



STD Services Scope and Organization in California and Alabama: Impacts for Care and Disparities

Research In Progress Webinar

Wednesday, March 8, 2017

12:00-1:00pm ET/ 9:00-10:00am PT

Funded by the Robert Wood Johnson Foundation

Agenda

Welcome: CB Mamaril, PhD, Research Assistant Professor,
University of Kentucky College of Public Health

STD Services Scope and Organization in California and Alabama:
Impacts for Care and Disparities

Presenters: Summer Starling, DrPH, MPH, Research Scientist,
Public Health Institute (California); and California Public Health PBRN;
summerstarling@gmail.com and

Robert Weech-Maldonado, PhD, Professor & L.R. Jordan Chair of
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Alabama Public Health PBRN rweech@uab.edu

Commentary: Lori Bilello, PhD, MBA, Research Professor, U. of
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Questions and Discussion

Presenters



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STD SERVICES SCOPE AND ORGANIZATION IN CALIFORNIA AND ALABAMA: IMPACTS FOR CARE AND DISPARITIES

Robert Weech-Maldonado
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UCMERCED



Project DIRECT

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Rob Weech-Maldonado (Presenter)

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California Team

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Summer Starling (Presenter)

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This project is a partnership of:

University of California Berkeley

Public Health Institute

University of Alabama Birmingham

University of California Merced, and the

Public Health Practice Based Research Networks of CA and AL

With support from the Robert Wood Johnson Foundation (#72052)

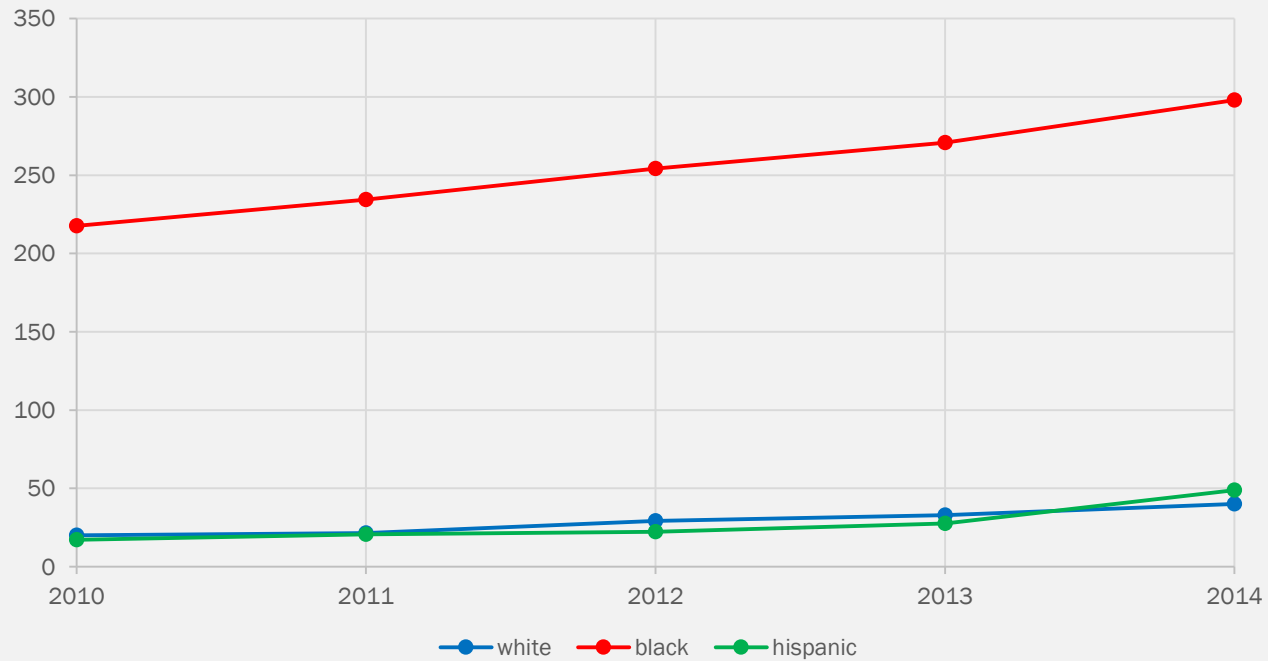
Project Aims

- Determine the scope of STD prevention, screening, treatment and follow-up services and organizational partnerships available at local health departments (LHD) in Alabama and California (Aim 1 aka “Scope”)
- Examine the association between LHD STD service organization and community factors and disparities in gonorrhea case rates for Blacks and Hispanics in Alabama and California (Aim 2 aka “Disparities”)

