

Evaluation Dialogue

Between OMB Staff and
Federal Evaluation Leaders

Digging a
Bit Deeper into
Evaluation
Science

April 2005



Evaluation Dialogue

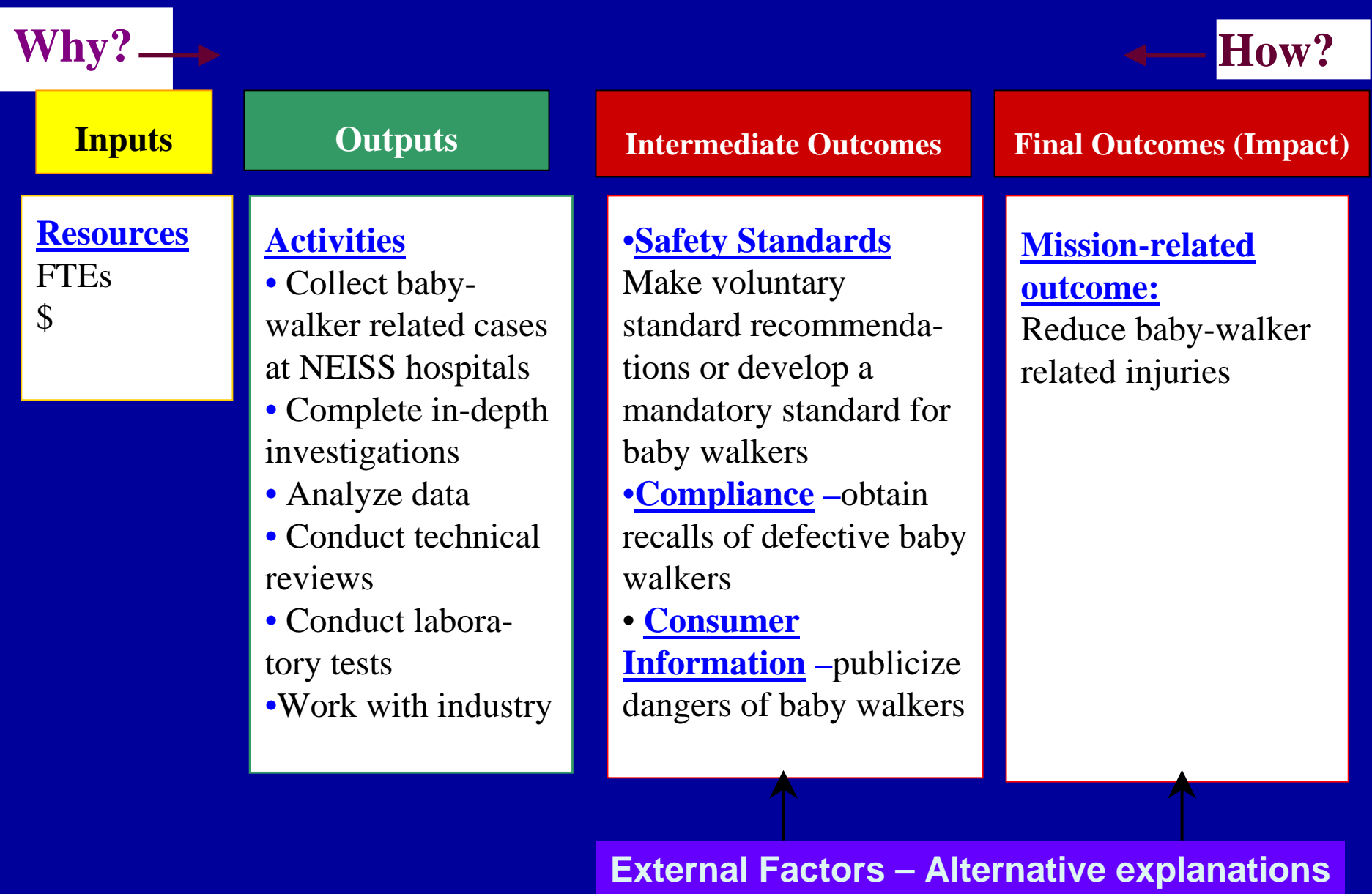
Session II

Examples of Evaluation Approaches and Discussion

Example 1: Evaluation of Impact of Agency Actions on Baby Walker Injuries

Evaluation Question: Has the safety standard for baby walkers, designed to prevent falls down stairs, been effective in reducing injuries?

