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Optimizing HIV/STD Partner Services Strategies in New York State

Public Health PBRN Research-in-Progress
Monthly Virtual Meeting
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Presentation Outline

- Project Background
- DACS Project Components
 - Site Visits
 - Time Study
 - Cost Collection
- Lessons Learned
- Research Timeline and Next Steps

Partner Services

PARTNER SERVICES are a broad array of services that should be offered to persons with HIV or other sexually transmitted diseases (STDs) and their sexual or needle-sharing partners. By identifying infected persons, confidentially notifying their partners of their possible exposure, and providing infected persons and their partners a range of medical, prevention, and psychosocial services, partner services can improve the health not only of individuals, but of communities as well.

Program Operations
Guidelines for STD Prevention
(2001)

- Syphilis , Gonorrhea, Chlamydia

HIV Partner Counseling and
Referral Services Guidance
(1998)

- HIV Only

Recommendations for Partner Services
Programs for HIV Infection, Syphilis,
Gonorrhea, and Chlamydial Infection
(2008)

Research Implementation Award: Understanding Integration of HIV/STD Field Services (2010-2013)

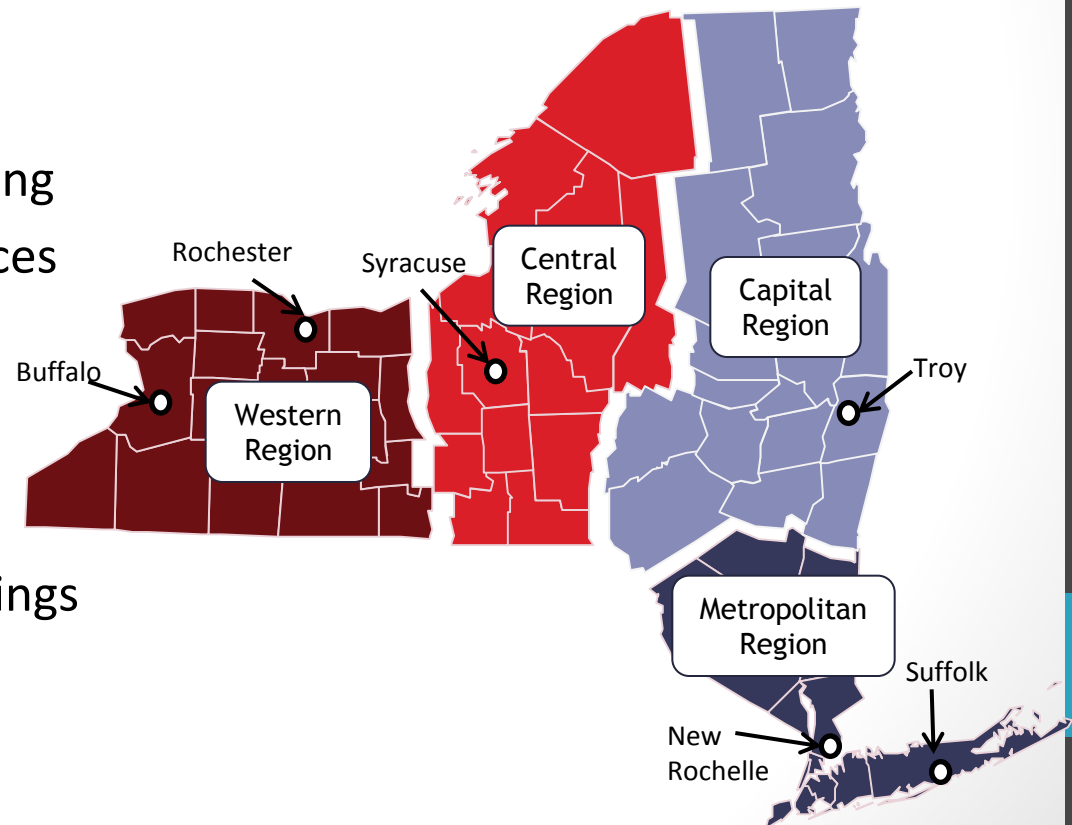
- Objective: To study the **effectiveness, efficiency and acceptability** integrated HIV and STD field services

- Programs:

- HIV Counseling & Testing
- HIV/STD Partner Services

- Setting:

