson Clover</i> <i>Bluegrass Room I & II</i>
3:45 to 4:45 pm	Learning from Research on Health Reform and Implementation See page 16 for full details • Amanda Cash, PhD • F. Douglas Scutchfield, MD • Laura Seeff, MD	<i>Grand Kentucky Ballroom BCD</i>
5:30 to 6:45 pm	Networking Reception & Poster Session B See page 86 for full details	<i>Magnolia Ballroom</i>
7:00 to 9:00 pm	 Dinner: <i>Keynote Speaker</i> Alonzo L. Plough, PhD, MPH <i>Vice President, Research-Evaluation-Learning</i> <i>Chief Science Officer</i> Robert Wood Johnson Foundation	<i>Grand Kentucky Ballroom BCD</i>

WEDNESDAY, APRIL 22, 2015

7:30 am to 5:00 pm	Registration Open	<i>Prefunction Atrium</i>
7:30 am to 5:00 pm	Speaker Ready Room Open	<i>Lilly of the Valley</i>
7:30 to 8:30 am	Breakfast & International Developments in PHSSR See page 18 for full details <ul style="list-style-type: none">• Marjorie MacDonald, RN, MSc, PhD• Bernadette (Bernie) M. Pauly, RN, PhD	<i>Grand Kentucky Ballroom BCD</i>
9:00 to 10:30 am	Concurrent Scientific Session II See page 39 for full details 2A: Partnerships & Capacity Building 2B: Quality Improvement & Accreditation 2C: Finance II 2D: Workforce Taxonomy	<i>Magnolia Ballroom</i> <i>Triple Crown I, II, & III</i> <i>Blackberry Lilly</i> <i>Crimson Clover</i> <i>Bluegrass Room I & II</i>
10:45 am to 12:15 pm	Concurrent Scientific Session III See page 54 for full details 3A: Cross-Jurisdictional Sharing 3B: Data, Electronic Health Records, & Capacity Building 3C: Impact of the Affordable Care Act 3D: Workforce Enumeration & Development	 <i>Triple Crown I, II, & III</i> <i>Blackberry Lilly</i> <i>Crimson Clover</i> <i>Bluegrass Room I & II</i>
12:00 to 1:30 pm	 Lunch: <i>Keynote Speaker</i> Anita Chandra, DrPH, MPH <i>Director, Justice, Infrastructure, and Environment</i> RAND Corporation <i>Senior Policy Researcher & Affiliated Faculty</i> Pardee RAND Graduate School	<i>Grand Kentucky Ballroom BCD</i>
2:00 to 3:30 pm	Concurrent Scientific Session IV See page 69 for full details 4A: Community Health 4B: Maternal & Child Health 4C: Policy Development & Implementation 4D: Transforming Public Health with Pragmatic Randomized Trials	 <i>Triple Crown I, II, & III</i> <i>Blackberry Lilly</i> <i>Crimson Clover</i> <i>Bluegrass Room I & II</i>
3:45 to 4:45 pm	Meeting the Needs of PHSSR Knowledge Users: A Conversation See page 20 for full details <ul style="list-style-type: none">• Lisa Simpson, MB, BCh, MD, FAAP• LaMar Hasbrouck, MD, MPH• José Montero, MD, MPH• Richard Nathan, PhD, MPA• L. Christopher Plein, PhD, MA	<i>Grand Kentucky Ballroom BCD</i>

The National Coordinating Center for PHSSR & Public Health PBRNs is pleased to showcase the latest research and acknowledges the efforts of the Keeneland Conference Scientific Steering Committee members who helped shape this year's theme and content.

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Chief Science and Strategy Officer
Association of State and Territorial Health Officials

TUESDAY, APRIL 21, 2015
3:45-4:45 PM

Learning From Research on Health Reform Implementation

Grand Kentucky Ballroom BCD

MODERATOR

Glen Mays, PhD, MPH

F. Douglas Scutchfield Endowed Professor, Health Services and Systems Research

University of Kentucky College of Public Health

Director

National Coordinating Center for PHSSR and PBRNs

Lexington, Kentucky

Dr. Glen P. Mays serves as the F. Douglas Scutchfield Endowed Professor of Health Services and Systems Research at the University of Kentucky College of Public Health. He directs the National Coordinating Center for Public Health Services and Systems Research and is also founding director of the Public Health Practice-Based Research Networks (PBRN) Program, both supported by the Robert Wood Johnson Foundation (RWJF). He also serves as associate director of the Center for Health Services Research based at the University of Kentucky College of Medicine.



Dr. Mays studies delivery systems for public health and health care services, with a focus on estimating their health and economic effects. Dr. Mays' work includes the National Longitudinal Survey of Public Health Systems, which since 1998 has followed a nationally representative cohort of U.S. communities to examine the implementation and impact of multi-organizational public health strategies.

He earned an A.B. degree in political science from Brown University, M.P.H. and Ph.D. degrees in health services research from UNC-Chapel Hill, and completed a postdoctoral fellowship in health economics at Harvard Medical School. Prior to joining the University of Kentucky, he was professor and chairman of the Department of Health Policy and Management at the University of Arkansas for Medical Sciences, and he was a senior health policy researcher at Mathematica Policy Research.

PANELISTS

Amanda Cash, DrPH, MPH

Acting Director, Division of Science Policy

Office of the Assistant Secretary for Planning and Evaluation

US Department of Health & Human Services

Washington, District of Columbia

Dr. Amanda Cash is a Senior Health Policy Analyst for the Office of the Assistant Secretary for Planning and Evaluation (ASPE) at HHS. Her principal areas of research are obesity and chronic disease prevention, public health systems, and examining the evolution of prevention and the Affordable Care Act. Dr. Cash's current research has focused on evaluation methodologies appropriate for complex federal programs, issues related to prevention and the Affordable Care Act as well as public health systems and services research. She is the lead for numerous projects related to building the evidence base for public health, an evaluation of costs associated with prevention strategies, and assessing effective public health outreach and enrollment strategies. She is an author of published articles and reports on public health, women's and children's health.



F. Douglas Scutchfield, MD

Peter P. Bosomworth Professor, Health Services Research and Policy
University of Kentucky Colleges of Public Health and Medicine
Lexington, Kentucky

Dr. Scutchfield received his MD degree from the University of Kentucky, where he was selected as a member of Alpha Omega Alpha. He completed internship and residency training at Northwestern University, the Centers for Disease Control and Prevention and the University of Kentucky. Dr. Scutchfield was certified by the American Board of Preventive Medicine in 1974 and the American Board of Family Practice from 1971-1985. He was a Charter Diplomat of the American Board of Family Practice.

At the University of Kentucky, Dr. Scutchfield held administrative responsibilities of Founding Director of the School of Public Health, Founding Director of the Center for Health Services Research and Management, Chair of the Department of Health Services, Chair of the Department of Preventive Medicine and Environmental Health and Associate Dean of the College of Medicine. He holds faculty appointments in the Departments of Preventive Medicine and Environmental Health, Family Practice, Health Services and the Martin School of Public Policy and Administration. He is the Peter P. Bosomworth Professor of Health Services Research and Policy. Dr. Scutchfield was also the Founder of the Graduate School of Public Health at San Diego State University.

Dr. Scutchfield has an international reputation, having served as a consultant to government and non governmental organizations. His current research focuses on community health, public health organization and delivery, quality of care issues and democracy in health care decision making.

He is a skilled editor. He currently serves as Editor of the American Journal of Preventive Medicine. He is the author of numerous textbooks, text chapters and published articles in referred journals.

**Laura Seeff, MD**

Acting Director, Office of Health Systems Collaboration
Office of the Associate Director for Policy
Centers for Disease Control and Prevention

Dr. Laura Seeff is Director (Acting) of the Office of Health Systems Collaboration (OHSC) within CDC's Office of the Associate Director for Policy (OADP). In this position, she is supporting CDC's focus on maximizing collaboration between public health and the health care sector, including efforts to broaden coverage of prevention and population health, and leading strategic policy priorities emerging from the transforming U.S. health system. In this and her previous position as the Deputy Medical Director of CDC's National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), she helped shape CDC's support of the Centers for Medicare and Medicaid Innovation population health programs. Her research interests are on delivery reform, colorectal cancer screening, economics of cancer screening, and outcomes of prevention programs. Dr. Seeff has authored over 50 publications and given numerous presentations.

She has held multiple leadership positions in NCCDPHP, and focused much of her clinical and public health career on colorectal cancer control, helping to develop CDC's Colorectal Cancer Control Program and representing CDC on the National Commission on Digestive Diseases, the National Colorectal Cancer Roundtable, the National Call to Action for Cancer Prevention and Survivorship Council of Experts, and a Health and Human Services Hepatitis Services Panel. She came to CDC's Division of Cancer Prevention and Control in 1998 through the Epidemic Intelligence Service program.

Before joining CDC, Dr. Seeff was a General Internal Medicine faculty member at Emory University School of Medicine, where she precepted internal medicine residents, delivered primary care to adults at Atlanta's Grady Memorial Hospital, and established and directed a colorectal cancer screening program also at Grady Memorial Hospital. She attended medical school at Georgetown University School of Medicine and completed her Internal Medicine residency training at the Emory University School of Medicine. She and her husband have three children.



WEDNESDAY, APRIL 22, 2015
7:30 – 8:30 AM

International Developments in PHSSR

Grand Kentucky Ballroom BCD
Breakfast will be served during the session.

Inspired by the development of an agenda for public health systems research in the United States, a team of researchers in British Columbia initiated a provincial and national process to develop a research agenda in Canada. In this presentation, we will provide an overview of the development of PHSSR in Canada comparing some of the strengths and challenges of our approach to PHSSR with that of the United States. In Canada, we have emphasized the integration of population health intervention research with health services research using a complex adaptive systems perspective. We discuss the implications of this focus for PHSSR particularly with respect to the nature of research partnerships and the types of research methods that can be used to capitalize on an understanding of complexity. Drawing from our own program of research, we will present examples of research methods we are using to explore complex public health systems. Finally, we will discuss plans for international collaboration with the National Coordinating Centre for PHSSR at the University of Kentucky.

MODERATOR

Anna Goodman Hoover, PhD, MA

Research Assistant Professor

University of Kentucky College of Public Health

Deputy Director

National Coordinating Center for PHSSR and PBRNs

Lexington, Kentucky

Dr. Anna Goodman Hoover is a Research Assistant Professor at the University of Kentucky's College of Public Health, and she also serves as deputy director of two merged programs funded by the Robert Wood Johnson Foundation: (1) the National Coordinating Center for Public Health Services and Systems Research and (2) the Public Health Practice-Based Research Networks National Coordinating Center. In this capacity, she supports more than two-dozen Public Health PBRNs across the nation while managing the Coordinating Center's daily operations.

Dr. Hoover designs and implements research projects to elucidate the most effective and efficient means of disseminating and implementing research findings so as to optimize their utility for potential end users and other stakeholders. In addition, she serves as communication liaison for the University of Kentucky's Superfund Research Program and is Co-Leader of the Program's Research Translation Core, where she works with stakeholder groups to improve mutual understandings of environmental health issues.

Dr. Hoover earned a Ph.D., and M.A., in communication science from the University of Kentucky and also has a B.A. in history from Centre College.



PANELISTS

Marjorie MacDonald, RN, MSc, PhD

Co-Director, Core Public Health Functions Research Initiative

Vice-President

Public Health Association of British Columbia

Professor and CIHR/PHAC Applied Public Health Chair

University of Victoria School of Nursing

Victoria, British Columbia, Canada

Dr. MacDonald is a Professor in the School of Nursing at the University of Victoria and also teaches in the School of Public Health and Social Policy. She is co-director of the Core Public Health Functions Research Initiative (BC) along with Dr. Trevor Hancock. Together, they are leading an initiative to develop a PHSSR agenda for Canada. For the past six years Marjorie held an inaugural Canadian Institutes of Health Research Applied Public Health Research Chair. Currently, she is a research affiliate with the Centre for Addictions Research of BC and President of the Public Health Association of British Columbia. Her program of research focusses on public health systems renewal, health equity, public health and primary care collaboration, and public health human resources planning. Currently, she co-leads with Dr. Bernie Pauly two large programs of research; one that is exploring public health systems renewal in BC and Canada and another examining the public health contribution to promoting health equity.



Bernadette (Bernie) Pauly, RN, PhD

Associate Professor

University of Victoria School of Nursing

Scientist

Centre for Addictions Research of British Columbia

Victoria, British Columbia, Canada

Dr. Pauly is an Associate Professor in the School of Nursing and a Scientist in the Centre for Addictions Research of BC. She is a member of the Renewal of Public Systems and Services Research Collaborative and co-lead on two CIHR funded studies of implementation of public health systems and services and integration of health equity in public health. Currently, she is an inaugural University of Victoria Provost's Community Engaged Scholar and past recipient of a University of Victoria Community Leadership Award and Canadian Queen's Diamond Jubilee Medal for her work in promoting health equity and social justice.



WEDNESDAY, APRIL 22, 2015 3:45-4:45 PM

Meeting the Needs of PHSSR Knowledge Users: A Conversation Grand Kentucky Ballroom BCD

MODERATOR

Lisa Simpson, MB, BCh, MPH, FAAP

President and Chief Executive Officer

AcademyHealth

Washington, District of Columbia

A nationally recognized health policy researcher and pediatrician, Dr. Simpson is a passionate advocate for the translation of research into policy and practice. Her research focuses on improving the performance of the health care system and includes studies of the quality and safety of care, health and health care disparities and the health policy and system response to childhood obesity. Dr. Simpson has published over 75 articles and commentaries in peer-reviewed journals.



Before joining AcademyHealth, Dr. Simpson was director of the Child Policy Research Center at Cincinnati Children's Hospital Medical Center and professor of pediatrics in the Department of Pediatrics, University of Cincinnati. She served as the Deputy Director of the Agency for Healthcare Research and Quality. Dr. Simpson serves on the Robert Wood Johnson Clinical Scholars Program National Advisory Council, and the Editorial boards for the *Journal of Comparative Effectiveness Research* and *Frontiers in Public Health Services and Systems Research*. In October of 2013, Dr. Simpson was elected to the Institute of Medicine.

Dr. Simpson earned her undergraduate and medical degrees at Trinity College (Dublin, Ireland), an MPH at the University of Hawaii, and completed a post-doctoral fellowship in health services research and health policy at the University of California, San Francisco. She was awarded an honorary Doctor of Science degree by the Georgetown University School of Nursing and Health Studies.

PANELISTS

LaMar Hasbrouck, MD, MPH

Executive Director

National Association of County and City Health Officials

Washington, District of Columbia

A graduate of the University of California-Berkeley's School of Public Health, UCLA School of Medicine (Charles R. Drew-UCLA Program), and the New York-Presbyterian Hospital's Internal Medicine Residency Program, Dr. LaMar Hasbrouck is currently the executive director of the National Association of County and City Health Officials (NACCHO) in Washington, DC. NACCHO is the national non-profit organization that represents the country's nearly 2,800 local health departments. As the executive director, Hasbrouck leads the association's mission to be a leader, partner, catalyst, and voice with local health departments to ensure the conditions that promote health and equity, combat disease, and improve the quality and length of all lives.



Prior to joining NACCHO, Dr. Hasbrouck was the director of the Illinois Department of Public Health, where he managed an agency with 1,100 staff, 200 programs, and an annual budget of more than \$600M. He collaborated with nearly 100 local health departments to protect the health and improve the lives of the state's 13 million residents. Among Hasbrouck's achievements as director, he developed a five-year strategy, implemented various aspects of the Affordable Care Act, applied for voluntary national

accreditation by the Public Health Accreditation Board, and built successful partnerships to pass a state cigarette tax increase. Hasbrouck also led the development of statewide blueprints for health workforce expansion and population health - healthcare integration, two key initiatives of the Governor's Office for Health Innovation and Transformation.

Prior to his appointment as the "Top Doc" for Illinois, Hasbrouck was Public Health Director of Ulster County, and the only county official in New York State to simultaneously lead both the public health and mental health departments. Before that, he spent 11 years with the Centers for Disease Control and Prevention (CDC), the nation's premier public health agency, where his impressive record of service included co-authoring the first Surgeon General's Report on Youth Violence (2001) and the active engagement in two of the largest global health initiatives in history: polio eradication with the World Health Organization and the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), where he served in a diplomatic assignment as the CDC Director in Guyana, South America.

Formerly, Hasbrouck served on faculties of medicine or public health at Emory University, Morehouse College, New York Medical College, and the University of Illinois at Chicago. He is a diplomat with the American Board of Internal Medicine, a former Epidemic Intelligence Service Officer at the CDC, and primary care health policy fellow at the Department of Health and Human Services, Heath Resources and Services Administration (HRSA). He has received numerous awards for his governmental and non-governmental work.

José Thier Montero, MD, MPH

Past President

Association of State and Territorial Health Officials

Director

Division of Public Health Services, New Hampshire Department of Healthcare and Human Services

Concord, NH

Dr. Montero, became the Director of the Division of Public Health Services (DPHS) at the New Hampshire Department of Health and Human Services in 2008. As Director of DPHS, Dr. Montero leads the development and implementation of policies that help create the conditions to improve and maintain a healthy population. For this process he relies on two key strategies: the development of a systematic approach for actionable data collection, use and dissemination; and a better coordination of the public health systems and the health care system, with a clear expectation of population health improvement. He has brought this vision to his role on several academic and national policy committees, including the Association o State and Territorial Health Officers (ASTHO), of which he is the past-president.

José received his MD from the Universidad Nacional de Colombia. He specialized in Family Medicine, receiving his degree from the Universidad del Valle in Cali Colombia and a degree in Epidemiology, from the Pontificia Universidad Javeriana in Bogota Colombia. He received as well a Masters on Health Care Delivery Science at Dartmouth College.

José also fulfils several national roles. He is the Past-President of ASTHO (Association of State and Territorial Health Officers). He serves on several committees including the federal Advisory Committee on Immunization Practices (ACIP, as ASTHO Liaison) and has been recently appointed to the CDC's Board of Scientific Councilors for the Office of Infectious Diseases. He is a member of the IOM Roundtable on Population Health and a member of the National State Policy Academy. José serves as well as Co-Chair of the Health Promotion-Disease Prevention pillar of the NH Citizen Initiative, and member of Dartmouth Medical School Leadership Preventive Medicine Residency Advisory Committee and he served as board member at the NH Foundation for Healthy Communities,



Richard Nathan, PhD, MPA

Former Director

The Nelson A. Rockefeller Institute of Government

Professor

State University of New York

Albany, New York

Dr. Nathan earned an MPA and PhD in Political Economy and Government from Harvard University.

He formerly served as director of the Rockefeller Institute and distinguished professor of political science and public policy at the State University of New York at Albany.

Dr. Nathan has written and edited books on the implementation of domestic public programs in the United States and on American federalism.

Prior to coming to Albany, he was a professor at Princeton University. He served in the federal government as assistant director of the US Office of Management and Budget, deputy undersecretary for welfare reform of the US Department of Health Education and Welfare, and director of domestic policy for the National Advisory Commission on Civil Disorders (The Kerner Commission).

Areas of expertise include disaster recovery, federation, government reform, social service spending, and welfare reform.



L. Christopher Plein, PhD

Professor, Public Administration

Eberly Family Professor for Outstanding Public Service

West Virginia University

Morgantown, West Virginia

Dr. Plein's area of specialty is public policy formation and implementation. Recently, his research has concentrated on the study of social programs with a special emphasis on the effects of welfare reform and state health policy. His research has reached national audiences through numerous publications and presentations. Dr. Plein also studies public administration and policy in West Virginia. He is co-author of the recently published book, *West Virginia Politics and Government* (University of Nebraska Press, 2008).



Dr. Plein has been active in university outreach and engagement in West Virginia. In 2004, he was appointed by Governor Wise to serve on the board of directors for the newly established AccessWV state health insurance program which provides health coverage to those with high-risk health conditions. He continues to serve in this role and also provides service to various government committees dealing with the problems of the medically uninsured in the state.

He has also been actively engaged in community development efforts in rural West Virginia. He is a founding member of the West Virginia Community Design Team which organizes teams of volunteers that visit and assist rural communities in identifying community development needs and opportunities. Since 1997, this program has made over 30 visits to communities in the state. Dr. Plein has been a team member on a number of these visits and serves on the program's steering committee.

He holds a PhD in political science from the University of Missouri – Columbia, an MA in political science from East Tennessee State University, and a BA from Emory & Henry College.

SESSION 1A: Program Evaluation & Leadership-Tuesday, April 21, 2015, from 2:00 to 3:30 pm

SESSION 1-TUESDAY, APRIL 21, 2015, 2:00 TO 3:30 PM

SESSION 1A: Program Evaluation & Leadership

Room: Triple Crown I, II, & III

Moderator: Christopher Maylahn, MPH

Presenters:

Rachel Tabak, PhD

Assessing Capacity for Sustainability of Effective Programs and Policies in Local Health Departments

Co-Investigator(s): Kathleen Duggan, MPH, MS; Carson Smith, MPH, MPA; Kristelle Aisaka, BS; & Ross Brownson, PhD

Background: Sustainability has been defined as the existence of structures and processes that allow programs to leverage resources to effectively implement and maintain evidence-based public health (EBPH). Sustainability is important in local health departments (LHDs) to retain the benefits of effective programs.

Research Objective: To explore the eight domains of Luke, et al's Program Sustainability Framework, organizational capacity, program adaptation, program evaluation, communications, strategic planning, funding stability, political support, and partnerships, as they apply to high-and low-capacity LHDs.

Data Sets and Sources: The case study sample was selected using an Administrative-Evidence Based Practice (A-EBP) score from a 2012 national survey and was linked to secondary data from the National Public Health Performance Standards Program. The online survey was delivered to a national sample of LHD practitioners, administrators, and directors (n=849, 57% response rate).

Study Design: Qualitative case studies were conducted with 35 practitioners in six LHDs across the United States. Three LHDs that scored in the top quartile of both the A-EBPs and the National Public Health Performance Standards measures (defined as 'high-capacity') and three LHDs with scores in the bottom quartile of both measures (defined as 'low-capacity') were selected as case study sites. The interview guide explored LHD use of an evidenced-based decision making process, including A-EBPs and evidence-based programs and policies.

Analysis: Standard qualitative methodology was used for data coding and analysis using NVIVO software. Thematic reports were produced that explored the eight domains of the Program Sustainability Framework.

Principal Findings: In the organizational capacity domain, high-capacity LHDs reported better access to and support for resources, including adequate staff and staff training, compared to low-capacity LHDs. When high-capacity LHDs described program adoption, they discussed these more as opportunities to adapt and evaluate. Low-capacity LHDs struggled with programs requiring adaptation. Although high-capacity LHDs described integration of program evaluation processes into implementation and sustainability, low-capacity LHDs reported limited capacity for measurement specifically and evaluation generally. High-capacity LHDs also described higher quality communication compared to low-capacity LHDs; much of the difference was from above, particularly department leaders and program managers. High-capacity LHDs were more likely to report efforts to integrate EBPH into strategic planning and also reported having greater flexibility with their funding than low-capacity LHDs. In addition, high-capacity LHDs were more likely to describe having political support, while low-capacity LHDs reported that it was lacking. Partnerships were important to both groups and they described building partnerships as an important part of sustaining programming.

Conclusions: Organizational capacity, program evaluation, program adaptation, communication, and funding stability are associated with whether a LHD is able to sustain programming. Increased top-down communication and program evaluation could help to build an internal agency culture that research suggests would be more resilient to external forces, such as funding instability or changing political environments.

Implications for Public Health Practice: Modest investments in leadership support for improving organizational capacity and communication from the top of the organization down, integrating program evaluation into implementation, and greater flexibility in funding may enhance the sustainability of evidence- based programming in LHDs.

SESSION 1A: Program Evaluation & Leadership-Tuesday, April 21, 2015, from 2:00 to 3:30 pm

Ross Brownson, PhD

Mis-Implementation in Public Health Practice

Co-Investigator(s): Peg Allen, PhD; Rebekah Jacob, MPH; Jenine Harris, PhD; Kathleen Duggan, MPH, MS; Pam Hipp, MPH; & Paul Erwin, MD, DrPH

Background: Mis-implementation in public health practice refers to both the de-adoption of effective programs, policies, or other interventions that should continue and to the continuation of ineffective interventions that should end. Mis-implementation in public health is poorly characterized and will provide important information for decision makers.

Research Objective: The objective was to describe the frequency and patterns in mis-implementation of programs in state and local health departments in the United States.

Data Sets and Sources: Data are derived from two cross-sectional surveys of the state and local public health workforce as part of ongoing research projects.

Study Design: A total of 944 public health practitioners was studied. The sample included state ($n = 277$) and local health department employees ($n = 398$) and key partners from other agencies ($n = 269$). Data were collected from October 2013 through June 2014 (analyzed in May through October 2014). Online survey questions focused on ending programs that should continue, continuing programs that should end, and reasons for endings.

Analysis: Descriptive statistics were calculated for the survey's three core questions, reported as percentages with 95% confidence intervals. The sample characteristics were derived from the survey data and from archival data for each health department using population size of jurisdiction, and local health department governance structure.

Principal Findings: Among persons working in a state health department, 37% reported that programs often or always end that should have continued, compared with 42% of respondents in local health departments, and 38% of respondents working in other agencies. In contrast to ending programs that should have continued, 25% of state respondents reported programs often or always continuing when they should have ended, compared to 29% for local health departments and 25% of respondents working in other agencies. Certain reasons for program endings differ at the state versus local level (e.g., policy support, support from agency leadership), suggesting that actions to address mis-implementation are likely to vary.

Conclusions: The current data suggest a need to focus on mis-implementation in public health practice in order to make the best use of scarce resources. It is likely that research on public health mis-implementation is in its first generation. This suggests a wide range of future research needs, ranging from broad categories of inquiry such as developing reliable and valid measures of mis-implementation, understanding variables that predict mis-implementation, describing mediators and moderators (e.g., state vs. local differences, understanding how health care reform efforts may affect mis-implementation of clinical services, variations by program area, the role of media attention), and developing qualitative case studies of successful and unsuccessful mis-implementation.