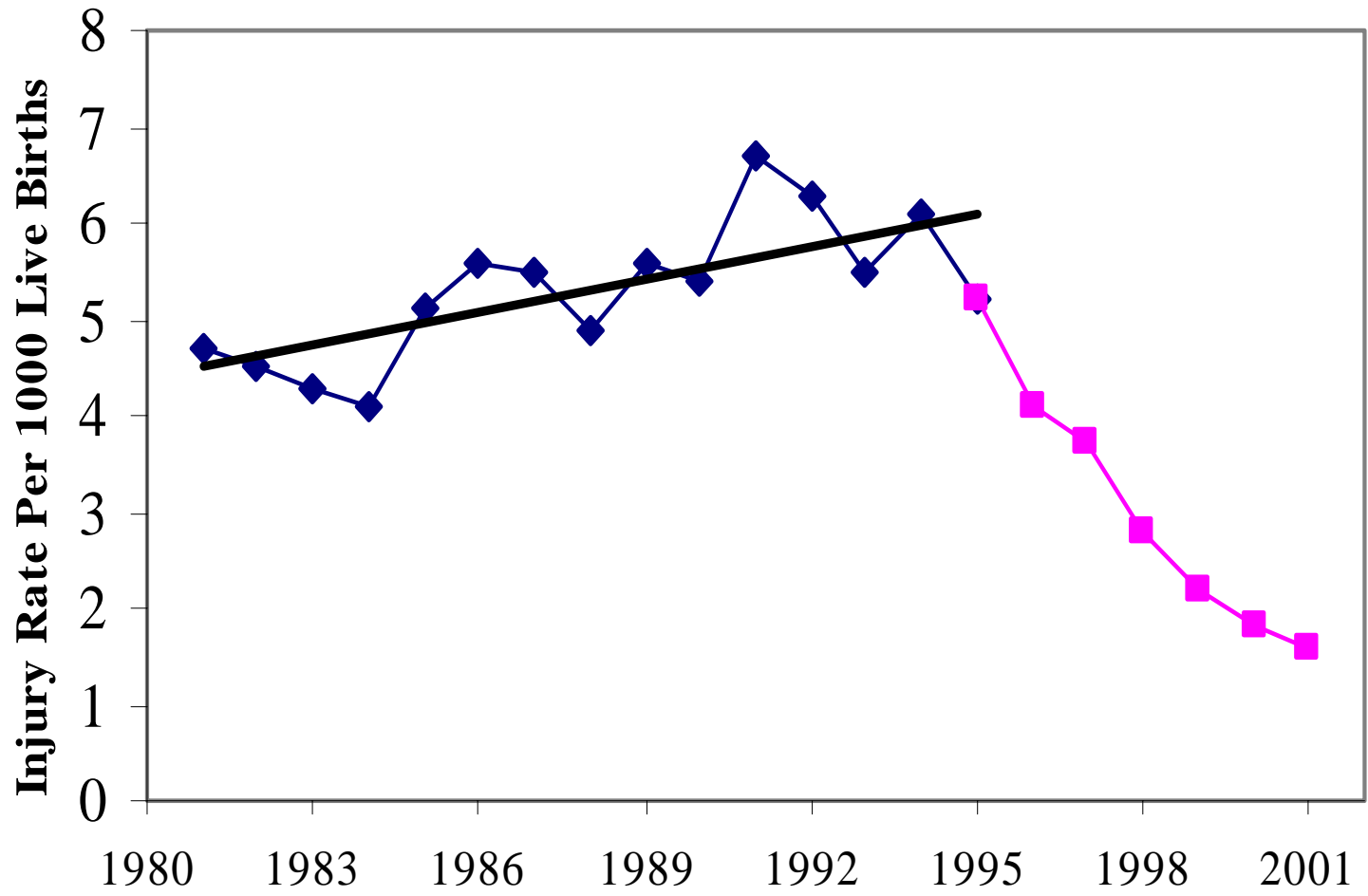
Logic Model for Reducing Baby-Walker Related Injuries



Evaluation Design: Interrupted Time Series

- **Voluntary standard applied to all baby walkers sold or imported to U.S.**
- **Few alternative explanations for effects.**
- **Random assignment to groups has ethical implications.**

Baby Walker-Related Injury Rate: 1981 to 2001



Possible alternative explanations for impact of safety standard for baby walkers

- A secular safety trend?
- Change in sales of baby walkers?
- The probability sample for estimating injuries changed?
- The population changed?

