## Public Health PBRN Monthly Virtual Meeting December 19, 2013

Research-in-Progress Presentation by Flordia PBRN

**DACS Study:** 

Preliminary STD Cost Study Findings from Florida

Lori Bilello and Bill Livingood, University of Florida, College of Medicine, Jacksonville

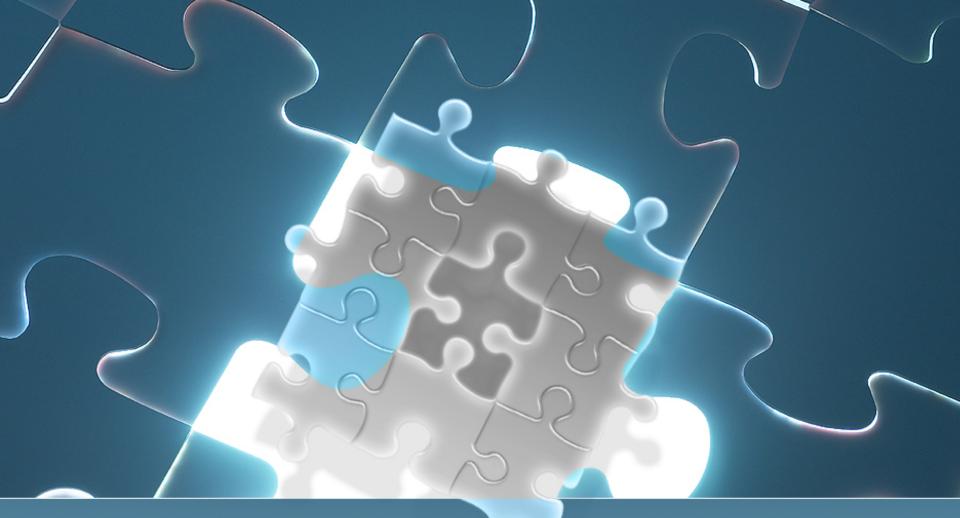
> Conference Phone: 877-394-0659 Conference Code: 7754838037#

Please remember to mute your computer speakers during the presentation



at the University of Kentucky College of Public Health





# Preliminary STD Cost Study Findings for Florida

Bill Livingood, PhD Lori Bilello, PhD

**Florida PBRN** 



# Florida PBRN

- Florida formed the PH PBRN in 2010 (2<sup>nd</sup> wave)
- Participation includes county health departments, Florida Department of Health Central Office, Florida Public Health Institute, and university partners
- Originally managed by a county health department-moved to Univ. of Florida in January, 2013



# **Research Team**

Bill Livingood Ph.D. and Bonnie Sorensen M.D. are the Principle Investigators. Lori Bilello Ph.D., Project Director and Co-I • Jeff Harman Ph.D., Health Economist Stacey Shiver and Phil Street, FDOH Karen Chapman, M.D. and Judy Hartner, M.D. (CHD directors) Radley Remo, MPH – Duval CHD



# **Primary Aim**

 To identify the unit costs of delivering public health services (specifically STD prevention and control services), and examine the effects of variations in delivery system characteristics on costs including:

- standardization/centralization of programs
- centralization of IT and HR systems
- economies of scale related to population size of CHD jurisdiction
- local tax and other revenue support for CHD services
- responsiveness to local community governance.

# Why Unit Cost of STI Services?

- STD prevention and control programs are among the most highly reported local public health services/surveillance data
- Surveillance data is well established and standardized (CDC methodology)
- Service provided by every county in the state
- Strong finance and service data systems to support service delivery
- Florida has high AND increasing rates of STDs major public health issue!



# **Overall Cost Model**

Inputs Staff Materials Equipment Infrastructure Processes Surveillance Testing Treatment Partner Notification

#### Outputs

Cost per unit of service



### Secondary Data

- Financial Information Reporting System (FIRS) expenditure data
- Employee Activity Report System (EARS) employee time allocation per cost center or activity.
- Patient Reporting Investigation Surveillance Manager (PRISM) – case management and surveillance tracking system for STDs



# Preliminary Analysis

Examined county specific STD expenditures and disease rates
County specific funding for STD services and all health department funding including local tax dollars
County demographic characteristics

# Range of STD reported costs (2011)

State rate County Median Lowest level **Highest level** 20 percentile 80 percentile **Duval County** 