- Six regional office settings across New York State

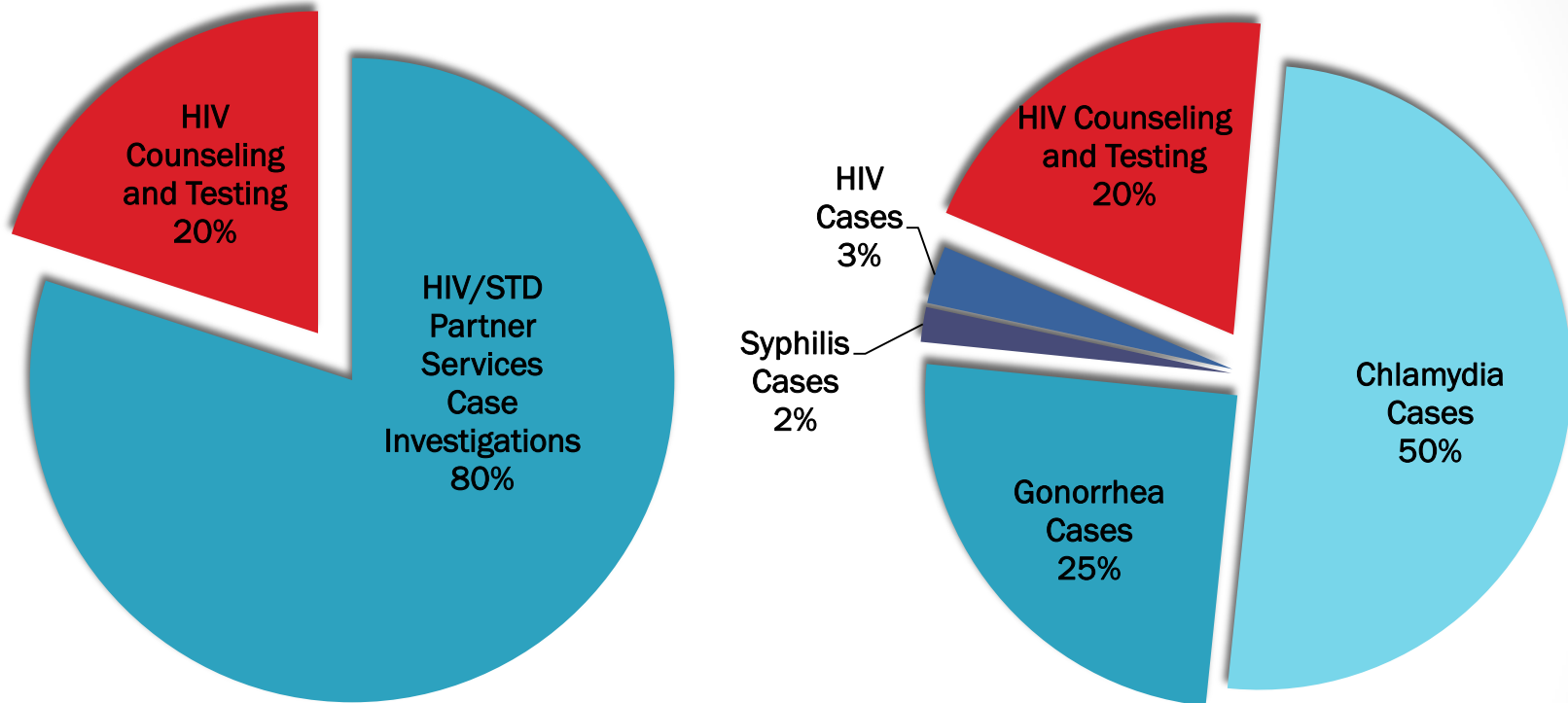


Research Implementation Award: Understanding Integration of HIV/STD Field Services (2010-2013)

- Mixed Methods Approach
- Primary Data Collection
 - Staff competency/job satisfaction surveys
 - Staff and supervisor focus groups
 - Survey of medical providers diagnosing HIV/STDs
- Outcomes assessment
- Economic evaluation

We found more work...

...but what *kind* of work?



- High priority cases (HIV, Syphilis) make up a minority of cases investigated
- What about case outcomes?
 - Majority of Chlamydia (>60%) cases previously treated

...How should we measure and allocate staff resources?

*Gonorrhea and Chlamydial Infection*¹

Most health departments reported concentrating PN services for gonorrhea and chlamydial infection on patients seen in STD clinics (Table 2). Although the overwhelming majority of all PN interviews for the four STDs (80%) involved gonorrhea or chlamydial infection, PN was offered to only very small minorities of patients with these infections. Twenty-two health departments (37%) provided no routine PN services for gonorrhea and 27 (45%) provided no such services to patients with chlamydial infections. Among those health departments providing PN services, a median of 43% of patients with gonorrhea and 14% of patients with chlamydial infection were interviewed. Among all persons reported to have these STDs in jurisdictions served by responding health departments, only 17% of persons with gonorrhea and 12% of persons with chlamydial infection were interviewed for PN.

Estimated Lifetime Medical Costs		
	Women	Men
Chlamydia ²	\$364 (range \$182-\$546)	\$30 (range \$15-\$45)
Gonorrhea ²	\$354 (range \$177-\$531)	\$79 (range \$40-\$119)
HIV ³	\$304,500 (range \$229,300-\$379,700)	

The Cost and Cost-Effectiveness of Expedited Partner Therapy Compared With Standard Partner Referral for the Treatment of Chlamydia or Gonorrhea

Thomas L. Gift, PhD,* Patricia Kissinger, PhD,† Hamish Mohammed, PhD, MPH,‡
Jami S. Leichter, PhD,* Matthew Hogben, PhD,* and Matthew R. Golden, MD, MPH§¶

1. Golden, M. R. *et al.* Partner Notification for HIV and STD in the United States: Low Coverage for Gonorrhea, Chlamydial Infection, and HIV. *Sexually transmitted diseases* **30**, 490–496 (2003).

2. Owusu-Edusei, K., Jr *et al.* The estimated direct medical cost of selected sexually transmitted infections in the United States, 2008. *Sex Transm Dis* **40**, 197–201 (2013).

3. Schackman, B. R. *et al.* The lifetime cost of current human immunodeficiency virus care in the United States. *Medical care* **44**, 990–997 (2006).

NYS Delivery and Cost Study (DACCS)