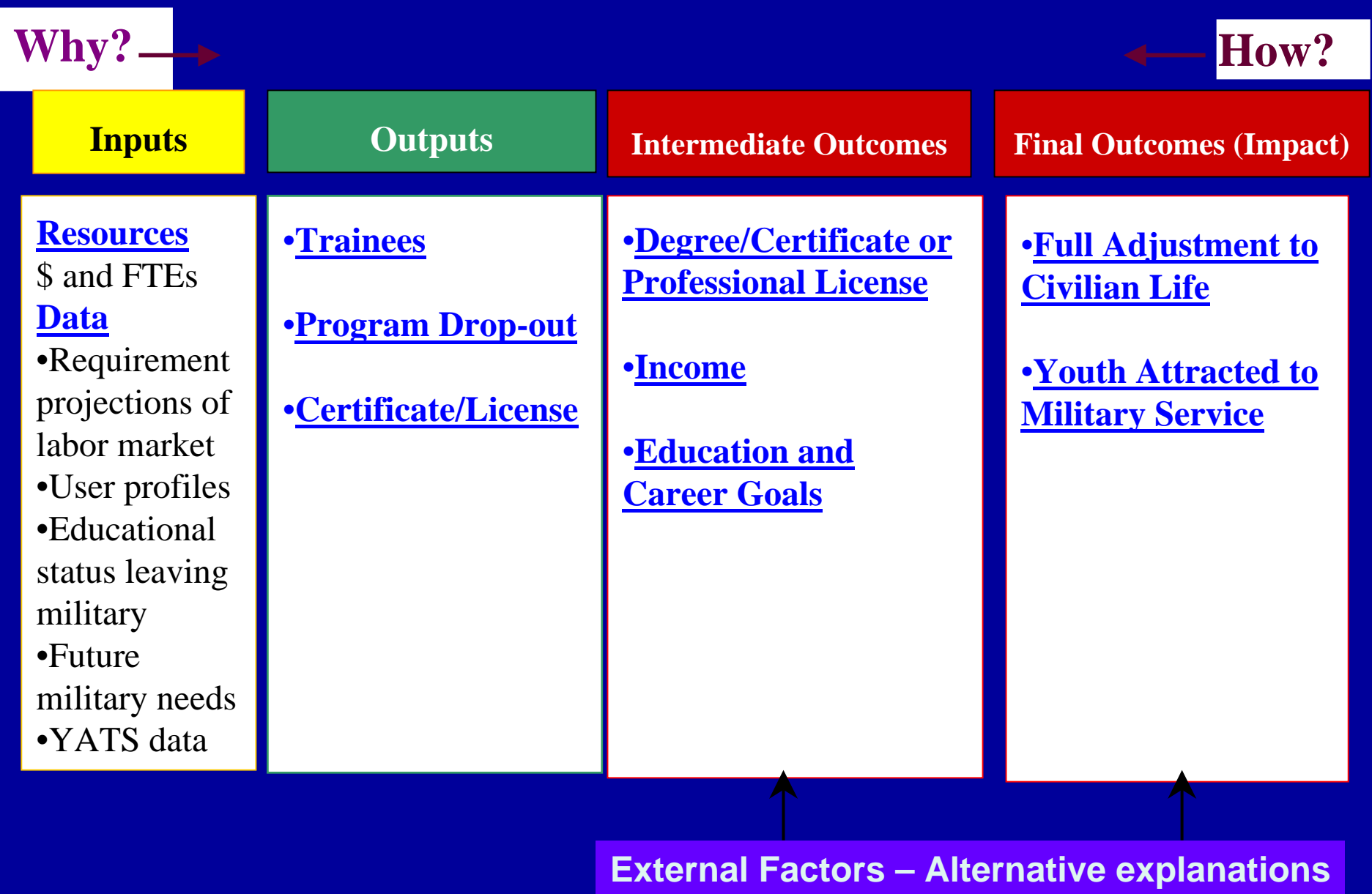
Example 2: Evaluation of Montgomery GI Bill Program (at VA)

Evaluation Question:

To what extent has the program met

- its statutory intent,**
- the educational needs of
beneficiaries, and**
- the expectations of stakeholders?**

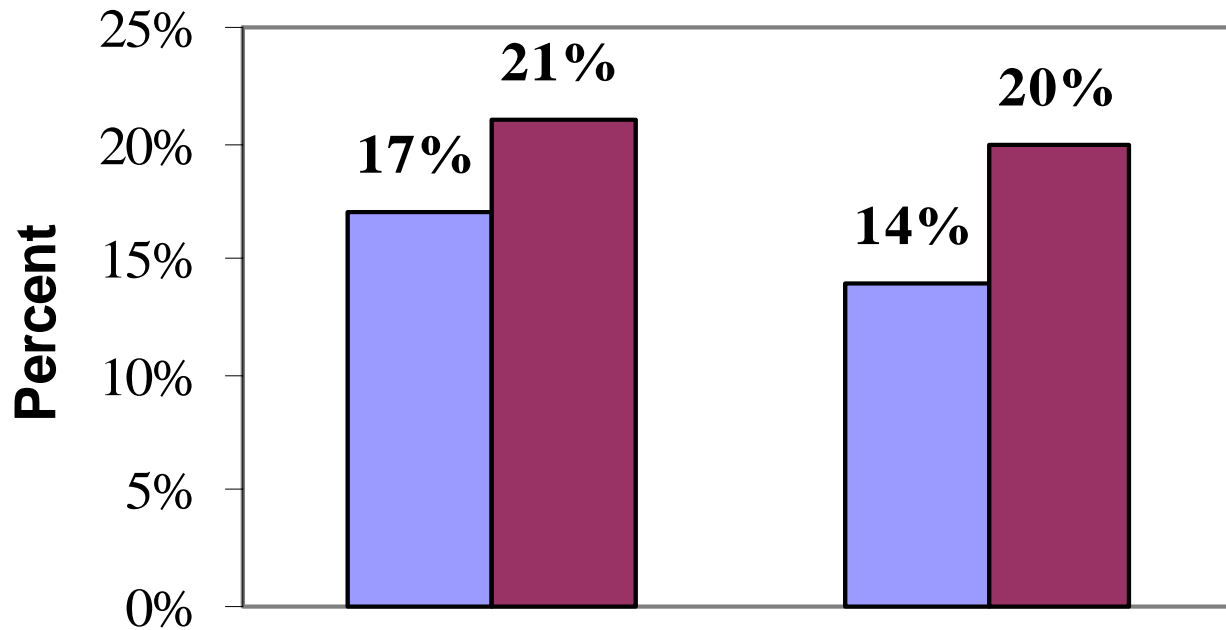
Logic Model for Assessing Educational Needs Attainment



