

# The Spectrum of Prevention: Application to Program Development and Evaluation

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# Learning Objectives

- List at least two systematic tools that promote a multi-faceted approach for prevention
- Describe the six levels of the Spectrum of Prevention and its utility in developing comprehensive programming
- Define local efforts to utilize logic model and spectrum of prevention frameworks in comprehensive program development

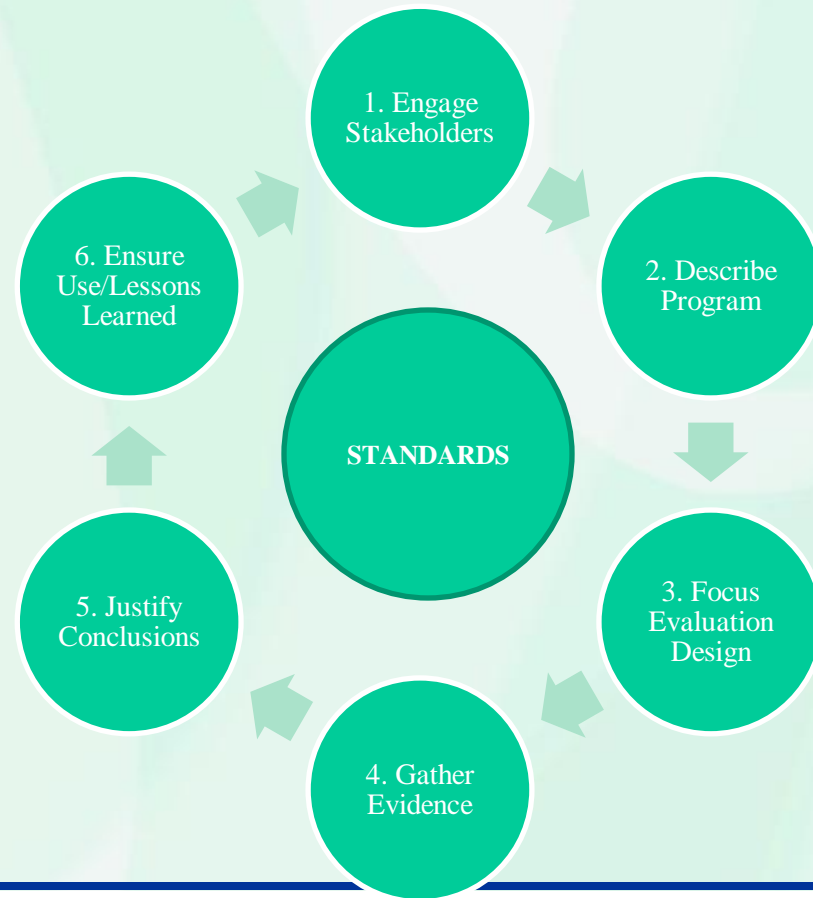
# Program Evaluation: Defined

- **Evaluation** – is the systematic investigation of the merit, worth or significance of any “object.”
- **Program** – is any organized public health action/activity implemented to achieve some result.
- **Program Evaluation** – the systematic collection of information about the activities, characteristics, and outcomes of programs to make judgments about the program, improve program effectiveness, and/or inform decision about future program development.

U.S. Department of Health and Human Services. Centers for Disease Control and Prevention.  
Office of the Director, Office of Strategy and Innovation. Introduction to Program Evaluation  
for Public Health Programs: A self-study guide. Atlanta, GA: Center for Disease Control and Prevention, 2005.

# Program Evaluation in 6 Steps

- Standards
  - Utility
  - Feasibility
  - Propriety
  - Accuracy



MMWR, 1999, Framework for Program Evaluation in Public Health

# Engaging Stakeholders (step 1)

- 3 Major Groups
  - Those in operations, those served, recipients of evaluation results
- Prioritize Considering
  - Credibility
  - Implementation
  - Advocacy
  - Funding

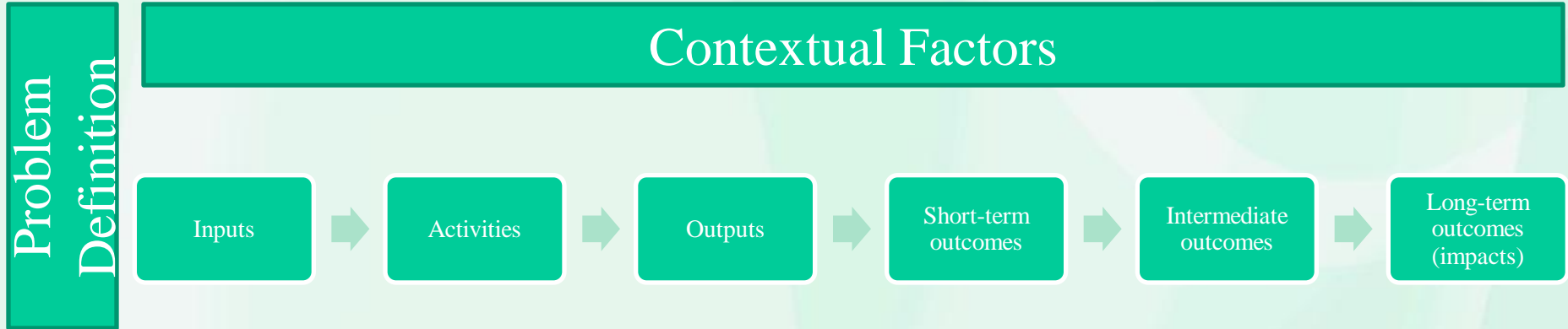
Introduction to Program Evaluation for Public Health Programs: A self-study guide.