Implications for Public Health Practice and Policy: Developing the evidence base for mis-implementation in public health practice will allow practitioners and policy makers to bolster efforts to continue effective programs and target ineffective programs for discontinuation, diverting these resources to promising programs that are not being fully implemented, evaluated, or scaled up. Such actions are likely to make the most effective use of resources and improve the health of the public.

Katie Gardner, BS***Examining Process and Outcomes of Nuisance Inspection and Abatement Conducted by Local Health Departments***

Co-Investigator(s): Sara Tillie, BA; & Scott Frank, MD, MS, BA

Background: The Ohio Public Health Futures Report produced by the Association of Ohio Health Commissioners represents the Governor's Office of Health Transformation (OHT) effort to reform the local public health system. The development and adoption of "minimum package" of essential public health services, which included both core services and foundational capabilities that all local health departments (LHDs) should possess. Nuisance abatement is an essential, mandated, unfunded public health service. Under Ohio revised code[i] LHDs are charged with "the abatement and removal of nuisances." However, there has been no formal effort to quantify, categorize, or standardize nuisance abatement efforts.

Research Objective: 1) Investigate conduct and nature of nuisance inspection and abatement through direct observation; 2) Identify differences in nuisance inspection and abatement process and outcomes through variation of service delivery and Environmental Health Specialists (EHS) characteristics.

Data Sets and Sources: Data used for this research includes abstraction of routinely collected nuisance abatement services data (n=509), stored in the Health Department Information System. Original data documenting the process of nuisance abatement was produced from observational protocol forms administered by trained observers at 6 diverse LHDs to assess needs associated with nuisance abatement services (n=167). A survey profile of participating EHS helps understand variation in process (n=27).

Study Design: This comparative case study utilized mixed methods including survey, interview, direct observation, and data abstraction. Analysis: Univariate descriptive analysis of the observational and abstracted data was performed. Tests of association were utilized to detect differences based on LHD nuisance abatement process and EHS characteristics. Analysis was conducted using SPSS v.22. EHS characteristics will be used to focus on identifying process variation across LHDs, including demographics, experience, and attitudes regarding nuisance abatement. Research questions will focus on nuisance inspection type; source and object of complaint; and outcomes.

Principal Findings: The top five nuisance complaints based on direct observation and abstraction of nuisance reports were: property (32%); animal (28%); air (18%); water (18%); and trash/garbage (17%). Complaints were most likely to come from residents (64%) followed by anonymous or unknown (22%) and government employees (14%); and most often were directed toward residential (63%); commercial (12%); and public (3%) property. EHS characteristics and attitudes were related to the process and outcome of nuisance inspection. Conflict occurred during 16% of inspections; punitive actions were threatened in 11%. Inspection outcomes included immediate remediation (58%), citation (15%), written orders (18%), and verbal warnings (11%). Further inspection was warranted 28% of the time.

Conclusions: This study represents an effort to subject the process and outcomes of nuisance inspection and abatement to research scrutiny. Outcomes of this essential component of environmental public health service vary based on process, EHS characteristics, and EHS attitudes.

Implications for Public Health Practice and Policy: Understanding the nature and process nuisance inspection and abatement will inform decision-makers regarding future environmental health practice.

[i] Mandated and Permitted Services and Governance/Administrative Provisions in the Ohio Revised Code and Ohio Administrative Code. Appendix D in Public Health Futures: Considerations for a New Framework for Local Public Health in Ohio. http://aohc.affiniscape.com/associations/4594/files/PHF_FullReport_Final.pdf.

SESSION 1A: Program Evaluation & Leadership-Tuesday, April 21, 2015, from 2:00 to 3:30 pm

Carmen Nevarez, MD, MPH

An Intersectoral Leadership Learning Academy: Impact on Multi-sector Teams Engaged in Community Health Improvement Projects

Co-Investigator(s): Craig Sewald (presenting)

Background: For the past three years, the CDC has funded the National Leadership Academy for the Public's Health. The goal is to provide ongoing leadership training and support to leaders that work across sectors to address community health issues. The academy also aims to build and support the development of a community of multi-sector leadership learners, using online technology and social media tools that contribute to community health improvement goals and influence policy change.

Research Objective: Assess the impact of team participation in the leadership academy on the development of intersectoral leadership skills and capacity, and its impact on the achievement of the team's project goals.

Data Sets and Sources: Data was derived from team applications; surveys of individual participants and teams at baseline, mid-term and end of participation; post-webinar and retreat evaluations; coach assessments of team progress at mid-term and end of the program; post-participation interviews; and information provided by teams and coaches throughout the academy to monitor progress in leadership learning and on project goals;

Study Design: Teams were recruited through a variety of communication networks. Each team was required to have four members, one from a governmental public health agency at the state or local level, the others from other sectors of the community. The teams were required to have a track record of having worked together, and to have chosen a community health improvement project. The program included an on-site retreat, a series of webinars, a coach assigned to each team, a site visit and monthly calls with the coach, and a variety of leadership learning tools. Teams were required to submit data throughout the year to document progress in intersectoral leadership learning and on the team projects.

Analysis: An evaluation consultant manages the evaluation of NLAPH. The analysis of qualitative and quantitative data is used to produce a report following each academy year documenting results from the evaluation. The reports have been used as the foundation for improving and refining the academy structure and curriculum.

Principal Findings: The academy has been successful in developing the leadership skills that teams and team members need to address the challenges encountered in community health improvement efforts. In addition, for many teams, the academy has resulted in accelerated progress in achieving project goals. Data from the various cohorts have been useful in further refining the framework and content of the academy to ensure that it is truly addressing the leadership challenges teams are encountering in their intersectoral work.

Conclusions and Implications: Teams engaged in multisector community health improvement projects can improve their leadership skills and accelerate the achievement of project goals by participating in a yearlong leadership learning experience focused on intersectoral leadership. Teams have been able to use skills and practices developed during the academy to benefit their ongoing community health improvement work.

SESSION 1B: Information Technology & Social Media-Tuesday, April 21, 2015, from 2:00 to 3:30 pm

SESSION 1B: Information Technology & Social Media

Room: Blackberry Lilly

Moderator: Jenine Harris, PhD

Presenters:

Roger Wong, BS

Local Health Departments Tweeting About Ebola: Characteristics and Messaging

Co-Investigator(s): Jenine Harris, PhD; Mackenzie Staub, BS; & Jay Bernhardt, PhD, MPH

Background: In August 2014, the World Health Organization (WHO) declared the Ebola outbreak in West Africa to be an international public health emergency. Shortly after, the Centers for Disease Control and Prevention (CDC) confirmed the first U.S. case of Ebola on September 30, 2014. These events contributed to a rise in Ebola-related messaging across the nation through numerous forms of social media, such as Twitter. One of the 10 essential services provided by local health departments (LHD) nationwide is to inform, educate, and empower constituents about health issues. Health departments are increasingly using social media as one communication tool.

Research Objective: The purpose of our study was to examine the messages and characteristics of LHDs sending Ebola tweets.

Data Sets and Sources: We collected all tweets sent by 287 LHDs using Twitter included in the Twitter list (<https://twitter.com/jenineharris/lists/local-health-departments>) nationwide between September 5, 2014 and October 31, 2014. We merged the Twitter data with the 2013 NACCHO Profile study data for all LHDs that had sent at least one tweet (n=226) during the data collection period.

Study Design: We used quantitative and qualitative methods to analyze tweets sent by LHDs. Drawing on prior research related to social media use by LHDs, we built a logistic regression model including population size, employment of public information specialists, leadership education level, and number of tweets sent by each health department into the model. Since Ebola is an infectious disease, we also entered epidemiology staffing and communicable disease surveillance in the model. In addition, we classified the 1648 Ebola-related tweets into one of four broad categories: information-sharing, updates, events, or preparedness. We also identified tweets including research evidence and mobilizing information.

Analysis: We conducted a content analysis of Ebola tweets to identify common themes and features in addition to using descriptive statistics to understand the characteristics of LHDs tweeting about Ebola.

Principal Findings: Of the 226 LHDs that sent at least one tweet during the data collection period, 176 had complete data in the Profile study and were included in quantitative analyses. LHDs employing public information specialists (PIS) were 2.78 (95% CI: 1.19-6.52) times more likely to tweet about Ebola. Population within LHD jurisdiction, total number of tweets sent in September and October, whether the top executive attained an MPH degree, presence of an epidemiologist, and whether communicable disease surveillance is conducted were not significant predictors of tweeting about Ebola. Qualitative coding is underway for the 1648 tweets.

Conclusions: Our findings may assist public health organizations in using social media campaigns to prepare for and respond to emergency outbreaks.

Implications for Public Health Practice and Policy: Social media has been important in public health emergencies, such as Hurricane Sandy, and may also play a crucial role for outbreaks such as Ebola, which requires time-sensitive transmission of information in order to contain the spread of the disease and ease public anxiety. Having the staff capacity and knowledge to utilize social media within public health organizations would be necessary to effectively disseminate information during outbreak incidents.

SESSION 1B: Information Technology & Social Media-Tuesday, April 21, 2015, from 2:00 to 3:30 pm

Rakhi Trivedi, MPH

Use of Facebook by Local Health Departments: Activity and Focus Areas

Co-Investigator(s): Gulzar Shah, PhD; & Ankit Bangar, MPH

Background: The use of online social media like Facebook, Twitter, etc., is not confined to personal use. There is a great potential for public health professionals at local health departments (LHDs) to utilize this popular platform to promote health and provide updates to the people in their jurisdictions about current health issues.

Research Objective: Assess the usage of Facebook by LHDs, assess their level of activity, and identify the areas in which LHDs are focusing through Facebook.

Data Sets and Sources: We used NACCHO's 2013 National Profile of LHDs and primary data collected for this study from Facebook profiles of LHDs that indicated in the Profile study that they used Facebook. Using NACCHO's 2013 Profile of LHD study for which a module was administered to a sample of 625 LHDs, we determined that 167 LHDs used Facebook. We then followed the Facebook profiles of these 167 LHDs over a period of four months and transcribed the content information. Finally, we performed analysis on the transcripts for this study.

Study Design: This is an observational study, based on cross-sectional survey data as well as content analysis of Facebook over a four-month time period.

Analysis: We performed qualitative analysis of the Facebook contents using the Atlas.ti. We recorded the hermeneutics based on focus area codes. We then quantified the occurrences of these codes to get our results. Quantitative analysis of the Profile study data included descriptive and bivariate statistics on use of social media.

Principal Findings: Results from the 2013 Profile study show that, independent of the purpose of use, Facebook and Twitter are the two most commonly used social media being used by 43.3% and 18% LHDs respectively. The descriptive analysis showed that popularity and use of social media platforms by local health departments is increasing. Health departments governed locally and those serving larger populations tend to use social media to reach out to people in their communities. Out of the 167 LHDs indicating they used Facebook, 101 were identified with an active profile. The content analysis of the Facebook accounts showed that, in terms of content-information, we found that tobacco usage and its effects was the most popular topic followed by inclement weather/emergency preparedness and maternal and child health issues. Surprisingly, Ebola was the least mentioned topic by LHDs on Facebook.

Conclusion: This analysis reflected the current status of LHDs in using social media platforms in increasing awareness about many public health issues. Despite the extended reach of social media, LHDs are not completely utilizing this platform in health promotion. Moreover, LHDs can exploit social media to communicate with their communities regarding emergency planning, outbreaks, health education, and other issues requiring urgent communications.

Implications: Since online social media has a promising potential in disseminating important information for health promotion and announcements about important events, it is imperative to evaluate its current status. This research will help in creating strategies to utilize popular social media like Facebook for disseminating important health information to communities served by LHDs.

Brian Dixon, PhD, MPA, BA***Improving Population Health through Targeted Decision Support***

Co-Investigator(s): Zuoyi Zhang, PhD; P. Joe Gibson, PhD, MPH; Xiaochun Li, PhD; Patrick Lai, MPH; Uzay Kirbiyik, MD, MPH; Jennifer Williams, MPH, BS; Rebecca Hills, PhD; Debra Revere, MS; & Shaun Grannis, MD, MS

Background: Surveillance is the cornerstone of public health practice. Traditionally, health departments have relied on passive, manual reporting of communicable diseases by hospitals, laboratories and clinics. Yet passive approaches can be burdensome for reporters, producing incomplete, delayed reports which impede follow-up and delay recognition of community disease patterns and outbreaks.

Research Objective: We seek to understand the various sources and methods by which hospitals, labs, and clinics report communicable disease information to public health authorities.

Data Sets and Sources: The Indiana Health Information Exchange (IHIE) is a large, robust HIE network in which clinical messages (such as laboratory results) are electronically delivered to over 25,000 physicians. In addition, the HIE network reports positive laboratory results for communicable and infectious notifiable diseases to the Marion County Public Health Department (MCPHD), which is responsible for communicable disease surveillance for its jurisdiction.

Study Design: We are evaluating an intervention designed to pre-populate the official communicable disease reporting form with patient demographics, lab results, and provider information available from the IHIE electronic health record system. The pre-populated form is delivered electronically to providers. Prior to deploying the intervention, we gathered baseline reporting information from fax, paper, and electronic reports that constitute a reported case and were submitted by both providers and labs to MCPHD.

Analysis: Key data required to investigate and close cases were manually abstracted from each report. We measured the completeness of reporting data elements separately for paper, fax, and electronic reports, stratifying by report type. We also calculated reporting rates and examined the results stratified by clinical source, disease and report type.

Principal Findings: We collected 11,997 reports submitted to public health for 8,754 unique cases across seven conditions (chlamydia, gonorrhea, syphilis, Hepatitis C, Acute Hepatitis B, Salmonella, and Histoplasmosis). Completeness of data elements varied by report type: lab report completeness averaged 73% with a range from 2.3% to 100% while provider report completeness averaged 64% with a range from 18.6% to 100%. Lab report completeness was higher than corresponding provider report fields for 12 of 15 critical fields. Lab reporting rates also matched or exceeded the rates for provider reports across all conditions.

Conclusions: The rise of ELR capacity among health departments and the superior completeness of lab reports may improve disease reporting to public health agencies and decrease the amount of information collected from providers. Yet lab report completeness remains problematic in many cases. Health information exchanges may help support more complete capture and synthesis of multiple reports from labs and providers in support of surveillance practice.

Implications for Public Health Practice and Policy PHSSR: Contributes to PH practice by exploring not only which interventions are effective but also why they are effective. Our intervention seeks to streamline clinical and public health workflow related to notifiable condition reporting. Moving forward, we will analyze the impact of pre-populated forms on report completeness, clinical staff burden, reporting rates, and timeliness to further understand how HIE networks can support notifiable disease reporting.

SESSION 1B: Information Technology & Social Media-Tuesday, April 21, 2015, from 2:00 to 3:30 pm

Justeen Hyde, PhD

Community Engagement Games: A Strategy for Expanding Local Stakeholders in Community Health Planning Processes

Co-Investigator(s): Ranjani Paradise, PhD; Reann Gibson, BA; Shirma Pierre; & Michelle Keenan

Background: This paper presents findings from an innovative strategy employed by Brigham and Women's Hospital (BWH) in Boston, MA, to engage community residents and other local stakeholders in a community health planning process. Using an existing game platform (Community Planit) created by Engagement Labs at Emerson College, the Institute for Community Health worked in collaboration with BWH to develop What Matters for Health, an online, multiplayer game (<https://communityplanit.org/healthmatters>).

Research Objective: The purpose of the game was to gather input from local residents and stakeholders in five Boston neighborhoods regarding investments that they believe are important to improve individual and community health.

Study Design: Over a three-week period, individuals were asked to play the game by completing a series of challenges that prompted players to answer open- and close-ended questions, contribute media, or solve problems based upon their personal values and experiences. Each week represented a different mission, focusing on individual, neighborhood, and city priorities. The game culminated in a final community forum where findings were presented and used as a springboard for additional discussion.

Data Sets and Analysis: Player included a mix of qualitative and quantitative data. Data were exported into Excel. Quantitative data was analyzed in SAS, with responses examined by demographic characteristics. Qualitative data were imported into Dedoose and analyzed for primary and secondary themes.

Principal Findings: Approximately 900 people registered to play What Matters for Health and 489 individuals played the game. Players were predominately female (74%), White (45%) and African American (24%), and between the ages of 25 and 54 (54%). More than half of participants had never participated in a community planning process. With respect to priorities for individual health improvements, players identified six areas that are important. In order of frequency, these include physical fitness, healthy eating, managing stress and mental health, sleep, financial stability, and managing health conditions. At the neighborhood level, participants identified seven areas in need of improvement: opportunities for physical activity, access to healthy food, changes in the built environment, activities that promote social connection and cohesion, improved safety, economic development, and equitable public transportation. Many of these same themes appeared again in questions focused on the city, with additional priorities including racial equity, quality affordable housing, safer communities, cleaner and safer streets, and improved public education.

Conclusions: Use of an online game for community health planning processes was effective in engaging individuals who are often not reached through traditional approaches. There were a number of lessons learned with respect to game curation, literacy, and outreach. Although not an effective strategy for reaching every linguistic and age group in a diverse urban setting, those who participated provided positive feedback on the approach.

Implications for Public Health Practice and Policy: Community health needs assessments and community health improvement planning processes are rapidly becoming common practices for many health and public health organizations in the United States. The use of online engagement games hold promise for helping these organizations include a broader range of local stakeholders in setting health priorities.

SESSION 1C: Finance I-Tuesday, April 21, 2015, from 2:00 to 3:30 pm

SESSION 1C: Finance I

Room: Crimson Clover

Moderator: Patrick Bernet, PhD, MBA**Presenters:****Simone Singh, PhD, MA, BBA*****Comparison of Two Methods for Estimating the Costs of Environmental Health Services Provided by Local Health Departments in North Carolina.*****Co-Investigator(s):** Nancy Winterbauer, PhD; & Ashley Tucker, MPH**Background:** All local health departments (LHDs) in North Carolina are required to provide a defined set of essential environmental health services. A detailed understanding of the costs of these services allows public health practitioners to provide services in a more efficient manner and to establish a fee schedule that ensures adequate revenues.**Research Objective:** The objective of this study was to estimate the costs of two categories of environmental health services – food and lodging inspections and onsite water and well inspections – using two different costing methods and to compare the results.**Data Sets and Sources:** Data for this study came from two sources. We first conducted a survey of 16 LHDs in North Carolina to collect data on both the direct and indirect costs of providing environmental health services. We then complemented our survey data with data on LHDs' revenues and expenditures collected by the North Carolina Department of Health.**Study Design:** We used two approaches to estimate LHDs' costs of providing environmental health services: (1) a resource-based approach using cost data from our survey of local health departments and (2) an empirical modeling, which relied on secondary data collected and provided by the North Carolina Department of Health. Our sample consisted of 16 of the 85 LHDs in North Carolina. Data was collected for fiscal year 2012.**Analysis:** Using the two approaches described above, we estimated the total costs, costs per service, and costs per capita that LHDs in North Carolina incurred in the provision of two categories of environmental health services: food and lodging inspections and onsite water and well inspections.**Principal Findings:** Estimates of total costs, costs per service, and costs per capita were all substantially higher under the resource-based approach than under the empirical modeling approach. Under the resource-based approach, the median cost per service was \$140 for food and lodging inspections and \$80 for onsite water and well inspections compared to a median cost per service of \$45 under the empirical modeling approach. We found similar variation in total costs and costs per capita between the two approaches.**Conclusions:** Our study showed that the costs of providing environmental health services varied widely depending on the costing approach employed. Cost estimates derived using the resource-based approach were substantially higher than those derived using the empirical modeling approach.**Implications for Public Health Policy And Practice:** A better understanding of the full costs of essential public health services is crucial for decision making regarding how to best organize and finance public health activities at the local level. Existing secondary cost data sources often do not contain sufficient information to estimate the full cost of providing a given service and lack the detail needed by practitioners. Costing surveys, such as the one developed for and piloted in this study, thus represent an important tool for public health practitioners. Understanding full costs allows public health practitioners to make better decisions about how to allocate scarce resources and develop fee schedules that allow them to generate adequate revenues.

SESSION 1C: Finance I-Tuesday, April 21, 2015, from 2:00 to 3:30 pm

J. Mac McCullough, PhD, MPH

Accounts Receivable: Timing of Clinical Billing Reimbursement for a Local Health Department

Co-Investigator(s): William Riley, PhD

Background: Billing for clinical services is a popular method of generating revenue to support the provision of public health services by local health departments (LHDs). However, a range of challenges confront the 80% of LHDs planning to begin or expand clinical billing. One challenge not previously noted is the potential lag from date of service to receipt of reimbursement—an important financial metric known as “accounts receivable.” However, no estimates are available to help guide practitioners in what lags might be expected.

Research Objective: The purpose of this study is to report results from a large-county LHD’s experiences with time to reimbursement at its immunization clinics.

Data Sets and Sources: Data came from the Maricopa County Department of Public Health (MCDPH) in Arizona. MCDPH operates three immunization clinics and has long sought reimbursement from Medicaid. In 2012, MCDPH began submitting claims to private insurance plans. Claims are submitted through a centralized statewide processor.

Study Design: Retrospective analysis of MCDPH billing receipts from January 1, 2013 through June 30, 2014.

Analysis: Reimbursement data were compiled and analyzed according to time between date of service and date(s) of reimbursement. Accounts receivable was assessed through 1) days outstanding in accounts receivable, and 2) accounts receivable as a percentage of total assets.

Principal Findings: A total of 73,931 transactions were analyzed, representing 61,250 unique immunizations and 29,374 unique encounters. Reimbursements were received after a median of 68 days (range: 12 – 2,350). Daily reimbursement (red line in figure) reached a peak at 52 days after service. In 2013, aging in accounts receivable was 90 days, and represented 20% of total billing charges. Reimbursements (i.e., debits) were sometimes followed by take-backs (i.e., credits). 2,491 transactions (3.4%) were credits. Credit transactions occurred a median of 333 days from date of service.

Conclusions: A non-trivial lag exists between service provision and receipt of reimbursement. This may present two challenges for new or expanded clinical service billing. First, as governmental entities, LHDs budget processes may not align with a 3+ month lag. For example, if an LHD begins billing for services on day 1 of a new fiscal year, based on our findings, it should expect to receive only 85% of total reimbursement before the end of that fiscal year. This shortfall is in addition to start-up costs such as billing systems or staff training. Second, some 15% of reimbursements will be received in subsequent budget periods, potentially creating challenges in reconciling expenses with revenues. Credit transactions, taking place an average of nearly 1 year from date of service, are especially problematic.

Implications: The lag from service provision to reimbursement can span multiple budget periods, potentially necessitating special consideration in budgetary processes for services that receive clinical billing revenues. Many hospitals and provider groups have well developed metrics for accounts receivable. This study shows that accounts receivable can be calculated for LHD and presents data to begin the process of developing baseline performance standards.

Justin Marlowe, PhD***The Cost of Foundational Public Health Services and Capabilities: Estimates, Variation, and Disparities***

Co-Investigator(s): Betty Bekemeier, PhD

Background: In the 2012 report For the Public's Health: Investing in a Healthier Future, the Institute of Medicine recommended that the public health community define the minimum package of public health services and foundational capabilities "that no local health jurisdiction can be without." The local public health community in Washington State has defined that package. With those definitions established, a natural follow-up question is: What does this minimum package cost?

Research Objectives: This research had three main objectives: 1) Estimate the total costs of each foundational public health service and capability for local health jurisdictions in Washington State; 2) Estimate unit costs for selected foundational public health services and capabilities; 3) Determine drivers of variation in total and unit costs.

Datasets and Study Design: We used two main datasets. The first was comprised of administrative data on public health spending for all 35 local health jurisdictions (LHDs) in Washington for fiscal years 2007-2013. Unfortunately, these spending data are not organized according to the foundational capabilities and services definitions. To address this problem, in 2014 we collected original data from a cost estimation instrument distributed to a stratified sample of nine local health jurisdictions. That instrument was designed to identify each LHD's spending levels for each foundational capability and service area. We also combined these datasets with county-level demographic and socioeconomic data from the US Census, and with data on local public health activities from the Public Health Activities and Services Tracking (PHAST) dataset maintained by the University of Washington.

Analysis: For our original data, we simply aggregated the reported LHD spending levels to the level of total spending in each foundational capability and service area. For the administrative data we aggregated each existing spending category according a new typology that approximates spending in the foundational capabilities and services areas. We then combined both sets of estimates with the PHAST data to compute each LHD's unit costs for selected capabilities and services. We used multivariate regression techniques to estimate the relationship between key demographic and socioeconomic variables and LHD-level total and unit costs.

Principal Findings: Our preliminary results suggest three main findings. First, total and unit costs for some foundational public health services are quite similar in space and time. In areas like environmental public health, for example, we find similar spending levels across LHDs and within LHDs across most of the sample period. Second, we find that spending on other foundational capabilities and services varies substantially. This is especially true for foundational capabilities like policy development and business competencies. Third, we find much of the geographic variation in total costs and unit costs associates with socioeconomic factors such as per capita income, and with demographic factors like population density.

Conclusions: These findings suggest that the costs of certain foundational public health capabilities and services are uniform and predictable across LHDs. Where those costs vary, they vary in predictable ways related to the underlying population served.

Implications for Public Health Practice and Policy: These findings inform a crucial statewide policy discussion. Two of the key questions within that discussion are: 1) How much new money, or how much reprogramming of existing categorical money, will the state need to authorize to ensure all citizens have access to basic public health services; and 2) Are there policy strategies that can mitigate disparities in citizens' access to those services? These findings have implications for both questions.

SESSION 1C: Finance I-Tuesday, April 21, 2015, from 2:00 to 3:30 pm

Scott Frank, MD, MS

The Cost and Value of Mandated Local Health Department Nuisance Inspection and Abatement

Co-Investigator(s): Katarina Gardner, BA; & Sara Tillie, BA

Background: Nuisance inspection and abatement is a mandated, unfunded, essential public health service. This time consuming service often represents the face of the local health department to the community and serves as the most likely interaction of environmental public health with other governmental departments. Under Ohio revised code LHDs are charged with “the abatement and removal of nuisances.” However, there has been no formal effort to quantify, categorize, or standardize nuisance inspection and abatement efforts.