Evaluation Design: Quasi-Experimental

- **Stratified survey (mock longitudinal)**
 - 10 cohorts by year entered military
 - user, non-user, non participants
- **Comparisons among cohort groups**
- **Compared to general population educational statistics**

Ability to find Work: Users and Non-Users



Problems finding a job

Unemployed and looking for work for >=1 month (past yr)

Possible alternative explanations for impact of GI Bill program success

- Age at completing military service
- Impact of family responsibilities
- Program's adaptation to new educational delivery models

Example 3: Evaluation of the impact of CR Packaging Requirements on the Child Death Rate

Evaluation Question: Have the mandatory standards requiring child resistant (CR) packaging for oral prescription drugs been effective in reducing the death rate from unintentional poisonings to children under 5 years old?

Logic Model for Reducing the Death Rate from Unintentional Poisonings to Children Under 5 Years Old

Why? →

← How?

Inputs

Outputs

Intermediate Outcomes

Final Outcomes (Impact)

Resources

FTEs
\$
Partners

Activities

- Monitor ingestion incident data
- Identify products with chemicals known to be potentially hazardous to children.
- conduct human performance testing for compliance with CR requirements.

• Safety Standards

Develop mandatory standards for CR packaging for oral prescription drugs

- Compliance – obtain recalls for products that violate CR packaging regulations
- Consumer Information – promote CR packaging with partners

Mission-related outcome:

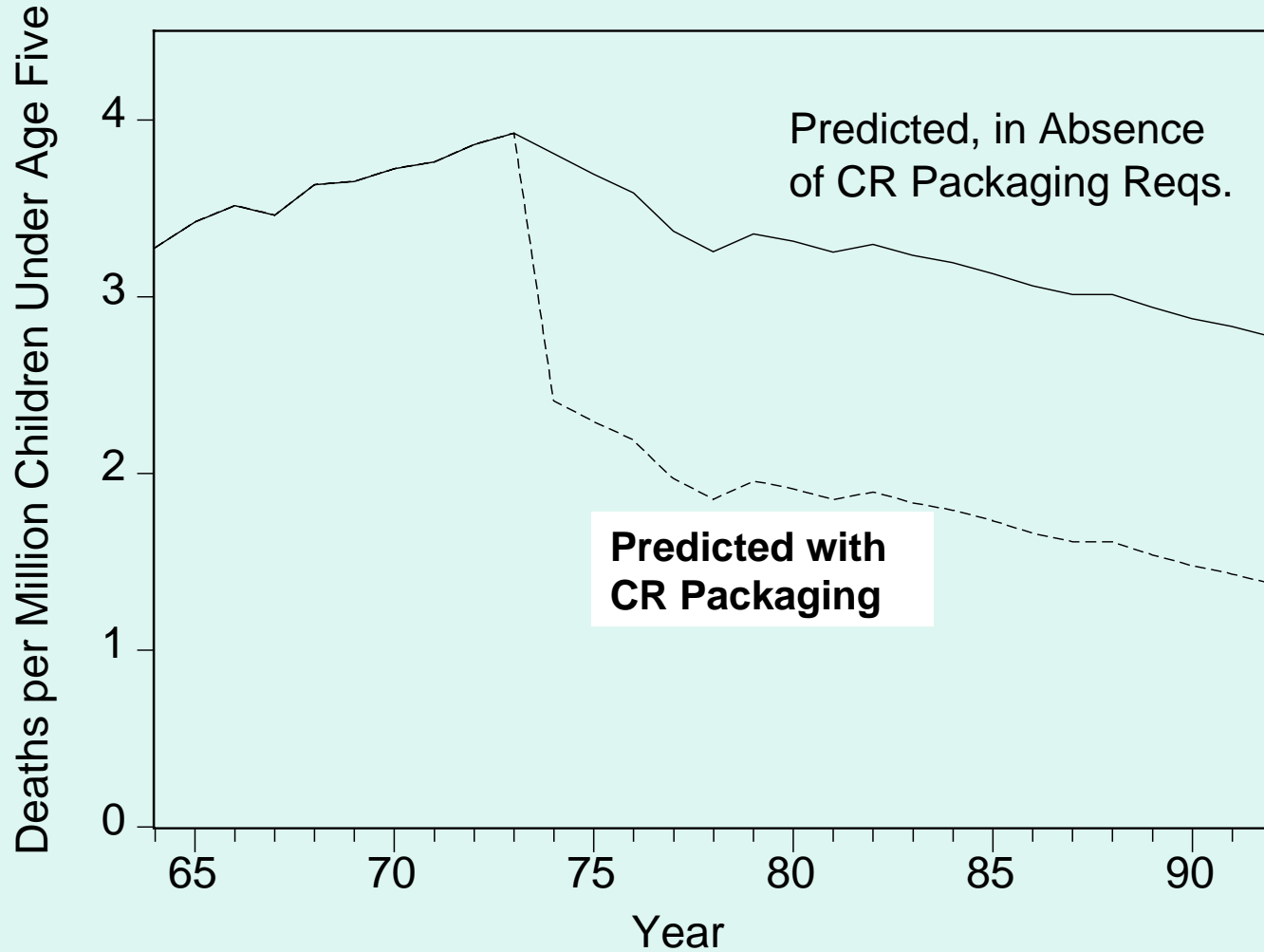
Reduce the death rate for children under 5 associated with oral prescription drugs.