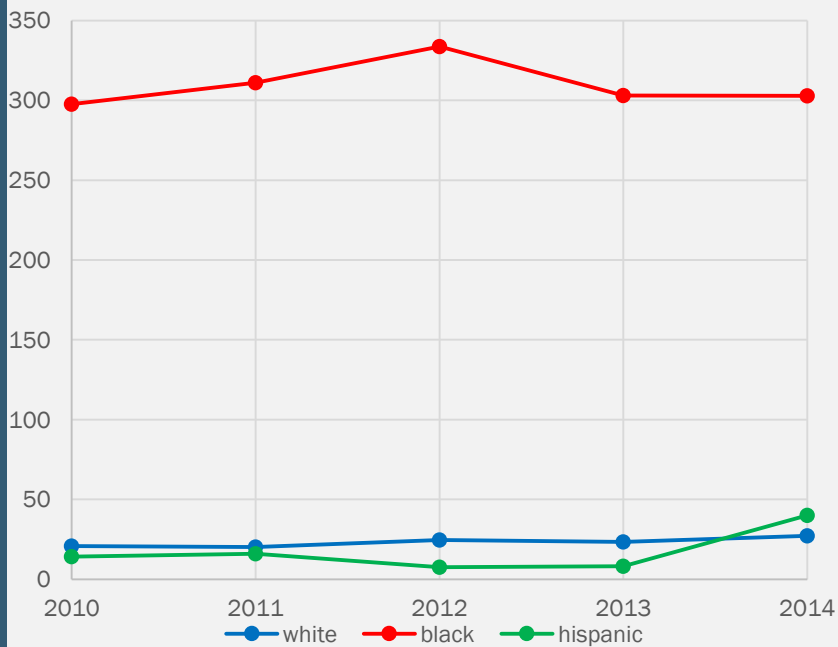
Background

- Untreated gonorrhea infections can lead to serious complications among both women and men
 - *Gonococcal arthritis*
 - *Pelvic inflammatory disease (PID)*
 - *Induced infertility in women or epididymitis in men*
- Alabama and California are among states with above the national average of 124 cases per 100,000 for rates of gonorrhea in 2015 (CDC)
 - *Alabama at 148 cases per 100,000*
 - *California at 140 cases per 100,000*

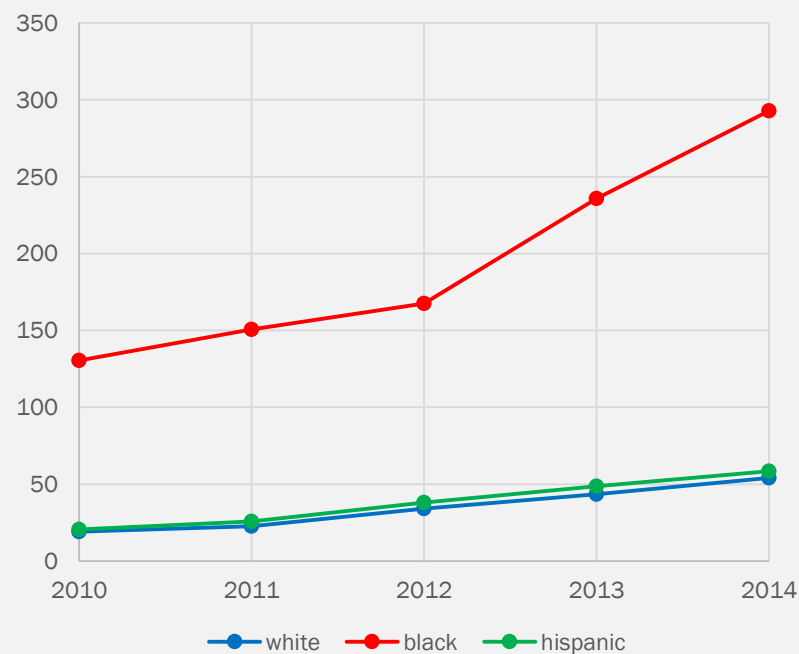
Gonorrhea Rates per 100,000 Population by Race/Ethnicity, Alabama and California 2010-2014