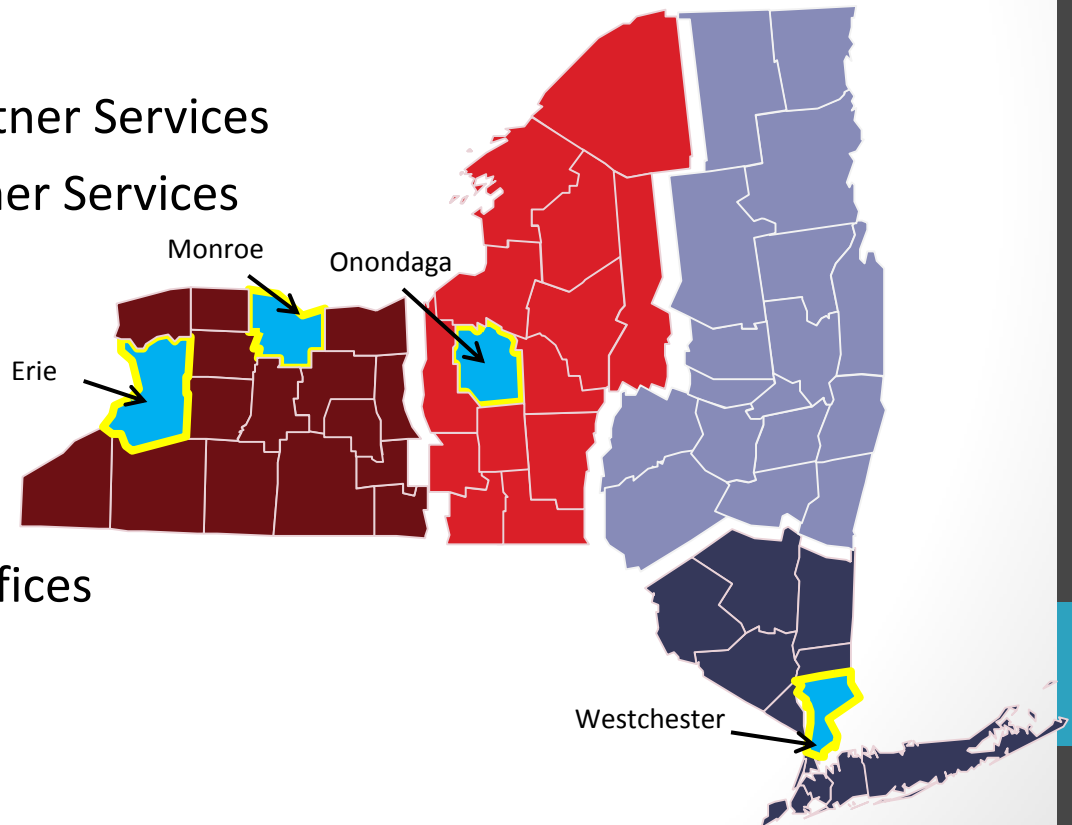
- Objective: To **understand the costs and effort** associated with HIV/STD PS case processes, and use that data to **model the cost-effectiveness of different PS strategies**.

- Strategies:

- Standard HIV/STD Partner Services
- High-Impact HIV Partner Services

- Setting:

- Four pilot LHDs
- Five Regional State Offices



NYS DACS Goals

1. Build off existing PBRN research on HIV/STD Partner Services (PS) to examine variation between county- and state-delivered PS programs.
2. Examine how current and new strategies for HIV/STD PS impact staff effort and program costs.
3. Use existing and new data collected through this project to model the impact of different HIV/STD PS strategies on costs and cost-effectiveness of PS programs.
4. Make recommendations on the conditions under which reallocating resources will improve efficiency.

The background of the slide is a blurred image of a map. A pushpin is stuck into the map, and a car is visible in the upper right corner. The text is centered over the map.

Local Health Department Site Visits

Site Visits: Goals

- **Understand workflow** for HIV/STD, high-impact HIV Partner Services cases at the county level
- **Obtain feedback** on time study instrument and data collection procedures
- **Secure buy-in** from workers and supervisors
 - New staff unfamiliar with RWJF research projects

Site Visits

- Semi-structured interview guide developed with DACS team
- Site Visits to all newly participating LHDs
 - Key Informant Interviews with PS Staff (N=11) and Supervisors (N=4)
 - Workflow processes mapped at each site
 - Number and types of staff involved
 - Data Systems (and “shadow systems”) utilized
 - Structural / Geographic differences
 - Draft Time Study Instrument Feedback
- Site Visits conducted March-May 2014

Site Visits: Results

- Four Counties, four models of Partner Services
- 6/15 (40%) staff interviewed had multiple responsibilities beyond job description
- Large variation in record-keeping systems
 - Two state-run electronic systems, but seven additional systems used
 - Each county had at least one additional paper and/or electronic data management system
- 50% co-located at STD clinic
 - Overlapping clinic responsibilities

The background features a repeating pattern of light gray silhouettes of a person running, overlaid on a pattern of light gray analog clocks. The clocks have numbers 1 through 12 and hands, with some hands in red. The overall theme is time and activity.

Time Study Design and Development

Time Study

- Motivation: Understand the PS case process
 - How does time/effort differ between chlamydia, gonorrhea, syphilis, new HIV and high-impact HIV investigations?
 - Quantify effort spent on PS with more precision
 - What types of work are involved in a case investigation?
 - Paperwork, travel, provider contact, face-to-face client interaction, etc.
- Locations: five regional offices, four county HDs

Time Study Instrument Development

Goal: Design an instrument that is...

- Acceptable (to staff)
- Generalizable (across study sites)
- Useful (to academics *and* practitioners)
- Confidential (to ensure integrity of results)

Time Study Instrument Development

- Review of time study literature
- Multiple meetings with DACS team and practice partners
 - Navigating what is *desired* vs. what is *plausible*
- Site Visits with pilot LHDs
 - Understand how instrument would be used in practice settings
 - Get feedback on category / process descriptions

1. Frick, K. D. Micro-Costing Quantity Data Collection Methods. *Med Care* **47**, S76–S81 (2009).

2. Macke, B. A., Hennessy, M. H. & McFarlane, M. Predictors of time spent on partner notification in four US sites. *Sex Transm Infect* **76**, 371–374 (2000).

3. Macke, B. A., Hennessy, M., McFarlane, M. M. & Bliss, M. J. Partner notification in the real world: a four site time-allocation study. *Sex Transm Dis* **25**, 561–568 (1998).

4. Malkenson, D., Siegal, E. M., Leff, J. A., Weber, R. & Struck, R. Comparing academic and community-based hospitalists. *J Hosp Med* **5**, 349–352 (2010).

Time Study Instrument Development

Goal: Design an instrument that is...

