Florida Public Health Practice-Based Research Network- 71129

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Title of Presentation: Preliminary STD Cost Study in Florida

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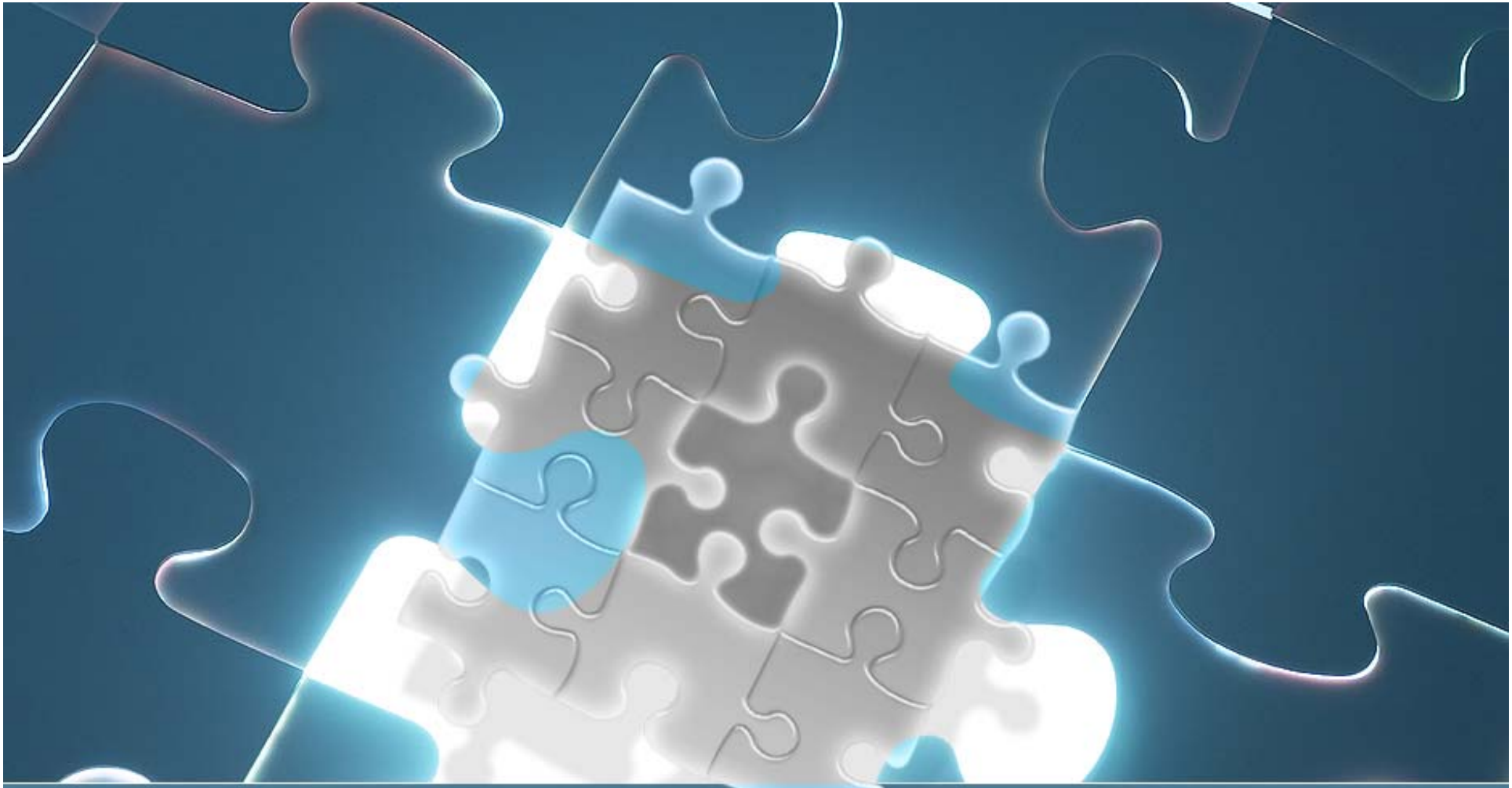