# Logic Models (step 2)



- A framework that...
  - Logically links resources, activities, and outcomes
  - Illustrates a program's theory of change
  - Identifies the measurements for program evaluation

# Skeleton Logic Model



Contextual Factors						
Goal	Inputs	Activities	Outputs	Process	Impact	Outcome

# Logic Model Considerations

## Stage of Development



## Context



# Linking Planning, Evaluation and Performance Measurement (steps 2-5)

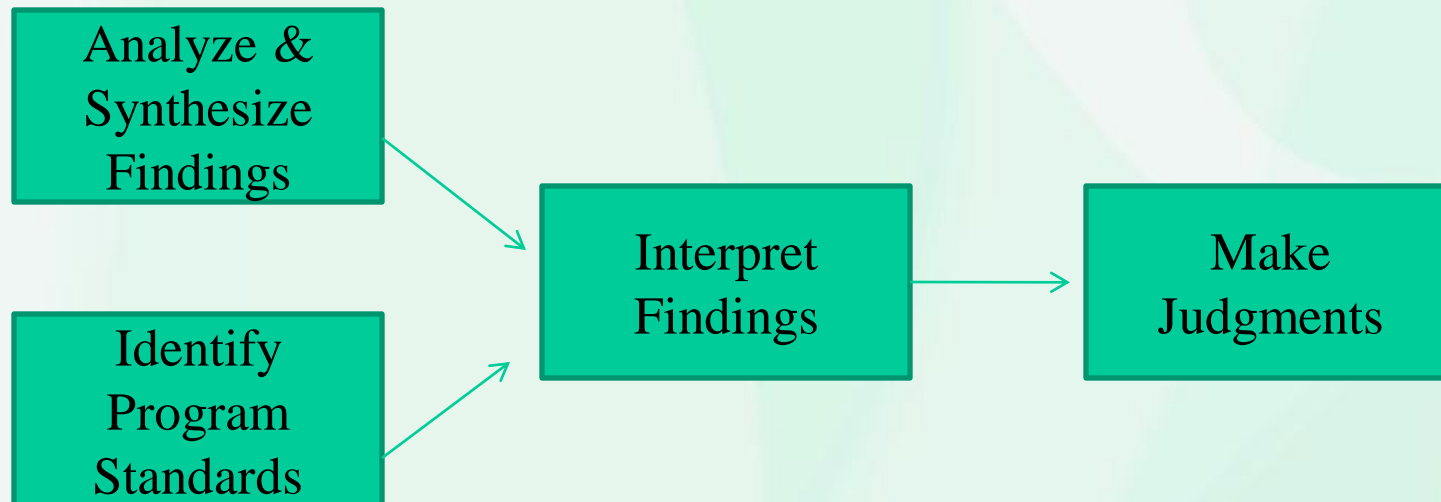
<b>Planning</b>	Strategies/Tactics	Objectives	Goals
<b>Evaluation</b>	Activities	Short & Intermediate Outcomes	Long-term Outcomes/Impacts
<b>Performance Measurement</b>	Implementation and Process Measures	Process & Outcome Measures	Impact Measures

Thomas J. Chapel, Practical Program Evaluation Using CDC's Evaluation Framework.

# Program Measures: Examples

Statement of Measure	Percent of Chlamydia cases (notifiable condition) reported to the LHJ with an investigation initiated within 3 days of receipt.
Target Population	All Chlamydia cases reported to Spokane Regional Health District
Numerator	# of Chlamydia cases with investigation initiated within 3 days of receipt
Denominator	Total # of Chlamydia cases investigated
Source of Data	Public Health Issue Management System (PHIMS-STDs)
Target or Goal	80%

# Justify Conclusions (step 5)



# Ensure Use and Share (step 6)

- Monitor progress against goals
- Producing desired progress on outcomes?
- Justify need for further funding/support
- Ensure effective programs
- Find opportunities for continuous quality improvement

# Act

- What changes are to be made?
- Next cycle?

**DOCUMENTATION OF CHANGE -**

# Study

- Complete the data analysis
- Compare data to predictions
- Summarize lessons

**DATA REPORT**

# Plan

- Objective
- **Questions and predictions**
- Plan to carry out the cycle (who, what, where, when)
- Plan for data collection

**REVISE LOGIC**

# Do

- Carry out the plan
- Document problems, successes and unexpected observations
- Begin analysis of the data

**WORK PLAN**

# How it Fits Together

CD Prevention  
(STD) Program



# Spectrum of Prevention

Level of Spectrum	Definition of Level
<b>6. Influencing Policy and Legislation</b>	Developing strategies to change laws and policies to influence outcomes
<b>5. Changing Organizational Practices</b>	Adopting regulations and shaping norms to improve health and safety
<b>4. Fostering Coalitions and Networks</b>	Convening groups and individuals for broader goals and greater impact
<b>3. Educating Providers</b>	Informing providers who will transmit skills and knowledge to others
<b>2. Promoting Community Education</b>	Reaching groups of people with information and resources to promote health and safety
<b>1. Strengthening Individual Knowledge and Skills</b>	Enhancing an individual's capability of preventing injury or illness and promoting safety

# Individual

Investigate selected communicable conditions reported to SRHD and provide back-up (as needed) to DOH on STDs