- **Acceptable**
 - Tracked by Case, not Worker
- **Generalizable**
 - Category Descriptions vetted with all staff involved
- **Useful**
 - Categories structured to answer specific research and practice questions
- **Confidential**
 - Designed without identifying information
 - Records shared directly with DACS research team, not program supervisors

Partner Services Time Study Log: Category Descriptions

Category	Criteria
External Case Prep	Time spent by non-DIS (clerks, surveillance, support staff) determining case eligibility, gathering case information from records systems, and/or preparing case forms
Provider Contact	Time spent communicating with diagnosing provider regarding index case status. Includes time spent calling, leaving messages, discussing patient information with doctor and/or office staff, and follow-up with provider concerning partners or additional patient appointments
Index Record Search	Time spent obtaining patient locating and contact information from internal and external sources (not including the medical provider). Includes searches on CDESS, NYEHMS Tracking System, serology search, NYSDOCCS Inmate Lookup, Google, Coles Directory, social media sites, etc.
Index Case Outreach	Phone, internet, and text outreach attempts to establish contact with the index patient
Index Case Travel	Time spent traveling to/from index case interviews, field visits to drop off letters, meeting client at clinic/medical appt., and any other travel interactions related to the index patient
Index Case Interview	Time spent engaged in interaction with index patient concerning infection; includes risk-reduction counseling, partner elicitation, motivational interviewing, etc. (Interviews can be done in person or over phone)
Index Paper Documentation	Time spent preparing field visit letters and documentation, filling out information on index field record (IR) forms and/or any additional case forms related to the index case including itinerary logs and vehicle records
Partner Record Search	Time spent pursuing locating and contact information for any named partners
Partner Outreach	Phone, internet, and text outreach attempts to establish contact with named partners
Partner Travel	Time spent traveling to/from partner visits, field visits to drop off letters, meeting partner at clinic/medical appt., and any other travel interactions related to partners associated with index case
Partner Notification	Time spent engaged in interaction with partners concerning exposure; includes risk-reduction counseling, treatment verification, referral to medical appointment/testing and/or field testing performed (Interviews can be done in person or over phone)
Partner Paper Documentation	Time spent preparing and completing paper partner field records (FR) forms, sending OOJ partner information to other jurisdictions
Computer Data Entry	Time spent updating index and partner information in NYEHMS Tracking, CDESS STD*MIS system (including e-assignment, and any additional internal electronic record systems)
Time Spent on THIS form	Time spent, over the course of the case, filling out this time-tracking log
Other (List in Notes)	Any other case activities not covered above, such as case conferencing with coworkers or supervisors, syphilis serology updates, or communication with other HD jurisdictions (please specify in Notes section)

If you have ANY questions about how to enter work activities, please contact Britney Johnson at britney.johnson@health.ny.gov or (518) 474-1387

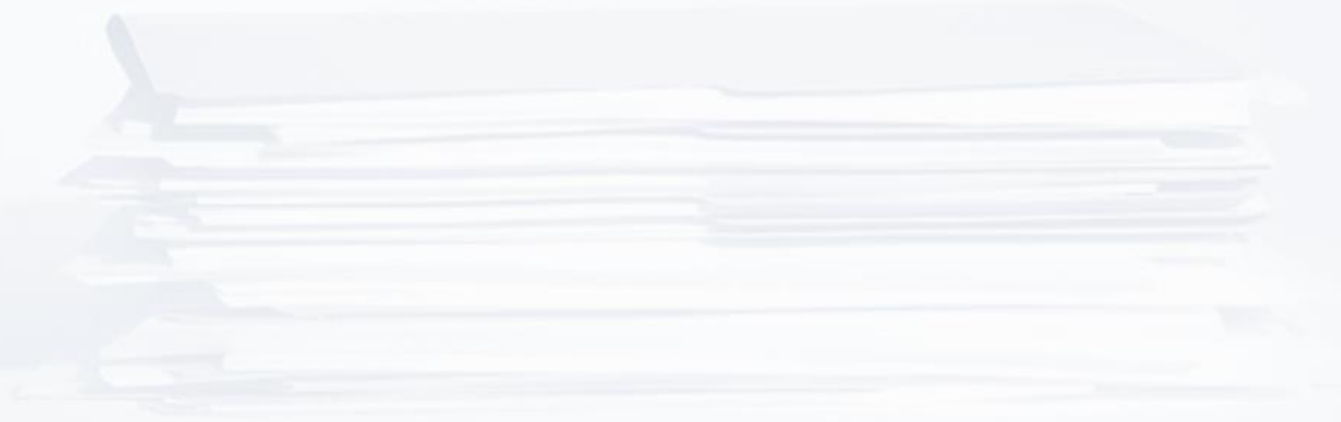
Time Study Implementation

- Systematic Random Case Sampling
 - Every **Nth** case assigned in a region/county
 - Every 5th chlamydia and gonorrhea case (Target N = 400)
 - Every other HIV case (Target N = 80)
 - Every single syphilis case (Target N = 50)
 - Every single linkage-to-care HIV case* (Target N = 100)
 - Case estimates generated from 2012-2013 outcomes data
 - Randomized cases for tracking recorded by assigning staff
- Implementation Time Period: June-August 2014

Potential Limitations

- Self Report Bias
- Staffing Shortages / Workforce Changes
- Outbreaks may divert staff resources
- Case assignments dependent on disease incidence
 - May take longer to reach case numbers for HIV/Syphilis
- Imperfect implementation of systematic random sampling

Collecting Program Costs



Collecting Costs (Four LHDs)

- Review County Contracts for Fiscal Data
 - FTEs
 - Salary and Fringe rates
 - Travel costs
 - Supplies (cell phones, office equipment, etc)
 - Space and building costs
- Micro Costing (staff allocation) approach
- Program perspective (cost to both state and county)