Research Objective: Examine the cost and value of mandated local health department nuisance inspection and abatement.

Data Sets and Sources: Data used for this research includes abstraction of routinely collected nuisance abatement services data, stored in the Health Department Information System. Original data documenting organizational and community needs was produced from direct observation of environmental health specialists through a structured observational protocol administered by trained student observers at six diverse LHDs to assess needs associated with nuisance abatement services. Data merger with the Ohio Annual Financial Report (AFR) will allow correlation with LHD service and administrative costs.

Study Design: This comparative case study utilizes a mixed methods approach including interview, direct observation of service delivery, abstraction of nuisance inspection and abatement reports, and a statewide survey generated from observational and abstraction findings will examine the generalizability of this data. Time studies were conducted to measure the delivery of services. A quantitative and qualitative comparison between participating LHDs are used to estimate effectiveness and efficiency of nuisance abatement services.

Analysis: Univariate descriptive analysis of the observational and abstracted data was performed. Tests of association were utilized to detect differences based on LHD structure. Analysis was conducted using SPSS v.22. Quantitative and qualitative data obtained from observers and AFR will determine variation in organizational factors of each LHDs to understand influential factors at the systems level. Across these different dimensions, research questions will focus on nuisance inspection: type; quantity; efficiency; unit cost; value; return on investment; and outcome.

Preliminary Findings: Inspection duration varied by category of complaint, which included animal/bites-34.5%; property-32%; air-23%; water-20%; sewage-17%; trash/garbage-14%. Overall, inspection times were twenty minutes-11%. When discussion took place (79%), it took longer than the inspections themselves: 20 minutes 10%. In addition, at the end of the observation 28% of abatements required further inspection while 23% needed more discussion. Nuisances were not fully remediated at the end of the episode 42% of the time. Perception of service impact and value were elicited. Participating environmental health specialists perceived that more than 60% of nuisance inspections resulted in findings that directly impact health and safety. Health and safety education was by far the most valued part of the nuisance abatement process (96%), followed by problem solving (84%), and working with related departments or agencies (64%). The relationship of the quality and nature of communication to nuisance cost and value is examined.

Conclusion: Nuisance inspection and abatement represents an essential public health service, an opportunity for environmental health improvement, and a key interface of governmental public health with the public we serve. This study investigates its importance and documents the cost of services and potential cost averted.

Public Health Implications: Findings are expected to inform nuisance inspection and abatement practice, policy, and funding.

SESSION 1D: Public Health Workforce Interests and Needs Survey (PH WINS)-Tuesday, April 21, 2015, from 2:00 to 3:30 pm

SESSION 1D: Public Health Workforce Interests and Needs Survey (PH WINS)

Room: Bluegrass Room I & II

Moderator: Katie Sellers, DrPH, CPH

Presenter:

Elizabeth Harper, DrPH, MPH, BS

Gaining a National Perspective of the Public Health Workforce: Results from the ASTHO Public Health Interests and Needs Survey (PH WINS)

Co-Investigator(s): JP Leider, PhD; Katie Sellers, DrPH; Brian Castrucci, MA; Kiran Bharthapudi, PhD; & Rivka Liss-Levinson, PhD

Background: Workforce development is a critical area of public health systems and services research. Yet there is very little research that emphasizes the interests, needs, and challenges of public health workers. In partnership with the de Beaumont Foundation, ASTHO conducted a nationally representative survey of governmental health agency workers among state health departments and local health departments in selected states.

Research Objective: The objectives of this project were to inform future investments in workforce development, establish a baseline of key workforce development issues in this country, and to explore workforce attitudes, morale, and climate.

Data Sets and Sources: Data for this project came from the 2014 Public Health Workforce Interests and Needs Survey. The survey was fielded from September to December of 2014.

Study Design: The project grew out of a consensus building process that included representatives from a broad array of public health programs and identified the top issues facing the public health workforce. The PH WINS survey instrument was created with the advice of an expert panel, composed of workforce research and survey design experts. Drafts of the instrument were then pretested and adjusted according to feedback. All 50 states were invited to participate in PH WINS. State health agencies (SHAs) were given the option to survey a nationally representative portion of their staff, a large sample of staff to compensate for a potentially low response rate, or to conduct a census of SHA staff. We used a stratified sampling method based on geographic region, state/local governance, and population. The final dataset was weighted and post-stratified to account for non-response.

Analysis: Descriptive statistics were calculated on the preliminary PH WINS dataset. Descriptive results on the survey responses, workplace environment, workforce priorities, perspectives on national trends, and demographics will be finalized for the 2015 Keeneland Conference.

Principal Findings: Approximately 20,000 surveys were completed by public health workers from 37 states, 14 urban cities, and over 50 local health departments. Survey respondents were 77% (12,734) female and 80% white non-Hispanic (12,988). The mean age was 48.4 years. 58% (9,732) of respondents work in non-supervisory roles. On average, respondents had been in their current position for 7 years. 25% (3,999) plan to retire before 2020. Preliminary results indicated that 80% (6,904) of individuals were satisfied or very satisfied with their job. The “desire to make a difference” and “the opportunity to use my skills” were the most highly rated reasons for individuals to have entered the field of public health.

Conclusions: PH WINS assessed workforce knowledge, skills, and attitudes related to challenges that will face the workforce over the next 3-5 years. PH WINS collected worker perspectives on national trends such as quality improvement, health impact assessments, and electronic health records. In addition, the survey captured aspects of the workplace environment such as morale, culture of learning, and worker empowerment, as well as demographic characteristics of individuals.

Implications: PH WINS is a rich data source for exploring job satisfaction, workforce priorities, perspectives and demographic characteristics of the public health workforce.

SESSION 1D: Public Health Workforce Interests and Needs Survey (PH WINS)-Tuesday, April 21, 2015, from 2:00 to 3:30 pm

Katie Sellers, DrPH, CPH

How Satisfied Are Public Health Workers? A National Perspective on Workforce Morale

Co-Investigator(s): Brian Castrucci, MA; Elizabeth Harper, DrPH; Kiran Bharthapudi, PhD; Rivka Liss-Levinson, PhD; & JP Leider, PhD

Background: The field of public health faces multiple challenges in its efforts to recruit and retain a robust workforce. Public health departments offer salaries that are lower than the private sector, and government bureaucracy can be a deterrent for those seeking to make a difference.

Research Objective: The objective of this research is to explore the relationship between general employee satisfaction and specific characteristics of the job and the health agency, and make recommendations regarding what health agencies can do to support recruitment and retention.

Data Sets and Data Sources: The Public Health Workforce Interests and Needs Survey (PH WINS) is the first, nationally representative survey of governmental public health workers at the state level. With over 20,000 responses from state and local public health workers, this dataset contains rich information on employee satisfaction (including the well-validated job-in-general scale), aspects of a culture of learning, employee reasons for entering public health, and demographic characteristics.

Study Design: PH WINS was administered as a cross-sectional, online survey in September-December 2014. The survey was emailed to either a sample or a census of state health agency employees in 37 participating states, depending on the state's preference. Local health department employees were also surveyed in 14 participating large city health departments and in local health departments throughout 7 states that participated in a pilot test of PH WINS at the local level. Weights were applied to the dataset to account for the complex sampling design.

Analysis: The data analysis will include frequencies, bivariate correlations, and multiple regression to explore the relationships between employee satisfaction, characteristics of the health department, reasons for entering public health, and demographics.

Principal Findings and Conclusions: Principal findings are expected to highlight which characteristics of a health department are most closely associated with employee satisfaction, which motivations for entering public health are most closely associated with satisfaction in the job, and how these findings vary by demographic characteristics. Demographic variables of interest include age, race, gender, and education.

Implications for Public Health Practice and Policy: The implications for public health practice and policy are that health departments should cultivate those health department characteristics that are associated with employee satisfaction. For example, if the analysis finds that employees in agencies with a stronger culture of learning are more satisfied, agencies should work to strengthen the aspects of a culture of learning measured in the survey.

SESSION 1D: *Public Health Workforce Interests and Needs Survey (PH WINS)-Tuesday, April 21, 2015, from 2:00 to 3:30 pm*

Jonathon Leider, PhD

What's a Good Salary in Public Health? A Cross-section of 18,500 State Public Health Workers Salary and Wages in 2014

Co-Investigator(s): Brian Castrucci, MA; Rivka Liss-Levinson, PhD; Katie Sellers, DrPH, MPH; Elizabeth Harper, DrPH; & Kiran Bharthapudi, PhD

Background: The potential for earnings and a livable wage has been shown to be universally important to the recruitment and retention of employees in the United States. In public health and other public sector jobs, dissatisfaction with earnings has been shown to be correlated with higher rates of job dissatisfaction. The recently-fielded Public Health Workforce Interests and Needs Survey (PH WINS) provides a unique opportunity to characterize salary and wages earned by the public health workforce in the United States at the state and local levels.

Research Objective: Conduct descriptive statistics for the earnings of public health employees in the United States, examine associations between earnings and job satisfaction, and examine the associations between demographic characteristics, workplace characteristics, position, educational attainment and total earnings.

Data Sets and Sources: Data come from the 2014 fielding of PH WINS, a survey of public health workers at the state health agency level.

Study Design: One part of PH WINS was fielded as a nationally-representative frame of permanent employees working in state health agency central offices. Staff were sampled from state health agencies on a stratified (regional) basis. Appropriate weights and post-stratification was conducted to account for non-response.

Analysis: Descriptive statistics are presented. Bivariate comparisons were conducted using Student's t-test and Tukey's test for multiple comparisons of means. Additionally, we conducted a multi-level, mixed effects linear regression with random effects at the state level for state health agency (SHA) staff. Independent variables included gender, time in public health, educational attainment, race/ethnicity, position, with random effects assigned at the state level.

Principal Findings: Approximately 18,500 public health staff responded to the PH WINS survey. On average, full-time staff earned between \$45,000 and \$55,000. Among SHA employees, 20% of staff earned more than \$75,000. Among employees who were somewhat or extremely dissatisfied with their job, 65% were somewhat or extremely dissatisfied with their pay. Comparatively, 35% of employees who felt neutral or positively about their job were somewhat or extremely dissatisfied with their pay. Preliminary results from a mixed-effects model showed those with a bachelor's degree earned approximately \$5,500 more on average than those without a college education (95% CI \$4,686 – \$6,403), a masters degree yielded \$9,497 more on average (\$8,131-\$10,862) and a doctoral degree over \$17,000 more on average compared to those without a college education, all else equal (\$15,707-\$20,114). After accounting for other covariates, including education, experience, and position type, women earned about \$1,700 less than men (\$703-\$2,686).

Conclusions: After accounting for state and regional effects on salary, education, experience, supervisory status, and gender all had meaningful relationships with salary and wages. This project and other research show a multi-factorial, complex relationship between pay satisfaction and job satisfaction. Further research is needed to identify more modifiable factors associated with earnings differentials, and to map state and regional variability for earnings among similar job types.

Implications: Education and supervisor status were highly correlated with greater earnings, and state-level variation in earnings were significant.

SESSION 1D: Public Health Workforce Interests and Needs Survey (PH WINS)-Tuesday, April 21, 2015, from 2:00 to 3:30 pm

Rivka Liss-Levinson, PhD

Loving and Leaving Public Health: State Health Agency Workers' Reasons for Joining and Departing from the Public Health Workforce

Co-Investigator(s): Kiran Bharthapudi, PhD; Katie Sellers, DrPH, CPH; JP Leider, PhD; Elizabeth Harper, DrPH; & Brian Castrucci, MA

Background: Recent research in public health workforce development has primarily focused on the enumeration and job classification of state health agency workers. The ability to count the workforce, while an important task, does not indicate why individuals join and leave the public health workforce. These are key factors in the recruitment and retention of a talented and diverse workforce of sufficient size and capabilities.

Research Objective: The goal of the current study was to examine the factors that influenced state health agency workers' original decision to join the public health workforce, their intentions to leave their current job, and demographic and job characteristics that are associated with both.

Data Sets and Sources: The data source for this study is the Public Health Workforce Interests and Needs Survey (PH WINS), a web-based survey distributed to a nationally representative sample of state health agency workers and a sample of local health department workers in the fall of 2014.

Study Design: PH WINS was completed by a nationally representative sample of state health agency workers and a sample of local health department workers. The study is cross-sectional.

Analysis: Descriptive statistics were calculated to determine respondents' reasons for entering and leaving the public health workforce. The relationships between these factors and demographic characteristics (gender, age, race/ethnicity, region, degrees earned) and job characteristics (primary program area, salary, supervisory status, and tenure in current position, at agency, and in public health) were examined using multiple regression analyses.

Principal Findings: Overall, the most common factors that influenced state health agency workers' original decision to join the public health workforce were opportunity to use my skills, desire to make a difference, and importance of public health. The most frequently endorsed reasons for intentions to leave the public health workforce in the next year were retiring, taking another governmental job (in public health), and taking another governmental job (not in public health). Multiple regression analyses revealed multiple demographic and job characteristics to be significant predictors of original decision to join public health workforce and intentions to leave public health in the next year.

Conclusions: By identifying reasons why state health agency workers originally decided to enter into public health, their intentions to leave their job, and demographic and job characteristics associated with each, state health agencies can improve their recruitment and retention efforts in state public health.

Implications for Public Health Practice and Policy: PH WINS contributes to the field of PHSSR by providing rare insight into the reasons why state health agency workers join and depart from the public health workforce – from the workers themselves. The results from this study can be used to better understand motivations for entering and leaving the public health workforce, which can in turn guide recruitment and retention efforts at state health agencies.

SESSION 2A: Partnerships & Capacity Building-Wednesday, April 22, 2015, from 9:00 to 10:30 am

SESSION 2-WEDNESDAY, APRIL 22, 2015, 9:00 TO 10:30 AM

SESSION 2A: Partnerships & Capacity Building

Room: Triple Crown I, II, & III

Moderator: Susan Zahner, DrPH, MPH, RN

Presenters:

Rachel Hogg, DrPH, MA

Exploring the Impact of the Public Health System Network on Local Health Department Efficiency

Co-Investigator(s): Glen Mays, PhD, MPH; & JS Butler, PhD

Background: Research around how efficiently Local Health Departments (LHDs) operate and deliver public health services is still an emerging body of work and much less is understood about what external factors impact efficiency. Because public health delivery does occur through the combined actions of multiple organizations in the community, the structure and network of the public health systems may have a relationship with how efficiently local health departments operate.

Research Objective: This analysis seeks to understand the impact local public health system structure and other system characteristics have on how efficiently LHDs across the United States are delivering public health activities.

Study Design: Results from panel stochastic frontier analysis (SFA) to generate local health department efficiency scores were merged with social network analysis (SNA) measures of average public health system degree centrality and density (n=729). Centrality captures the number of relationships that an organization maintains with other organizations in the network and density measures the proportion of total possible relationships that exist between organizations in the network. SFA is an econometric technique that uses an input/output ratio to estimate an ideal production frontier that can be used to generate measures of organization technical efficiency.

Analysis: A multivariate regression model was used to estimate the impact of the SNA measures on the efficiency of public health service delivery. Information on agency and community characteristics serve as controls in the model.

Data Sets and Sources: Inputs for the model consist of full time equivalent (FTE) employee data, lab capacity, and socioeconomic and demographic characteristics from the 1997, 2005, and 2010 waves of the National Association of County and City Health Officials (NACCHO) Profile. The composite output includes measures of public health service availability and perceived service effectiveness from the 1998, 2006, and 2012 waves of the National Longitudinal Survey of Public Health Systems (NLSPHS) and population served size. The NLSPHS follows a nationally-representative cohort of local public health systems over time (n=397), profiling the availability of 20 core public health services within their jurisdictions.

Principal Findings: Technical efficiency ranges from a low of 1.5%, to a high of 88%. The average among LHDs is 0.50, meaning that the typical LHD in our sample operates with 50% inefficiency. Multivariate regression found a positive curvilinear association between public health system average degree centrality and density ($p<0.001$), with gains in efficiency decreasing after reaching a threshold.

Conclusions: Local health department efficiency is positively impacted by increasing levels of overall network centrality and density, although evidence does suggest returns to scale exist.

Implications for Public Health Practice and Policy: Strong local public health system network structures may have a positive impact on the level of LHD efficiency by bringing more system partners into local public health and increasing the number of activities in which individual organizations participate. However, economies of scale exist with efficiency eventually decreasing. This may suggest that less efficient information sharing and problems with coordinating a large number of partners and organizations impacts the service production process.

SESSION 2A: Partnerships & Capacity Building-Wednesday, April 22, 2015, from 9:00 to 10:30 am

J. Mac McCullough, PhD, MPH

Patterns and Correlates of Public Health Informatics Capacity Among Local Health Departments: An Empirical Typology

Co-Investigator(s): Kate Goodin, MPH

Background: Public health informatics and information systems have long been cited as a way to strengthen the work of public health departments. Yet little is known about the nationwide patterns in the use of public health informatics systems by local health departments (LHDs). For example, it is not known whether LHDs tend to possess informatics capacity across a broad range of information functionalities or for a narrower range of specific systems.

Research Objective: This study created a novel, empirically-derived typology of LHD informatics capacities. This typology was then used to examine patterns and correlates of the presence of public health informatics functionalities within LHDs across the United States.

Data Sets and Sources: Data came from the 2013 National Association of County and City Health Officials Profile (NACCHO) survey. Data were available for a total of 459 LHDs

Study Design: 2013 NACCHO Profile survey data were used in this cross-sectional study of LHD informatics capacities.

Analysis: An empirical typology was created through cluster analysis of six public health informatics functionalities: immunization registry, electronic disease registry, electronic lab reporting, electronic health records, health information exchange, and electronic syndromic surveillance system. Three-categories of usage emerged (Low, Mid, High). LHD financial, workforce, organization, governance, and leadership characteristics, and types of services provided were explored across categories.

Principal Findings: According to our empirical typology, LHDs are clustered in three categories of informatics usage: Low (24.4%), Mid (20.4%), and High (55.6%). The LHDs with the lowest level of informatics usage had significantly lower levels of usage than high-capacity LHDs for all six functionalities assessed. Mid-informatics capacity LHDs had usage levels equivalent to high-capacity LHDs for the three most common functionalities and equivalent to low-capacity LHDs for the three least common functionalities. Informatics capacity was positively associated with service provision, especially for population-focused services.

Conclusions: Informatics capacity is clustered within LHDs. Provision of population-focused services are highly correlated with higher informatics capacity. Increasing LHD informatics capacity may require LHDs with low levels of informatics capacity to adopt a range of functionalities, even taking into account their narrower service portfolio. LHDs with mid-level informatics capacity may need specialized support in enhancing capacity for less common technologies.

Implications: National patterns in the use of public health informatics have been poorly understood to date. This study's empirically-derived typology represents a novel conceptualization of department-wide informatics capacity. Our findings suggest two broad approaches to strengthen informatics capacity on a national level. First, LHDs with low informatics capacity may need broad support or technical assistance, with special consideration for how these LHDs can maximize the value of informatics to their work and their communities, given their lower levels of service provision. Second, for mid-level informatics capacity LHDs, strategies to promote adoption of less common technologies (e.g., electronic health records or health information exchange) may be most beneficial. These departments already have strong capacity for the more common informatics capacities, but targeted work is likely to be more beneficial than broad-based approaches. Consideration to state-level factors may be especially important for these LHDs.

Huabin Luo, PhD

Factors Driving Local Health Department's Collaboration with Other Organizations in the Provision of Personal Healthcare Services

Co-Investigators: Nancy Winterbauer, PhD; Ashley Tucker, MPH; & Gulzar Shah, PhD

Background: Recent work has highlighted the necessity of integrating primary care services and public health to improve quality and reduce the cost of healthcare.

Research Objectives: To describe levels of partnership between local health departments (LHD) and other organizations in the community in the provision of personal healthcare services; and to assess LHD organizational characteristics and community factors that contribute to partnerships.

Data Sets and Sources: Data were drawn from the 2013 NACCHO Profile Study (Module 1) and the Area Health Resource File. A total of 490 LHDs responded to Module 1, where LHDs were asked to describe the level of partnership for selected programs including three personal healthcare services—Maternal and Child Health (MCH), communicable/infectious disease control, and chronic disease prevention. The five levels of partnership were measured on an ordinal level from “not involved”, “networking”, “coordinating”, “cooperating”, to “collaborating”, with “collaborating” as the highest level of partnership. The level of partnership in these three personal healthcare services were the outcomes examined in this analysis. Covariates included both LHD organizational and community factors.

Study Design: This is a cross-sectional study, based on secondary data from multiple sources, linked at the LHD as a unit of observation.

Analysis: Three ordinal logistic regression models were run to assess factors associated with higher levels of partnership in the three personal healthcare programs. Data analyses were conducted using Stata 13 SVY procedures to account for the Profile Study's survey design.

Principal Findings: Overall, proportions of LHDs at the five levels of partnership—not involved, networking, coordinating, cooperating, and collaborating—for MCH were 11.8%, 12.4%, 28.3%, 24.9%, and 22.6%; for infectious disease control were 8.1%, 3.9%, 27.6%, 31.8%, and 28.9%; for chronic disease prevention were 10.4%, 14.2%, 37.7%, 21.2%, and 16.5%, respectively. The proportion of LHDs engaged in collaboration, the highest level of partnership, increased with LHD jurisdiction population size. For MCH, 14.1% of LHDs with $\geq 500,000$ people reported collaboration ($p=0.001$). Ordinal logistic regression model results indicated that LHDs having a public health physician on staff were more likely to have engaged in higher levels of partnership in MCH ($AOR=2.40$, $p<0.001$), and in chronic disease prevention ($AOR=2.57$, $p<0.001$). Completion of a community health assessment was associated with higher levels of partnership in MCH ($AOR=2.98$, $p=0.01$), and in chronic disease prevention ($AOR=4.57$, $p=0.03$). Higher per capita expenditure was also associated with higher levels of partnership in MCH ($AOR=1.86$, $p<0.001$), and in chronic disease prevention ($AOR=1.40$, $p=0.03$).

Conclusion: Level of partnership varied across LHDs of different jurisdiction population sizes. And the level of partnership was highest for infectious disease control, and the lowest in chronic disease prevention.

Implications for Public Health Practice and Policy: Factors that might promote LHD's collaboration in the provision of personal health care services include having a public health physician on staff, higher per capita expenditure, and conducting a community health assessment.

SESSION 2A: Partnerships & Capacity Building-Wednesday, April 22, 2015, from 9:00 to 10:30 am

Danielle Varda, PhD

Leveraging Resources in Cross Sector Collaboration: The Role That Nonprofits Play in Public Health Systems

Co-Investigator(s): Rachel Hogg, DrPH, MA; & Carrie Chapman

Background: As demand for public health activities increases, public health agencies often turn to collaborative partnerships in order to relieve scarce resource burdens and achieve a broader range of outcomes than a single organization could facilitate independently. The transition to collaborative arrangements, a priority area in PHSSR, involving public, private, and nonprofit sector organizations poses unique challenges for organizations involved in the provision of public health activities. Resource contributions and mission objectives vary among partner agencies, and may affect the outcomes a collaborative seeks to achieve. Previous research has identified nonprofit organizations as a major contributor to public health activities, however very little empirical work has been done to evaluate the contributions these type of organizations typically provide.

Research Objective: The analysis evaluates sector-based resource contributions and mission alignment in 170 public health networks to better understand the value that nonprofits bring to the public health system, and how the challenges of bringing diverse partners together may be overcome by practitioners in the public health community when their activities are informed by data.

Datasets and Sources: Data for this analysis comes from the PARTNER (Program to Analyze, Record, and Track Networks to Enhance Relationships, www.partnerstool.net) dataset. A sample of 170 public health collaboratives from around the US were selected and analyzed based on a set of common criteria.

Study Design: This study is a secondary analysis of organizational level and whole network data.

Analysis: Organizational level data were analyzed using one-way ANOVA tests to determine if significant differences in responses existed across sectors. Next, weighted least squares regression models determine how sector-based differences affect the number of outcomes a collaborative is able to achieve and agreement among collaborative members regarding the most important outcome.

Principal Findings: The findings indicate that significant differences in resource contributions, perceptions of mission alignment, and the value of mission adherence to collaborative success exist across sectors. Compared to public and private organizations, nonprofit organizations were found to bring a greater number and diversity of resources to public health collaboratives, as well as being perceived by their public and private partners as having the strongest support of the collaborative's mission.

Conclusions: This study suggests that nonprofits, while contributing fewer financial resources than public organizations, are more likely to contribute additional resources. In particular, a greater number of nonprofits contributed volunteers, feedback, expertise, community connections/networking, and advocacy than either public or private organizations. Previous research indicates a high need for these resources in collaborative partnership, and nonprofits may be a more frequent source of their provision. Additionally, significant differences in perceptions of mission alignment indicate the need to develop innovative strategies aligning collaborative objectives.

Implications: While benefits exist when engaging in collaborative partnerships in public health, challenges inevitably arise when organizations work across sectors. The findings from this study have both theoretic and practical implications. As public health service delivery increasingly relies on collaborative arrangements, it is critical to understand what practical challenges these collaboratives face, and to identify techniques for effectively managing intersectoral partnerships.