Outputs and Process Outcomes	2008 Annual	2009 Annual	2010 Annual
# cases initiated for interview	1386	1291	1026
# partners elicited	909	817	1001
#/% partners treated	?	579/45%	589/65%
Average # of days to initiate case contact	n/a	n/a	8
Average # of days to complete case interview	n/a	n/a	11
Average # of days to close a case	n/a	n/a	14
Determine if percentage of cases investigated increased	<b>100% increase due to 1<sup>st</sup> year efforts</b>	<b>95 fewer cases were initiated 1291/1632 (79%)</b>	<b>Decreased from 2009 1041/1617 ( 64%)</b>
<b>Lessons Learned:</b>	<ul style="list-style-type: none"> <li>• <b>Understaffing issues</b></li> <li>• <b>Increased quality of partner elicitation and treatment options</b></li> <li>• <b>Potential research area identification</b></li> <li>• <b>Efficiency in locating untreated cases</b></li> <li>• <b>Case investigation quality improvement project efforts</b></li> </ul>		

## Promoting Community Education

Maintain website or other web-based media for adolescents/young adults promoting sexual and reproductive health (TDR)

Outputs and Process Outcomes	2008 Annual	2009 Annual	2010 Annual
# promotional materials distributed	0	26448	231
# risk assessments completed	0	25	17
# unique visitors	37	2147	11359
# repeat visitors	n/a	n/a	8187
<b>Lessons Learned:</b>	<b>•2011 efforts</b> <b>•Added process outcomes</b>		

# Educating Providers

## Organize/facilitate HCP trainings

Outputs and Process Outcomes	2008 Annual	2009 Annual	2010 Annual
# trainings conducted	2	67	1
#training participants	50	302	26
# topics covered	4	25	1
#evaluations collected	44	98	n/a
Determine if provider knowledge and skills increased	Feedback from collected evaluations indicate increase in knowledge	Feedback from collected evaluations indicate increase in knowledge	Results have not been furnished for 2010
Lessons Learned:	<ul style="list-style-type: none"><li>•Staffing issues</li><li>•Determining provider needs</li><li>•Utility of training evaluations</li></ul>		

# Fostering Coalitions and Networks

## Facilitate STD Medical Coalition

Outputs and Process Outcomes	2008 Annual	2009 Annual	2010 Annual
# meetings attended	3	18	2
# STDMC Members	36	18	35
# Community organizations represented	24	14	21
Determine if meetings were productive and aligned with program goals		<b>Narrow the scope of projects</b>	<b>Coalition mission reflects CDP program goals</b>
Determine if meetings improved provider STD-related knowledge and improved patient care		<b>Identified new populations to target to improve care</b>	<b>Member survey results indicate providers are receiving up-to-date information</b>
<b>Lessons Learned:</b>	<ul style="list-style-type: none"> <li>•2010 efforts impacted by staff change</li> <li>•2011 focus areas</li> </ul>		

## Changing Organizational Practices

### Organize/conduct office-based training as part of RCI projects with clinic

Outputs and Process Outcomes	2008 Annual	2009 Annual	2010 Annual
# RCI projects conducted	1	2	1
# materials distributed	1	9	34
# participants in attendance	0	51	40
Determine if training objectives were met and improvement were sustainable and/or significant	Not tracked	Not tracked	Ease of report creation contributes to continuity of knowledge and sustainability. Objectives were met since evaluation data exceeded baseline data in reporting performance
<b>Lessons Learned</b>	<ul style="list-style-type: none"> <li>•RCI involving HCP reporting per WAC 246-101</li> <li>•2011 efforts</li> </ul>		

## Influencing Policy and Legislation

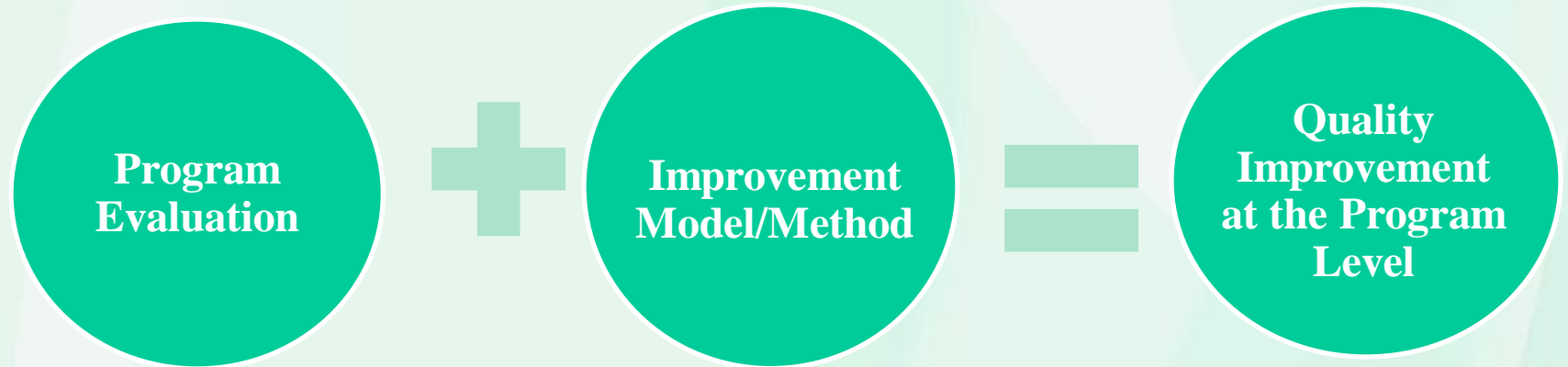
Advocate among medical provider community for Expedited Partner Therapy (EPT) for STDs through PHL or other means