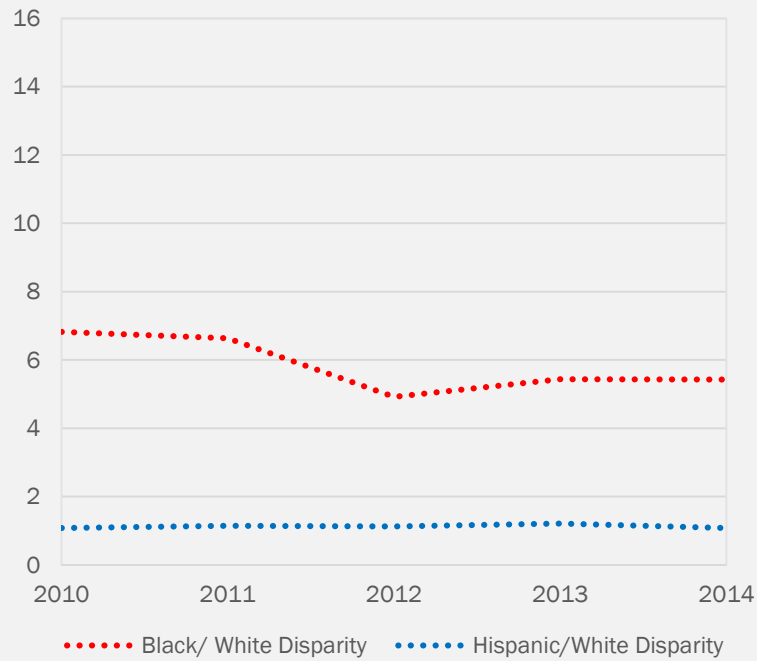
Gonorrhea Rates per 100,000 Population
by Race/Ethnicity in Alabama



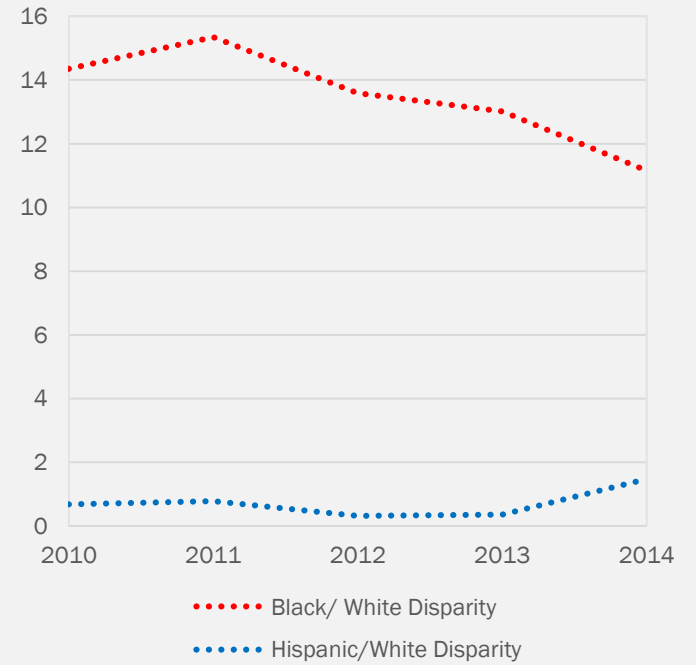
Gonorrhea Rates per 100,000 Population
by Race/Ethnicity in California



Racial/Ethnic Disparities in California (2010-2014)



Racial/Ethnic Disparities in Alabama (2010-2014)