SESSION 2B: Quality Improvement & Accreditation-Wednesday, April 22, 2015, from 9:00 to 10:30 am

SESSION 2B: Quality Improvement & Accreditation

Room: Blackberry Lilly

Moderator: Nikki Rider, ScD, MPP

Presenters:

Cassandra Martin Frazier, MPH, CHES

Improving the Practice and Performance of Public Health Departments: Results from the Evaluation of CDC's National Public Health Improvement Initiative

Co-Investigator(s): Anita McLees, MPH, MA; Nikki Rider, ScD, MPP; Saira Nawaz, PhD, MPH; Laura Hsu, DrPH, MPH; Sarah McKasson, MPH; & Andrea Young, PhD

Background: From 2010 – 2014, the Centers for Disease Control and Prevention (CDC) implemented the National Public Health Improvement Initiative (NPHII). NPHII's objectives were to (1) increase readiness for public health accreditation, (2) improve efficiency and/or effectiveness through quality improvement (QI), and (3) increase performance management capacity of public health agencies. Supported by the Prevention and Public Health Fund of the Affordable Care Act, the CDC funded 73 state, territorial, local and tribal (STLT) public health agencies.

Research Objective: The NPHII evaluation sought to determine the extent to which the initiative supported improved public health practice and performance by examining whether awardees met the initiative's objectives. The evaluation also measured reach of support to other public health organizations for QI, performance management, and/or accreditation readiness.

Data Sets and Sources: Self-reported data were collected from all awardees using two data sources: annual surveys and progress reports. Four rounds of the survey were conducted between March 2011 and January 2014 to measure progress in performance management capacity. Progress reports provided data on the Public Health Accreditation Board (PHAB) prerequisites, QI initiatives and infrastructure for performance improvement. These data were collected semi-annually each initiative year. There was a 100% completion rate for each round of the surveys and progress reports.

Study Design: Non-experimental evaluation using a multi-strand, sequential mixed-method design.

Analysis: Descriptive statistics and cross-time analysis were used to determine status against NPHII objectives, and comparison analysis used to determine differences among STLTs.

Principal Findings: As of April 2014, 81% of awardees completed one or more PHAB prerequisites; 71% completed a health assessment, 53% completed a health improvement plan, and 69% completed an organizational strategic plan. Forty-eight percent of awardees completed all three prerequisites. Additionally, 82% of awardees completed an organizational self-assessment against the PHAB Standards and Measures v.1.0; 58% of awardees reported closing gaps and documented progress in achieving standards during the last two years of NPHII. The majority of awardees (89%) completed at least one QI initiative. Ninety-five percent of these awardees demonstrated increased efficiencies and/or effectiveness. The percent of awardees that established all four NPHII-required components of an organization-wide performance management system increased from 10% at baseline to 32%. During the final year, half of the awardees (51%) used NPHII funds to support NPHII-related activities by other health organizations. Over 160 organizations received mini-grants from awardees, and nearly 800 organizations received other types of support, such as training and technical assistance.

Conclusions: NPHII awardees increased the efficiency and effectiveness of their program-specific or agency-wide operations and services, and improved their readiness for PHAB accreditation. Some progress was made toward increasing performance management capacity, specifically establishing organization-wide performance management systems.

Implications for Public Health Practice and Policy: NPHII aimed to improve accountability, effectiveness and efficiency of public health services and programs as a means to improve the quality of the public health system. The evaluation findings show the benefit of and need for continued systematic and comprehensive approaches to building readiness for accreditation, QI and performance management within public health agencies.

SESSION 2B: Quality Improvement & Accreditation-Wednesday, April 22, 2015, from 9:00 to 10:30 am

Kate Beatty, PhD, MPH

Accreditation Seeking Decisions in Local Health Departments

Co-Investigator(s): Tyler Carpenter, BS; Paul Erwin, DrPH; & Ross Brownson, PhD

Background: Accreditation of local health departments (LHDs) has been identified as a crucial strategy for strengthening the public health infrastructure.

Research Objective: To identify the role of organizational and structural factors on accreditation-seeking decisions of LHDs. Of particular interest is the effect of rurality on the likelihood of seeking accreditation through the Public Health Accreditation Board (PHAB).

Data Sets and Sources: Data were obtained from the NACCHO 2013 National Profile of Local Health Departments Study (2013 Profile Study). The 2013 Profile Study includes a core questionnaire (core,) that was sent to all LHDs, and two modules, sent to a sample. Variables were selected from the core and module one for this project. LHDs were coded as “urban”, “micropolitan”, or “rural” based on Rural/Urban Commuting Area codes for the zip code of the LHD address. “Micropolitan” includes census tracts with towns of between 10,000 and 49,999 population and census tracts tied to these towns through commuting. “Rural” includes census tracts with small towns of fewer than 10,000 population, tracts tied to small towns, and isolated census tracts. Both “micropolitan” and “rural” categories are considered rural by the Federal Office of Rural Health Policy.

Study Design: Cross-sectional.

Analysis: Binary logistic regression analysis was conducted to predict PHAB accreditation decision. The variable for PHAB accreditation decision was created from the 2013 Profile Study question, “Which of the following best describes your LHD with respect to participation in the PHAB’s accreditation program for LHDs?” LHDs that selected “My LHD has submitted an application for accreditation” or “My LHD has submitted a statement of Intent” were coded as “Seeking PHAB Accreditation.” LHDs that selected “My LHD has decided NOT to apply for accreditation” or “The state health agency is pursuing accreditation on behalf of my LHD” were coded as “Not Seeking PHAB Accreditation.” Predictors included variables related to rurality, governance, funding, and workforce.

Findings: From a sample of 448, approximately 6% of LHDs surveyed had either submitted their letter of intent or full accreditation application. Over two-thirds were either not seeking accreditation or deferring to the state agency. LHDs located in urban communities were 30.6 times (95% CI: 10.1, 93.2) more likely to seek accreditation compared to rural LHDs. LHDs with a local board of health were 3.5 times (95% CI: 1.6, 7.7) more likely to seek accreditation (controlling for rurality). Additionally, employing an epidemiologist (aOR=2.4, 95% CI: 1.2, 4.9), having a strategic plan (aOR=14.7, 95% CI: 6.7, 32.2), and higher per capita revenue (aOR=1.02, 95% CI: 1.01, 1.02) were associated with higher likelihood of seeking PHAB accreditation.

Conclusions: Specific geographic, governance, leadership, and workforce factors were associated with intention to seek accreditation.

Implications: Rural LHDs are less likely to seek accreditation. This lower likelihood of seeking accreditation likely relates to a myriad of challenges (e.g., lower levels of staffing and funding). Simultaneously, rural populations experience health disparities related to risky health behaviors, health outcomes, and access to medical care. Through accreditation, rural LHDs can become better equipped to meet the needs of their communities.

Lowrie Ward, MPH, CPH

The Benefits of National Accreditation in Local Health Departments

Background: In 2011, PHAB launched its voluntary national accreditation program for public health departments with the goal of improving and protecting the public's health by advancing performance improvement. As of October 2014, 54 health departments had earned the designation of accredited, which means the agencies satisfied a set of practice-focused and evidence-based standards.

Research Objective: In April 2014, the National Association of County and City Health Officials (NACCHO) conducted a survey of accredited local health departments (LHDs). The objectives were to develop a preliminary list of benefits from pursuing and achieving accreditation, to determine the technical assistance needs of accredited LHDs, and to verify anecdotal information from the field.

Data Sets and Sources: When the survey was fielded, there were 29 accredited LHDs. NACCHO sent the survey to a total of 52 individuals at these 29 agencies, including 28 local health officials (LHOs) and 24 accreditation coordinators (ACs). Thirty-seven individuals (16 LHOs and 21 ACs) from 26 LHDs completed the survey, resulting in an individual response rate of 71% and an agency response rate of 90%.

Study Design: The survey included questions about several topics, but principally focused on the benefits of the accreditation process and status. Prior to survey distribution, NACCHO compiled a list of possible benefits related to accreditation based on staff interactions with LHDs pursuing accreditation. Respondents indicated if they had experienced each benefit significantly, slightly, or not at all. The data were linked to some variables (e.g., total number of employees) in NACCHO's 2013 National Profile of Local Health Departments study.

Analysis: Survey responses were analysed to determine which benefits were experienced or not experienced. Comparisons were made based on job role (AC vs. LHO) and based on health department size.

Principal Findings: In the category of staff knowledge and understanding, benefits most frequently reported as experienced significantly are movement toward a culture of quality improvement (QI) among staff (87%), increased peer-learning opportunities for staff involved with accreditation (76%), and increased staff understanding of QI (73%). The most frequently significantly experienced benefit related to external support is increased support from governing entity (43%). Relatively smaller proportions of participants reported experiencing significant benefits in the funding category, with additional internal funding allocated to performance improvement as the most frequently noted (35%). The proportion of reported benefits related to organizational structure and capabilities that were significantly experienced varied substantially, ranging from 11% for change in clinical services offered to 81% for improved agency processes.

Conclusions and Implications for Public Health Practice and Policy: While this survey has several limitations, the results indicate that LHDs that achieve accreditation find both the process and the status beneficial. The most common benefits relate to staff knowledge and satisfaction. The public health workforce is changing, and LHDs must find ways to retain and develop employees. Accreditation preparation can be a valuable tool for staff engagement and appreciation across the country.

SESSION 2B: Quality Improvement & Accreditation-Wednesday, April 22, 2015, from 9:00 to 10:30 am

Valerie A. Yeager, DrPH

A Longitudinal Analysis of National Voluntary Public Health Accreditation: Are More Local Health Departments Intending to Take Part?

Co-Investigator(s): Jiali Ye, PhD; Jessica Kronstadt, MPP; Nathalie Robin, MPH; Carolyn J. Leep, MPH, MS; & Leslie M. Beitsch, MD, JD

Background: As a tangible demonstration of how important accreditation may be for improving organizational performance of governmental public health, the Public Health Accreditation Board (PHAB) has been tasked to ensure that, by the end of 2015, at least 60% of the US population is served by accredited health departments. Despite the likelihood of reaching this milestone, the majority of local health departments (LHDs) have not initiated the accreditation process. Approximately 10% of LHDs had initiated the process as of July 2014. Thus, it is important to continue to explore whether more LHDs are queuing up and if interest in accreditation has changed over time, specifically during the period spanning the first year of accreditation.

Research Objective: This paper examines LHD participation and intentions to participate in national voluntary accreditation and reasons for not seeking accreditation. Specifically, it compares the results of national surveys among LHDs in 2010, 2013, and 2014.

Data Sets and Sources: Data from the 2014 Forces of Change Survey and the 2010 and 2013 NACCHO Profile studies were used.

Study Design: Longitudinal cohort study.

Analysis: Proportion analyses were conducted to assess changes across time periods. Multivariate analyses examined the LHDs' level of engagement in PHAB accreditation in relation to the main independent variable of state health department (SHD) participation in accreditation controlling for LHD governance and population size.

Principal Findings: 2014 data indicated that 1% of LHDs achieved accreditation and 11% had submitted an application or a statement of intent, compared to 6% of LHDs that submitted an application or a statement of intent in 2013. The percent of LHDs that indicated they planned to apply for accreditation but had not submitted a statement of intent declined from 27% in 2013 to 22% in 2014. In multivariate models controlling for governance category and jurisdiction population size, LHDs in states where the state health department participated in e-PHAB had higher odds of being favorably inclined toward accreditation than those located in states where the SHD was not in the e-PHAB system ($OR=2.82$, 95% C.I.: 1.81-4.41). Across 2013 and 2014 and across small and large LHDs, the top two reasons for deciding not to apply for accreditation were the time/effort required exceeded the benefits (67%) and fees were too high (46%).

Conclusions: LHDs in accreditation "committed" states, with other independent variables being controlled, are almost three times more likely to be favorably disposed toward seeking accreditation. Health department governance structure and jurisdiction population size are associated with LHD accreditation decisions. The top two reasons LHDs indicated for not proceeding with accreditation were time/effort exceed benefit and fees perceived as too high.

Implications for Public Health Practice and Policy: A major contribution of this research is delineating the key role SHDs play as mediators influencing LHD attitudes toward accreditation. LHDs with state or shared governance systems were over nine times more likely to be favorably inclined toward accreditation. In addition, the percent of locally governed LHDs that were favorably inclined declined significantly from 2010 to 2014. Perhaps LHDs with state/shared governance have economies of scale (e.g. resources to cover fees and provide capacity) useful in preparing for accreditation – something that LHDs with local governance may not have. This phenomenon may provide some justification for LHDs with local governance structures to consider accreditation through the multijurisdictional option.

SESSION 2C: Finance II-Wednesday, April 22, 2015, from 9:00 to 10:30 am

SESSION 2C: Finance II

Room: Crimson Clover

Moderator: C.B. Mamaril, PhD**Presenters:****William Livingood, PhD*****Using Cost Analysis to Identify Cost Saving Strategies by Local Health Departments in Delivering STI Services***

Co-Investigator(s): Bonita Sorensen, MD, MBA; & Lori Bilello, PhD, MBA (presenting)

Background: Sexually transmitted diseases (STD) continue to be a major health problem in the U.S., particularly in Florida. The costs of delivering services across counties in Florida vary extensively across County Health Departments (CHD), even in a state with centralized policy and administrative services for local health departments.

Research Objective: To identify the unit costs of delivering STD prevention/control services, and examine the effects of variations in delivery system characteristics on costs.

Data Sets and Sources: CHD STD Expenditure Data - Florida Financial Information Reporting System (FIRS) Gonorrhea, Chlamydia, and Syphilis counts and rates - Florida Bureau of STD Prevention and Control Demographic data – US Census American Community Survey CHD STD service delivery practices – electronic survey tool

Study Design: This mixed method study combined secondary data (2012) to identify variations in costs of services for all Florida counties, in depth interviews to develop plausible explanations for the variations, and survey data to examine the presence of factors causing the variations in STD services expenditures. The survey tool collected data from all 67 CHDs and examined how STD screening, investigation and partner notification were performed in each county.

Analysis: General linear regression models were performed using the best subset selection method based on the R-square statistic to assess the best predictive model. Models examined the effect of county level factors such as total population, STD rate/100,000, population density/square mile, population with income below 200% FPL, total CHD revenue/capita, CHD county tax revenue/capita, percent of population 24 years old and under, and percent black/other population on CHD STD expenditure per case. Service delivery factors examined include cross jurisdictional sharing, types of staff providing services, prioritization of patient populations and partnering with community organizations.

Principal Findings: Wide variability in STD rates and cost for STD services are found across the state. Two variables were found to be significant in the model that impacted the cost per case: CHD county tax revenue per capita ($\beta=15.03$, $p=.023$) and partnering with community organizations ($\beta=-78.59$, $p=.087$). Other variations in practices potentially impacting cost were so extensive that few trends were statistically significant using regression analysis.

Conclusions: The availability of local tax funding for CHDs is statistically linked to higher CHD STD expenditure per case. Those CHDs that partnered with community organizations to perform screening and treatment saw a reduction in the cost per STD case. Statistically significant differences in costs per services between two variations in practice were observed, such as cross-jurisdictional sharing, but were not present in regression modeling with the relatively small numbers included in this practice.

Implications for Public Health Practice: Revenue sources for STD prevention and control, particularly local tax support, appear to influence how CHDs respond to controlling these diseases. Partnering with community organizations or cross-jurisdiction sharing also appears to reduce costs. Understanding the nature, mutability and impact of variations in expenditures on STD service delivery is critical to improve the effectiveness and efficiency of STD service delivery, and perhaps public health services in general.

SESSION 2C: Finance II-Wednesday, April 22, 2015, from 9:00 to 10:30 am

Kristina Rabarison, DrPH

1-2-3 Pap Intervention: Cost Analysis and Cost-Effectiveness Analysis

Co-Investigator(s): Rui Li, PhD; Connie Bish, PhD; Robin Vanderpool, PhD; Richard Crosby, PhD; & Mehran Massoudi, PhD

Background: Cervical cancer places a substantial economic burden on our healthcare system. The 3-dose human papillomavirus (HPV) vaccine series is a cost-effective intervention to prevent HPV infection and resultant cervical cancer. Despite its efficacy, completion rates are low among females ages 18-26. The 1-2-3 Pap health communication intervention – focused on improving HPV vaccination completion rates among 344 young adult females in rural Kentucky – showed that women who viewed an educational video were 2.44 times more likely to complete the HPV vaccine series than those who did not.

Research Objective: The purpose of this study is to provide practitioners with objective measures and information about program cost, cost-effectiveness, and scalability. We tested the hypothesis that programmatic costs for 1-2-3 Pap would decrease and cost-effectiveness would improve if the program was expanded. **Data Sets and Sources:** Cost and efficacy data are from the Rural Cancer Prevention Center (RCPC)'s budget and expenditure reports, and the 1-2-3 Pap efficacy study.

Study Design: This study used a retrospective study design, using RCPC cost and 1-2-3 Pap efficacy data from September 2010 – December 2012.

Analysis: A cost analysis of the 1-2-3 Pap trial was conducted and cost was assessed for 1-2-3 Pap expansion through a hypothetical adaptation scenario in which the program was expanded to the entire Kentucky River Area Development District (KRADD). A cost-effectiveness analysis (CEA) was conducted to provide insight into program implementation costs and benefits such as healthcare costs avoided from prevention of cervical cancer as a result of the 1-2-3 Pap program, by using a HPV transmission model developed by the Centers for Disease Control and Prevention.

Principal Findings: Our preliminary findings showed that in the adaptation scenario the intervention would cover a thousand more females ages 18-26 and almost four times as many women would complete 3-dose series than in the original efficacy study. 1-2-3 Pap's total cost would decrease from \$988 per 3-dose series completion to \$536. Furthermore, the cost of the video would decrease from \$214 per completed 3-dose series in the efficacy study to \$68 in the rural adaptation scenario. CEA results will be completed by April 13, 2015.

Conclusions: Determination of 1-2-3 Pap program cost is vital for program expansion; results suggest that the cost would reduce substantially if the program was scaled up. The CEA findings will provide further support of the scalability of the 1-2-3 Pap program, if it is found to be cost-effective.

Implications for Public Health Practice and Policy: Considering the substantial annual cost of cervical cancer screening and treatment (\$30,775 to \$52,731 per case in 2010), an estimated \$536 investment per completed vaccine series may be worthwhile. These results: 1) provide economic evidence and an adaptation estimate for other communities that may want to implement the 1-2-3 Pap intervention and 2) provide additional insight into 1-2-3 Pap program implementation costs and benefits.

Adam Atherly, PhD, MA***The Economic Cost of Communicable Disease Surveillance in Colorado***

Co-Investigator(s): Melanie Mason, MS; & Lisa VanRaemdonck, MPH

Background: Although many different national organizations, including the Institute of Medicine, have called for the development of a minimum package of public health benefits, little is known about the cost providing essential population-based public health services. This lack of knowledge results in an inability to make a clear financial case for public health and limits the amount of informed decision-making that can be done by public health leaders. In our project, we identify the economic costs associated with Communicable Disease (CD) Monitoring/ Surveillance in local public health agencies (LPHA). This research project measures the variable and fixed estimated costs of delivering core public health services in Colorado and identifies services and delivery characteristics with economies of scale and scope. We then compare the costs to the number of cases investigated to calculate a cost per case.

Research Objectives The primary objective of this analysis is to estimate the fixed and variable costs associated with communicable disease monitoring by LPHAs in Colorado.

Study Design and Analysis: To estimate the cost of the services, we use a micro-costing approach. Colorado local public health employees engaged in CD work logged their time spent on CD surveillance for two different two-week periods: one in the spring of 2014 and the other in the fall of 2014. Forty-three of the 54 local public health agencies in Colorado participated in the data collection. To calculate marginal costs, we used daily activity logs recording activities during each 15 minute interval of work over a two week time period. Based on this result, we will calculate the per-hour cost of each staff member type, including both wages and benefits. We also collected data on indirect costs. Methodologically, we estimate a statistical cost function using cost (from the microcosting data) as the dependent variable and key dependent variable as the number of reported investigable diseases during the matched two week period. We also controlled for other independent variables, including case mix, characteristics of the agency, the community and services provided.

Principal Findings: Mean time spent per day on CD surveillance was 205 minutes per day, while median time was 58 minutes. Activities with the highest mean time were Routine Investigation (61 minutes), checking the CD database (47 minutes) and Communication (37 minutes). Activities with the highest median time were checking the CD database (27 minutes), Communication (14 minutes) and Routine Investigation (12 minutes). The differences between mean and median time reflect differences between large and small agencies. Seventeen counties had no cases assigned during the logging period, but spent a mean of 71 minutes on CD surveillance. Regression models show strong non-linearities in cases, with both Cases ($b=567.7$, $p<.001$) and Cases Squared ($b= -22.7$, $p<.001$) strongly statistically significant. Despite strong, practice-based hypotheses, we found no evidence of seasonality.

Conclusions and Implications: Agencies took an average of 54 minutes per day to do CD monitoring, regardless of the number of cases. Time per case decreased as cases increased, suggesting economies of scale.

SESSION 2D: Workforce Taxonomy-Wednesday, April 22, 2015, from 9:00 to 10:30 am

SESSION 2D: Workforce Taxonomy

Room: Bluegrass Room I & II

Moderator: Michael Meit, MPH, MA, BC

Presenters:

Angela J. Beck, PhD, MPH

A Taxonomy to Standardize Collection of Public Health Workforce Data

Co-Investigator(s): Matthew L. Boulton, MD, MPH

Background: Characterization of the public health workforce is an important part of a larger effort to assess the U.S. health workforce overall. Developing an accurate assessment of the number and type of workers, their training, certification or educational background, and work setting is essential for public health officials in adapting to the changes demanded by the transformation of our nation's health system while also ensuring policies are in place for maintaining and strengthening health care delivery. Public health workforce researchers have lacked both a standardized workforce terminology and a widely accepted methodology for organizing worker characteristics. The University of Michigan Center of Excellence in Public Health Workforce Studies (UM CEPHS), supported by CDC and HRSA, convened content experts to serve on its Public Health Enumeration Working Group (the Working Group) to develop a public health workforce taxonomy. A taxonomy is a framework that classifies concepts within hierarchical categories to organize it in meaningful ways. A summary of this project was presented at the Keeneland Conference early in its development; the consensus taxonomy was published in November 2014. This presentation describes the taxonomy and discusses the process for refining and developing future iterations.

Research Objective: To develop a public health workforce taxonomy.

Data Sets and Sources: Several data sources informed development of the taxonomy including: profile surveys conducted by the Association of State and Territorial Health Officials and National Association of County and City Health Officials; workforce studies epidemiologists, laboratory workers, public health nurses; and national employment data from the U.S. Office of Personnel Management and Bureau of Labor Statistics. In addition, examples of taxonomic frameworks utilized in medicine and health information were reviewed.

Study Design: UM CEPHS convened regular meetings of the Working Group to develop and refine the taxonomy axes. The Working Group spent approximately 18 months developing the public health workforce taxonomy in an iterative, consensus process.

Analysis: When possible, the taxonomic axes and the categories or subcategories therein were tested using existing workforce data.

Principal Findings: Twelve taxonomy axes were developed: occupational category, workplace setting, employer, education, licensure, certification, job tasks, program area, public health specialization area or expertise, funding source, condition of employment, and demographics. Within each axis, multiple categories more precisely define the characteristics for the worker.

Conclusions: The taxonomy presents a standardized framework for classifying public health workers. It is intended to be flexible in terms of how the axes are used to meet the needs and intent of the researcher or organization using the tool.

Implications for Public Health Practice and Policy: The taxonomy has the potential to bring greater standardization and precision to characterizing public health workers as a necessary step for continuously monitoring the size and composition of the workforce to ensure sufficient capacity to deliver the essential public health services. The taxonomy will continue to evolve as organizations implement it into surveys and recommend ways to modify and improve this tool for more accurate workforce data collection.

Michael Meit, MPH, MA, BS

Analysis of Data Methods and Taxonomies Used to Assess the Public Health Workforce in the U.S.

Co-Investigator(s): Jessica O'Hara, MPP, BA

Background: The University of Michigan Center of Excellence in Public Health Workforce led the creation of the Public Health Workforce Taxonomy for Enumeration, with input from state and local health departments and support from the Centers for Disease Control and Prevention (CDC). The taxonomy consists of 12 axes, each focusing on a different category for describing public health workers. To examine the utility of this taxonomy, the HHS Office of the Assistant Secretary for Planning and Evaluation (ASPE) contracted with NORC at the University of Chicago to conduct the study, "Analysis of Data Methods and Taxonomies Used to Assess the Public Health Workforce in the U.S."

Research Objective: The purpose of the study was to vet the taxonomy in terms of its comprehensiveness, applicability, practicality, and potential as a tool for enumerating the workforce.

Data sets and Sources: Qualitative data were collected during three focus groups -- two with HR and Workforce Development Directors from state health departments, and a third with representatives from Association of State and Territorial Health Officials (ASTHO) affiliated organizations. One HR and Workforce Development Director focus groups discussed the Occupational Category axis of the taxonomy, while the other discussed the Program Area axis. The ASTHO affiliates focus group provided feedback on the taxonomy more broadly, including specific feedback for each of the 12 axes.

Study Design: Methods include an environmental scan of current and past public health enumeration efforts and qualitative data collection through focus groups.

Analysis: The research team conducted qualitative content analysis and coding to identify themes and findings by key topics. Qualitative findings were summarized into a final report.

Principal Findings: Findings show that overall the taxonomy accurately describes the public health workforce; however, many participants provided specific feedback and recommendations in terms of missing categories under each axis. Further, both HR Directors and affiliate representatives were open to incorporating the taxonomy into their current data systems to provide harmonization across data sources, but identified that modifications were needed for adoption to be feasible. For example, participants indicated that many staff would be difficult to categorize because workers fit into multiple categories for several axes due to overlapping job responsibilities. Respondents agreed that guidance (e.g., crosswalks or definitions) would be helpful and necessary to ensure consistency across health departments and organizations.

Conclusions: This study has shown the potential of the taxonomy for harmonizing data collection efforts and for enumerating and describing the public health workforce. Feedback indicated that the 12 axes can be used to thoroughly describe public health workers, and may provide important data to help enumerate the workforce. With some modifications and supplemental materials, the taxonomy could be an effective reference for future data collection, promoting consistency across the field.

Implications for Public Health Policy and Practice: The findings from this study can inform future updates to the taxonomy and provide insight into how the taxonomy can be adopted by public health organizations and researchers to ensure consistent and comparable data to describe and enumerate the public health workforce.