**Cost per** Cost Cost per client service per visit \$259.07 \$157.56 \$47.59 \$119.40 \$47.10 \$181.15 \$0.84 \$1.43 \$1.81 \$121.72 \$462.12 \$293.69 \$21.83 \$1.43 \$71.26 \$226.93 \$76.48 376.92 \$21.83 \$176.68 \$89.89

# Range of Total County Tax support

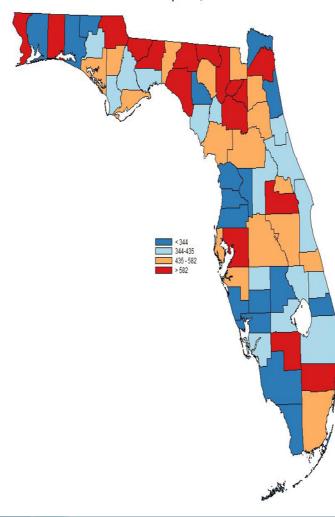
Per capita support Low Income

> \$5.89 \$7.75 \$0.00 \$49.98 \$2.92

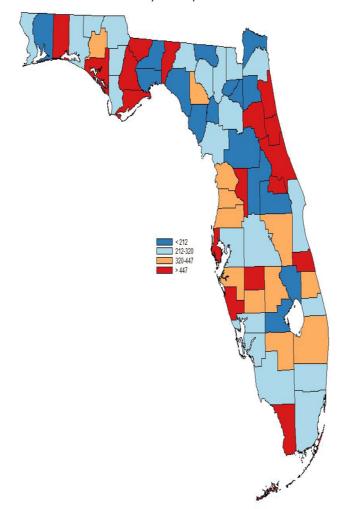
State rate State Median Lowest level Highest level Duval County Per capita support Total Population \$1.94 \$2.92 \$0.00 \$13.10 \$0.91