Preliminary STD Cost Study Findings for Florida

Bill Livingood, PhD
Lori Bilello, PhD

Florida PBRN

Florida PBRN

- Florida formed the PH PBRN in 2010 (2nd 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

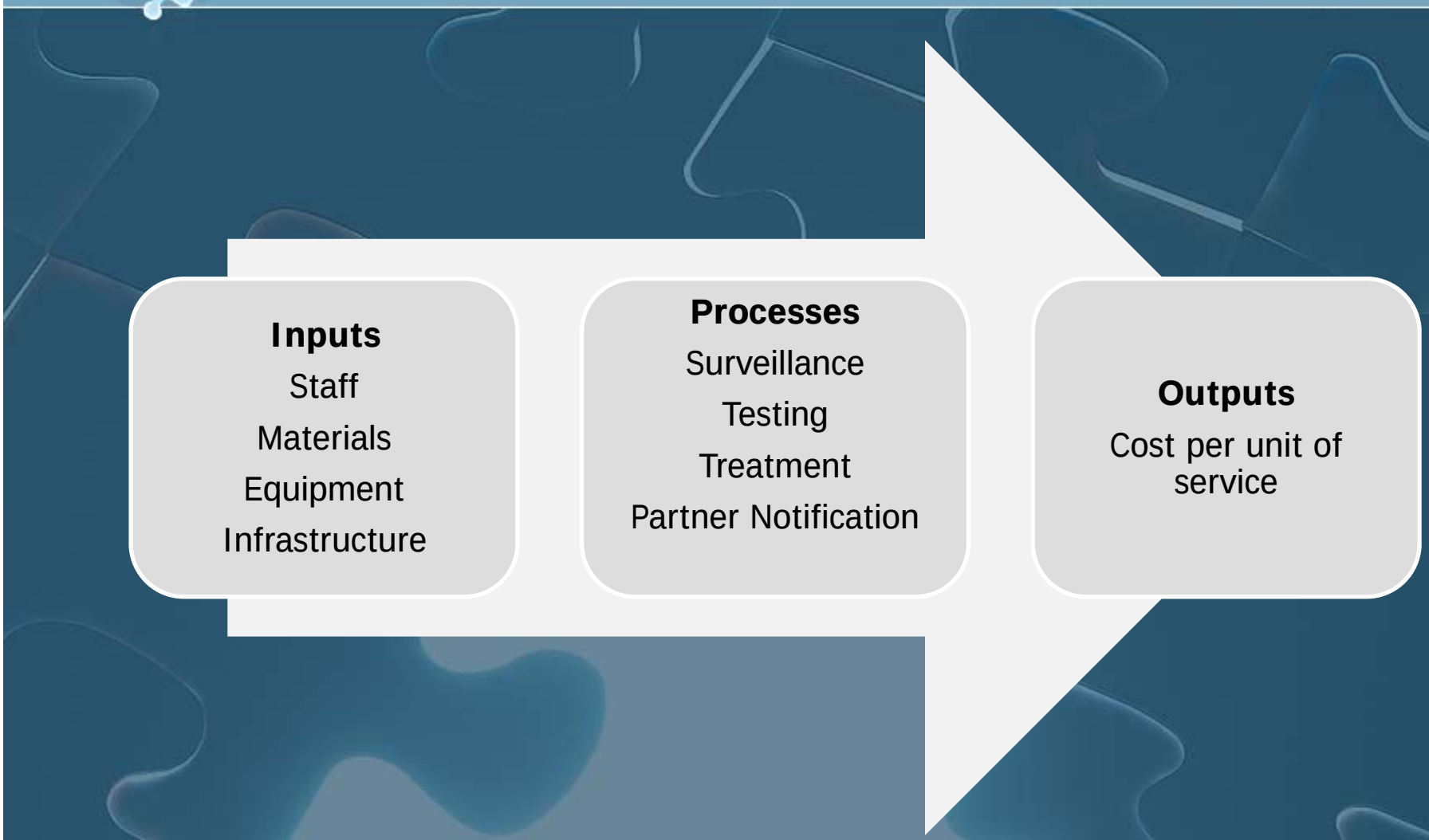
Primary Aim

- 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



Data Sources

Secondary Data