Outputs and Process Outcomes	2008 Annual	2009 Annual	2010 Annual
# contact with the medical community regarding EPT	n/a	93	80
# clinicians providing EPT	n/a	n/a	45/101
# partners treated with EPT (DIS)	n/a	112	227
Determine if EPT implementation increased	<b>Not tracked</b>	<b>Not tracked</b>	<b>Spokane county providers have a reported 46% uptake of EPT versus 35% in King/Pierce/Snohomish counties.</b>
<b>Lessons Learned:</b>	<ul style="list-style-type: none"> <li>•Resistance surrounding legality</li> <li>•Change in tactics in meeting structure</li> <li>•Gauging knowledge and use in 2011</li> </ul>		

# Ensure Use and Share (step 6)

- Monitor progress against goals
- Producing desired progress on outcomes?
- Justify need for further funding/support
- Ensure effective programs
- Find opportunities for continuous quality improvement

# QI at the Program Level



# Rapid Cycle Improvement

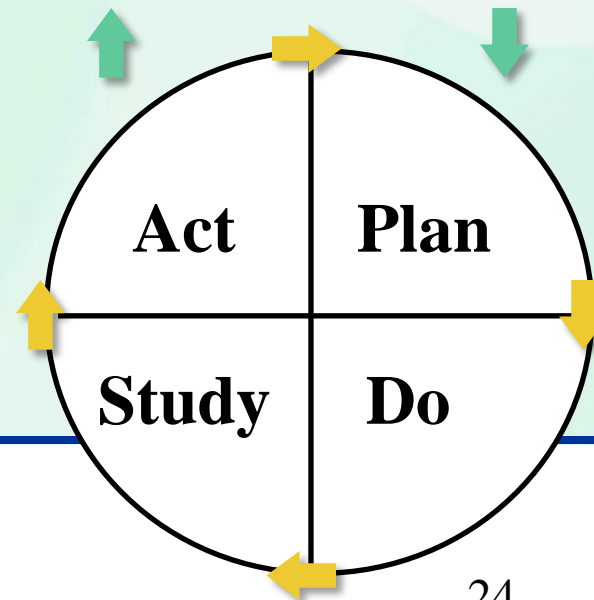
First try a change idea on a small scale to see how it works, modify it, and then try again until it works better.

## Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in an improvement?