SESSION 2D: Workforce Taxonomy-Wednesday, April 22, 2015, from 9:00 to 10:30 am

Katie Sellers, DrPH

Refining the Workforce Taxonomy: How 22,000 Public Health Employees Responded to the First Use of the Taxonomy

Co-Investigator(s): Angela Beck, PhD, MPH

Background: The University of Michigan Center of Excellence in Public Health Workforce led the creation of the Public Health Workforce Taxonomy for Enumeration, with input from state and local health departments and support from the Centers for Disease Control and Prevention (CDC). The taxonomy consists of 12 axes, each focusing on a different category for describing public health workers. The first use of the taxonomy in workforce research was the Public Health Workforce Interests and Needs Survey (PH WINS), which included eight of the 12 axes.

Research Objective: The goal of this research was to describe the governmental public health workforce at the state and local level in terms of multiple demographic and job-oriented characteristics, and to test the use of the taxonomy in a major workforce study.

Data Sets and Sources: PH WINS is the first, nationally representative survey of governmental public health workers at the state level. With over 22,000 responses from state and local public health workers, this dataset contains rich information on a variety of characteristics of the workforce. Incorporation of the eight axes into the survey questionnaire resulted in 13 multiple-choice questions. Five of these questions included an “other” response option, with an opportunity to specify the correct answer.

Study Design: PH WINS was administered as a cross-sectional, online survey in September-December 2014. The survey was emailed to either a sample or a census of state health agency employees in 37 participating states, depending on the state’s preference. Local health department employees were also surveyed in 14 participating large city health departments and in local health departments throughout 7 states that participated in a pilot test of PH WINS at the local level. Weights were applied to the dataset to account for the complex sampling design.

Analysis: Data analysis for this study consists of descriptive statistics (frequencies, cross-tabs, means and medians) to describe the characteristics of the workforce, as well as qualitative analysis of the comments entered into the survey by respondents. Content analysis will be used to analyze the qualitative data and to assess how well the taxonomy-derived questions performed.

Principal Findings: The principal findings will include information on all eight taxonomy axes included in the questionnaire: demographics (gender, race/ethnicity, age), occupational classification, setting, employer, education, licensure, certification, and program area. This will provide a detailed characterization of the workforce, as well as a number of recommendations for how to refine the taxonomy (such as adding another occupational classification, revising the wording of a program area covered in the taxonomy, etc.).

Conclusions: This study demonstrates the utility of the workforce taxonomy and contributes to its development as a comprehensive and effective tool for harmonized data collection by workforce researchers.

Implications: The field of PHSSR has always lacked a mechanism for standardizing the collection of data on the public health workforce. This study confirms the feasibility of a new tool to accomplish this much-needed standardization.

Janna M. Wisniewski, MHA

Employee Perspectives on Working in Public Health Agencies: A Qualitative Analysis

Co-Investigator(s): Valerie A. Yeager, DrPH

Background: A satisfied, well-trained health workforce is critical for the protection of the nation's health. It is therefore important to understand not only the factors that attract professionals to work in public health, but also to assess employee opinions about working in the public health setting and issues related to retention.

Research Objective: This qualitative study examines the opinions of public health workers in regard to recruitment, workplace experiences, and retention.

Data Sets and Sources: We used data from the Council on Linkages between Academia and Public Health Practice 2010 Survey of Public Health Workers, the largest survey of public health employees to date. Public health employees represented all 50 states with a total of 11,640 respondents. This study specifically examines qualitative responses to an open-ended survey question for which there were approximately 2,400 responses.

Study Design: Cohort study using secondary data analysis

Analysis: Using grounded theory, open-ended responses of public health employees were coded according to their main themes. Primary and secondary themes were recorded along with the general disposition of the primary theme within the opinion (neutral, negative, or positive). Inter rater reliability was tested and recorded.

Findings: Preliminary findings suggest that responses encompass seven main themes with a variety of subthemes. The main themes include salary, benefits, funding, mission and culture change, policy environment, training needs, and workload. Subthemes include educational benefits, salary discrepancies, leadership and management issues, and private versus public working environments. Themes will be mapped and presented along with poignant quotes that exemplify the theme or subtheme.

Conclusions and Implications for Practice and Policy: In general, preliminary findings suggest that respondents are concerned with seven main issues or themes within the public health work environment. This study represents the largest qualitative study of public health employee opinions to date. These findings will be of interest to policy makers and public health leaders making decisions that impact the workforce.

SESSION 3A: Cross-Jurisdictional Sharing-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm

SESSION 3-WEDNESDAY, APRIL 22, 2015, 10:45 AM TO 12:15 PM

SESSION 3A: Cross-Jurisdictional Sharing

Room: Triple Crown I, II, & III

Moderator: Kusuma Madamala, PhD, MPH

Presenters:

Gianfranco Pezzino, MD, MPH

Cross-Jurisdictional Sharing in Public Health: What We Do (and Do Not) Know

Co-Investigator(s): Patrick Libbey; Grace Gorenflo; Barbara Starrett; & Catherine McNorton

Background: The Center for Sharing Public Health Services is a national resource on cross-jurisdictional sharing (CJS) in public health. CJS occurs when public jurisdictions share services and capacities in order to improve their capacity and build economies of scale that allow more effective and efficient operations. The Center builds evidence and produces and disseminates tools, methods and models to assist public health agencies and policymakers as they consider and adopt CJS approaches. The Center, which was founded in 2012, has supported multiple demonstration projects, provided technical assistance, and conducted case studies throughout the country.

Research Objectives: To describe the current status of knowledge about CJS, including successful models and outcomes.

Data Sets And Sources And Study Design: Mixed methods. Qualitative information from 20 demonstration projects that include 75 health departments in 125 political jurisdictions and five case studies. Quantitative information from 1,119 local governments who responded to a survey on public health shared administrative services.

Analysis: Using the qualitative and quantitative information collected, we have identified success factors for CJS initiatives, steps for the implementation of projects, and preliminary outcomes.

Principal Findings: We have identified three groups of factors that can help maximize the probability of success of CJS initiatives: prerequisites, facilitating factors, and project characteristics. Prerequisites that should be in place in every project include clarity of objectives, a balanced approach that attempts to improve both effectiveness and efficiency, and mutual trust. Facilitating factors that should be leveraged if present include success in prior collaborations, a sense of regional identity, and positive interpersonal relationships. Project-specific characteristics that can foster success include senior-level support, strong project management skills, robust change management plans, and effective communication. Preliminary findings suggest that CJS projects can achieve outcomes such as reduced costs, greater productivity, enhanced eligibility for grants, increased range of public health services available, and improved quality of services. The vast majority of policymakers that share back-office public health functions would recommend it to others, and many report improved efficiency of operations and cost savings as a result of CJS activities.

Conclusions: There is growing qualitative and quantitative evidence that CJS models can be successful in improving effectiveness and efficiency in the delivery of public health services.

Implications for Public Health Practice and Policy: CJS models can be successful in improving effectiveness and efficiency in delivering public health services. Policymakers indicate a high level of satisfaction with sharing arrangements. Health officials and policymakers planning or implementing CJS initiatives should carefully consider what success factors they can identify for their projects and should leverage those that are present, while being aware of the potential impact of those that are lacking. Knowledge gaps remain in some areas, such as how to measure changes in effectiveness and efficiency generated by CJS initiatives and how to reproduce sharing models involving local jurisdictions in initiatives that include state or tribal entities.

SESSION 3A: *Cross-Jurisdictional Sharing-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm*

Justin Marlowe, PhD

Calculating and Apportioning Financial Costs of Cross-Jurisdictional Sharing Activities

Co-Investigator(s): Gianfranco Pezzino, MD, MPH

Background: Cross-jurisdictional sharing (CJS) in public health occurs when public jurisdictions share services and capacities. CJS arrangements can produce economies of scale that improve the effectiveness and efficiency of the public health system. Policymakers and public health officials are often interested in the financial impact of CJS arrangements. They are also interested in equitably distributing costs in order to assure tax dollars collected in one jurisdiction don't subsidize services in another.

Research Objectives: To provide a standardized approach to calculate the cost of shared public health services and capacities, to show how policymakers and public health officials can compare that cost to the cost of providing the same service independently, and to advise on how costs of shared services can be distributed equitably.

Data Sets And Sources And Study Design: An estimate of the costs of providing CJS services was obtained from two demonstration projects: a two-county CJS collaboration in New York and a city-county CJS collaboration augmented by data from a previously conducted quick strike study of 20 cases in Ohio. Expert opinion was utilized to develop a common approach to measuring and distributing costs.

Analysis: Expert opinion was used to produce a "primer" describing how to measure and apportion the cost of shared services. Using qualitative and quantitative information from the New York and Ohio demonstration sites, the fiscal impact of the shared service arrangements was calculated.

Principal Findings: Significant cost savings have been realized in both projects. The savings result from achieving economies of scale and sharing key management personnel across multiple jurisdictions. Three fundamental steps were identified that allow a standardized method for calculating the fiscal impact of CJS projects and distributing costs across jurisdictions. The first step is determining the direct and indirect costs of the service to be shared if provided independently by each jurisdiction. Basic accounting concepts such as cost objective, allocation basis, fixed costs, and variable costs have to be kept in mind while performing the cost analysis. The second step involves estimating those same costs if the service is provided under a CJS agreement. The third and final step is deciding how to apportion the cost of the shared service or capacity to each involved jurisdiction. Possible strategies (to be used independently or in combination with each other) include equal share, per capita sharing, cost plus fixed fee, ability to pay, prevalence, weighted formula, and fee for service.

Conclusions: Preliminary evidence suggests that in some circumstances CJS arrangements can lead to significant cost savings. The use of the proposed systematic approach can provide a standardized way to determine the fiscal impact of CJS arrangements and distribute costs associated with them.

Implications for Public Health Practice and Policy: CJS models can be successful in improving the effectiveness and efficiency of public health service delivery. It is important that policymakers and public health officials know the fiscal impact of CJS when making decisions involving its use. It is also important they know how to equitably distribute costs associated with CJS models.

SESSION 3A: Cross-Jurisdictional Sharing-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm

Susan Zahner, DrPH, MPH, RN

Characteristics of Cross-jurisdiction Shared Services Agreements Between Local Health Departments in Wisconsin

Co-Investigator(s): Kusuma Madamala, PhD, MPH; Adam Karlen, BS, RN; & Tracy Mrochek, MPA, BS, RN

Research Objective: To describe characteristics, expected outcomes, extent of implementation, and perceived performance in achieving expected outcomes of a sample of formal cross-jurisdiction shared services agreements obtained from local and tribal health departments in Wisconsin.

Data Sets and Sources: Primary data sources include data extracted from an archival sample of 85 written cross-jurisdiction shared service agreements (CJSSA) collected from local and tribal health departments and from interviews with department leaders (n=43). The CJSSA dataset includes primary purpose, number of partners, timeframe, legal form, program focus, and fiscal arrangements. Local health department characteristics were obtained from the State of Wisconsin Local Public Health Survey (2012).

Study Design: Cross-sectional mixed methods

Analysis: Characteristics of the CJSSA were extracted and described. Organizational characteristics of the health departments engaged in the CJSSA are described. Perceptions on extent of implementation, perceived outcomes, and extent to which expected outcomes are achieved obtained by interview are summarized and described. Benefits, challenges, and recommendations for entering into CJSSA were content coded, summarized, and described.

Principal Findings: Preliminary analyses revealed substantial variation in CJSSA characteristics. Commonly reported incentives to collaborate included obtaining funding, mandates to provide a service, and strengthening public health. Positive results of collaborating included expanding capacity and improving services. Challenges included dealing with complexity and financial constraints. Findings from the full analysis will be presented.

Conclusions: Cross-jurisdiction shared service arrangements are common among local public health departments. Characteristics, motivations, and expected outcomes for the agreements are varied.

Implications for PHSSR: Further analysis is planned to determine what specific CJSSA characteristics are associated with better performance in meeting expected outcomes of the agreements.

SESSION 3B: Data, Electronic Health Records & Capacity Building-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm

SESSION 3B: Data, Electronic Health Records, & Capacity Building

Room: Blackberry Lilly

Moderator: Valerie A. Yeager, DrPH

Presenters:

Jonathon Leider, PhD

Characterizing the Informatics Capacities and Needs of Local Health Departments in a Post-Affordable Care Act Landscape

Co-Investigator(s): Gulzar Shah, PhD; Brian Castrucci, MA; Karmen Williams, MPH; Akrati Gupta, MPH; & James Sprague, MD

Background: With dramatic gains in the proportion of physician offices using Electronic Health Records (EHRs), public health departments are looking at a profound and vast source of information on the health status and health behaviors of the people they serve. While EHRs are arguably the largest “new” source of data, many other types of administrative and other data exchange occur across the nation’s 2,800 health departments. The ability to access and make use of these myriad data sources is not at all uniform.

Research Objective: Characterize informatics capacities and needs of local health departments

Data Sets and Sources: This project draws on interview data from 50 leaders of local health departments across the United States

Study Design: This project employed a key-informant based study design, where 50 leaders from local health departments across the country were interviewed about current practices, capacities, and needs in the realm of public health informatics in fall 2014. Participants were purposively selected by their LHD’s size and informatics uptake based on response to the 2013 Profile from the National Association of County and City Health Officials.

Analysis: Data were coded thematically and independently in batches by two researchers. After each batch of interviews was coded, coding was compared, differences were resolved iteratively, and all interviews were re-coded using the consensus definitions. Qualitative data analysis focused on major drivers of informatics uptake, or lack of uptake. Analysis paid special attention to the notion of modifiable versus non-modifiable characteristics that affected uptake of more sophisticated systems or practices.

Principal Findings: Preliminary results show wide variability in the types of systems LHDs utilize, as well as the availability of formal data collection and management technologies. This appears somewhat to be a function of size, but at least as important from participant perspectives are statutory responsibilities, local county context, and interaction with the state. Interoperability is the exception, not the rule. Many LHD leaders said that even with new systems in development, interoperability is not a prospective value, although the lack thereof is a significant constraint. The majority of interview participants who have EHRs have had them for fewer than five years, and many fewer than one year. The majority of leaders from small LHDs said they didn’t think they would be able to analyze most new electronic health information that might be accessible in the future due to challenges with human capital.

Conclusions: Even with significant financial and other operational constraints, leaders interviewed as part of this project talked about a reasonably bright, if uncertain, future for public health informatics. Uptake of more advanced systems and analytic strategies appears contingent on funding, training, and good relationships with the state health agencies to ensure appropriate data that collected by public and private organizations are available to protect and improve population health.

Implications: Uptake of informatics systems is limited by many non-modifiable constraints. However, leaders can cross-train existing staff and advocate for greater support from SHAs.

SESSION 3B: Data, Electronic Health Records & Capacity Building-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm

Gulzar Shah, PhD, MS, BS

Characteristics of Local Health Departments Associated with Their Implementation of Electronic Health Records and Other Informatics Systems

Co-Investigator(s): Jonathon P. Leider, PhD; Brian Castrucci, MA; Karmen Williams, MSPH, MA; & Huabin Luo, PhD

Background: Information technology and information systems (IT/IS) play a critical role in the daily operation of local health departments (LHDs). Assessing LHDs' informatics capacities is important, especially within the context of broader, system-level health reform efforts.

Research Objective: This study assesses a nationally representative sample of LHDs' level of adoption of information systems, technology, and the factors associated with adoption/implementation. Specifically, five areas of public health informatics were examined: electronic health records (EHRs), health information exchange (HIE), immunization registry (IR), electronic disease reporting system (EDRS), and electronic lab reporting (ELR).

Data Sets and Sources: Data from NACCHO's 2013 National Profile of LHDs was used. Descriptive statistics and multinomial logistic regression were performed for the five implementation-oriented outcome variables of interest, with three levels of implementation. Independent variables included infrastructural capacity, financial capacity, and other characteristics theoretically associated with informatics capacity.

Study Design: This study uses a cross-sectional survey research design.

Principal Findings: Thirteen percent of LHDs had implemented HIEs. About 22 % had implemented EHRs, 47% ELR, 72.2% EDRS, and 82% had implemented Immunization Registry. Significant determinants of health informatics adoption included provision of greater number of clinical services, greater per capita public health expenditures, having health information system specialists on staff, having larger population size, having decentralized governance system, having one and more local boards of health, and having top executive with greater number of years in the job.

Conclusions: The capacity of LHDs to use real-time, local data and information is critical. Many LHDs do not have this capacity. This may be due to lack of specialized staff, availability of data systems, or a host of other political or organizational constraints. This is especially the case for smaller jurisdictions. Cross-jurisdictional sharing or regionalization of some informatics and surveillance functions may be a reasonable approach to address these shortfalls.

Implications for Public Health Practice and Policy: A combination of investment in public health informatics infrastructure, additional training of new informatics staff and existing epidemiologists, and better integration with healthcare systems is needed to augment LHD informatics capacity and ensure governmental public health can meet the information needs of the 21st century.

SESSION 3B: Data, Electronic Health Records & Capacity Building-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm

Erika Martin, PhD, MPH

Evaluating the Quality, Usability, and Fitness of Open Data for Public Health Research

Co-Investigator(s): Jennie Law, MPA; Weijia Ran; Natalie Helbig, PhD, MPA; & Guthrie Birkhead, MD, MPH

Background: Thousands of government datasets have been released on open data platforms that are publicly accessible, available in non-proprietary formats, free of charge, and with unlimited use and distribution rights. Although these resources provide new opportunities for public health research and practice, the extent to which open health data are usable, fit, and of high quality for health research is unknown.

Research Objective: This study aims to evaluate the health data available on open data platforms, the alignment of data with best practices and usability for researchers, and differences across platforms.

Data Sets and Sources: A stratified simple random sample of 5% of Healthdata.gov data objects (federal platform, N=75), 25% of Health Data NY objects (New York State (NYS) platform, N=71), and all NYC Open Data objects in the health category (New York City (NYC) platform, N=37) was reviewed using a coding instrument. Data objects are the units of analysis.

Study Design: A systematic review of health-related data objects on three open data platforms (federal, NYS, NYC) was performed by adapting the Institute of Medicine standards for systematic literature reviews. Two raters used a 99-item coding guide to assess multiple dimensions of intrinsic and contextual data quality, metadata quality, and platform usability. The coding guide was developed based on an interdisciplinary literature review and key informant interviews, and refined through pilot testing.

Analysis: Items were aggregated into summary indices for intrinsic data quality, contextual data quality, and adherence to the Dublin Core Metadata Standards and the five-star open data deployment scheme; all scales are from 0 to 1. ANOVAs tested for differences across platforms.

Principal Findings: Less than half of data objects were traditional tabular datasets; other objects were charts (14.7%), documents about the data (12.0%), maps (10.9%), query tools (7.7%), application programming interfaces (1.6%), or not viewable in any browser (7.7%). All objects met the “one-star” criteria of availability on the web and most met the “three-star” criteria of availability in non-proprietary formats (federal=47.3%, NYS=90.1%, NYC=79.0%), but fewer met the “five-star” criteria of being hyperlinked to other data (federal=12.1%, NYS=77.5%, NYC=0%). The NYS site had the highest intrinsic data quality index (federal=0.419, NYS=0.670, NYC=0.290, p<0.001), contextual data quality index (federal=0.42, NYS=0.82, NYC=0.43, p<0.001), and Dublin Core Metadata Standards index (federal=0.546, NYS=0.890, NYC=0.702, p<0.001). Many objects, particularly on the federal site, appear to be aimed at software developers rather than researchers.

Conclusions: Despite directives to release open data, government agencies have little guidance on how to make data usable for different user communities including health researchers. Although all platforms have areas of improvement to better meet researchers’ needs, New York’s Health Data NY platform scores high on many dimensions and could serve as a model for other sites. Sustained effort on releasing and improving these data is important for ensuring the public health community uses these data, thereby increasing the value of these data.

Implications for Public Health Practice and Delivery: Open health data are likely to become an important source of public health information.

SESSION 3B: Data, Electronic Health Records & Capacity Building-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm

Dawn Marie Jacobson, MD, MPH

The Impact of Health Information Technology Investments on Public Health E-Reporting

Co-Investigator(s): Deborah Porterfield, MD, MPH; Benjamin Yarnoff, PhD; & Suzanne Ryan-Ibarra, MPH

Background: Major financial investments for electronic data sharing within the healthcare sector have been implemented since 2010. The Beacon Community Grant Program provided funds to local organizations to create real-time electronic data sharing of patient health data. It is unknown how the Beacon Community lead organizations collaborated with the local health departments (LHDs) within their designated region to share resources or support LHD data system development.

Research Objective: Our objective is to determine whether LHDs located within Beacon Communities developed more robust data system capacity and efficient reporting processes than LHDs that were not located in Beacon Communities.

Data Sets and Sources: Pre-exposure data are from the 2010 NACCHO Profile, the Area Health Resource File, and CMS provider data. Post-exposure data are from the 2013 NACCHO Profile, the Area Health Resource File, CMS provider data, and a primary LHD survey designed by the research team.

Study Design: The study is a mixed-methods, quasi-experimental design with LHDs as the unit of analysis. Phase 1 used baseline data and propensity scoring methods to match LHDs located within Beacon Communities (exposed sample, n=80) with LHDs located outside of Beacon Communities but within the same state (non-exposed, n=80). Variation at the state level was controlled through within-state matching of exposed and non-exposed LHDs. Phase 2 utilized key informant interviews from 6 LHDs in the exposed group to determine partnerships, resource sharing, LHD information technology (IT) development, and LHD electronic reporting capabilities that emerged during the Beacon Community grant timeframe. Phase 3 is in progress and uses an online survey of the matched LHD sample (n=160) to examine the association of being located in a Beacon Community region with changes in the capabilities of collecting, sharing, and reporting electronic public health data.

Analysis: Variables that assess area level demographics, LHD organizational characteristics, IT infrastructure, and timeliness of LHD reporting processes were selected. For variables collected in both Phase 1 (baseline) and Phase 3 (follow-up) of the study, we will build a quasi-experimental model that accounts for changes over time in area-level population characteristics and IT factors as well as other unobservable differences between the exposed and unexposed LHDs. Analyses will be carried out using cross-tabulations, and logistic and linear regression methods.

Principal Findings: Baseline analyses demonstrated that LHDs located in Beacon Communities are more likely than the rest of the LHD sample to have a Board of Health that sets LHD priorities, to employ a Chief Information Officer, and to conduct population-level chronic disease prevention activities. They are less likely to have a health professional leading the department, to conduct chronic disease screenings, or to provide primary care services. Results from the Phase 2 interviews confirmed that new partnerships, shared resources, and IT development occurred between LHDs and the designated Beacon Community Grant lead organizations.

Conclusions: Preliminary results suggest that LHDs located within Beacon Communities received IT development support through innovative partnerships and shared resources created through the Beacon Community grant program. The impact on LHD electronic data sharing and timeliness of LHD reporting will be further assessed upon completion of the Phase 3 LHD survey.

Implications for Public Health Practice and Policy: Best practices for partnerships and resource sharing between the clinical care and public health systems for real-time data system development and efficient reporting are needed. Lessons learned could be applied to advocate for future LHD specific grant funding and/or opportunities to receive incentive dollars through designation as a "provider" in the CMS Meaningful Use program.

SESSION 3C: Impact of the Affordable Care Act-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm

SESSION 3C: Impact of the Affordable Care Act

Room: Crimson Clover

Moderator: Carolyn Leep, MS, MSPH

Presenters:

Michael Meit, MPH, MA

Impacts of the Affordable Care Act for State and Local Health Departments

Co-Investigator(s): Amy Nevel, MPH (also presenting)

Background: The Patient Protection and Affordable Care Act (ACA) includes reforms that expand insurance coverage and enhance access to clinical preventive services. To explore the impacts of the ACA on state and local health departments, the HHS Office of the Assistant Secretary for Planning and Evaluation (ASPE) contracted with NORC at the University of Chicago to conduct the study, "Implications of the Affordable Care Act for HHS Public Health Programs."

Research Objective: The study seeks to identify the effect of ACA reforms on where individuals seek clinical preventive services, where services are delivered, how health departments are responding and plan to respond to ACA-related changes, anticipated future changes to public health practice, and the role of federal support for public health programs.

Data Sets and Sources: Qualitative data were collected via interviews with staff from five state health departments (SHDs) and select local health departments (LHDs) in case study states. Researchers held discussions with the state health officer, program staff, Medicaid staff, and LHD staff.

Study Design: Methods include an environmental scan, case studies using site visits and telephone interviews, and ongoing consultation with a Technical Advisory Group (TAG). Case study states were selected using diverse selection criteria, including governance structure, geography, rurality, and Medicaid expansion (i.e., expanding or not expanding).

Analysis: The research team conducted qualitative content analysis and coding to identify themes and group findings by key topics. Qualitative findings were summarized into written case study issue briefs.

Principal Findings: Findings show that health departments are seeing reductions in client volume for some public health programs (e.g., immunizations, breast and cervical cancer screening) and respondents believe it is a result of the ACA. While all case study states are expanding their capacity to bill for services, they report that billing is unlikely to replace program revenue should program funds be reduced. Many respondents discussed that some health departments may need to continue providing preventive services, especially in areas where there is an insufficient number of providers. While concerned, participants acknowledge that many of the changes that will result from the ACA are still unknown.

Conclusions: Health department leaders expressed concern that reduced utilization of key public health services may make it difficult to sustain programs seen as important to maintaining the public's health. Further, they note that the resulting loss of revenue could have additional impacts on health department functions and response capacity. NORC will continue to explore these themes and key findings by conducting an additional set of five case studies.

Implications for Public Health Practice and Policy: NORC is providing a voice to state and local public health leaders' concerns about the impacts of the ACA, while also capturing strategies for program planning, sustainability, and adaptation. To improve practice, health departments must be aware of the opportunities and challenges that may emerge because of the ACA, as well as strategic planning efforts states and localities are implementing to adapt to anticipated changes.