Collecting Costs (Four LHDs)

- Through NYS, counties are funded to provide HIV/STD PS under two distinct contracts:
 - **HIV contract**; funds HIV disease investigation, HIV testing, and education.
 - **STD contract**; funds STD disease investigation, testing kits, certain clinic services, and public health nurses.
- A third contract funds the high-impact HIV pilot project

Cost Collection and Analysis

- Line-item review of contracts, budgets, and expenditures from 2010-2013
 - Information extracted and entered into Excel database
 - Organized by County, contract, expenditure category
 - Employee cost data stratified by quarter
 - Focus on submitted (“vouchered”) costs
- Contract Budget Categories
 - Salary, Fringe, Supplies, Travel, Equipment, Subcontracts, Administrative, Miscellaneous, and In-kind costs
 - Where available, space and overhead costs included

The background of the slide is a blurred image of a US dollar bill, likely a \$100 bill, with a grid overlay. The text "UNITED STATES OF AMERICA" is visible on the bill. The grid is composed of thin, light-colored lines. The overall image is out of focus, with the text "Preliminary Cost Findings" superimposed in the center.

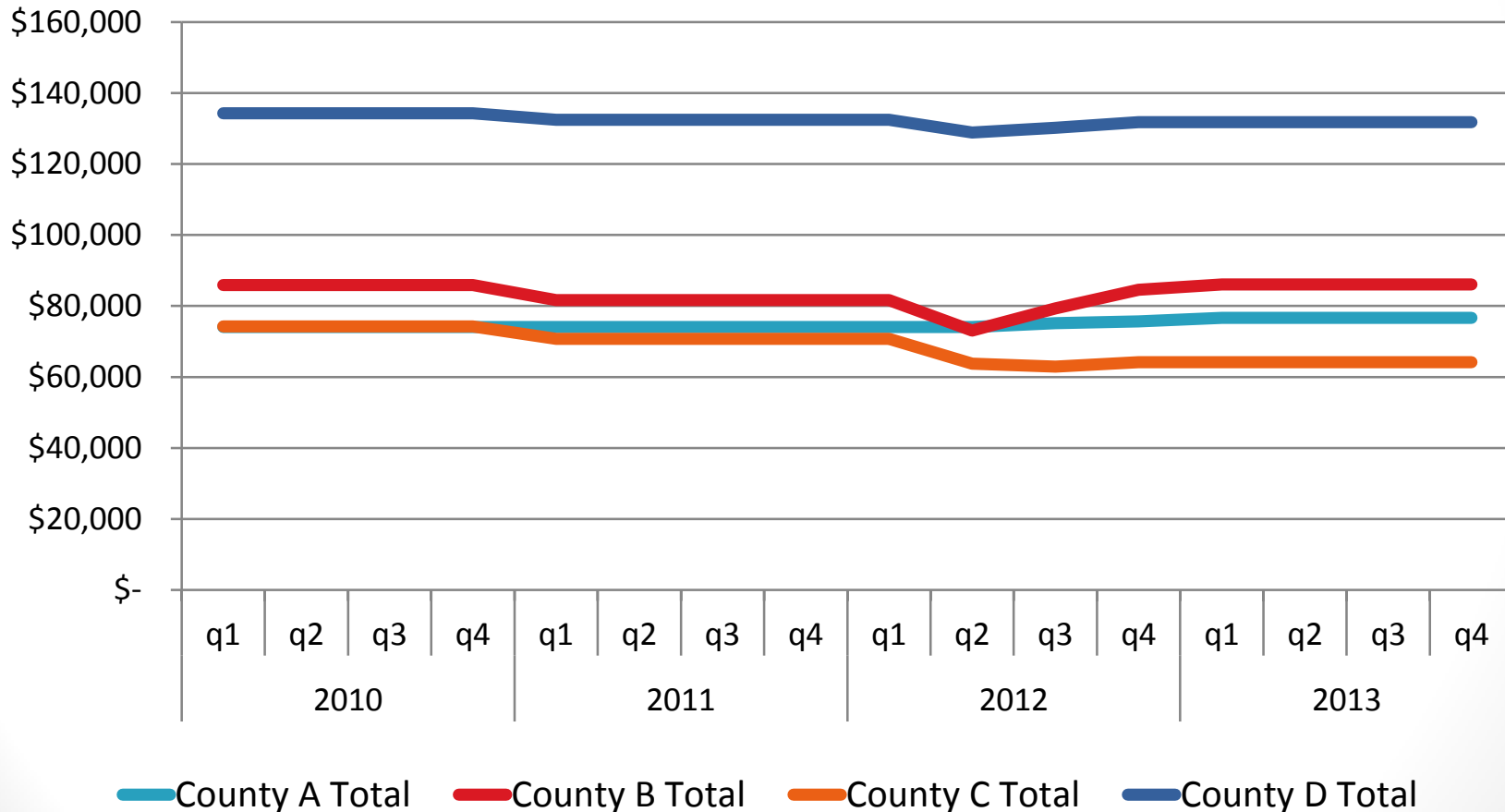
Preliminary Cost Findings

Preliminary Cost Findings

- Total HIV/STD PS Contract Costs (2010-2013): **\$5,748,110**
- Average of **\$1,437,028** per year; **\$359,257** per county
- County contracts ranged from **\$256,775** to **\$537,388** per year
- Personnel (salary + fringe) averaged **89%** of total contract costs
- Supported **5** to **18** employees at **5%** to **100%** effort
- Reported county contributions ranged from **\$21,386** to **\$198,743**, representing **6%** of total contract costs