Racial/Ethnic Disparities in Gonorrhea

- Black-White disparities declined until 2012 in CA and then rose slightly in 2013, but with rapidly rising rates in both groups
- Hispanic-White disparities in California remained relatively flat between 2010-2014, as rates for both groups increased during this period
- Black-White disparities declined slightly in AL between 2010-2014, but primarily as a result of an increase in White rates. Disparities remained very high at 11 times the rate in Whites
- In summary, declines in disparities were not uniform and where present they did not represent necessarily improvements in health
- Factors other than differences in individual risk may affect disparities
 - *LHD STD service organization*
 - *Community factors: sociodemographic, socioeconomic, and health care access*

Shifting Service Provision Landscape

- Little is known about the scope of STD services available through LHDs
- Little is known about how organizational partners work together to assure services
- *Unclear to what extent the role of LHDs in public health and national health reform may have lead LHDs to restructure or reorganize their STD activities*

LHD Service Delivery

- Scope

- *What LHDs are “doing” and with what partners; what services are available at the local level*

- Differentiation

- *How narrowly or broadly evidence-based STD interventions have been implemented*

- Integration

- *Extent to which the LHD relies on partner organizations to carry out STD services*

- Concentration

- *Extent to which authority/effort for STD control is focused on the LHD vs. shared across the system*

Taxonomy of Sexually Transmitted Disease Services Organization (Rodriguez et al., 2016)

	Low	Medium	High
Differentiation			
Integration	Low DIC	Medium DIC	High DIC
Concentration			

Methods: Aims 1 & 2

■ Data sources

- *LHD survey data on STD service delivery and organization*
- *Public Health Department data on Gonorrhea rates*
- *Area Health Resource File (AHRF)*

■ Sample

- *All LHD STD programs in 67 and 62 jurisdictions in Alabama and California, respectively, were surveyed between February-August 2015 about services for the calendar year 2014*
- *Sixty of 67 (90%) LHDs in Alabama and 57 of 62 (93%) LHDs in California completed the survey for a 91% overall response rate*
- *Final analytic sample of 115 jurisdictions*

Participating LHDs by State and Population (Starling et al., 2017)

LHD Size (Population)	Survey responses			Interviews	
	CA (n=57)	AL (n=60)	Combined CA and AL (n=117)	CA only (n=5)	AL only (n=6)
Large (>500,000)	15 (26%)	1 (2%)	16 (14%)	2	1
Medium (100,000-499,999)	19 (33%)	11 (18%)	30 (26%)	2	1
Small (25,000-99,999)	13 (23%)	26 (43%)	39 (33%)	1	1
Very Small (<25,000)	10 (18%)	22 (37%)	32 (27%)	0	3

Analysis: Aims 1 & 2

- Linear regression models (Aim: Scope)
 - *T-tests were performed to assess statistical significance of differences in availability of services by state*
 - *Linear regressions models estimated the extent to which availability of STD services differed significantly by state and county size*
 - *Chi-square analyses were used to test county size differences in availability of services*
- Multivariate regression models (Aim: Disparities)
 - *Relationship between disparity rate ratios in gonorrhoea for Blacks and Hispanics (compared to non-Hispanic Whites) and LHD STD service organization and community factors*
 - *State and year fixed effect*

Dependent Variables

- Disparity rate ratios for each county-LHD
 - *Black/White disparity rate*
 - Gonorrhea case rate per 100,000 population for Blacks/
Gonorrhea case rate per 100,000 for Whites
 - *Hispanic/White disparity rate*
 - Gonorrhea case rate per 100,000 population for Hispanics/
Gonorrhea case rate per 100,000 for Whites

Independent Variable/STD Service Organization

- Composite measure of STD services (DIC)
 - Differentiation
 - Count of 16 STD services plus a count of STD screening efforts specifically targeted for 6 high-risk populations and settings. High-risk populations included sexually active young women, men who have sex with men (MSM), and sex workers. High-risk settings included geographic hot-spots jails, and schools.
 - Integration
 - Count of 27 organizational partners involved in the provision of each of the 16 services (432 possible partnership arrangements).
 - Concentration
 - Concentration of each of the 16 services in the jurisdiction was assessed based on questions regarding the LHD contribution to the overall jurisdiction effort in providing each of the STD services. 5-point response options: 1) all of the effort, i.e. very little community agency or partnering efforts, to 5) none, i.e. efforts are provided only by community organizations.
- Each county classified into one of the taxonomy groups: low DIC, medium DIC, and high DIC