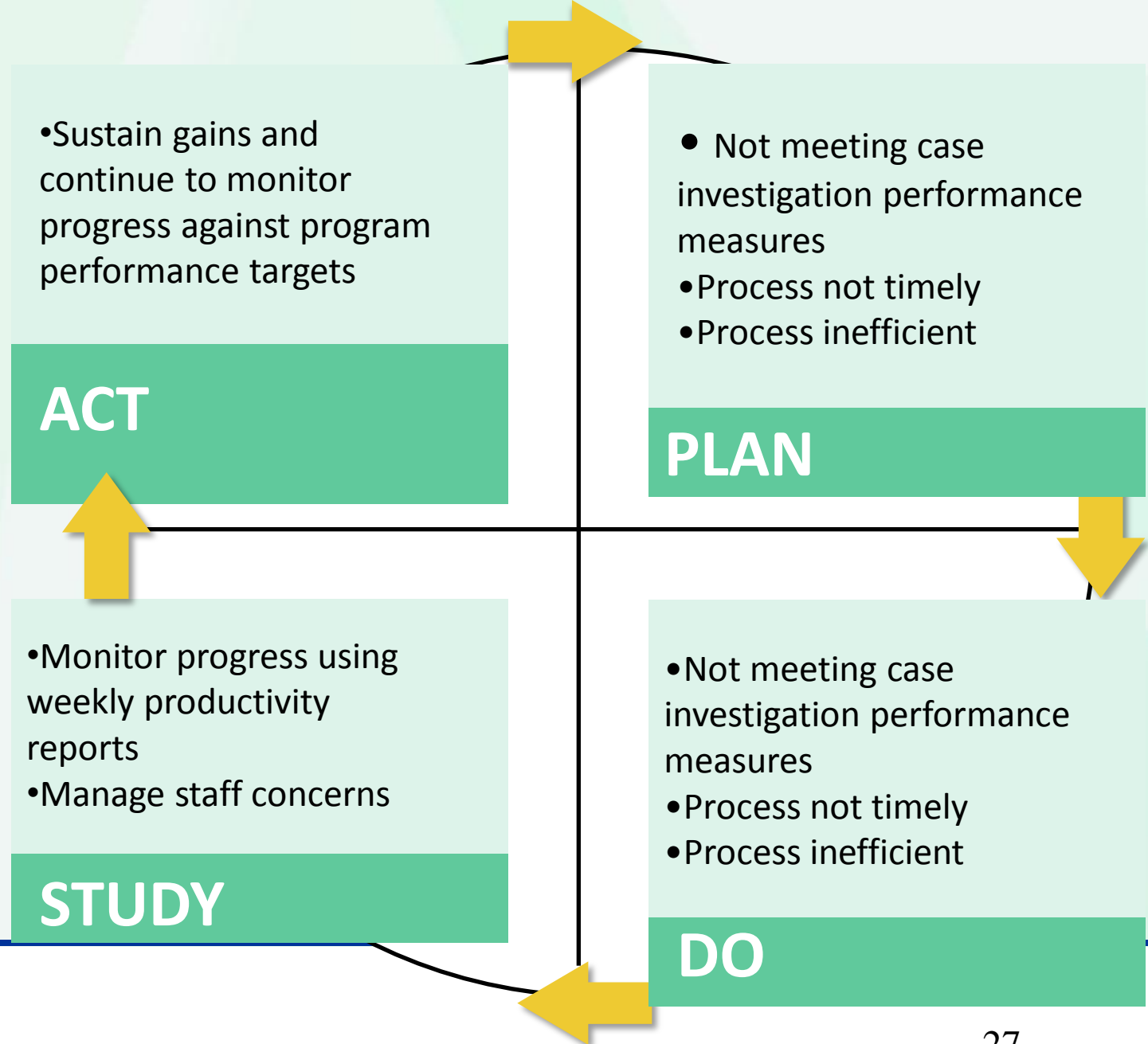
# Taking a Closer Look: 2010

P1, A2	# cases initiated for interview	DOH Quarterly Worker Reports	1387	1151	274	262	249	241	1041
Investigate selected	# partners elicited	DOH Quarterly Worker Reports	909	1050	277	220	244	260	1018
	# DIS initiated contact/partners notified (DIS or OP)	DOH Quarterly Worker Reports	132	151	32	14	30	48	143
communicable conditions reported to SRHD and provide back-up (as needed) to DOH on STDs.	#/% partners treated (via index patient guarantee or DIS verification)	DOH Quarterly Worker Reports	560/61.6%	739/70.3%	193/70%	131/60%	156/61%	203/63%	653/64.1%
	# DIS verified partner treatment	DOH Quarterly Worker Reports	406	594	129	91	92	148	643
	Average days to initiate contact attempt	PHIMS-STD			need 2009 holidays to compute				8
	Average days to complete case interview	PHIMS-STD			need 2009 holidays to compute				11
	Average days to close a case	PHIMS-STD			need 2009 holidays to compute				14
	Determine if percentage of cases investigated increased	DOH Final Report	<p><b>Findings:</b> DOH reports indicate that we initiated a total of 1386 (CT &amp; GC) cases for interview. This deviates from our internal records. The more we investigate, the more cases are reported (incidence). The % of chlamydia cases investigated increased by approximately 100% from last year and gonorrhea increased by nearly half. Improvement is difficult to measure without solid baseline data (2007). We started with the four-page form to the short form. The long form is useful for training of new staff. Navigating the clinical system for patient health information collection can be time consuming and stressful.</p>	<p><b>Findings:</b> 95 fewer cases investigated than 2008. DIS initiated interviews for 1291/1632 (79%) of all cases.</p>	<p><b>Findings:</b> A total of 1617 CT cases were received in Spokane County. DIS initiated 1041 interviews (64% of entered cases) and interviewed and closed 839/1041 (81%) of CT cases; DOH staff interviewed 87/134 (65%) of GC cases. The percentage of cases investigated decreased from 2009.</p>				
	Determine if protocol was followed when DIS conducted investigations.			<p><b>Findings:</b> Not tracked.</p>	<p><b>Findings:</b> DIS adhere to a stipulated protocol outlined in the CDP procedure manual, including case priorities. All DIS use the procedure manual as guidance and follow the PHIMS interview forms.</p>				
	Lessons learned		<p>We can probably start relying on the state reports now for the sake of consistency from year to year and for benchmark purposes. We must prioritize cases to reduce caseload and maintain staff/prevent burnout. PPINW identified as usually provided good consistent care. Decided to not target PPINW clients for interview unless they meet high risk category (i.e. pregnant). Developed MOU with PPINW so all on same page. The need to conduct QA of investigation of PHIMS records to be conducted bi-annually by program manager and staff. QA was added to work plan and logic models. Need also to add annual review of protocols to logic model. We need the capacity to test and treat partners for timely disease control. We will be developing policies and procedures for DIS to perform this function. Will need to add to logic model and work plan for 2009. Will start using DOH data for consistency sake, not that DOH has started consistently providing it. Have updated procedures to address HIPAA concerns and CPS involvement. Tracking partner referrals has been time consuming and inefficient so we will discontinue separate tracking from what is already provided via STD-PHIMS</p>	<p>Staff turnover was a factor in this decrease, as well as project work and time taken away from case investigation. The reduction in 1FTE to .8FTE difference is another identified factor. Prioritization of cases will continue and the MOU with PPGWNI is still current. Interviewing based on short form will also continue. EPT project staff can also be utilized during staff reduction for long interviews. Training EPI and HIV staff to assist with case investigation. Standing orders have been established and the addition of treatment resources has been a support to this measure. With testing and treatment resources dwindling in the community is a concern and challenge; Planned Parenthood, iCHOICE were primary referral sites, although this varies by case. Free testing is non-existent in our communities; expect an increase in internal screening rates for 2010. We did identify the need to expand the standing orders to enable us to treat up to one month post testing date. Difficulties ensuring the testing and treatment of MSM due to exclusion criteria in standing orders/PP/EPT. Lesson Learned: Need to establish relationships in community to test/treat MSM and investigate issue with coalition. Possibly pursue relationship with Dr. Michael Metcalf with Associated Family Physicians per John Arvan. Anecdotally GLEBTQ youth have been well-received by PPGWNI. Revise 2010 logic model to track EPT</p>	<p>The number of total cases interviewed and partners elicited/treated decreased overall for 2010. The decrease is attributed to a vacancy in the DIS position for 6 months causing a loss of 528 hours in staff time dedicated to case investigation. The availability of EPT has allowed DIS to treat a significant amount of partners, which in turn has contributed to the decrease of the prevalence of STDs and reduced the rate of reinfection. Additionally, the CDP team has identified the rate of reinfection based on treatment method from the reporting provider for Chlamydia as a potential research area for upcoming interns. This information will help elucidate a factor that may contribute to the incidence/prevalence of Chlamydia in Spokane County. While there is no 2009 baseline data for the percentage of cases without treatment, based on 2010 data, DIS are efficient in locating untreated cases, especially with the added tools of social media and texting (DOH cell phone). These tools have been vital in establishing communication with otherwise unlocatable cases. Because case investigation numbers have been decreasing, a quality improvement project involving CDP case investigation protocol began in 2010 and is still ongoing. DIS have reviewed and evaluated case priorities in order to increase the number of interviews completed. Additionally, weekly productivity reports are generated so that DIS can track completed investigations and attempted contacts in order to achieve team weekly goals of 16 complete interviews (Chlamydia). Quarterly DIS quality assurance reviews of initiated cases conducted by the supervisor are considered an important activity.</p>				