Contract values have remained relatively stable over time

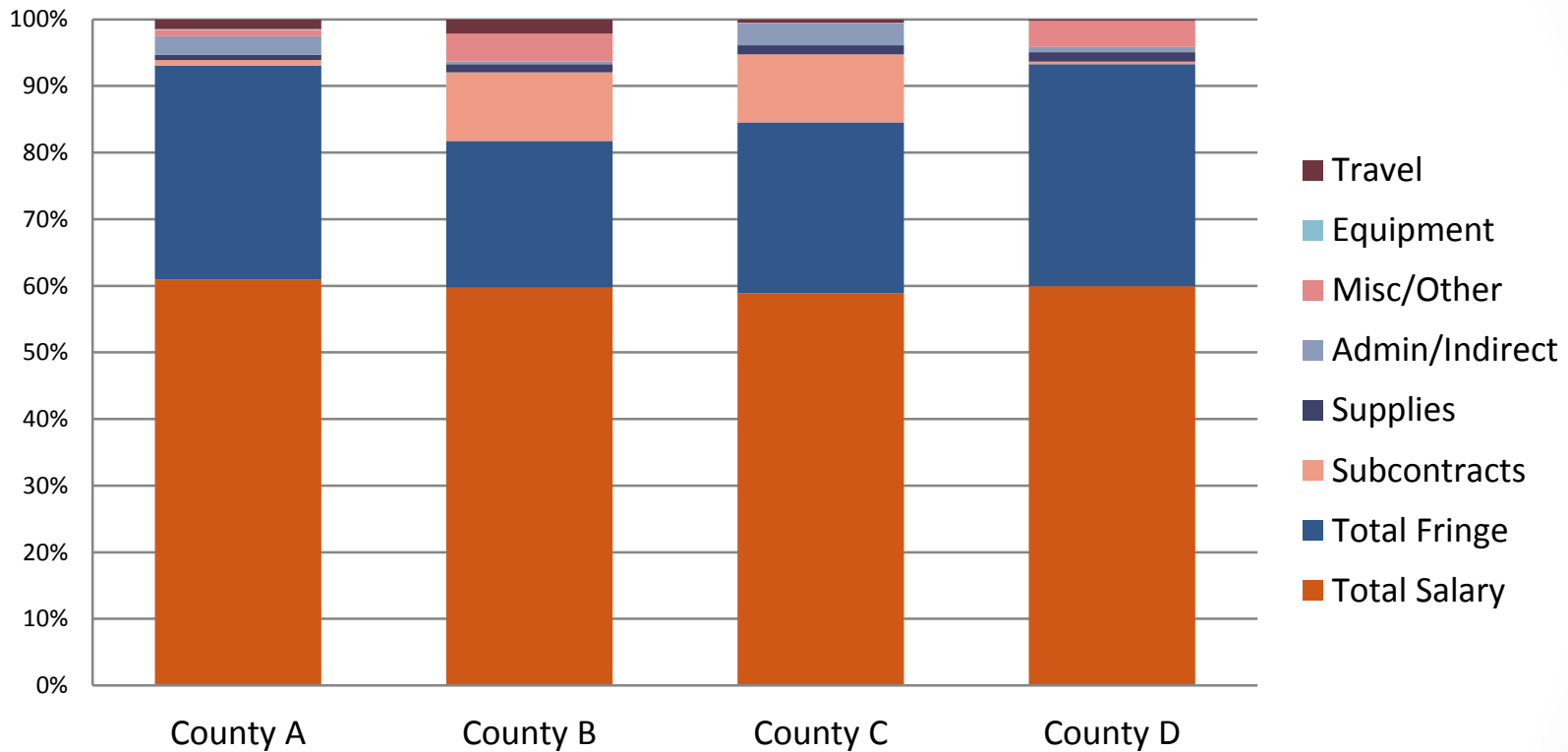
Total Contract Values by Quarter*



* Data presented in nominal dollars (Contract values have not yet been adjusted for inflation)

How were the contract funds spent?