External Factors – Alternative explanations

Evaluation Design: Interrupted Time Series

- **Mandatory standard applied to all oral prescription drugs sold or imported to U.S.**
- **Few alternative explanations for effects**
- **Random assignment to groups has ethical implications**

Estimated Child Death Rates Associated with Accidental Medicine-Related Poisonings



Possible alternative explanations for impact of CR Packaging Requirements on the Child Death Rate

- **A secular safety trend?**
 - **Health care**
 - **Poison Control Centers**
 - **Parental awareness**
- **Change in sales of prescription drugs?**

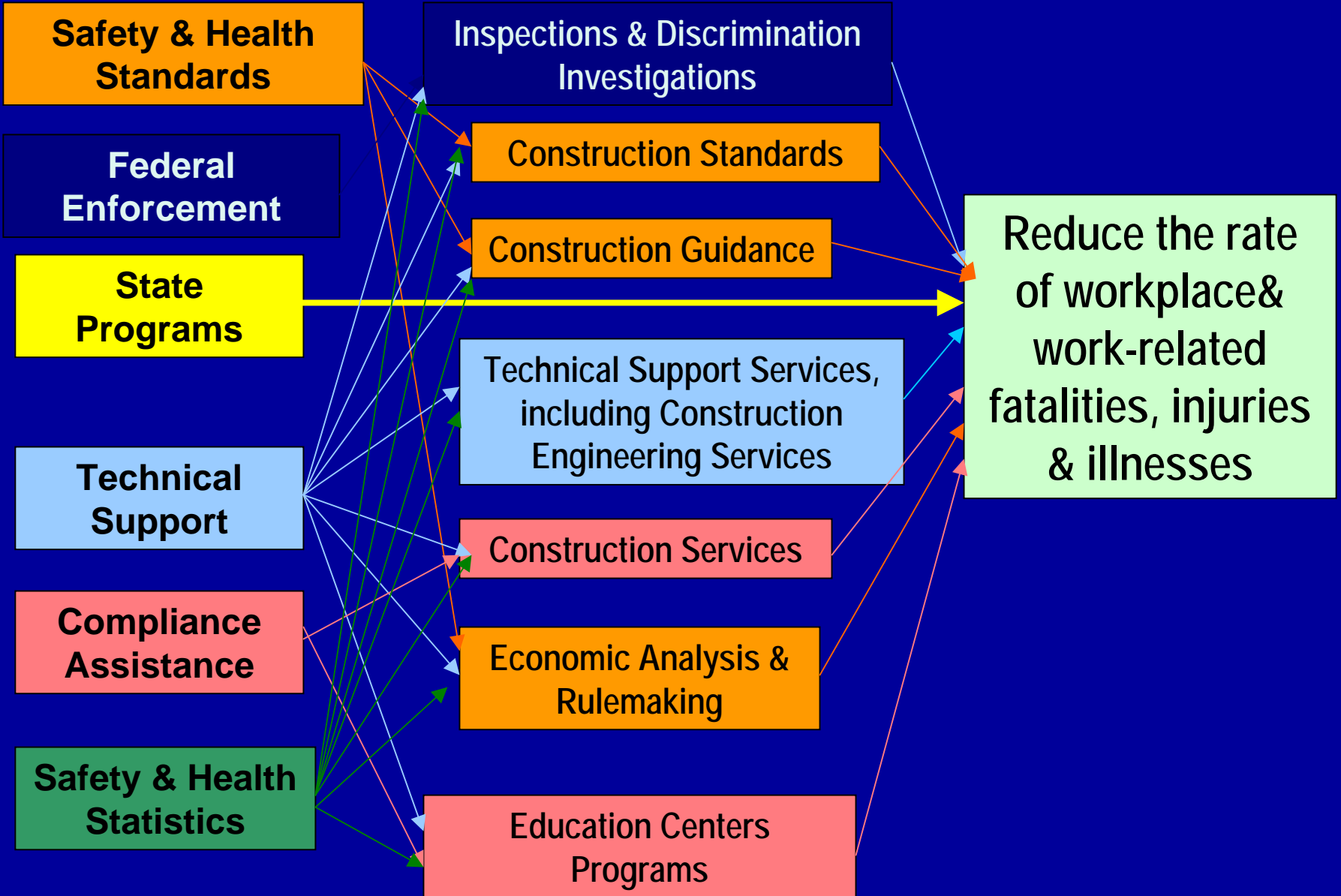
OSHA Example

Evaluation of alternative strategies to meet strategic goal to reduce rate of workplace injuries and illnesses