SESSION 3C: Impact of the Affordable Care Act-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm

Kyle Bogaert, MPH

Variations in Levels of Clinical Service Delivery at State Health Agencies

Co-Investigator(s): Rivka Liss-Levinson, PhD; & Katie Sellers, DrPH, CPH

Background: State and territorial health agencies (S/THAs) play a critical role in promoting and protecting the health of their residents by performing a wide range of functions and services. Given the breadth of services S/THAs provide their residents, their service delivery levels may vary over time due to any number of factors. In particular, levels of clinical service delivery by S/THAs may currently be changing in part due to changing budgets, high priority issues, and the political climate including the implementation of the Affordable Care Act.

Research Objective: This research assesses changes in levels of service delivery for clinical services by S/THAs by governance classification, region, and size of population served using the 2014 and 2015 ASTHO Forces of Change surveys.

Data Sets and Sources: The Association of State and Territorial Health Officials (ASTHO) conducted an online survey of S/THAs in July 2014, entitled Forces of Change, to address emerging issues in the management, resources, activities, and finances of S/THAs, including the impact of the Affordable Care Act. The survey will be re-administered in January 2015.

Study Design: The 2014 ASTHO Forces of Change survey was administered to the 50 states, D.C., and U.S. territories and freely-associated states in July 2014. The survey will be administered to the same respondents in January 2015; the study is cross-sectional.

Analysis: Thirty-seven states and two freely-associated states responded to the 2014 ASTHO Forces of Change survey. Data cleaning was completed, and unusual values were clarified. Descriptive statistics were calculated using SPSS.

Principal Findings: In general, most S/THAs saw little or no change in levels of service delivery for select clinical services; however, there was variability among the different services. Among S/THAs that reduced delivery of at least one of the select clinical services, a larger percentage were in the Mid-Atlantic & Midwest region, served a large population, or had a centralized governance structure. Among those S/THAs that increased delivery of at least one of the select services, a larger percentage served a medium population, were in the South, or had a decentralized governance structure. The results will be updated to include the 2015 data.

Conclusions: Overall, S/THAs experienced little change in levels of service delivery for select clinical services. The overall stability suggests that factors that might impact levels of service delivery, including changes in budgets and the political climate, have not had a significant effect on levels of clinical service delivery. Further research is needed to investigate potential causes for the variations in levels of delivery across geographic regions, governance classifications, and sizes of populations served.

Implications for Public Health Practice and Policy: This analysis contributes to the PHSSR research agenda by utilizing current data to assess variation in the levels of clinical service delivery by S/THAs. Further research may build upon the initial analyses to elaborate on the variations across geographic regions, size of population served, and governance classification. Additionally, future longitudinal research may assess the potential impact of the implementation of the Affordable Care Act on levels of clinical service delivery at the governmental public health level.

Michael Preston, PhD, MPH***Insurance Coverage Mandates: Impact of Physician Utilization in Moderating Colorectal Cancer Screening Rates***

Co-Investigator(s): Billy Thomas, MD, MPH; Jonathan Laryea, MD; Zoran Bursac, PhD, MPH; Glen Mays, PhD, MPH; & J. Mick Tilford, PhD

Background: Colorectal cancer (CRC) is the third most common cancer found in men and women in the United States. In 2014, the American Cancer Society estimated as many as 136,000 new cases of colorectal cancer and approximately 50,000 deaths. Health care reform was introduced in 2010 and became the cornerstone for Americans seeking change in the health care system. Health care reform is a critical factor in increasing CRC screenings by increasing coverage rates for all Americans. The primary purpose of the Affordable Care Act is to decrease the number of uninsured Americans and reduce the overall cost of health care by reducing the amount of out-of-pocket expenses for preventive services such as colorectal cancer screenings. Physician visits can moderate preventive service utilization for CRC when out-of-pocket expenses are reduced.

Research Objective: To examine insurance coverage mandate variations and the effect of physician utilization in moderating colorectal cancer screening rates.

Data Sets and Sources: Secondary data were analyzed from the Behavioral Risk Factor Surveillance System and National Cancer Institute State Cancer Legislative Database from 1997-2012. The target population was a sample of U.S. adults age 50 to 74 that lived in an insurance coverage mandate or non-mandate states before and after health care reform.

Study Design: Retrospective cohort study using a strong quasi-experimental design to examine insurance coverage mandate variations and the effect of physician utilization in moderating CRC screening rates from 1997-2012.

Analysis: A time-series analysis using a difference-in-difference-in-differences (DDD) approach was used to examine the effect of health care reform on non-mandate states. Key variables of interest are insurance coverage mandates, colorectal cancer screening status, and physician utilization.

Principal Findings: The adjusted average marginal effects from the difference-in-difference-in-differences model indicates that physician utilization increased the probability of being “up-to-date” relative to being non-compliant by 1.5 percentage points, suggesting that an estimated 1.27 million additional age-eligible persons would receive a CRC screening after health care reform annually. Our findings are robust to different model specifications.

Conclusions: Health care reform that lowers out-of-pocket costs is an effective approach that increases colorectal cancer screenings when physician utilization is considered as a mechanism.

Implications for Public Health Practice and Policy: With the introduction of the Affordable Care Act, responsive public health systems require strategies to determine which policies, systems, and administrative strategies are most effective in increasing preventive service utilization and reducing health disparities. This research demonstrates that insurance mandates that reduce out-of-pocket costs increased colorectal cancer screenings when physician visits are considered as a moderator. Future health care reforms that increase access to preventive services, such as CRC screening, are likely with low out-of-pocket costs and will increase the number of people who are considered “up-to-date”.

SESSION 3C: Impact of the Affordable Care Act-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm

Eoghan Brady, MS

Machine Learning Algorithms to Code State Public Health Spending Accounts

Co-Investigator(s): Jonathon Leider, PhD; David Bishai, MD, PhD, MPH, BA, FAAP; Beth Resnick, PhD; & Jennifer Le, MPH

Background: The US census of local governments has collected detailed spending information from state health departments since 2000. Spending data mixes individual clinical services with public health spending. Labels for what is spent vary widely across states.

Research Objective: To compare human and machine learning approaches to coding public health spending data.

Data Sets and Sources: Census data on state's non-hospital health spending (code 32) from 2000-2012 were examined. There were 1.8 million separate entries of spending data overall and roughly 150,000 entries per year. A single state report comprised between 350 to 13,000 entries of reported expenses using up to six ledger fields. There were only 56,291 unique descriptions of spending items in the ledgers.

Study Design: Teams of human coders examined all labels for spending, reached consensus, and then taught a machine to code the same way.

Analysis: Two teams of human coders examined the 56,291 unique entries coding each as "Yes", "No" or "Maybe" public health spending. They met weekly for 6 months to share decisions about frequently encountered items. Individuals recoded each others files and examined discrepant cases until each of the two teams reached consensus. RTextTools was used for document classification and text mining. Nine models were fit to the manually coded data, namely Support Vector Model (SVM), GLMnet, Maximum Entropy, SLDA, Boosting, Bagging, Random Forests, NNEt, Tree. The performance of each of the nine models was compared. Precision, recall and composite F-scores are reported. Results of all algorithms are combined to measure ensemble performance based on agreement of predictions.

Principal Findings: Precision, which is the proportion of predictions that are correctly assigned to a class that actually belong to that class ranged from 0.74 to 0.91 across the 9 models. Recall, the proportion of each class that is correctly assigned by that algorithm, ranged from 0.79 to 0.93. An F-score is calculated as a composite measure of overall performance and ranged from 0.77 to 0.92. Requiring 6 or more algorithms to be in agreement still achieved 88% recall with 92% coverage of observations. This meets the usual standard for inter-rater agreement of 90%.

Conclusions: We have shown the potential for computer algorithms to closely replicate the choices made by human coders in deciding how much states are spending on public health. Validated uniform data on how states have been spending on public health can help practitioners compare their spending to others and to outcomes achieved.

Implications for Public Health Practice and Policy: Census data on public health spending holds great potential for PHSSR, if only it can be properly coded. Until the US embraces a uniform chart of accounts, each year of census data will generate an additional 150,000 lines of state spending data that will have to be recoded by human coders.

SESSION 3D: Workforce Enumeration & Development-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm

SESSION 3D: Workforce Enumeration & Development

Room: Bluegrass Room I & II

Moderator: Angela J. Beck, PhD, MPH

Presenters:

Jiali Ye, PhD

Changes in the Number of Public Health Nurses in Local Health Departments: 2005-2013

Co-Investigator(s): Nathalie Robin, MPH; & Carolyn Leep, MS, MSPH

Background: Public health nurses are an important component of workforces in local health departments (LHDs). They work with individuals and communities to offer expertise in clinical care and health promotion. Recent evidence suggests a shortage of registered nurses for public health practice, which is threatening the ability to meet the health needs of communities.

Research Objective: This study aims to examine changes in the number of public health nurses in LHDs and rural-urban variation in the changes and to assess how expenditures and provision of clinical services are related to the size of nurse workforce in 2005-2013.

Data Sets and Sources: Four National Profile of Local Health Departments study datasets (2005, 2008, 2010, and 2013) were linked. NACCHO's Profile survey core questionnaire contains questions on LHD workforce, funding, activities and services.

Study Design: This study employed a longitudinal cohort research design. A total of 901 LHDs that provided answers on the number of public health nurses in all four surveys were included in the analysis.

Analysis: The mean number of nurses per 100,000 population was computed by survey year and by rural-urban classification. Trends over time were assessed overall and by rural/urban subgroups. Fixed effects model was used to examine how changes in total count of clinical services and expenditure per capita may affect the number of nurses.

Principal Findings: On average, there was a significant decrease in the number of LHD nurses per 100,000 population over year ($p<0.001$). The mean number of nurse per 100,000 people dropped from 22.3 in 2005 to 17.2 in 2013. There was a reduction in the supply of nurses in LHDs in both rural and urban areas, but LHDs in rural areas demonstrated larger nurse supply losses ($p<0.05$). The fixed-effects model shows that the number of clinical services was positively associated with growth in the number of nurses (Estimate= .33, $p<0.001$). The variation in expenditures over time also affected the change in the number of nurses, but the impact was much smaller (Estimate=0.08, $p<0.001$).

Conclusions: A longitudinal analysis demonstrates a decline in the number of public health nurses in LHDs. The shift of public health practice priority, particularly the reduction of clinical services, may be a forces for reducing nursing positions. Budget constraints may also be a barrier to adequate nursing staffing.

Implications: Current reforms in health delivery system and decreases in public health funding at local level contributed to a reduction of public health nurses workforce. Further research is needed to assess how such a reduction may affect the delivery of essential public health services and health outcomes of the population.

SESSION 3D: Workforce Enumeration & Development-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm

Craig Ziegler

The Relationship of Medical School Students' Debt on Choice of Primary Care Specialty

Co-Investigator(s): Robert Steiner, MD; Doug Lorenz, PhD; Barry Wainscott, MD; & Robert Esterhay, MD

Background: US physician workforce requirements cannot meet current or future healthcare demands. The physician shortage is most notable among primary care physicians (PCPs) where an additional 52,000 are projected to be needed by 2025 (Petterson et al., 2012). The AAMC directed that medical school enrollment be increased 30%. However, more medical school matriculates does not necessarily equal having a sufficient PCP workforce. These statistics are pertinent because PCP functions differ from specialist. PCPs holistically focused on the patient and are the patient's first contact to the healthcare system. PCPs are also vital to controlling costs, usage, and distribution of healthcare, often arranging and overseeing patient care with specialists, particularly when patients have chronic diseases and comorbidities. They also serve as leaders for new healthcare delivery modalities, i.e., accountable care organizations and patient centered medical homes. PCPs' median income (\$186,044) dwarf specialists' median income (\$339,738) and specialist lifelong income is 3.5 million greater than PCPs (Youngclaus, et al., 2013). Further, the 2002 US graduating medical students debt burden exceeded \$100,000 (Rosenblatt et al., 2005); and in 2013, medical school student median debt was \$175,000 (AAMC Stat News, 2013), as medical schools' tuition has increased approximately 6% annually since 2001 (Weinstein et al., 2010).

Research Objectives: Recognizing the PCP shortage and increasing student debt, does a link between the two exist? If so, what policies can resolve the student debt issue? Accordingly, this study's objective is to assess debt's influence on students' choice of a PCP career and to impart PCP shortage and student debt linked strategies to address this issue.

Study Design: This study is a retrospective correlational study using a database of all University of Louisville 2001 to 2010 graduating medical students (n=1391).

Data Sets and Sources: Data collected came from the AMCAS medical school application, the American Medical Association Physician Masterfile, and University of Louisville Office of Medical Financial Aid.

Analysis: Multiple logistic regression was used to address if a relationship exists between medical school debt and matching to a primary care residency. Comparisons between lower debt quintiles and the highest quintile were made. Covariates in the model included gender, race, age, social economic status of parents, USMLE Step 1 scores, and year student graduated.

Principal Findings: The results found modest associations between debt levels and choosing primary care. Among medical students, the lowest quintile (\$165,000: OR = 1.68, 95% CI: 1.04-2.70), the second quintile (\$50,001-\$100,000 versus >\$165,000: OR = 1.68, 95% CI: 1.04-2.70), and the fourth quintile (\$135,000-\$164,999 versus >\$165,000: OR = 1.61, 95% CI: 1.05-2.47) was significantly associated with an increased likelihood of choosing primary care.

Conclusion: The findings suggest debt is having some influence on specialty choice. If increased debt discourages students from becoming PCPs then policymakers must take steps to eliminate the rising debt burden including freezing tuition costs, prorating debt to students' specialty choice earning potential, and/or shortening training, among other strategies.

Implications: PCP shortages disrupt the nation's healthcare system and student debt relief may ease the problem.

Michele Issel, PhD, RN***Competing for Registered Nurses as Public Health Nurses: The Salary Gap between LHDs and Hospitals***

Co-Investigator(s): Christine Fitzpatrick, BA, RN & Betty Bekemeier, PhD, MSN, RN

Background: Recruitment of registered nurses (RNs) has been studied extensively, specifically into hospital employment. The periodic shortage of RNs compared to hospital RN vacancies has contributed to long-term salary gains for RNs working in the acute care sector. Recruitment of RNs into public health nursing positions has been an enigma, with NACCHO studies indicating that RN positions are among the hardest to fill.

Research Objectives: To describe the extent to which local health departments' (LHDs') RN wages are competitive with local hospital wages. In a sample markets, from 2010 to 2014: (1) what percent of LHDs had RN salary changes that addressed salary compression? (2) What percent of LHDs had increased RN salary at entry into the public health nursing position? (3) Did the RN salary difference between that for LHD and hospital positions change?

Data Sets and Sources: Primary data were collected via questionnaire. Respondents were either the director of public health nursing or from the human resources department. Although hospital wage data were often publicly accessible due to the union contracts, comparable data could not be publicly found for LHD county employees.

Study Design: A longitudinal, repeated measures design was used. Each county was treated as a labor market. Six county LHDs were surveyed in 2010 and 2014, using the same questionnaire in both years. All hospitals located in the six counties were invited to participate. Given the small sample size, this study constitutes a pilot study.

Analysis: Descriptive statistics were used to answer each research question. Tests of significance were not appropriate, given the small number of counties in our sample.

Principal Findings: Question (1): Of the 4 LHDs for which we had both 2010 and 2014 data, 50% reduced the RN salary compression, as seen by small yet new wage increases in 2014 for RNs with 5, 10 and 18 years of work experience. Question (2): Similarly, 50% of the LHDs had increased the hourly wage for beginning public health RNs, from an average \$21.59 compared to \$28.44 for the hospitals. Question (3): In 3 of the county markets for which we had both LHD and hospital data in 2010 and 2014, 2 showed an increase in the gap between LHD and hospital hourly wages, with LHD wages being noticeably lower at all years of RN experience. In one county market, the gap between LHD and hospital wages decreased from \$20.90 to \$16.92 in 2014 relative to what it had been in 2010, but only at 18 years of experience.

Conclusions: Overall, RN hourly wages for public health nurses employed by LHDs are far less attractive compared to what RNs can earn in hospitals within the same county (and sometimes literally across the street).

Implications: To recruit motivated and highly competent RNs with the community and collaboration skills needed in the evolving public health environment, LHDs must offer truly competitive wages. LHDs are in the paradoxical position of paying lower wages for RNs that must have more complex and professional decision making and engagement skills than their hospital counterparts.

SESSION 3D: Workforce Enumeration & Development-Wednesday, April 22, 2015, from 10:45 am to 12:15 pm

Christine Plepys, MSc

Recent Graduate Employment Reporting Methodology and Results

Background: The Association of Schools and Programs of Public Health (ASPPH) assists members with data collection and analysis services for data-informed decision-making. With 98 institutional members, an important aspect of our role is to build cohesiveness around data collection efforts. ASPPH has collected data annually on numbers of graduates by various demographics. One area where we are working toward building an annual data collection strategy is on recent graduate employment information. ASPPH has historical answers from the 1970's and 1990's, but recent aggregate data collection efforts have struggled due to changes in higher education, graduate survey fatigue, and alumni tracking issues. In addition, while each ASPPH member collects graduate employment data for Council on Education for Public Health (CEPH) accreditation requirements, there are many methods used, survey questions and response options differ, and response rates can be low.

Research Objective: Our objective is to build a cohesive data collection methodology to use annually with member institutions in order to provide a reliable, aggregate answer to the question, "Where do recent graduates of ASPPH member institutions find employment?"

Data Sets and Sources: The data set was developed specifically for this project. Study Design With funding from the Centers for Disease Control and Prevention and working with internal ASPPH committees, a project plan was developed on reporting annual graduate employment data to ASPPH. The 2014 pilot project was supported centrally at ASPPH and implemented locally at member institutions. ASPPH developed a Common Questions Survey (see attachment) that includes the employment, salary and debt information ideally sought from graduates. The survey was intended to be inserted into the participating member's current alumni survey or used as a stand-alone survey. Since many members already conduct their own graduate employment survey, they also provided their survey questions and results to ASPPH. Data collection was conducted in spring 2014, with results due to ASPPH in summer/fall. With the goal to match the CEPH accreditation requirement "within 12 months following award of the degree", the spring 2014 pilot survey was sent to alumni that graduated in spring and summer 2013, and winter 2013/2014.

Analysis: ASPPH members submitted an Excel sheet with de-identified responses, copy of survey, response rate, and methodology. The individual member Excel spreadsheets were combined into a single database utilizing as much of the member-developed survey results as possible. Analysis is being conducted using Tableau 8.3.

Principal Findings: In the pilot year, 60% of members participated providing 4,888 eligible responses. Response rates by institution ranged from 6.3% to 99.5%, with the survey results providing an overall response rate of approximately 47% (based on the ASPPH 2013 Graduate Report). For those respondents who were employed, the top employer types were university or colleges; hospital or other healthcare provider; associations, foundation or other non-profit, and the federal government. Further results will show the proportion of respondents working at state and local health departments, plus salary and debt information.

Conclusions: This initial pilot was a success in terms of providing preliminary data on where graduates of CEPH-accredited schools and programs of public health find employment. A number of lessons learned will inform the project moving forward.

Implications: Graduate employment rates, employment settings, salary, and debt load provide important data for advocacy efforts, benchmarking, student recruitment, and workforce trends.

SESSION 4A: Community Health-Wednesday, April 22, 2015, from 2:00 to 3:30 pm

SESSION 4-WEDNESDAY, APRIL 22, 2015, 2:00 TO 3:30 PM

SESSION 4A: Community Health

Room: Triple Crown I, II, & III

Moderator: Angela Carman, DrPH, MBA

Presenters:

Simone Singh, PhD, MA, BBA

The Role of Accreditation Intent in Local Health Departments' Decision to Collaborate with Tax-Exempt Hospitals Around the Community Health Assessment.

Co-Investigator(s): Erik Carlton, DrPH

Background: Community health assessments (CHA) are a core function of local health departments (LHDs) and many LHDs have been conducting CHAs on a regular basis for years. More recently, completing a CHA has also become a prerequisite for LHDs seeking accreditation by the Public Health Accreditation Board (PHAB). Similarly, under the Affordable Care Act, nonprofit hospitals are required to conduct periodic community health needs assessments. Opportunities thus exist for LHDs to partner with nonprofit hospitals in their communities, yet it remains unclear whether interest in PHAB accreditation indeed motivates LHDs to engage in collaborations around community health assessment and improvement planning.

Research Objective: We examined LHD-hospital collaborations around CHAs, including characteristics of LHDs involved in such collaborations and the relationship between LHDs' level of engagement with accreditation activities and their involvement in collaborations with hospitals.

Data Sets And Sources: Data for this study came from two sources, the 2013 National Association of County and City Health Officials (NACCHO) Profile Study and the Area Resource File.

Study Design: In its 2013 survey, NACCHO asked LHDs about their collaboration with nonprofit hospitals around CHAs. Specifically, respondents were asked to indicate whether they were "currently collaborating", "discussing future collaboration", or "not currently engaged in discussion or collaboration" with nonprofit hospitals on CHAs. The 2013 NACCHO Profile also surveyed LHDs about three PHAB accreditation prerequisites: completion of a CHA, completion of a community health improvement plan, and completion of an agency-wide strategic plan. Of the 2,000 LHDs that responded to the 2013 Profile survey, 1,958 provided information on the status of their collaboration with nonprofit hospitals. Of these, 1,492 LHDs provided complete information on all variables of interest, including PHAB accreditation prerequisites, and were thus included in the final sample.

Analysis: Both descriptive and multivariate regression analyses were conducted. In our multivariate analysis, the dependent variable was a binary indicator of LHDs' involvement in collaborations with nonprofit hospitals. The three PHAB accreditation prerequisites represented the primary independent variables. Regressions also controlled for a set of LHD, population, and community characteristics.

Principal Findings: LHDs that collaborated with hospitals on CHAs were larger, more likely to be locally governed and to have a local board of health. The three PHAB accreditation pre-requisites were all significantly correlated ($p<.01$) with LHD-hospital collaborations. Accreditation intent also was an important factor in LHDs' decisions to collaborate with hospitals around the CHA when controlling for other LHD, population, and community characteristics.

Conclusions: Study findings suggest that accreditation efforts may be a positive influence on LHD-hospital collaborations. LHDs need to conduct a CHA as a prerequisite for PHAB accreditation and these LHDs may thus be in a better position to engage in collaborations with hospitals than those that do not plan to pursue accreditation.

Implications For Public Health Practice And Policy: Incentivizing voluntary accreditation among LHDs may help policy makers to encourage greater collaboration between LHDs and hospitals around CHAs. Public health practitioners who are discussing collaboration with local hospitals could focus on CHAs as a potentially mutually-beneficial collaborative activity.

SESSION 4A: Community Health-Wednesday, April 22, 2015, from 2:00 to 3:30 pm

Gulzar Shah, PhD, MS

Level and Predictors of LHDs' Engagement in Community Health Assessment, 2002-2013

Co-Investigator(s): Kay Lovelace, PhD, MPH, BA; & Daniel Linder, PhD

Local health departments (LHDs) work to improve population health using key evidence-based decision-making practices, such as community health assessment (CHA). Yet, not all LHDs use these practices. Little is known about how community health assessments are used to adopt and implement evidence-based interventions, policies, and environmental and systems changes that ultimately translate into changes in community health. Our research objective for this study is to understand the level to which LHDs have used CHAs from 2002-2013 and the modifiable factors associated with LHDs' engagement in these evidence-based decision-making processes over time. Our primary dataset was the longitudinal dataset constructed from NACCHO's National Profile of LHDs surveys. Using each LHD's unique NACCHO identifier, we have linked data from four waves of the Profile Study (2005, 2008, 2010, 2013). The linked data helped us isolate LHDs that have always been engaged in CHA/CHIP from those that have been intermittently or never involved. Our sample included approximately 1378 of the 2500 LHDs (55%) in the country.

Study Design And Analyses: The study design is longitudinal and addresses the years of 2005-2013. Descriptive analyses were performed to identify the percentages of LHDs engaging in CHA over time (not completed, completed for some years, completed for all years). Second, using a time series vector of binary responses related to CHA and CHIP completion as the DV, we are employing a generalized linear mixed effects model to identify modifiable organizational and structural factors at the state and local levels that best predict the completion of CHA over time. Using the complete time series dependent structure will allow us to avoid the loss of information that results from collapsing repeated measures into a summary measure.

Preliminary Results: Descriptive analyses show that 32.3 percent of LHDs have completed new CHAs during each survey time period since 2002, as they indicated having completed CHA within past three years (in 2005 and 2008 Profiles) or within five years (2010 and 2013 Profiles). Slightly less than one-third (30%) reported having a current CHA in three out of four Profile study periods. Only 8.6 percent had not completed a CHA since 2002. We will also present the results of the generalized linear mixed effect model.

Conclusion: This study provides a foundation for research on the effects of engaging in community health assessment processes on community health outcomes and partnerships.

Public Health Implications: Our findings on predictors of completion of community health assessments over time should allow state and local public health officials to identify leverage points for increasing LHDs' involvement in critical evidence-based planning processes and should aid efforts such as voluntary accreditation by the Public Health Accreditation Board.

Priscilla Barnes, PhD, MPH, CHES***Functions and Performance of Community Health Coalitions in Tennessee***

Co-Investigator(s): Paul Erwin, MD, DrPH; Ashley Brooks, MPH; Ramal Moonesignhe, PhD, MS, MA; Erik Carlton, DrPH, MS; & Bruce Behringer, MPH

Background: County Health Councils (CHCs) were established across the state of Tennessee in the 1990s initially for the purpose of identifying health professional shortage areas, with their scope later expanded to include community-based health assessment and planning. In many ways CHCs are considered to be the locus for the local public health system. This present study builds upon a previous study of CHCs, which identified important functional characteristics that could enhance performance and (ultimately) impact community health. The present study focuses on the current functional characteristics of CHCs, measuring performance, and then exploring associations between function and performance.

Research Objective: The primary research question is: What are the functional and performance characteristics of CHCs, and how does function predict performance?