Independent Variables/Community Factors

■ Socio-demographic

- *Population size*
- *% aged 15 to 24 years of age*
- *Male-female ratio*
- *% Black*
- *% Hispanic*

■ Socioeconomic

- *% unemployed*
- *% population with high school or more education*
- *% persons living in poverty*
- *Rural-urban continuum (RUCA) codes*

■ Health care access

- *% uninsured*
- *Federally qualified health centers (FQHCs) per 1,000 population*
- *PCPs per 1,000 population*

Results: Scope of STD Services

- Treatment and follow-up STD services universally provided in both states
 - *Follow up activities for STD control and care: 100%*
 - *Contact tracing, partner notification, or referral for treatment of STDs other than HIV: 96%*
 - *Investigations and referrals for untreated cases: 89%*
 - *In LHDs conducting partner notification, 85% also offered expedited partner therapy (70% in CA; 98% in AL)*

- 32% of LHDs funded, managed, or operated STD clinics (44% in CA, 20% in AL in 2014)
 - *19 had closed clinics in the preceding 10 years (17 in CA, 2 in AL)*
 - *Only 4 had opened them (3 in CA, 1 in AL)*

- Condom distribution is the most common prevention activity: 80%

STD Control Service	Combined CA and AL (n=117)	By State		
		CA (n=57)	AL (n=60)	P
Contract Tracing / Partner Notification / Referrals for Treatment of STDs other than HIV	0.966	0.930	1.000	*
Expedited Partner Therapy	0.857	0.712	0.983	***
Condom Distribution	0.795	0.895	0.700	**
Rapid STD Screening Services (HIV)	0.667	0.771	0.567	*
Prevention Education Activities	0.496	0.737	0.259	***
Lab Acceptance of rectal/throat specimens	0.491	0.685	0.317	***
Provider Training on STD Issues	0.479	0.632	0.333	***
Needs Assessment	0.214	0.316	0.117	**
Mobile Screening Services	0.188	0.333	0.050	***
Mobile Applications for Prevention	0.147	0.263	0.036	***
At-Home Screening	0.052	0.106	0.000	*

Results: Scope of STD Services (cont.)

- Only 36% of LHDs conducted routine or ongoing targeted screening programs for one or more recommended populations or settings (63% CA; 10% AL)
 - *Most common recommended populations reached through screening program were individuals in: jails or detention, sexually active young women, and MSM*
- Large LHDs were more likely to provide a greater number of services ($P < .001$)
 - *However, overall service availability was not statistically significant between small and very small LHDs, indicated a “threshold” in county size for STD service availability*
- STD services statistically significant ($P = .01$) to be different according to LHD size:
 - *Innovative Prevention activities*
 - *Routine Screening for At-Risk populations*

Results: Partnerships in STD Services

- Four organizational partnerships worked with LHDs to provide >50% of STD services:
 - *Family planning programs (77% CA, 65% AL)*
 - *Private physician practices (68% CA, 62% AL)*
 - *Advocacy groups (61% CA, 52% AL), and*
 - *Hospitals and health care systems (60% CA, 52% AL)*

- AL partnered more often with correctional health care (52% AL, 28% CA) and HIV clinics (72% AL, 49% CA)

- CA partnered more often with college/university health and wellness centers (60% CA, 28% AL), and much more often with community health centers (75%) than AL (8%)

Results: Black/White Gonorrhea Disparities

- Factors associated with higher Black/White disparities
 - *Counties with higher poverty*
 - *Higher proportion of Blacks in the county*
 - *Micropolitan areas compared to small towns*
- Factors associated with lower Black/White disparities
 - *Greater access to federally qualified health centers (FQHCs) in the county*
- STD services organization was not significantly associated with Black/White disparities

Multivariate Regression with Black/White Disparities as a Dependent Variable

Black to White ratio (n=96)		
Variables	Estimate	95% CI
DIC categories		
Low DIC	-2.31	-6.85 2.21
Moderate DIC	1.03	-2.80 4.86
High DIC	ref	ref
Location		
Metropolitan core	2.29	-2.83, 7.41
Metropolitan - high commuting	2.39	-2.38 7.17
Metropolitan - low commuting	2.04	-2.22 6.29
Micropolitan	4.85	0.84 8.85*
Small town	ref	ref
FQHCs per 1,000 population	-0.56	-0.89 -0.23**
Poverty (%)	0.38	0.04 0.71*
Black (%)	0.40	0.29 0.49**