Budget Activities

Major Outputs

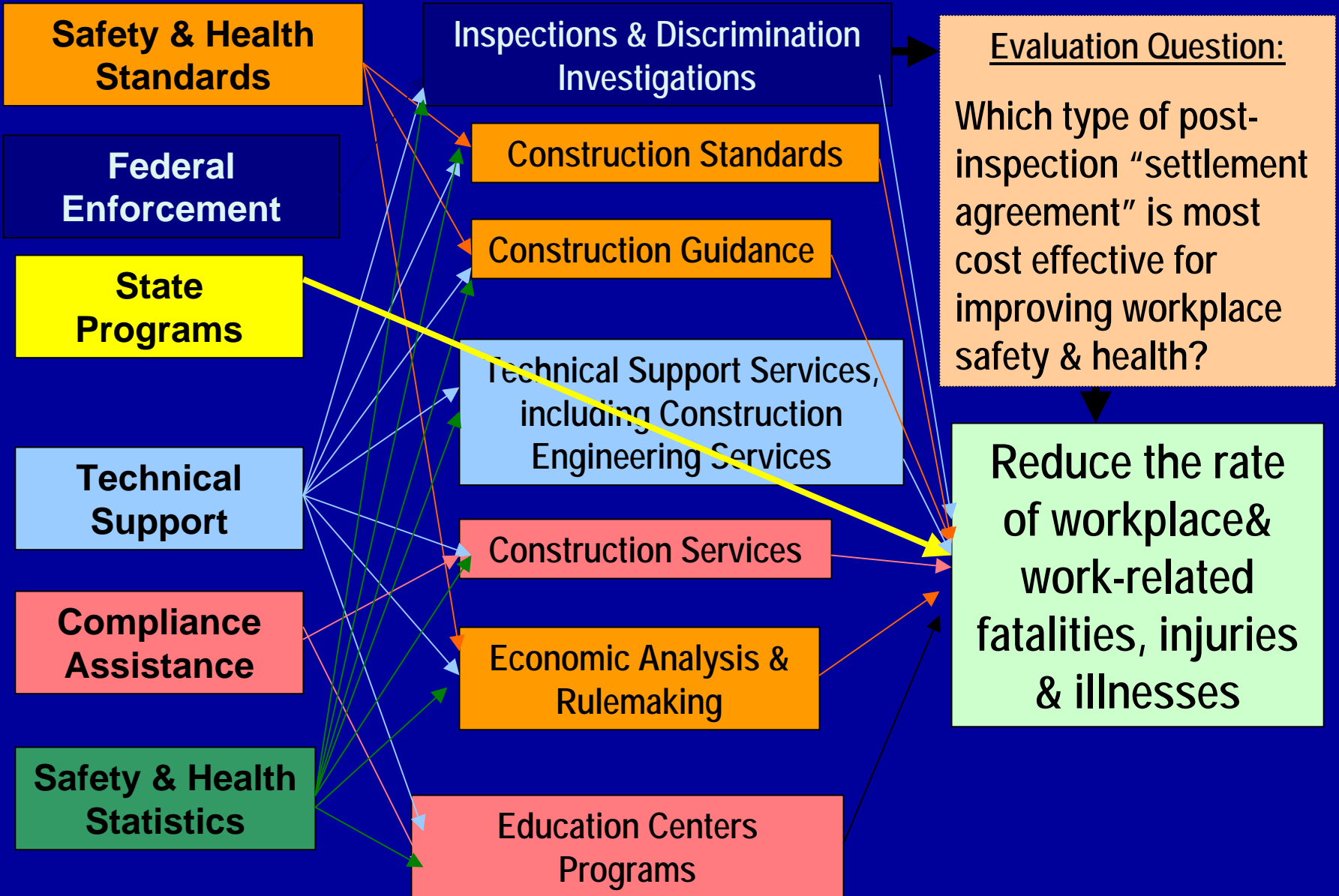
Performance Goals



Budget Activities

Major Outputs

Performance Goals



Study Design

POPULATION	In-scope establishments that were inspected in the study time period with citations
TREATMENT GROUPS	Samples of in-scope establishments with: <ul style="list-style-type: none">–Informal Settlement Agreements–Formal Settlement Agreements–Corporate-Wide Settlement Agreements–Contested Citations Settled Through Litigation
CONTROL GROUPS	<ul style="list-style-type: none">• Each treatment groups serves as a control for other treatment groups.• In-scope establishments with citations, but no settlement agreements or litigated case decisions by an administrative law judge or the Review Commission
OUTCOMES	changes in injury/illness rates types of hazards abated Types of training conducted number of employees trained Other safety/health improvements Implementation & improvements in safety & health programs reduction of violations in subsequent inspections
COSTS	Federal government hours expended Outcomes compared to other types of citation resolution

DATA SOURCES

- OSHA's Integrated Management Information System (IMIS)
- Records on corporate-wide settlement agreements
- OSHA Data Initiative (ODI)
- Area office case files
- Review Commission Docket
- Interviews with DOL staff

DATA ANALYSIS

1. **Descriptive & comparative statistics analysis.**

Determine similarities & differences in the characteristics of each type of settlement agreement & litigation by:

- Characteristics of the establishments involved
- Types of inspections
- Types of violations

2. **Process analysis.**

Identify factors associated with each type of agreement & litigation.

3. **Primary outcome analysis.**

Estimate changes in injury/illness rates by type of agreement & litigation.