# Incorporating Lessons Learned

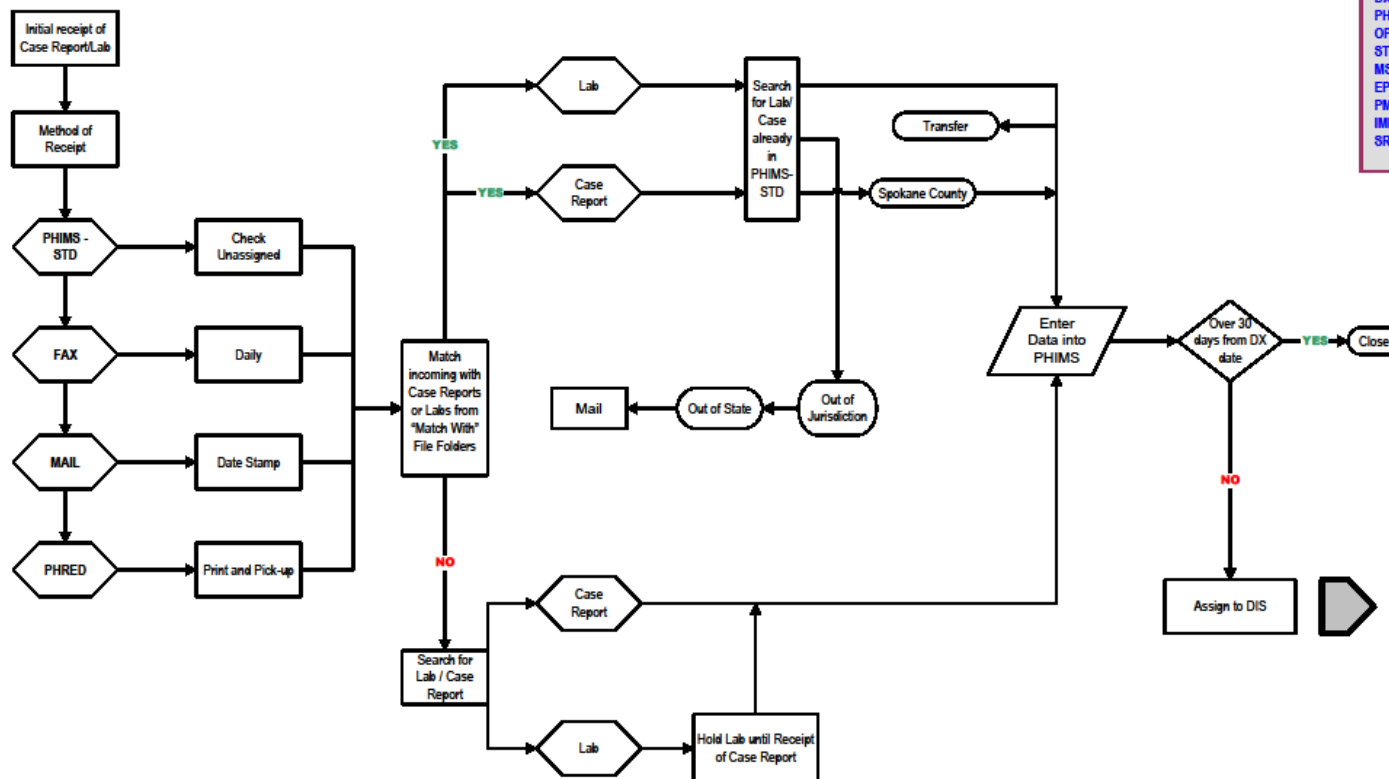
Office-Based Training/ Rapid Cycle Improvement	Conduct Initial Data Collection and Assessment of case investigation protocol	Alexandra	11/2010		
	Meet with staff and conduct intervention	Alexandra, Lisa H. , Julie Z.	11/2010-02/2011		
	Post intervention data collection via RCI methodology	Alexandra	02/2011		
	Review and present findings	Alexandra, Julie	03/2011		

# QI at the Program Level



# CASE INVESTIGATION PROCESS FLOWCHART TOOL

- ACRONYM LIST**
- DIS: Disease Intervention Specialist
  - PHIMS: Public Health Issues Management System
  - DX: Diagnosis
  - PHRED: Public Health Record Electronic Database
  - OP: Original Patient
  - STD: Sexually Transmitted Disease
  - MSM: Men Who Have Sex With Men
  - EPT: Expedited Partner Treatment
  - PM: Project Manager
  - IMR: Internal Medicine Residency
  - SRHD: Spokane Regional Health District