Note: Only significant variables shown. * p-value <0.05 ** p-value <0.01

Gonorrhea rate year-observations (2010-2014)

Results: Hispanic/White Gonorrhea Disparities

- Factors associated with higher Hispanic/White disparities
 - *Counties with low DIC of STD services (compared to high DIC)*
 - *Higher county unemployment*
 - *Higher proportion of Hispanics in the county*

Multivariate Regression with Hispanic/White Disparities as a Dependent Variable

Hispanic to White ratio (n=115)		
Variables	Estimate	95% CI
DIC categories		
Low DIC	0.61	0.04 1.17*
Moderate DIC	0.41	-0.06 0.89
High DIC	ref	ref
Unemployment (%)	0.10	0.03 0.16*
Hispanic (%)	0.09	0.06 0.11**

Note: Only significant variables shown. * p-value <0.05 ** p-value <0.01
Gonorrhea rate year-observations (2010-2014)

Discussion/Conclusions

- Is the range of STD services available at the local level as expected?
 - *Yes and no. Findings indicate robust treatment and follow-up service availability, particularly for vulnerable populations.*
 - *However, more innovative, prevention-focused services offered on a case-by-case basis, dependent on political will*
- How have LHDs adapted to national healthcare reform?
 - *Not surprisingly, larger more resourced LHDs are better resourced to offer a wider range of STD services alongside increased patient demand*
 - *However, smaller LHD profiles suggest more agility to shift service delivery models and integrate care with other settings and through strategic partnerships*
 - *Loss of clinic services may become problematic if ACA is rolled back*

Discussion/Conclusions (cont.)

- Does STD service organization matter in terms of gonorrhea disparities?
 - *Results suggest that it does at least for Hispanics. May imply greater access to services.*
- Access to care such as availability of FQHCs more important for Black disparities
 - *Potential impact of ACA through expansion of FQHC funding*
- Social determinants can be important drivers of gonorrhea disparities
 - *Poverty, unemployment, and higher proportion of minorities were significant correlates*
 - *Policies to improve economic opportunities particularly in minority communities may reduce disparities*
- Study limitations
 - *Findings do not imply causality only association*
 - *Did not assess effect of ACA or Medicaid expansion on disparities*

Project Updates

go to: <http://www.publichealthsystems.org/improving-reach-and-effectiveness-std-prevention-screening-and-treatment-services-local-public>

Improving the Reach and Effectiveness of STD Prevention, Screening, and Treatment Services in Local Public Health Systems

[Back to California PBRN Page](#)

[Back to Alabama PBRN Page](#)

Overview

Understanding how organizational structure impacts reach and effectiveness is essential for local health departments that are redefining their STD service delivery roles as a result of extended health care coverage driven by the Affordable Care Act. This [Dissemination and Implementation Research to Improve Value \(DIRECTIVE\)](#) project supports a consortium of the California and Alabama Public Health Practice-Based Research Networks (PBRNs), who are examining variation in: 1) the differentiation, integration, and concentration of STD prevention, screening and treatment services in local public health systems; 2) the extent to which these differences are associated with the quality of STD services and outcomes, including incidence and racial disparities; 3) facilitators and barriers to implementing evidence-based local STD services; and 4) costs associated with STD treatment efforts. The study will use [Multi-Network Practice Outcome Variation Examination \(MPROVE\)](#) indicators for STDs and the experience of the [Delivery and Cost Study \(DACS\)](#) underway in California by UC Merced. Led by the California Public Health Institute, the project team will generate customized reports on the structure, process, and outcomes of STD services in each local health department.