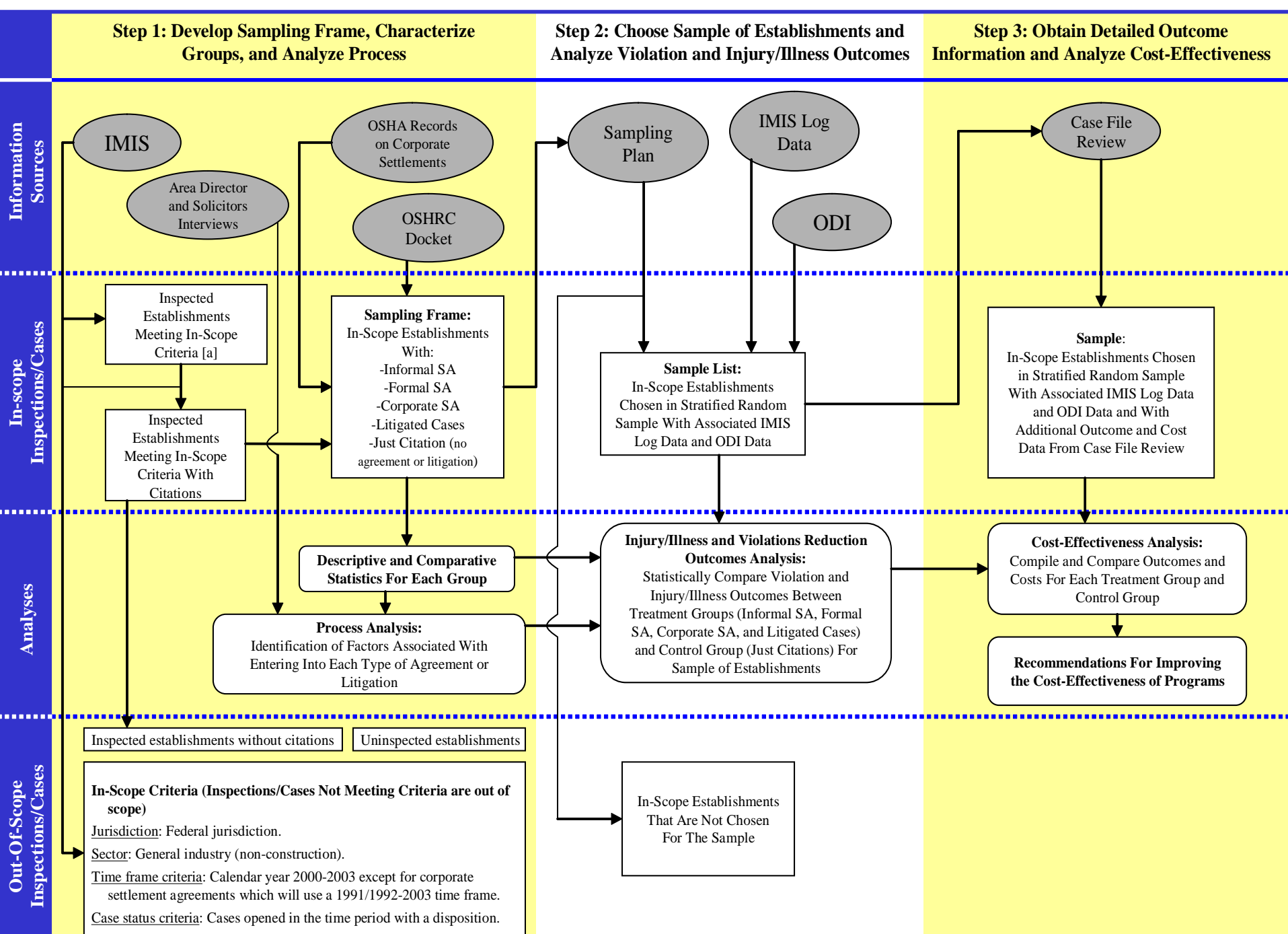
4. **Cost effectiveness analysis.**

Compare costs & outcomes, both primary & intermediate, for each type of agreement & litigation.

Data Collection Summary

Category	Inf. Sett. Agree.	Formal Sett. Agree.	Corporate Sett. Agree.	Litigated Cases	Control Group
Source	<ul style="list-style-type: none"> •IMIS files •Case files 	<ul style="list-style-type: none"> •IMIS files •Case files 	OSHA records	<ul style="list-style-type: none"> •Review Com. files •IMIS files 	IMIS files
Coverage	Sample	Sample	Population	Sample	Population
Type of Data	<ul style="list-style-type: none"> •Injury/illness •Types of violations •Types of training •Improv. to health plans •Govt. hours •Penalties 	<ul style="list-style-type: none"> •Injury/illness •Types of violations •Types of training •Improv. to health plans •Govt. hours •Penalties 	<ul style="list-style-type: none"> •Injury/illness •Types of violations •Types of training •Improv. to health plans •Govt. hours •Penalties •Affected Estab. 	<ul style="list-style-type: none"> •Injury/illness •Types of violations •Types of training •Improv. to health plans •Govt. hours •Penalties 	<ul style="list-style-type: none"> •Injury/illness •Types of violations •Govt. hours

Approach For Estimating The Relative Cost Effectiveness of Settlement Agreements and Litigated Cases



Analytic Step 1

- Develop checklist/data collection form for case file review.
- Extract data:
 - Implementation of training programs
 - Number of workers trained
 - Frequency of training
 - Implementation or improvements of safety/health program
 - Details of safety & health program
 - Hiring of a consultant
 - Inclusion of other establishments owned by same firm
 - Other concessions

Analytic Step 2

Conduct interviews to collect information not available in databases

- To systematically gather information about the processes involved with the different types of citation resolution
- To understand regional variations in processes
- To identify “process patterns”