**LEGEND**

CASE INVESTIGATION PROCESS DETAILS  
April 18th, 2011  
Communicable Disease Prevention  
FINAL

					i.e., enter notes, update notes, mark disposition verified		i.e., 3 <sup>rd</sup> Priority, Close case		Off page reference
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## Weekly Productively Report

**NUMBER OF DAYS TO REPORT** **14.8**

DerivedDXDate, CaseEnteredDate

**CASE REPORT MISSING INFO (CRMI)**

9 25%

**CASE REPORT NEEDED (CRN)**

18 50%

CompletedBy

**NUMBER OF DAYS TO INPUT DATA**

CaseEnteredDate, CreatedDate

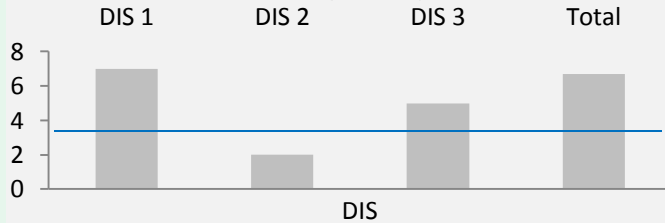
**0.3**

**PERCENT OF INCOMPLETE REPORTING**

**75%**

## First Contact Attempt

(Average In Days)



**NUMBER OF DAYS TO INITIATE IX**

CreatedDate, FirstContactAttemptDate




**6.7**

**AVERAGE BY DIS**

DIS 1 7  
DIS 2 2  
DIS 3 5  
Total 7

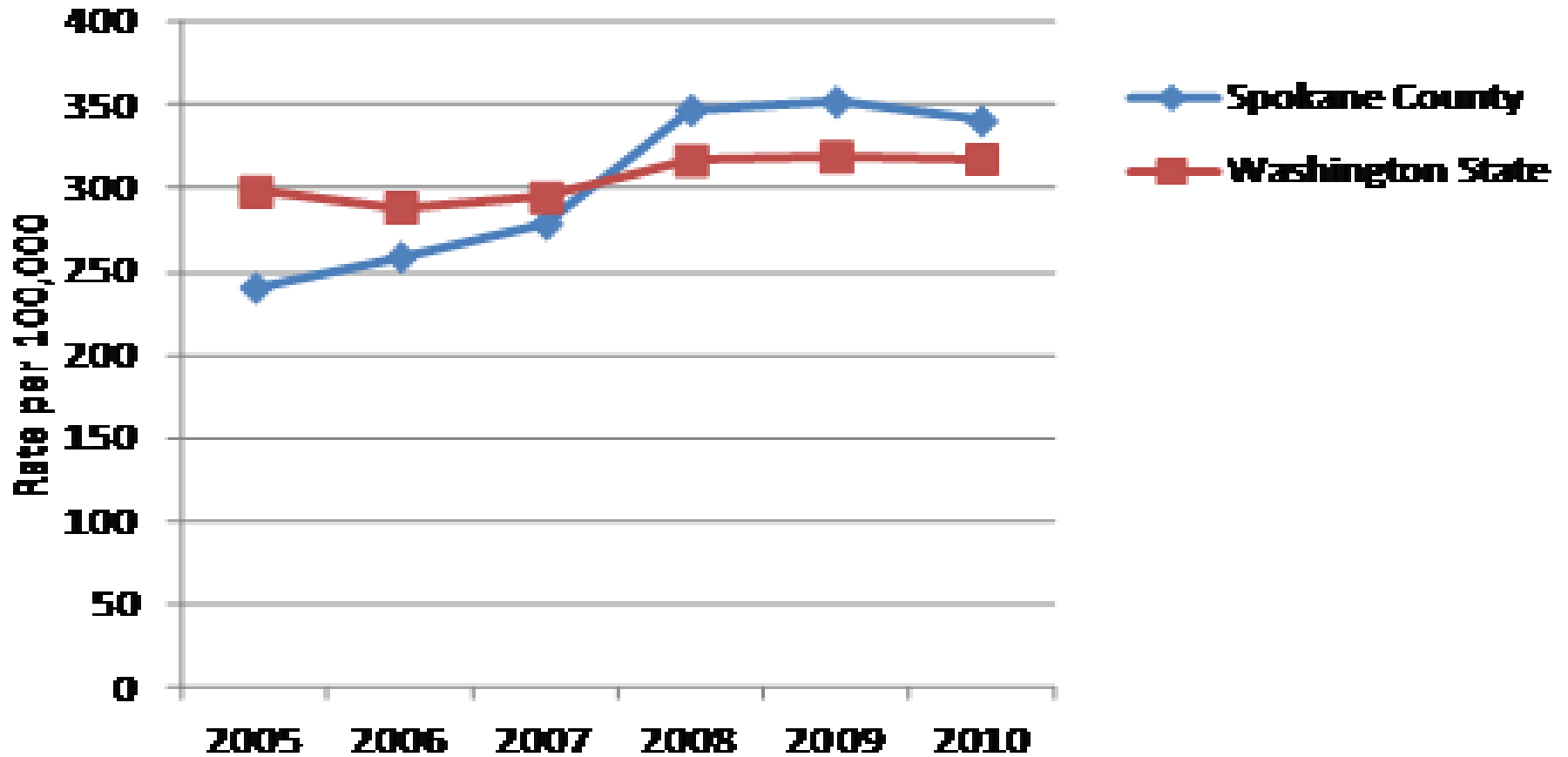
CASE INVESTIGATION (CT/GC Only)	# ASSIGNED	% OF ASSIGNED	# INTERVIEW		# ATTEMPTS
			S	% OF TOTAL IX	
WorkerName	CreatedDate		Interview Date		FirstContactAttemptDate
DIS 1	12	55%	19	41%	25
DIS 2	4	18%	1	2%	1
DIS 3	6	27%	3	7%	2
TOTAL	0	0%	23	50%	0
UNASSIGNED	14				
<b>TOTAL</b>	<b>22</b>	<b>100%</b>	<b>46</b>	<b>100%</b>	<b>28</b>
<b>PERCENTAGE OF CASES</b>	<b>61%</b>				