Year: 2014

Funding: Dissemination and Implementation Research to Improve Value Study (DIRECTIVE)

Status: Completed

Presentations

- [Improving the Reach and Effectiveness of STD Prevention, Screening, and Treatment Services in Local Public Health Systems](#) (PHSSR Research in Progress Webinar, December 2015, [recording](#))
- [Improving the Reach and Effectiveness of STD Prevention, Screening, and Treatment Services in Local Public Health Systems](#) (Poster presentation at 8th Annual Dissemination & Implementation Science Meeting, December 2015)

Commentary



Lori Bilello, PhD, MBA

Research Professor, University of Florida Division of
General Internal Medicine

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Questions and Discussion

Webinar Archives

<http://systemsforaction.org/research-progress-webinars>

Upcoming Webinars

Thursday, March 16, 1-2pm ET/ 10-11am PT

UNDERSTANDING RURAL-URBAN DIFFERENCES IN THE IMPLEMENTATION OF POPULATION HEALTH ACTIVITIES

Lava Timsina, PhD, MPH, Center for Outcomes Research in Surgery (CORES) School of Medicine, Indiana University

Wednesday, April 12, 12-1pm ET/ 9-10am PT

COMPREHENSIVENESS IN THE DELIVERY SYSTEMS FOR POPULATION HEALTH ACTIVITIES: GEOGRAPHIC AND LONGITUDINAL VARIATION

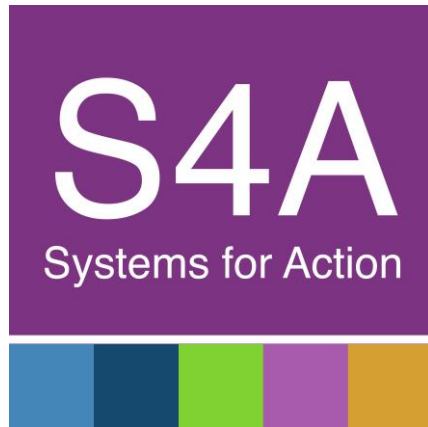
Dominique Zephyr, MA, Statistician, Systems for Action National Program Office, Coordinating Center

Thursday, April 20, 1-2pm ET/ 10-11am PT

INTEGRATION OF HEALTH CARE AND PUBLIC HEALTH TO IMPROVE HIV EARLY DETECTION AND CONTROL

Deborah Porterfield, MD, MPH, and Christine A. Bevc, PhD, MA, RTI International and UNC Chapel Hill School of Public Health

Thank you for participating in today's webinar!



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For more information about the webinars, contact:

Ann Kelly, Project Manager Ann.Kelly@uky.edu 859.218.2317

111 Washington Avenue #201, Lexington, KY 40536

Acknowledgements

Systems for Action is a National Program Office of the Robert Wood Johnson Foundation and a collaborative effort of the Center for Public Health Systems and Services Research in the College of Public Health, and the Center for Poverty Research in the Gatton College of Business and Economics, administered by the University of Kentucky, Lexington, Ky.

Support for this webinar was provided by the Robert Wood Johnson Foundation. The views expressed here do not necessarily reflect the views of the Foundation.



Speaker Bios

Summer Starling, DrPH, MPH, is a health research scientist at the Public Health Institute in California. Her research focuses on adolescent health information-seeking behaviors in digital spaces and public health systems research for improving STD care and control. Dr. Starling coordinates the qualitative research activities and Advisory Board for the California Public Health PBRN and collaborates with UAB researchers.

Robert Weech-Maldonado, PhD, is a Professor and L.R. Jordan Endowed Chair in Health Administration at University of Alabama at Birmingham. His research interests focus on cultural competency tools for healthcare organizations, racial/ethnic differences in patient experiences with care, and long-term care. He also coordinates the activities of the Alabama Public Health PBRN.

Lori Bilello, PhD is a Research Assistant Professor and Associate Director for the Center for Health Equity and Quality Research at UFCOM-Jacksonville where she conducts and oversees applied research on clinical care and health disparities with a focus on the public health and healthcare delivery systems. She has also been integral to the work of the Florida Public Health PBRN.

Van Do-Reynoso, MPH is Public Health Director in Madera County, California and a PhD Candidate at the University of California, Merced. She has been a leader for Madera County public health as well as for county behavioral health and human services programs for more than 10 years. She also leads the 8-county San Joaquin Valley Health Consortium, which engages public health leaders in strategic planning, training, policy development and research to improve the quality and responsiveness to public health issues.