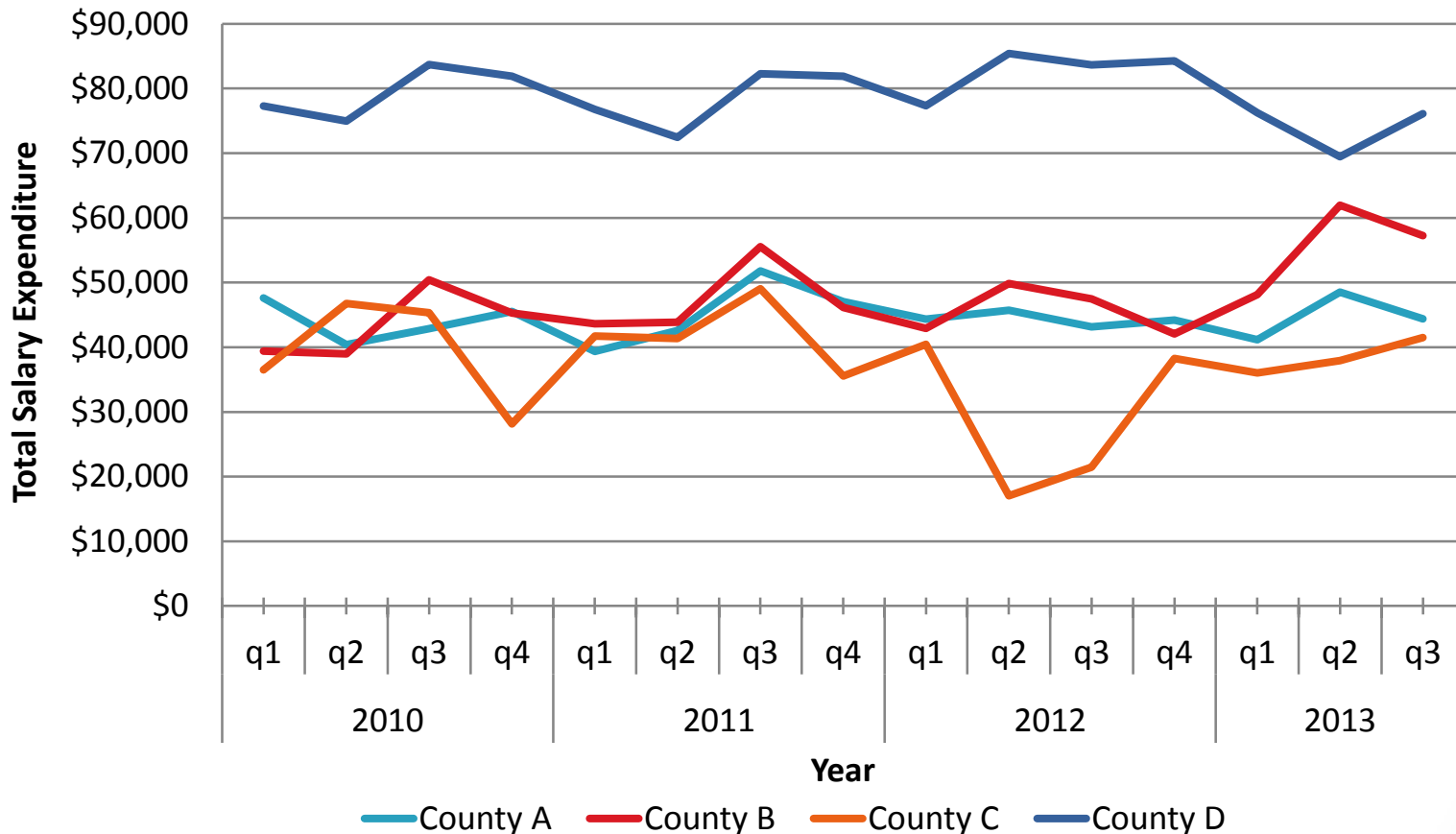
Total Contract Spending 2010-2013



- Salary and Fringe make up at least 80% of program expenditures for every county
- Large differences in the percentage spent on fringe

Salary Expenditures Vary Widely

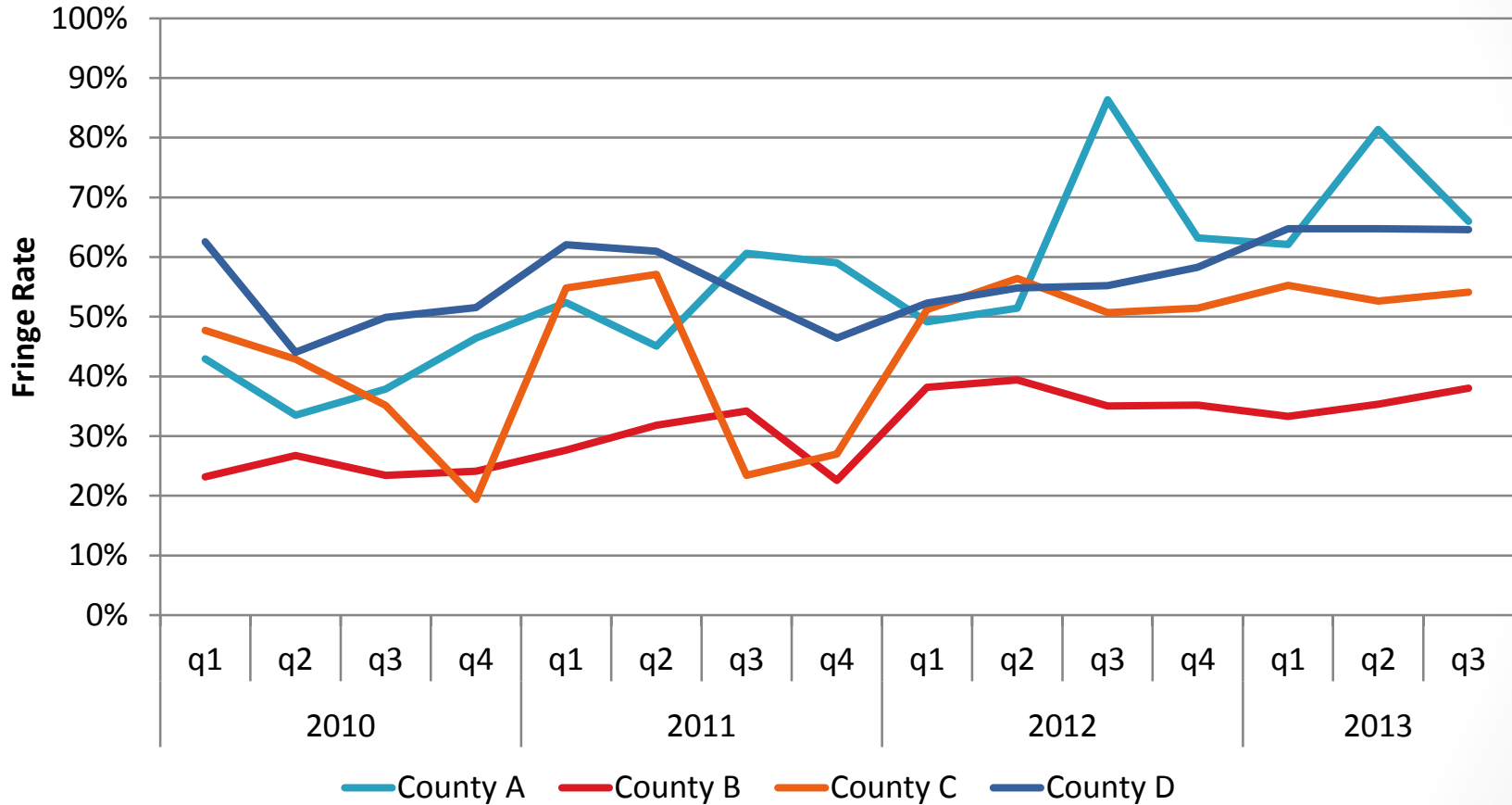
Total Salary Expenditures per Quarter



- Salary expenditures are not consistent within a year, fluctuates based on who is funded on the grant for that quarter