Data Sets and Sources: A survey instrument was developed, using previously validated surveys on community health coalitions, and underwent cognitive response testing with persons knowledgeable about CHCs. Chairs of CHCs were provided a link to the final survey through Qualtrics. Survey questions were grouped around eight functional characteristics and three major performance domains, including Internal and External Communication Strategies, Community Partnerships, and Public Health Systems Development.

Study Design: Cross-sectional survey, with potential for linkages to a previous survey conducted in 2010 of the same CHCs.

Analysis: This study is on going. Descriptive statistics will be provided for the presence of functional characteristics and the level of performance related to communications, partnerships, and health systems development. Inferential statistics – primarily utilizing linear regression – will identify associations between functional characteristics and performance. Time trends will be assessed for those CHCs, which responded to both the 2010, and current survey.

Preliminary Findings: To-date there are 40 valid responses from the 90 CHCs which are active and have an identifiable chair (Response Rate=44.4%). Examples of functional characteristics include: 75% of these CHCs have written by-laws, 42% have a written strategic plan, 75% agree or strongly agree that the CHC is task-focused, and 40% have financial resources. Examples of performance: 10% have a communications plan; 68% have partnerships with other organizations or external groups; and 50% or more of CHCs are currently involved in the provision of essential public health services 1 (Monitor health status to identify community health problems), 3 (Inform, educate, and empower people about health issues), 4 (Mobilize community partnerships to identify and solve health problems), and 7 (Link people to needed personal health services and assure the provision of healthcare when otherwise available).

Conclusions: With analyses on-going, final conclusions are not yet possible. We intend to show associations between functional characteristics and performance of the 10 essential services.

Implications: Identifying the association between function and performance is critical to understanding how local public health systems can “move the needle” on population health outcomes.

SESSION 4A: Community Health-Wednesday, April 22, 2015, from 2:00 to 3:30 pm

Alexandria Drake, MPH, BA

Variation in Priorities between Local Health Department Led Community Health Assessments (CHAs) / Community Health Improvement Plans (CHIPs) and Hospital Led Community Health Needs Assessments (CHNAs) and Jointly Conducted Assessments

Co-Investigator(s): Sara Tillie, BA; & Scott Frank, MD, MS, BA

Background: Conduct of Community Health Improvement Plans (CHIPs), Community Health Assessments (CHAs), and Community Health Needs Assessments (CHNAs) represent a changing and varied landscape, with different organizations informing varied approaches in Local Health Departments (LHDs) and hospital systems. Formal efforts are underway to merge these processes and provide avenues for systematic collaboration. These issues gain timely relevance as Ohio is requiring LHDs to enter the public health accreditation process by 2018. In parallel, Ohio hospitals have been confronted with a new requirement to conduct CHNAs to maintain tax-exempt status.

Research Objective: To contrast and compare the health priorities in Ohio communities as identified by LHDs in CHAs/CHIPs; by hospital-lead CHNAs; and through joint LHD-Hospital conducted assessments.

Data Set and Sources: The Ohio Research Association for Public Health Improvement collaborated with Health Policy Institute of Ohio to reframe the Wisconsin CHIPP Quality Measurement Tool to include items fitting the CHNA requirements for hospitals. The tools were then used to analyze CHAs/CHIPs led by LHDs (n=112 of 125 LHDs); and CHNAs led by associated hospitals (n= 98).

Study Design: Comparative case study using mixed methods evaluated CHAs/CHIPs and CHNAs and recorded their identifiable priorities. The revised Quality Assessment Tools assessed 35 items in four categories of priority: health conditions (11 items); health behaviors (9 items); community conditions affecting health (5 items); and health systems factors affecting health (10 items). The LHDs with the highest quality process for both CHA (4) and CHIP (4) were then surveyed and interviewed along with their associated hospitals.

Analysis: Quantitative and qualitative data were abstracted from publicly available CHA/CHIPs/CHNAs from Ohio LHDs and hospital systems utilizing a standardized protocol. Quantitative analysis includes descriptives, tests of association, and logistic regression utilizing SPSS v.22. A 3-group design compares LHD led; hospital led; and collaboratively led community assessments. Qualitative analysis includes open-ended data collected during the abstraction and the follow up survey/interviews using an inductive methodology. The description is not based on a predefined theoretical framework, but on the words of participants. Content analysis includes coding of data, identifying themes, and constructing generalizations based on these patterns.

Preliminary Findings: The top five priorities for hospitals were: Obesity (69%); Medical care access (68%); Mental health (57%); Cancer (55%); Heart Disease (54%); Diabetes (54%). The top five priorities for LHDs were: Obesity (42%); Physical Activity (42%); Nutrition (40%); Substance abuse (35%); Medical care access (33%). The top 5 combined priorities were: Obesity (54%); Medical care access (50%); Physical activity (44%); Nutrition (42%); Mental Health (41%); Substance abuse (41%).

Conclusions: Meaningful variations in health priorities exist between LHDs and hospitals. Hospital based CHNA priorities tended to focus on diagnostic conditions and health systems characteristics. LHD based CHIP priorities focused on behavioral and community based conditions that contribute to development or persistence of the medical and health systems conditions.

Implications for Public Health Practice and Policy: The difference between CHA/CHIP and CHNA identified priorities demonstrates important differences in perspective and experience. Population health needs would be more effectively served through a collaborative process.

SESSION 4B: Maternal & Child Health-Wednesday, April 22, 2015, from 2:00 to 3:30 pm

SESSION 4B: Maternal & Child Health

Room: Blackberry Lilly

Moderator: L. Michele Issel, PhD, MN, RN

Presenters:

Julia Costich, PhD, JD

State Newborn Screening Programs as Public Health Systems: 50 Years of Policy and Practice

Background: State newborn screening (NBS) programs have evolved over the past 50 years to reflect much common grounding in philosophy and evidence, but substantial variation in structure, cost allocation, and related state policy. NBS now extends beyond the familiar metabolic disorders for which heelstick blood samples are screened, and includes hearing and cardiac testing in the birthing facility. The ACA requires coverage of federally sanctioned NBS tests with no cost-sharing, giving rise to a potential shift of longstanding programs from population-based funding to individualized payment.

Research Objective: To identify potential variations in the impact of the Affordable Care Act's coverage mandate on state NBS programs and their implications for public health policy.

Data Sources: We performed an extensive literature review including the laws of all 50 states, and conducted a series of interviews and discussions with state program directors, CDC and HRSA staff in related programs, and representatives of insurance companies, state Medicaid programs, and birthing hospital finance departments.

Study Design: Based on principles of systems analysis, we present four general models of NBS program structure, with detailed illustrations of associated inputs and outcomes.

Principal Findings: We find that those states that have coherent, integrated systems for the NBS conditions have engaged in nuanced assessments that balance the interests of state population health, affected families, providers, advocates, and policy makers. Some state NBS programs have structural flaws that inhibit effectiveness, while others have evolved funding mechanisms that put program sustainability at risk.

Conclusion: The impact of ACA-mandated coverage on state programs will vary significantly depending on the program's design and current funding mechanisms. Any reductions in federal program funding will need to be monitored carefully to avoid unintended harm to the infants who are the intended beneficiaries of NBS programs.

Implications for Public Health Practice: This topic is of current interest because the Affordable Care Act mandates coverage for all federally-approved screening tests with no cost-sharing, shifting some of the financial burden currently shared by Title V, various specific assessments, and state general fund support to third-party payers as well as the current Medicaid coverage for half of all U.S. births. However, screening tests are a small part of the total NBS program, which includes follow-up tests, counseling, and ongoing services for those infants who are diagnosed with the conditions tested.

SESSION 4B: Maternal & Child Health-Wednesday, April 22, 2015, from 2:00 to 3:30 pm

Tamar Klaiman, PhD, MPH, BA

A Method for Identifying Positive Outlier Local Health Departments in Maternal and Child Health

Co-Investigator(s): Athena Pantazis, MPH, MA; & Betty Bekemeier, PhD, MPH

Background: Local health departments (LHDs) are responsible for administering various maternal and child health (MCH) services. However, the current economic climate has strained LHDs by causing drastic health workforce job losses and program cuts. There are, however, some communities that have maintained better than expected MCH outcomes compared to their peers - positive deviants (PD).

Research Objective: The goal of this project was to identify LHDs in positive deviant communities in terms of MCH outcomes in Washington, Florida and New York in order to learn from their experience.

Data Sets and Sources: We used data from the Public Health Activities and Services Tracking (PHAST) database to identify PD LHDs. The PHAST database relies on externally validated measures of public health service production in key public health priority areas, including maternal and child health. We used uniquely detailed and matched annual MCH-related county-level expenditure data for all LHDs in FL (n=67), NY (n=61 – excluding NYC) and WA (n=35) for 2009 and 2010. These data were linked with variables depicting local context and LHD structure. The PHAST database also included MCH outcome data.

Study Design: We used a cross-sectional study design to assess which communities had better than expected rates of teen pregnancy/births, rates of late or no prenatal care, infant mortality rate, and rates of low birth weight compared to their peers.

Analysis: We used multiple regression analysis to control for internal (e.g. assuring service through alternative providers in the community, having a clinician as an LHDs “top executive,” and the types of services the LHD provides) and external (e.g. population size, geography, and the size of their budgets) LHD variables. We identified positive deviants as those with standardized residuals less than -1, for at least two outcomes and/or years.

Principal Findings: We identified 50 (31%) LHDs (out of 163 LHDs excluding NYC) across three states in communities with consistently exceptional MCH outcomes: 10 (29%) in WA; 24 (29%) in FL; and 16 (26%) in NY. Forty-four of 50 LHDs (88%) had better than expected MCH outcomes over 2 years. Twenty-eight LHDs (56%) had 2 or more exceptional outcomes in a single study year. Positive deviant LHDs varied by context in proportion to all LHDs: metropolitan=35 (41%); micropolitan=10 (27%); rural=14 (34%). The range of MCH expenditures varied similarly in all LHDs and PD LHDs.

Conclusions: Our quantitative analysis has allowed us to objectively identify LHDs in positive deviant communities in maternal and child health outcomes. We found the method for identifying Positive Deviant LHDs returned consistent results across three states.

Implications for Public Health Practice and Policy: The methods used in this project can be replicated in other areas of public health outcomes and practice to identify and learn from high performing agencies and communities.

Sarah Newman, MPH

Budget Cuts and Maternal and Child Health Service Reductions Occur in Counties with Highest Rates of Low Birth Weight

Co-Investigator(s): Jiali Ye, PhD; & Carolyn Leep, MPH, MS

Background: Maternal and child health (MCH) services have been reduced in local health departments (LHDs) in recent years. In the last six economic surveillance studies conducted by the National Association of County and City Health Officials (NACCHO) since 2009, MCH services have been among the top three most frequently reduced programs. However, decisions regarding resource allocation for MCH services are not always made using research evidence or community need.

Research Objective: This study aims to examine the extent to which LHD budget cuts and changes in the provision of MCH services are associated with the level of community need by exploring the relationship among LHD budget cuts, change in the provision of MCH services, and county-level rates of low birth weight (LBW).

Data Sets and Sources: Data on LHD budget cuts and provision of MCH services were drawn from NACCHO's 2014 Forces of Change study and combined with county-level rates of LBW from the 2014 County Health Rankings dataset.

Study Design: A cross-sectional dataset of county-level LHDs in the United States was analyzed. The relationships among LHD budget cuts (budget is less than, same, or greater than the previous year), MCH service provision (reduced, expanded, or little or no change in MCH services), and rates of LBW were examined.

Analysis: A total of 422 LHDs were included in the analysis. Bivariate analyses were conducted to test the following associations: 1) association between budget cuts and MCH service provision; 2) association between LHD budget cuts and rates of LBW; 3) association between change in MCH service provision and rates of LBW.

Principal Findings: LHDs that experienced budget cuts were also more likely to have also reduced their MCH services (61.54%) compared to LHDs that did not change or expanded their MCH services (26.60%) (Figure 1). The rate of LBW in counties where LHDs experienced budget cuts was significantly higher (8.49%) than in counties where LHDs reported the same budget (7.76%) or a budget greater than the previous year (7.72%) (Figure 2). LHDs in counties with high rates of LBW (top quartile) are more likely to not provide MCH services or to have reduced their MCH services compared to LHDs in counties with low rates of LBW (bottom quartile) (Figure 3).

Conclusions: LHDs in counties that are already burdened by poor birth outcomes (experiencing higher rates of LBW) have faced budget cuts. These same LHDs are also less likely to provide MCH services or were more likely to reduce MCH services. These findings suggest that MCH program cuts are occurring in counties with the greatest need.

Implications: Budget cuts and MCH program reductions are occurring in counties with the highest level of need, which may perpetuate poor birth outcomes. Previous research has shown that LHD investments in MCH services can have an effect on health outcomes. Thus, consistent funding for MCH services (especially in areas of high need) is needed to ensure the delivery of essential public health services and reduce the burden of poor birth outcomes for communities.

SESSION 4B: Maternal & Child Health-Wednesday, April 22, 2015, from 2:00 to 3:30 pm

William Riley, PhD

Reducing Preventable Perinatal Harm to Decrease Malpractice Claims

Co-Investigator(s): Les Meredith; Rebecca Price; & Cecile Dinh, MPH

Background: Newborn deliveries are the leading cause of hospital admissions and preventing perinatal harm is an especially important undertaking to help achieve the goals of Healthy People 2020. Labor and delivery pose substantial risk for unintended harm to mothers and newborns. Perinatal complications range as high as 10.7% of U.S. obstetrical deliveries and estimates indicate that approximately 30% of perinatal injury is preventable. Moreover, although perinatal injuries constitute less than 5% of malpractice claims, they account for over 50% of all malpractice-related expenses.

Research Objectives: (1) Reduce the number of perinatal injuries through clinical interventions and team training programs. (2) Evaluate the influence on malpractice litigation and costs. Data Sets and Sources Each participating hospital provided monthly data involving care processes and care outcomes on all perinatal discharges. Hospital claims data and claims-related demographic information were collected via a survey and malpractice claims audits.

Study Design: This prospective quasi-experimental longitudinal study involved 22 hospitals: 14 intervention hospitals located in 12 states, and 8 comparator hospitals. The five-year project used a quality improvement collaborative (QIC) initiated in January 2008 and ending December 31, 2012. Data were also retrospectively collected over a two-year period (January 2006 to December 2007) to establish a baseline. The project implemented three interventions: standardization of evidence based care, interdisciplinary teamwork training, and routine education with performance feedback. Analysis: We analyzed process measures (use of standardized care processes) and two outcome measures, the adverse outcome index and medical malpractice expenses. We used run charts to analyze longitudinal trends and T-tests for pre-post analysis. Results from the interventions were contrasted with data from eight comparison hospitals.

Principal Findings: Participating hospitals increased care reliability and reduced perinatal harm, resulting in significant cost reductions related to malpractice claims. The frequency of new perinatal-related claims was reduced 89% in participating hospitals compared to a 16% reduction in non-participating hospitals. The total malpractice claim loss incurred for major injuries in participating hospitals decreased by 75%, while comparison hospitals increased total medical claim loss incurred by 28%. In addition, participating hospitals greatly increased the percentage of resolving new liability claims without payment, going from 44% of obstetric claims in 2006, to 100% of claims resolved in 2011.

Conclusion: The rate of perinatal harm and malpractice claims were reduced following perinatal safety interventions designed to improve labor and delivery outcomes. These results suggest it is possible to improve care and reduce costs through consistent use of standardized care processes and interdisciplinary team training.

Implications for Public Health Practice and Policy: Achieving Healthy People 2020 goals for improving women, infant, and children's health involves, in part, substantial reduction in perinatal harm. This study suggests that compliance with evidence-based practices can result in better care for perinatal patients. The findings also have important implications for strategies to reduce malpractice claims associated with perinatal injuries.

SESSION 4C: Policy Development and Implementation-Wednesday, April 22, 2015, from 2:00 to 3:30 pm

SESSION 4C: Policy Development & Implementation

Room: Crimson Clover

Moderator: Katherine F. Papa, MPH

Presenters:

Erika Martin, PhD, MPH

Implementing Updated Recommendations on Screening for Hepatitis C Virus: Translating Federal Guidance into State Practice

Co-Investigator(s): Amanda Norcott, BA; Hina Khalid, MPP; & Daniel O'Connell, MA

Background: Chronic viral hepatitis affects 3.2 million Americans and is a major cause of liver cirrhosis and liver cancer, making it a leading infectious cause of death. Increasing the proportion of hepatitis C virus (HCV)-infected individuals who are aware of their infection and averting new infections are major goals of the national viral hepatitis action plan. The Centers for Disease Control and Prevention (CDC) recently released updated recommendations for HCV testing, including recommending that all individuals born from 1945 to 1965 be tested once. However states' compliance with these national testing guidelines is unknown.

Research Objective: This study evaluates the extent to which state health departments have updated their recommendations to be consistent with the CDC guidelines.

Data Sets and Sources: Websites from the 50 state departments of health were reviewed from January 2013 to April 2013 and again in March to May 2014 to document their testing recommendations for each population risk group.

Study Design: The CDC recommendations on HCV testing were used to identify important risk groups. These include population-based risks, behavioral risks and health care exposures. They were categorized by whether testing is recommended, not recommended, or with unclear testing recommendations.

Analysis: Data are summarized as descriptive statistics of the percentage of states recommending testing for each group and presenting other information such as strategic plans for viral hepatitis.

Principal Findings: There is substantial variation in compliance with CDC guidelines. Among the risk groups that the CDC current recommends for testing, only 48% of states updated their guidelines to include individuals born from 1945 to 1965. All states recommend testing among current and / or former injection drug users, however only 56% recommended testing among HIV positive individuals. Most (96%) states recommend testing after workplace exposures. However, there were differences in state recommendations for patients with healthcare exposures or having persistent abnormal alanine aminotransferase levels. One quarter (28%) of states recommend testing nonsexual household contact, although the CDC does not recommend testing this group. Among the risk groups where the CDC has issued uncertain recommendations, states most frequently recommended testing among persons with tattoos or body piercing done with unsterile materials (44%), persons with a history of multiple sex partners (32%) or sexually transmitted diseases (14%), and long-term steady sexual partners of HCV-positive persons (28 percent). Two-fifths (42%) of states had guidelines that were fully consistent with the CDC's recommendations, and 4% had recommendations that diverged for 5 or more risk groups.

Conclusions: There is substantial variation in states' compliance with the CDC's updated guidelines, and the public health importance of risk factors is not perfectly correlated with their inclusion in state guidelines. Limited public health funding for HCV; relatively low levels of HCV disease awareness, activism, and political attention; and public health staff turnover have potentially limited state health departments' attention to updating their HCV screening guidelines.

Implications: States' HCV screening policies are critical to implementing the national viral hepatitis action plan.

SESSION 4C: Policy Development and Implementation-Wednesday, April 22, 2015, from 2:00 to 3:30 pm

Lara Lamprecht, DrPH, MPH, BS

An Exploration of Policy Activities by Local Health Departments to Improve Population Health

Background: The local health department (LHD) plays a key role in the functioning of the public health system—particularly the policy development core function. Policy strategies are increasingly seen as effective strategies to improve current population health problems that are not amenable to individualistic, biomedical approaches. However, less is known about LHD policy activities than about assurance or assessment activities.

Research Objective: The objective of the study was to determine what organizational, service area, and leadership characteristics might be associated with LHDs conducting policy activities to improve population health.

Data Sets and Sources: The study used secondary data from the 2010 NACCHO Profile Questionnaire. The final analyses were conducted using weighted data for the 337 LHDs that had complete data for all variables examined.

Study Design: The goal of this exploratory design was to develop a grounded picture of what level of policy activity is taking place in U.S. LHDs at the local level; and what community, organizational and leader attributes are present in those LHDs that are policy active.

Analysis: LHDs were categorized as “not or less policy active” or “more policy active” at the local level. Independent variables—to represent LHD, service area, and leader characteristics that were identified in professional literature as being potential factors—were selected or created from the Profile Questionnaire questions and response options. The dataset was assessed for potential selection bias due to non-response. A sensitivity analysis was conducted to test data assumptions. SAS survey procedures were used to account for complex sampling and to generate descriptive and analytic statistics. Logistic regression with backward stepwise selection was used to obtain the bivariate and multivariable models. Two approaches (a priori and domain-based) for the multivariable models were used and the results were compared.

Principal Findings: One-fifth of LHDs did not participate in local policy activities. Fewer LHDs tended to participate in complex policy activities. LHDs that served a larger population ($AOR=4.31$, $p<.0001$) or were locally governed ($AOR=1.69$, $p<.0001$) were more policy active. Other important variables included: a leader that held a public health degree, the gender of the local health department leader, five occupation categories, the local board of health’s policy authority, and three variables (community health assessment, health improvement planning, and health impact assessment) that are indicative of a high-functioning local health department.

Conclusions: While answering a “what” question, this study made a foundational contribution in the policy area. However, further research is needed on how characteristics are associated with—and how and why LHD leaders pursue—policy development.

Implications for Public Health Practice and Policy: If policy is an important lever to have a meaningful impact on the health across the Nation, public health leaders can think about ways to improve policy development capacity in small- and mid-sized jurisdictions. Effective leaders can also influence policy levers that are not within their direct control; therefore collaborating with others that govern local jurisdictions such as peers (agriculture, urban development, etc.), city council members, an administrator, in addition to the local board of health might also be useful—particularly to implement a health in all policies strategy. Characteristics might be used by state health departments, academia, and others to target LHDs for policy practice improvements. The study also identified improvements that might be made to the Profile Questionnaire to improve the quality of information available to researchers that want to focus on policy-related questions.

SESSION 4C: Policy Development and Implementation-Wednesday, April 22, 2015, from 2:00 to 3:30 pm

Shannon Carrillo, BA

Local Health Policy Networks of 15 Local Health Departments in the Big Cities Health Coalition

Co-Investigator(s): Carothers Bobbi, PhD; JP Leider, PhD; Vicky Bass, MPH; & Jenine Harris, PhD

Background: The Big Cities Health Coalition (BCHC) is a project of the National Association of County and City Health Officials (NACCHO). BCHC provides a forum for the leaders of America's largest metropolitan health departments to exchange strategies and jointly address issues to promote and protect the health and safety of the 46 million people they serve. One tool local health departments (LHDs) have at their disposal is cultivating policies and building partnerships. Developing a strong local policy network has the potential to improve local public health policy. However, little is known about the city and county partnerships that LHDs employ to support public health policy and advocacy activity.

Research Objective: Characterize health policy networks in 15 urban areas in the United States, including size of the networks and connectedness between policy partners in each city.

Data Sets and Sources: A social network analysis dataset consisting of 15 cities and 385 respondents.

Study Design: In each of 15 cities, we conducted a three-stage social network survey. First, we worked with the chief of policy in the city's health department to identify policy partners across five main policy areas (i.e., core local funding, tobacco control, obesity and chronic disease, injury and violence prevention, and infant mortality). Next, we built and finalized the roster by reaching out to key leaders in each of those policy spaces. Finally, we sent a web-based survey to each member of the policy network asking about whether and to what extent they collaborated with other members in the network.

Analysis: We evaluated the composition and structures of local policy networks in the five policy areas across all 15 cities. We examined the centrality of organizations and organization types in each policy area and overall, compared the composition of policy networks within and between the health departments, and identified predictors of collaboration overall and in the various policy areas.

Principal Findings: Networks included between 12 and 54 local organizations. On average, we received responses from between 63% and 100% of local partners in a given city. Three agency types comprised the majority of LHD policy partners: non-profit agencies (25%), government agencies (22%), and schools/universities (17%). Up to 6% of network members were identified as key partners in Core Local Funding, 16% to 25% of network members were key in Tobacco Control, 28% to 42% of network members were leaders or key in Obesity and Chronic Disease, 4% to 33% of network members were key in Injury and Violence Prevention, and up to 60% of network members were key in Infant Mortality. The majority (72%-90%) of organizations worked in a single policy area while a small number worked in multiple policy areas. Preliminary analyses indicated that different agency types were central to each of the policy areas. For example, government agencies were central in the core local funding policy network, hospitals/clinics were most central in the tobacco control policy network, and non-profits were most central in the obesity/chronic disease policy network.

Conclusions: Study results will allow LHDs to better understand the composition and structures of their local policy networks and identify opportunities for strengthening existing connections and pursuing additional links.

Implications for Public Health Practice and Policy: Policy networks include diverse local partners and vary in central partner types. While LHDs are well connected in all policy networks, they are not as central as some of their partners to this work and may be missing opportunities to connect with others in their city and/or county.

SESSION 4C: Policy Development and Implementation-Wednesday, April 22, 2015, from 2:00 to 3:30 pm

Valerie A. Yeager, DrPH

Public Health Workforce Recruitment: Understanding State Hiring Laws

Co-Investigator(s): Mollye Demosthenidy, JD

Background: For over a decade, public health agencies have experienced workforce shortages and expect the impending retirement of a large portion of valuable employees. The Association of State and Territorial Health Officials (ASTHO) recently released an issue brief that identified lengthy hiring processes as barriers to the successful recruitment of public health workers. To date, no one has collected information on state hiring laws that guide the hiring of public health employees. Without this data, it is difficult to empirically examine state hiring laws as they relate to workforce shortages, hiring processes or recruitment strategies although previous reviews have highlighted the need for such research. Given workforce needs, information about hiring laws and processes may inform strategies to recruit new employees.

Research Objective: Using legal mapping techniques and methods, we collected and coded current state hiring laws and regulations governing the hiring processes in state public health agencies across all 50 states. This purpose of this presentation is to summarize the methods used, the data collected, and findings about workforce laws. This data will soon be available as a shareable resource for future public health workforce studies.

Data Sets and Sources: We quantified and coded variables associated with merit-based systems, civil service exams, exceptions to these systems, hiring rules, and other relevant information. Primary data on laws and regulations were collected from legal databases (e.g., Westlaw and Lexis Nexis) and official state agency websites. Secondary data, collected by ASTHO in the 2012 Profile Survey, were also used.

Study Design: Cohort study using primary and secondary data.