# Florida STD rates and cost per reported case

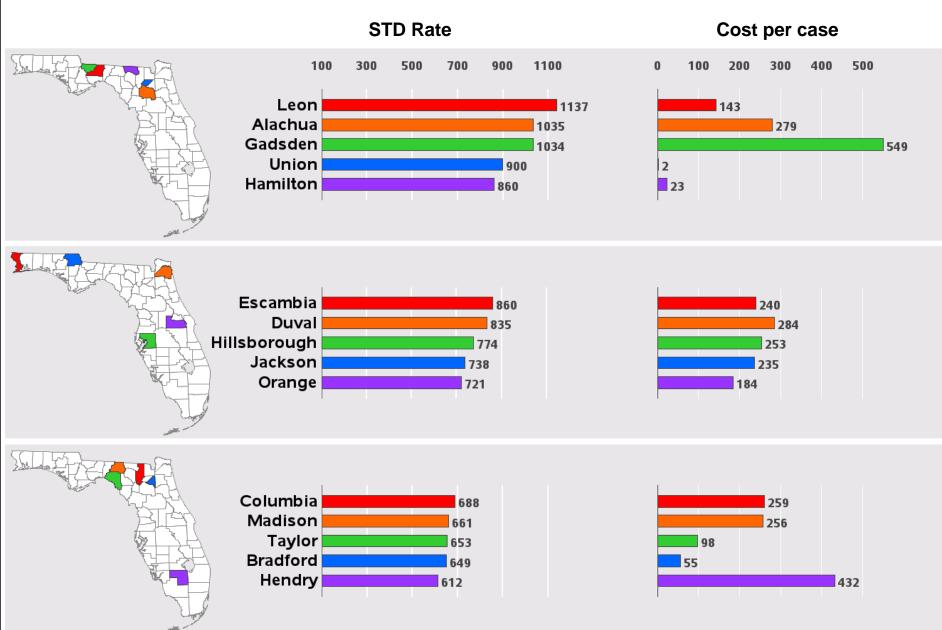
STD Rate per 100,000



STD Expenditures per case

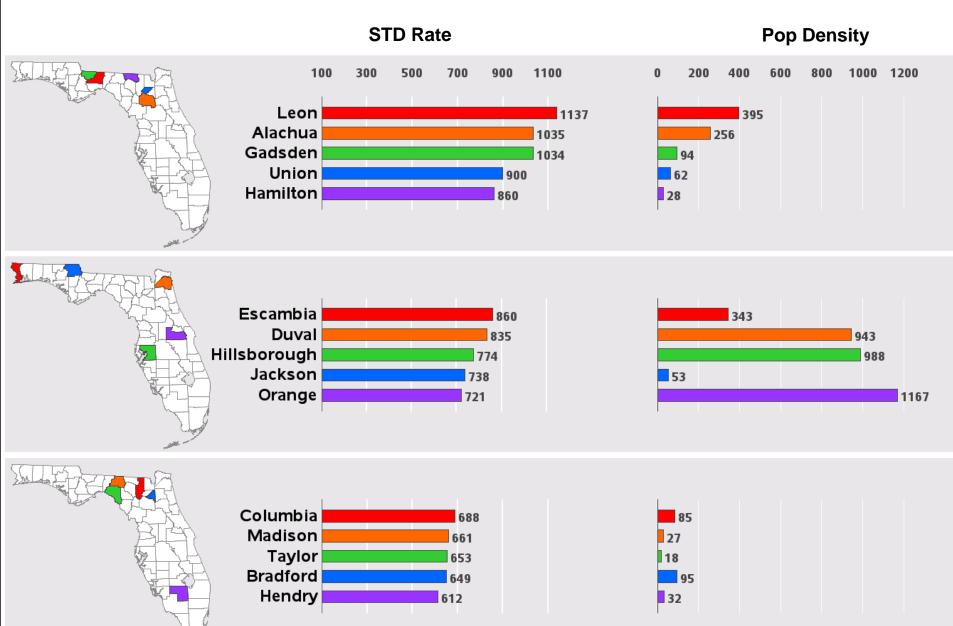


### STD Rate and STD Expenditure per case STD rate per 100,000



#### STD Rate and Population Density by county

STD rate per 100,000 and Population density/sq mile



# Preliminary Regression Analysis

<u>Outcome</u> variable – STD cost per case (by county) <u>Predictors</u>

• County characteristics:

- Population density
- STD rates
- % below 200% poverty

CHD characteristics

Additional funding from county government

% nonwhite

% 24 or under





Best subset selection method was performed to assess the best predictive model R-square = 0.1348

### Only 2 variables were found to be significant

Variable	Coefficient	P value
STD rate	-0.21	0.063
Health Care Tax per Capita	13.20	0.055

# Discussion

 Highest STD rates in rural Florida counties

- Wide variability in costs for STD services across the state
- Wide variability in discretionary or local tax funding for county health departments
- Implications for implementing micro cost studies



### 1) Refine 2° analysis to:

- Provide additional clarification and consistency of measures used to calculate services, cases, and visits;
- identify preliminary purposeful sample of CHDs reflecting major variations in service delivery.

### 2) Survey all CHDs to:

- clarify variation in service delivery
- verify or fill in gaps from 2<sup>o</sup> data analysis
- Confirm purposeful sample of CHDs

3) Interview key informants of Purposeful Sample to discuss and clarify findings

Variation in Approach to Cost Analysis

 Start with micro cost analysis with small sample based on convenience or pre-identified characteristics and generalize to larger body;

 Start with macro analysis of larger group and drill down to explain differences (dependent on valid established data reporting systems).

### **Other Meeting Agenda Items**

#### **PBRN Research Updates**

- MPROVE Projects: Data analysis
- DACS Projects
- Cost Estimation Workgroup

#### **Dissemination Opportunities**

- Frontiers
- Keeneland Conference and PBRN Grantee Meeting-abstracts due January 7 <u>http://www.publichealthsystems.org/keeneland-2014.aspx</u>
- NACCHO- abstracts due Dec 23 <a href="http://www.nacchoannual.org/abstract-submission-preview/abstract-submission-submission-submission-submission-submission-submission-submission-submission-submission-submission-submission-submission-submission-submis
- AcademyHealth ARM-abstracts due Jan 16
   <u>http://academyhealth.org/content.cfm?ItemNumber=842&navItemNumber=1996</u>
- AcademyHealth PHSR IG-abstracts due Feb 14 <u>http://www.academyhealth.org/Communities/Communities.cfm?ltemNumber=12336&navltemNumber=2035</u>
- APHA-abstracts due Feb 10-14 <a href="https://apha.confex.com/apha/142am/oasys.epl">https://apha.confex.com/apha/142am/oasys.epl</a>
- AJPH Call for Papers: Advances in Pubic Health Services and Systems Research. Due March 10