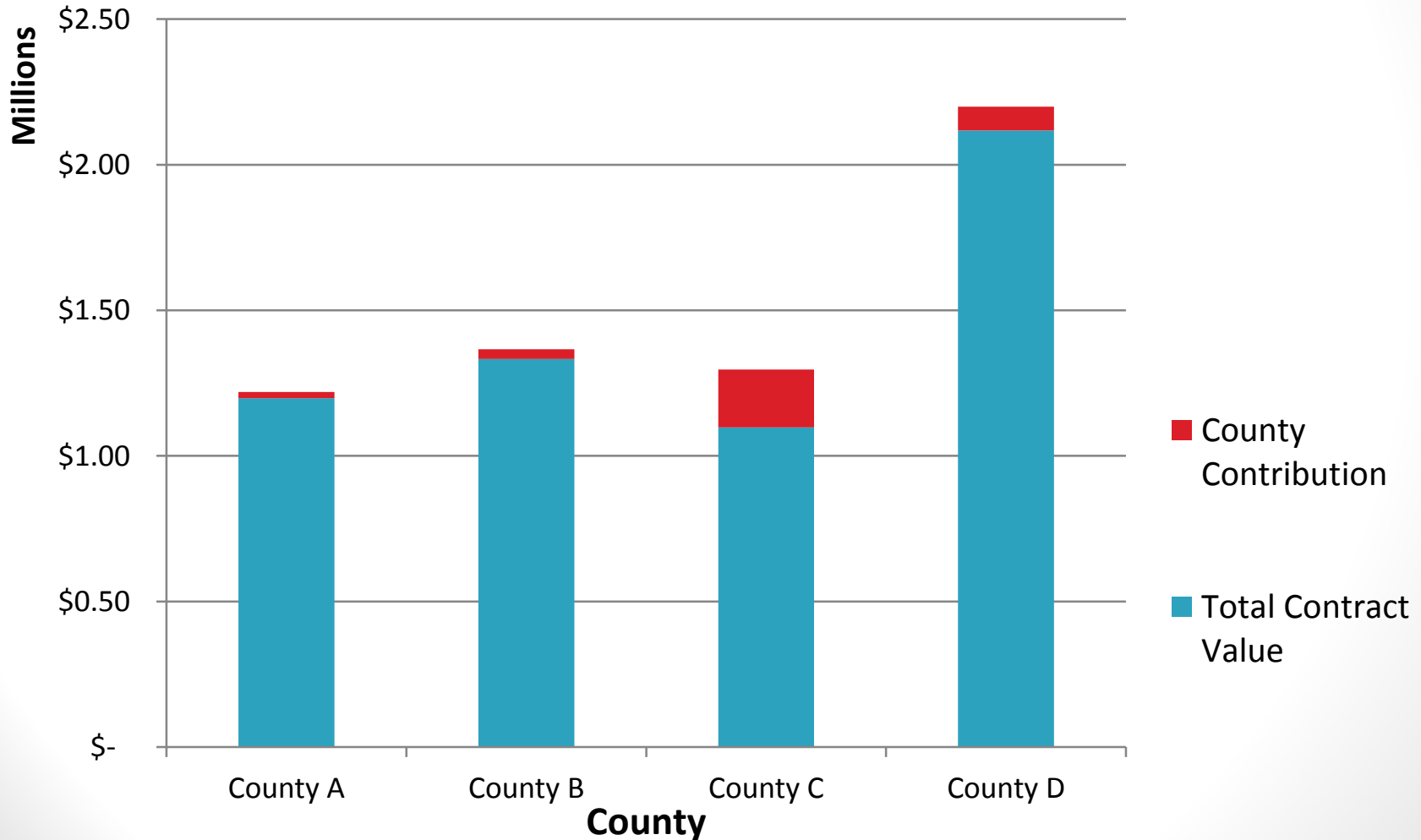
Fringe Rates are Inconsistent

Fringe Rates Charged by Quarter



Amount Contributed by the County Varies

Reported County Contributions (2010-2013)



Limitations of Contract Data

- We know the counties are contributing funds to the program, but we don't always know how much
- Inconsistent information, i.e. salaries changing from quarter to quarter
- Administrative rates vary widely
- Capped fringe rates don't reflect actual costs
- Some counties didn't allocate money for travel
- Staff listed as .5 FTE when they are realistically doing the work of 1.5 FTE
- Some contracts include funds for non-PS activities

Contract Costs: Next Steps

- **Employee Effort Survey**

- Short employee survey using Survey Monkey to determine actual effort contributed to PS vs. other activities

- **Management Costing Survey**

- Brief survey to be completed by management to help capture more accurate fringe rates, overhead, administrative costs and travel.

Lessons Learned

- Designing a (good) time study takes a lot of work!
 - Input from practice partners is essential to ensure buy-in
- We are starting to know what we *don't* know
 - Qualitative research has been critical to making sense of other project components; identifying limitations
- Contract data for cost estimation likely does not reflect full cost of services
 - Any attempt to cost will likely be an underestimate of “true” costs

Next Steps: Research Timeline

- **Activities Completed:**

- Time Study Instrument Development
- Qualitative Interviews
- Fiscal Data Collection

- **Activities Underway:**

- Employee and Management Surveys
- Time Study Data Collection
- Continued Contract Data Analysis

- **Upcoming Activities:**

- Cost Effectiveness Model Development

Acknowledgements

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Questions, Comments, Suggestions

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