# CDP Programming: Results

STD Program Performance Measure:	2009 Baseline	Current Status	Target	Progress
Increase percentage of contacts of STD exposures where treatment was obtained	70%	72%	80%	
Decrease average # days to report STD cases to PH	14.1	9.6	8	
Increase % clinics reporting STDs within county average	42%	69%	55%	

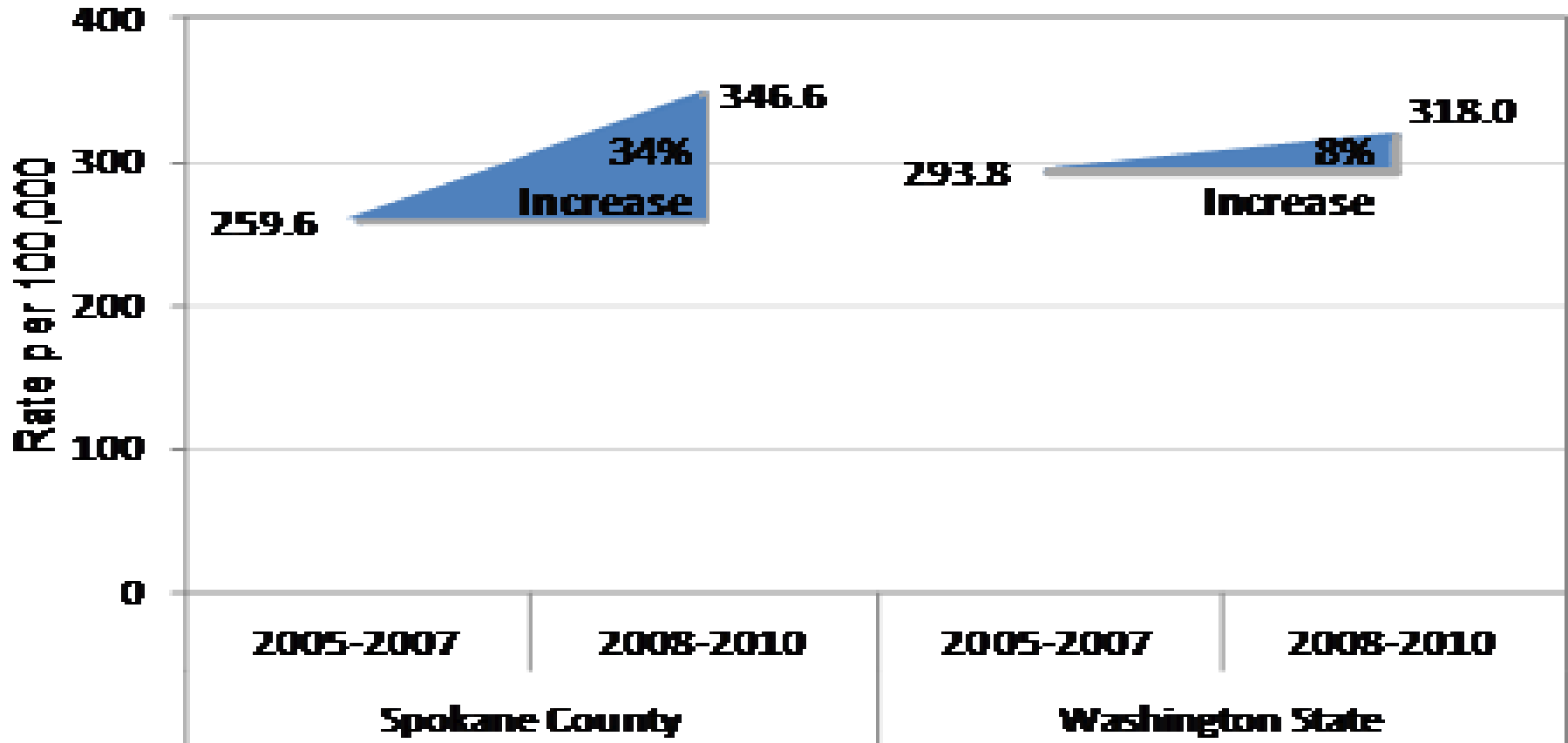
# Program Impacts

## Chlamydia Rates Over Time



# Program Impacts Continued

## Changes in Chlamydia Rates



# Take Away Points

- Logic Models are useful tools for program evaluation.
- Applying the Spectrum of Prevention framework within the LM helps ensure comprehensive programming.
- Integration of performance measurements within evaluation frameworks helps focus QI efforts on where it matters most.
- Incorporating program evaluation and QI within program workplans helps ensure institutionalization of quality management.
- How do we continue to focus our practice “up stream” on the Spectrum?

# Contact Information

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