Analysis: State hiring laws and regulations were collected and coded in Excel. Summary statistics are provided. Bivariate relationships between hiring laws/regulations and select secondary variables (governance, organization and workforce characteristics) from the 2012 ASTHO Profile survey were also examined.

Principal Findings: According to current laws and regulations, a total of 25 states require new employee candidate lists from an external department or board. These same states require that new employees must come from these specific employment lists. A total of 17 states have exceptions to their merit system hiring rules. A total of 35 states require a civil service exam for state public health employees, with 8 states that limit this exam to a written test. Of the 35 states that require a civil service exam, 17 of these public health agencies must administer the exam themselves. A total of 34 states have hiring exceptions for former employees and all states have exceptions for veterans.

Conclusions and Implications for Public Health Practice and Policy: Findings indicate that half of all states require new employee candidate lists from external departments or boards. This is important as the legal rules governing hiring may influence the duration of the hiring process and ultimately the time required to hire new employees. Such a finding is important when considering that new public health graduates, an important pool of potential new employees, may not be financially capable of enduring long hiring processes. Exceptions to merit based hiring rules vary across states, potentially complicating the hiring process for new graduates and other potential employees. Analyses examining the relationship between hiring laws/regulations and public health agency governance, organizational, and workforce characteristics are ongoing and will be complete in January 2015. The data on state hiring laws/regulations collected in this study may be useful for future public health workforce research.

SESSION 4D: Transforming Public Health with Pragmatic Randomized Trials-Wednesday, April 22, 2015, from 2:00 to 3:30 pm

SESSION 4D: Transforming Public Health with Pragmatic Randomized Trials

Room: Bluegrass Room I & II

This panel session will cover opportunities for expanding experiments in public health delivery systems through pragmatic randomized trials. The panel addresses the various factors and issues related to applying pragmatic random assignment studies in public health settings. Design and analytic strategies along with implications for applied services and policy researchers will also be discussed.

Moderator: Glen P. Mays, PhD, MPH

Presenters:

Bergen Nelson, MD

Assistant Clinical Professor

David Geffen School of Medicine at UCLA, Department of Pediatrics
Los Angeles, California

Dr. Bergen Nelson is a general pediatrician and health services researcher who completed the Robert Wood Johnson Foundation Clinical Scholars Program at UCLA in 2011. Dr. Nelson taught elementary school in New York City for two years through the Teach For America program. Research interests include early childhood development, the connections between education and health, and improving systems of care for vulnerable families. Dr. Nelson has worked with public school districts in Los Angeles and San Francisco, as well as the federally-funded Head Start preschool program, on transformational initiatives that augment the role of early education programs and systems in promoting early identification and response to developmental concerns.

Dr. Nelson attended Harvard Medical School where she received her MD in 2004, and completed internship and residency in pediatrics at University of California, San Francisco, starting in the inaugural year of the Pediatric Leadership for the Underserved (PLUS) program. Dr. Nelson's undergraduate degree is from Wellesley College.

Julia Chabrier, MPP

Policy Manager

Abdul Latif Jameel Poverty Action Lab
Cambridge, Massachusetts

Ms. Chabrier is a Policy Manager for J-PAL North America. Prior to joining J-PAL North America, Julia worked in the Massachusetts Executive Office for Administration and Finance, where she managed the state's pay for success initiatives and a financing program for significant public infrastructure improvements and provided analysis related to long-term fiscal planning and related policy initiatives. She holds an M.P.P. from the Harvard Kennedy School, an M.S.T. in Childhood Education from Pace University, and a B.A. in Political Economy from Williams College.

Annetta Zhou, BA

PhD Student and Research Assistant

Abdul Latif Jameel Poverty Action Lab
Cambridge, Massachusetts

Ms. Zhou is a PhD student in Health Policy and Economics at Harvard University. Her research interests cover a broad range of topics related to productivity in health care, such as the effectiveness of alternative care delivery models, the adoption of appropriate and efficient treatment choices, and the efficient allocation of resources in unscheduled care. Annetta has been working on a number of potential and ongoing randomized evaluations through the Abdul Latif Jameel Poverty Action Lab North America branch (JPAL NA). One example of her current projects is a randomized evaluation of Camden Coalition of Healthcare Provider's "hot spotting" care management program in New Jersey. Prior to starting the PhD program, Annetta worked on the Oregon Health Insurance Experiment, a natural randomized experiment that evaluates the effect of a Medicaid expansion in 2008. Annetta has been an Agency for Healthcare Research and Quality (T32) trainee and a National Science Foundation Graduate Research Fellowship Program fellow.

Poster Session A-Tuesday, April 21, 2015 from 10:30 to 11:30 am

TUESDAY, APRIL 21, 2015
10:30 TO 11:30 AM

Room: Magnolia Jr. Ballroom

POSTER SESSION A

Board #1: Job Task Analysis in Public Health: What are the Essential Tasks of Public Health Professionals?

Primary Investigator: Richard Kurz, PhD

Co-Investigator(s): Laura King, MPH, CHES; & Christine M. Plepys, MS (presenting)

Board #2: Hospital Community Benefit in the Context of the Larger Public Health System: A State-level Analysis of Hospital and Governmental Public Health Spending Across the United States.

Primary Investigator: Simone Singh, PhD, MA, BBA

Co-Investigator(s): Gary Young, PhD, JD

Board #3: Applying Failure Modes and Effects Analysis to Public Health Models: The Breathe Easy at Home Program

Primary Investigator: Margaret Reid, RN

Co-Investigator(s): Megan Sandel, MD, MPH, FAAP

Board #4: Developing a Tool to Assess Practitioner Capacity to Change Policies and Environments

Primary Investigator: Jennifer Leeman, DrPH, MPH

Co-Investigator(s): Jean Wiecha, PhD, MS; Larissa Calancie, MPH; & Alexis Moore, MPH

Board #5: Do LHDs with Better Health Informatics Capacity Have Better Preparedness Capacity?

Primary Investigator: Gulzar Shah, PhD, MS

Co-Investigator(s): Bobbie Newell, MEd, BS; & Ruth Whitworth, MPH, BA

Board #6: Biases in Using Geospatially-Enabled Electronic Health Records to Measure Population Health

Primary Investigator: Brian Dixon, PhD, MPA, BA

Co-Investigator(s): P. Joe Gibson, PhD, MPH; Karen Frederickson-Comer; Jian Zhou, PhD, MS; & Marc Rosenman, MD, MS

Board #7: Modeling Return on Investment for HIV/STD Partner Services: Results from the NYS Partner Services Time Study

Primary Investigator: Britney Johnson, MPH

Co-Investigator(s): Wenhui Feng, MPP; Feng Qian, MD, PhD; & Erika Martin, PhD, MPH

Board #8: Cross-Jurisdictional Services for Public Health in a Rural State: Findings from Kansas.

Primary Investigator: Sarah Hartsig, MS

Co-Investigator(s): Shawna Chapman, PhD, MPH (presenting); Barbara Starrett, MPH; & Gianfranco Pezzino, MD, MPH

Poster Session A-Tuesday, April 21, 2015 from 10:30 to 11:30 am

Board #9: How Local and State Public Health Workers Learn About and Use Research Evidence

Primary Investigator: Rebekah R. Jacob, MPH; MSW

Co-Investigator(s): Peg Allen, PhD, MPH; Linda Ahrendt, MEd; & Ross C. Brownson, PhD

Board #10: Accreditation Efforts in Georgia: A Technical Assistance Observational Study

Primary Investigator: Angela Peden, MPH

Co-Investigator(s): Gulzar Shah, PhD, MS; Russell Toal, MPH; Dayna Alexander, DrPH, MSPH; Alesha Wright, MPH; Nandi Marshall, DrPH, MPH, CHES; Ashton Anderson, MS; & Scott Uhlich

Board #11: LHD's Role in SIM Award Programs

Primary Investigator: Nathalie Robin, MPH

Co-Investigator(s): Jiali Ye, PhD

Board #12: Characteristics on Having Community Health Workers as Full Time Equivalents in Local Health Departments

Primary Investigator: Quan Chen, MS, BA

Board #13: Dueling Ethical Constructs: A Pilot Study to Better Understand Barriers to Synergistic Public/Private Partnerships in Public Health

Primary Investigator: Kevin Borrup, JD, MPA, BA

Board #14: Missing Data in Electronic Health Records: Implications for Population Monitoring

Primary Investigator: Remle Newton-Dame, MPH

Board #15: Predictors of PHAB Accreditation Status of Local Health Departments

Primary Investigator: Keith Branham, MPH, BS

Co-Investigator(s): Caroline Holsinger, MPH, BS, CPH; & Miriam Siegel, MPH, BA

Board #16: HPV Vaccination in Kentucky: An Environmental Scan

Primary Investigator: B. Mark Evers, MD

Board #17: Summit County for Better Birth Outcomes, Every Baby Matters: A Community-Based Participatory Approach

Primary Investigator: Aimee Budnik, MS, BS

Co-Investigator(s): Heather Beaird, PhD; Sherry Blair, BS; Jeffrey Krauss, BA, BS; & Monique Harris, MSW

Board #18: Applied Systems and Implementation Science to Support Population Health Outcomes in the Era of Health Reform

Primary Investigator: Dorothy Cilenti, DrPH, MSW, BS

Co-Investigator(s): Oscar Fleming, MSPH, BA; Kristen Hassmiller Lich, PhD; Amy Mullenix, MSPH, MSW; & Lewis Margolis, MD, MPH, FAAP

Board #19: Retention in HIV Care Between Testing and Treatment in AIDS Healthcare Foundation Facilities in Northern Nigeria

Primary Investigator: Folajinmi Oluwasina, MPH, BS

Poster Session A-Tuesday, April 21, 2015 from 10:30 to 11:30 am

Board #20: Is Health Equity a Priority? Perceptions from Health System Decision Makers and Practitioners in British Columbia

Primary Investigator: Marjorie MacDonald, PhD, MA, BS, RN

Co-Investigator(s): Phuc Dang, MA, BA (presenting); Bernie Pauly, PhD, MA, BS, RN; Corrine Lowen, MA, BA; & Diane Allan, MS, BA

Board #21: Identifying Predictors for Primary Prevention Activities in Local Health Departments: Understanding the Role of the Consolidation

Primary Investigator: Aimee Budnik, MS

Board #22: Process of Identifying Local Level Intermediate Measures that “Promote Mental Health and Prevent Substance Abuse” in the Prevention Agenda

Primary Investigator: Priti Irani, MSPH

Co-Investigator(s): Caroline Bolarinwa; Sean Haley, PhD; Christopher Maylahn, MPH (presenting); Sylvia Pirani, MPH; & David Shern, PhD

Board #23: Improving Hospital Perinatal Outcomes to Help Achieve Healthy People 2020 (WITHDRAWN)

Primary Investigator: William Riley, PhD

Co-Investigator(s): Les Meredith; Rebecca Price; & Cecile Dinh, MPH

Board #24: Change Adaption: Local Health Department Accreditation Status and Leader Openness to Change

Primary Investigator: Emmanuel Jadhav, DrPH, MS, BS

Co-Investigator(s): James Holsinger, PhD; Glen Mays, PhD; & David Fardo, PhD

Board #25: Assessing the Role of State and Local Public Health in Outreach and Enrollment for Expanded Coverage

Primary Investigator: Amanda Cash, DrPH, MPH

Co-Investigator(s): Malcolm Williams, PhD, MPP

Board #26: Facilitating the Uptake of Standardized Local Public Health Service Delivery Measures through PHAST

Primary Investigator: Greg Whitman, BA

Co-Investigator(s): Betty Bekemeier, PhD, MPH, RN; Seungeun Park, MSN, RN; Michelle Yip, MSN, RN; & Matthew Dunbar, PhD

Board #27: Assessing Public Health Law Knowledge and Use Among the Public Health Workforce in Nebraska

Primary Investigator: Jennifer Ibrahim, PhD, MPH

Co-Investigator(s): Elizabeth Platt, JD; Sarah Happy, JD; & Darrell Klein, JD

Board #28: A Typology of U.S. Local Boards of Health

Primary Investigator: Jeffery Jones, PhD, MA, BA

Co-Investigator(s): Yelena Tarasenko, DrPH, MPH, MPA; & Ankit Bangar

Board #29: The Influence of Local Health Department Structure on Quality, Process, and Priorities of Community Health Assessment and Health Improvement Planning

Primary Investigator: Sara Tillie, BA

Co-Investigator(s): Melanie Golembiewski, MD; Alexandria Drake, MPH; & Scott Frank, MD, MS

Poster Session A-Tuesday, April 21, 2015 from 10:30 to 11:30 am

Board #30: Modeling Supply Chain System Structure to Trace Sources of Food Contamination: Results from Stylized Models

Primary Investigator: Stan Finkelstein, MD, MS, BS

Co-Investigator(s): Richard Larson, PhD, MS, BS

Board #31: Comparisons of Manager and Employee Estimates of Time Spent on Communicable Disease Monitoring

Primary Investigator: Adam Atherly, PhD

Co-Investigator(s): Melanie Mason, MS; Lisa VanRaemdonck, MPH; & Sarah Lampe, MPH

Board #32: The Role of a Patient-Centered Advisory Council in Defining Health Care Quality

Primary Investigator: Jimmy Parks, DrPH, RN

Co-Investigator(s): Kevin Ryan, JD, MA

Board #33: Expanding the Wisconsin Community Health Improvement Plan and Process (CHIPP) Quality Measurement Tool to Address Hospital based Community Health Needs Assessments (CHNAs)

Primary Investigator: Melanie Golembiewski, MD, BS

Co-Investigator(s): Alexandria Drake, MPH, BA; & Scott Frank, MD, MS, BA

Board #34: Optimizing Expenditures Across the HIV Continuum of Care: Bridging Public Health and Health Care Systems to Improve Patient Outcomes

Primary Investigator: Gregg Gonsalves, BS

Co-Investigator(s): Paul Cleary, PhD; Edward Kaplan, PhD; & David Paltiel, PhD, MBA

Board #35: The Impact of the Affordable Care Act on Delivery of Childhood Immunization Services in Rural Communities

Primary Investigator: Van Do-Reynoso, MPH

Co-Investigator(s): Paul Brown, PhD

Board #36: Injury Related Infant Mortality in Arkansas: A Policy Prospective

Primary Investigator: Sharla Smith, PhD, MPH, BS

Poster Session B-Tuesday, April 21, 2015 from 5:30 to 6:45 am

TUESDAY, APRIL 21, 2015 5:30 TO 6:45 PM

Room: Magnolia Jr. Ballroom

POSTER SESSION B

Board #1: A Case Study of the Use of Administrative Evidence-based Practices in Local Health Departments

Principal Investigator: Kathleen Duggan, MPH, MS

Co-Investigator(s): Rachel Tabak, PhD; Paul Erwin, MD, DrPH; Carson Smith, MPH, MPA; Kristelle Aisaka, BA; & Ross Brownson, PhD

Board #2: Social Network Analysis of a Health Department-led Community Health Improvement Partnership

Principal Investigator: J. Mac McCullough, PhD, MPH

Co-Investigator(s): Eileen Eisen-Cohen, PhD; Bianca Salas, MPH; & William Riley, PhD

Board #3: Globalization and the Resurgence of Pertussis in the United States

Principal Investigator: Stephen Petzinger, BS

Board #3: A Mixed Methods Approach to Understanding Community Stakeholder Engagement in Community Health Needs Assessments

Principal Investigator: Cara Pennel, DrPH, MPH

Co-Investigator(s): Kenneth McLeroy, PhD, MS; James Burdine, DrPH, MPH; David Matarrita-Cascante, PhD, MS; & Jia Wang, PhD, MBA, MEd

Board #4: Local Health Department (LHD) Clinical Service Delivery along the Urban/Rural Continuum

Principal Investigator: Kate Beatty, PhD, MPH

Co-Investigator(s): Michael Meit, MPH, MA; Amal Khoury, PhD; Tyler Carpenter, BS; & Paula Masters, MPH

Board #5: Workforce Education and Experience as a Factor in Disease Case Investigation Efficiency

Principal Investigator: Melanie Mason, MS

Co-Investigator(s): Adam Atherly, PhD; Lisa VanRaemdonck, MPH, MSW; & Sarah Lampe, MPH

Board #6: Describing Community Health Status and Priorities: Early Findings from Accredited Health Departments' Community Health Assessments and Community Health Improvement Plans

Principal Investigator: Jessica Kronstadt, MPP

Co-Investigator(s): Molly Bernish, BS, RN; Bulbul Bhattacharya, MPH; Natasha Kormanik, BS, RN; & Diedre Serene, BS, RN

Board #7: Reports of Insurance-Based Discrimination in Health Care From 2007 to 2013: A Time Trend Analysis

Principal Investigator: Xinxin Han, MS

Board #8: A Systematic Approach to Sustain a CQI Culture with Application to Public Health

Principal Investigator: Lorelei Kurimski, MS

Co-Investigator(s): Bonnie Rubin, MBA

Poster Session B-Tuesday, April 21, 2015 from 5:30 to 6:45 am

Board #9: Financial Risk Indices and Prediction of Fiscal Distress

Principal Investigator: Patrick Bernet, PhD, MS, MBA, BA, BS

Board #10: Quantifying the Potential Economic Benefits of Health Equity in Connecticut: Disparities in Hospital Charges and Costs among Blacks and Hispanics compared to Whites, 2005-2012

Principal Investigator: Stephanie Poulin, MPH

Co-Investigator(s): Sina Kianoush, MD, MPH & Mehul Dalal, MD, MSc

Board #11: Impact of a Notifiable Condition Reporting Intervention within a Health Information Exchange on Clinical and Public Health Partners: A Mixed Methods Perspective

Principal Investigator: Rebecca Hills, PhD, MSPH

Co-Investigator(s): Brian Dixon, PhD, MPA; Uzay Kirbiyik, MPH; Patrick Lai; Joseph Gibson; Shaun Grannis, MD, MS; & Debra Revere, MA

Board #12: Validating the Use of Electronic Health Record Data for Population Health Surveillance

Principal Investigator: Katharine McVeigh, PhD, MPH

Co-Investigator(s): Remle Newton-Dame, MPH; Lorna Thorpe, PhD; Sharon Perlman, MPH ; Lauren Schreibstein, MA; Elisabeth Snell, MPH; & Tiffany Harris, PhD, MS

Board #13: Effects of HAART and DOTS on the Kidney Function of Patients Co-infected with HIV and Tuberculosis in the South West Region of Cameroon (WITHDRAWN)

Principal Investigator: Dickson Shey Nsagha, PhD, MS, BS

Co-Investigator(s): Benjamin Pokam, PhD, MS, BS; Jules Clement Nguedia Assob, PhD, MS, BS; Anna Longdoh Njunda, PhD, MS, BS; Odette KDzemo Kibu, MS, BS; & Marcellin Ngowe Ngowe, MD

Board #14: Organizational Variation in an Evidence-based HPV Video Intervention Implementation: A Practice-Based Prevention Research Collaboration

Principal Investigator: Angela Carman, MBA

Co-Investigator(s): Margaret McGladrey, MA; & Anna Hoover, PhD

Board #15: A Taxonomy of Integration Interventions between Health Care and Public Health

Principal Investigator: Deborah Porterfield, MD, MPH

Co-Investigator(s): Lucia Rojas-Smith, DrPH; Megan Lewis, PhD; Lauren McCormack, PhD; Tom Hoerger, PhD; & Debra Holden, PhD

Board #16: Children with Medical Complexities: A Care Coordination Model to Improve Outcomes and Lower Medicaid Costs (WITHDRAWN)

Principal Investigator: Steven Howard, PhD, MBA, BBA

Co-Investigator(s): Eric Armbrecht, PhD; Paula Buchanan, PhD; Zidong Zhang, MS, BS; Christine Buelt, BS; Lindsey Pearson, BS; Samantha Ressler, MPH, BS; & Roy Lantry, PhD, MBA, BA

Board #17: Characteristics of Academic Health Departments

Principal Investigator: Paul Erwin, MD; DrPH

Co-Investigator(s): Patrick Barlow, PhD; Ross Brownson, PhD; Kathleen Amos; & C. William Keck, MD, MPH

Poster Session B-Tuesday, April 21, 2015 from 5:30 to 6:45 am

Board #18: Functions and Performance of Community Health Coalitions in Tennessee

Principal Investigator: Paul Erwin, MD; DrPH

Board #19: Epidemiologic Capacity and Need in Hawaii: Status and Implication for Improvement

Principal Investigator: Tetine Sentell, PhD

Co-Investigator(s): Thomas Lee, MPH; Jay Maddock, PhD; & Victoria Fan, PhD

Board #20: Workforce Impacts on Provides of Local Health Department Activities : Addressing Health Disparities (WITHDRAWN)

Principal Investigator: Quan Chen, MS, BS

Board #21: From the Hospitals' Perspective: Collaboration among Non-Profit Hospitals and Local Health Departments

Principal Investigator: Kate Beatty, PhD, MPH

Co-Investigator(s): Kristin Wilson, PhD, MPH; Amanda Cieciorka, MPH; & Lisa Stringer, MPH, MSW

Board #22: Understanding the Exponential Increase of Cesareans in the United States

Principal Investigator: Jessica Stallings, MPH, BS

Board #23: A Logic Model for Evaluating the Academic Health Department

Principal Investigator: Paul Erwin, MD; DrPH

Co-Investigator(s): Julie Grubaugh, MPH, BS, CHES; Clea McNeely, PhD; Jennifer Valentine, MSN; Mark Miller, MS; & Martha Buchanan, MD

Board #24: Injury Prevention Partnerships: The Role of Public Health and Primary Care in Reducing Injury-related Infant Mortality Among Vulnerable Populations

Principal Investigator: Sharla Smith, PhD, MPH, BS

Board #25: Shared Service Arrangements Among Local and Tribal Health Departments in Wisconsin: Results of the 2014 Survey

Principal Investigator: Kusuma Madamala, PhD, MPH

Co-Investigator(s): Susan Zahner, DrPH, BA, BS, BBA, RN; Adam Karlen, BS, RN; & Tracy Mrochek, MPA, RN

Board #26: Is Leadership Style Associated with Resource Reductions in Local Health Departments?

Principal Investigator: Laura Cassidy, PhD, MS

Co-Investigator(s): Matthew Dellinger, PhD; Renee Hill, MPH; & Staci Young, PhD

Board #27: Mixing It Up: Patterns in PARTNERing across Public Health Collaboratives

Principal Investigator: Christine Bevc, PhD, MA, BS

Co-Investigator(s): Danielle Varda, PhD; & Jessica Retrum, PhD

Board #28: Public Health and Primary Care Integration through Enhanced Public Health Information Technology (PHIT) Maturity: A Case for Behavioral Health

Principal Investigator: Ritu Agarwal, PhD

Co-Investigator(s): Kenyon Crowley, MS, MBA; Robert Gold, PhD; Karoline Mortensen, PhD; Raul Cruz-Cano, PhD; Dushanka Kleinman, PhD, DDS; & Robin Bloodworth, MPH

Poster Session B-Tuesday, April 21, 2015 from 5:30 to 6:45 am

Board #29: Organizational Climate, Culture, Capacity, and Change: A Conceptual and Practical Review for Understanding Organizational Context and Evidence-based Practice

Principal Investigator: Virginia R. McKay, MA, BS

Board #30: Local Government Agency Spending and County Level US Mortality

Principal Investigator: David Bishai, MD; PhD, MPH, BA

Co-Principal Investigator(s): Y. Natalia Alfonso, MA, BA; Eoghan Brady, BA; Jonathon Leider, PhD; Jennifer Le, MPH; Art Sensenig, PhD; & Beth Resnick, PhD

Board #31: Renewal of Public Health Services: The Nature of Evidence on the Frontlines of Public Health in British Columbia

Principal Investigator: Megan Kirk, MSN, RN

Board #32: The Influence of Education Level, Income and Provider Density among Children Visiting a Mobile Dental Unit in South Central Kentucky

Principal Investigator: Jimmy Shah, BS

Co-Investigator(s): Gregory Ellis-Griffith, PhD

Board #33: Profiling American Public Health Workers: Data on Registered TRAIN Learners

Principal Investigator: Jeffery Jones, PhD, MA, BA

Co-Principal Investigator(s): Lois Banks; Ilya Plotkin, MA; & Nathan Walker, BS

Board #34: What Do Local Health Departments Do To Address Population Mental Health?

Principal Investigator: Jonathan Purtle, DrPH, MPH; MS

Board #35: Quality Improvement Trends in Public Health Practice

Principal Investigator: Stephen Brown, MS, BS

Co-Investigator: Jamie Pina, PhD, MSPH

Board #36: Assessing Changes in Safety Net Providers Since the Passage of the Affordable Care Act

Principal Investigator: Arlesia Mathis, PhD, MA

Co-Investigator(s): Priscilla Barnes, PhD, MPH; & Gulzar Shah, PhD, MS

Board #37: Assessing the Chronic Disease Prevention Capacity of a State Health Department

Principal Investigator: Jeanne Alongi, DrPH, MPH

Co-Investigator(s): Ginny Furshong, BS; Heather Zimmerman, MPH; Todd Harwell, MPH; & John Robitscher, MPH

Board #38: Restructuring a State Nutrition Education and Obesity Prevention Program: Implications of a Local Health Department Model

Primary Investigator: Helen Wu, PhD, MS, BA

Co-Investigator(s): Kenneth W. Kizer, MD, MPH; & Desiree Backman, DrPH, MS

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The National Coordinating Center for PHSSR and Public Health PBRNs congratulates the recipients of the Dr. E. Richard “Rick” Brown Keeneland Conference Scholarships. The scholarships recognize the many lasting contributions of Dr. Brown, a distinguished leader, scholar and teacher in public health and the founding director of the UCLA Center for Health Policy Research. These awards support Keeneland Conference travel, attendance and networking for predoctoral and early-career postdoctoral researchers from racial, ethnic and socioeconomic groups who are underrepresented in the health and social sciences. Awardees were selected based on the significance and innovation of their PHSSR research interests and their potential as emerging scientific leaders in the field.



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