#### **Funding Opportunities**

- Quick Strikes
- PPRA NOI
- RWJF: HCFO
- CDC
- AHRQ



### **Other Meeting Agenda Items**

#### Announcements

AJPM special issue

### AMERICAN JOURNAL OF Preventive Medicine

www.ajpmonline.org

#### Notes on 20 Years of AJPM (1994-2013)

675 Moving On ... K Patrick, FD Scutchfield, CS Seidman, J Waalen

VOLUME 45(6)

- 678 Transforming Preventive Medicine Science, Practice, Education, and Policy: Looking Back at the Last 20 Years of the American Journal of Preventive Medicine SH Woot, CI Orlens, BB Green, S Curry, RS Thompson, A Sumar, RP Walkoc
- 687 Notes from the Field: Planting, Nurturing, and Watching Things Grow

#### **Research Articles**

- e19 Trends and Geographic Patterns in Drug-Poisoning Death (a) Rates in the U.S., 1999–2009 LM Rossen, D Khan, M Warner
- 703 Biomarkers of Tobacco Smoke Exposure and Asthma Severity in Adults

G Ho, H Tang, JA Robbins, EK Tong

- 710 Customer Responses to Mandatory Menu Labeling at Full-Service Restaurants AH Auchincloss, GG Malya, BL Leonberg, A Ricchezza, K Glanz, DF Schwarz
- e27 Walking Cadence and Cardiovascular Risk in Children and Adolescents: NHANES, 2005–2006
- TV Barretra, PT Katzmarzyk, WD Johnson, C Tudor-Locke
- 720 Local Health Department Activities to Ensure Access to Care H Luo, S Sotnikov, G Shah

#### **Brief Reports**

- 728 Triple Tobacco Screen: Opportunity to Help Families Become Smokefree E Nati-Berza, JP Winkoff, S Finch, S Regan
- 732 A Content Analysis of Popular Smartphone Apps for Smoking Cessation
- LC Abrons, JL Westmass, J Bontemps Jones, R Ramani, J Metlerson 737 The Ask-Advise-Connect Approach for Smokers in a Safety
- Net Healthcare System: A Group-Randomized Trial JI Vidrine, S Shete, Y LI, Y Cao, MH Alford, M Galindo-Tatton, V Rabius, B Sharp, P Harmonson, SM Zolkowski, L Miles, DW Wetter

#### Available only online at www.ajpmonline.org

#### Review and Special Articles

742 The Trauma of Politics: A Surgeon General's Perspective R Carmona

DECEMBER 2013

- e35 Health Literacy: An Opinionated Perspective Ø Milyton
- e41 Strategies to Prevent Weight Gain in Adults: A Systematic Review S Hutless, KA Gutzune, N Marothur, RF Witson, SN Bielch, BD Lau,
- DA Fawole, CAM Anderson, J Segal

#### Theme: Practice-Based Research in Public Health Guest Editor: Glen P. Mays, MPH, PhD

- 745 A Partnership of Two U.S. Research Networks to Improve Public Health RC Vanderpool, RC Brownson, GP Mays, RA Cristly, SW Watt
- 752 Public Health Research Implementation and Translation: Evidence from Practice-Based Research Networks OP Mays, RA Hogg, DM Castellaros-Cruz, AG Horver, LC Fowler
- 763 Factors Affecting Evidence-Based Decision Making in Local Health Departments CD Sosnow, LJ Webs, CM Maylahn, SJ Pirani, NJ Katagiri
- 769 Local Public Health Resource Allocation: Limited Choices and Strategic Decisions B Bikemeler, AL-T Chen, N Kawakyu, Y Yang
- 776 Tax Levy Financing for Local Public Health: Fiscal Allocation, Effort, and Capacity WJ Riley, KJ Gearin, CD Parrotta, J Briggs, ME Gelstrom
- 782 Diabetes Education: Quality Improvement Interventions Through Health Departments AT Dearloger, RC Ingram, RP Pendley, S Wilding

#### Departments

- 787 The Team Science Toolkit: Enhancing Research Collaboration Through Online Knowledge Sharing
- 790 Acknowledgments

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### **Other Meeting Agenda Items**

### **Other discussion items**

Renewal/Authorization

### **Administration**

- Membership roster
- Products
- Bibliography

### • Presentation Schedule for 2014

January 16 Tennessee PBRN February 21 Nebraska PBRN March 21 North Carolina PRBN May 15 New York PBRN June 19 California PBRN July 17 Connecticut PBRN August 21 Ohio PBRN September 18 Colorado PBRN October 16 New Jersey PBRN November 20 Washington PBRN December 18 New Hampshire PBRN



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