- Expenditure data - Financial Information Reporting System (FIRS)
- CHD Revenue data – FDOH Health Statistics and Performance Management Division Budget data
- STD counts/rates – FL Bureau of STD Prevention and Control
- Demographic Data – Florida Charts and US Census ACS data

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

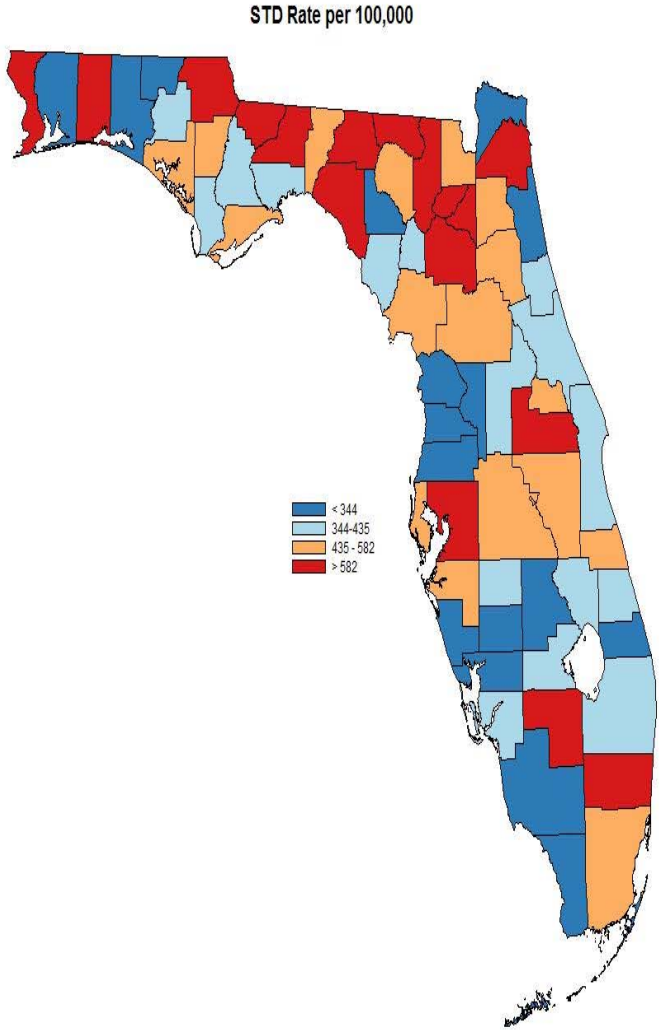
Range of STD reported costs (2011)

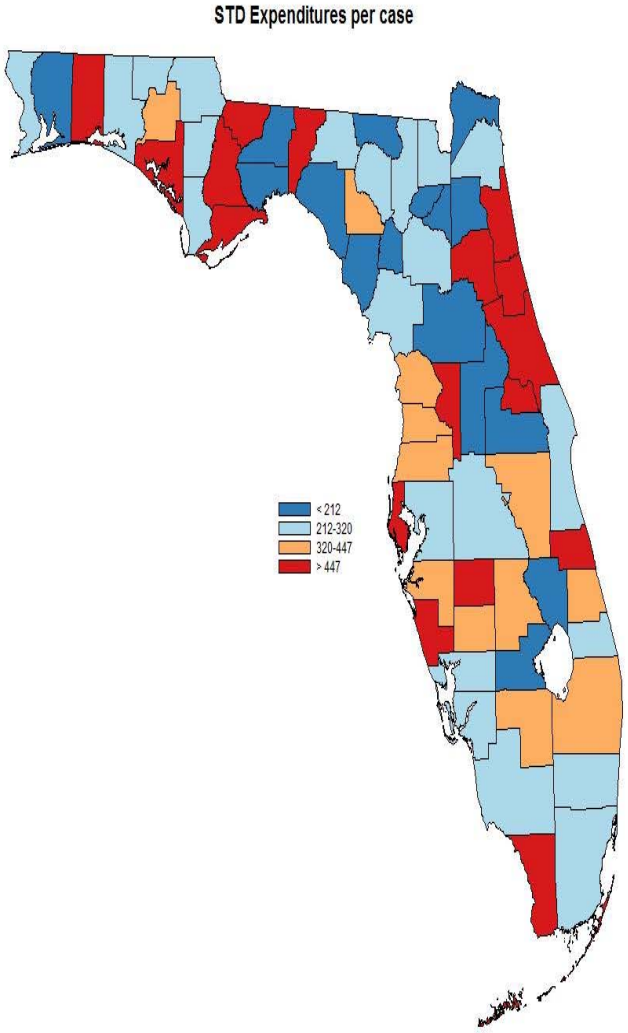
	Cost per service	Cost per client	Cost per visit
State rate	$47.59	$259.07	$157.56
County Median	$47.10	$181.15	$119.40
Lowest level	$0.84	$1.81	$1.43
Highest level	$121.72	$462.12	$293.69
20 percentile	$29.62	$122.27	$71.65
80 percentile	$72.30	$294.08	$179.59
Duval County	$21.83	$176.68	$89.89

Range of Total County Tax support

Per capita support Low Income		Per capita support Total Population
$5.89	State rate	$1.94
$7.75	State Median	$2.92
$0.00	Lowest level	$0.00
$49.98	Highest level	$13.10
$2.92	Duval County	$0.91

Florida STD rates and cost per reported case



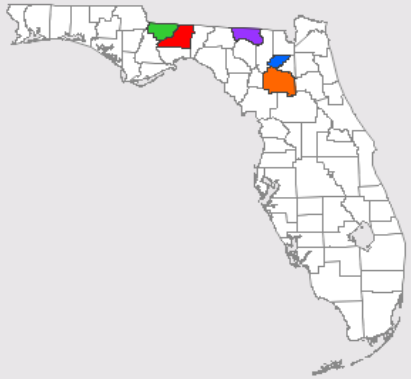


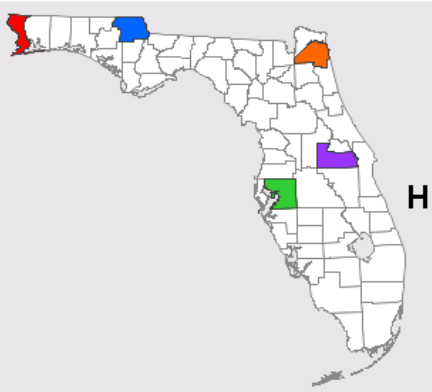
STD Rate and STD Expenditure per case

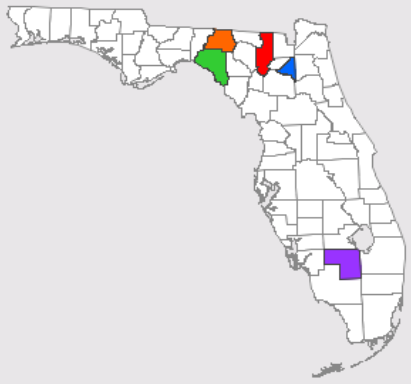
STD rate per 100,000

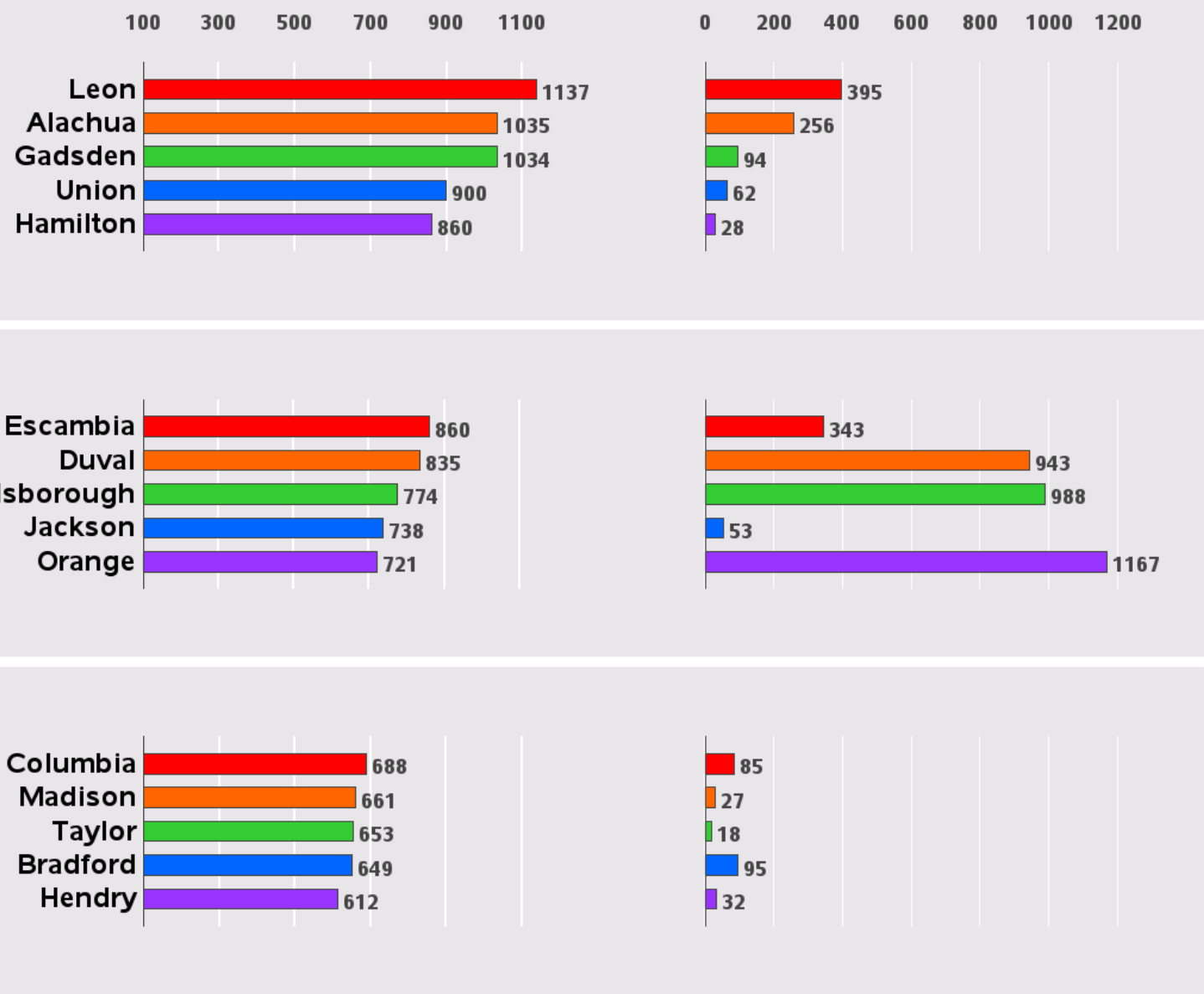
STD Rate and Population Density by county

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









Preliminary Regression Analysis

Outcome variable – STD cost per case (by county)

Predictors

- County characteristics:
  - Population density
  - STD rates
  - % below 200% poverty
  - % nonwhite
  - % 24 or under
- CHD characteristics
  - Additional funding from county government

Results

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

Next Steps

1) Refine 2^{o} 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^{0} 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).