- To collect “examples of what works well”

Analytic Step 3

Develop analysis data file

The database will begin with IMIS data on in-scope Inspections. This will be augmented with data from other sources:

- Case file reviews
- OSHA and Solicitor time sheet data
- ODI data on injuries and illnesses for before & after comparisons

Data validation checks will look for and resolve inconsistencies across and within various data sources.

Analytic Step 4

Conduct analyses *(descriptive, comparative, multivariate)*

1. Descriptive and comparative statistical analysis.

- Similarities & differences in the characteristics of each type of citation
- Characteristics of the establishments involved
- Types of inspections
- Types of violations

2. Process analysis. Identify factors associated with entering into each type of citation resolution.

3. Primary outcome analysis. Estimate changes in injury/illness rates in establishments with each type of citation resolution.

4. Cost effectiveness analysis. Compare costs & outcomes. This will also address the additional costs of litigation compared to settlement agreements.

Program Evaluation of Law Enforcement Program

US Coast Guard Undocumented
Migrant Interdiction Program

LCDR Eric Bernholz, CG-812

Purpose and Design of Program

- Purpose
 - Interdict alien migrants seeking to enter US via sea IAW E.O. 12807, PDD-9, E.O. 13276
- Focus on interdiction/repatriation at sea
 - Multi-mission assets operating forward for both “layered defense” and safety of life at sea
 - No other USG agency with appropriate capability, authority, and presence

Pieces of the Process

- Primarily maritime interdiction (“Patrolling”), but...
 - Humanitarian (“Holding”)
 - Repatriation (“Returning”)
 - Transit to and from

What we're facing



Holding, Returning, Transiting

- Tens to hundreds migrants involved in each event



- Basic sanitation, health care, and feeding
- Interview process, consider what to do with migrants
- Repatriate as appropriate – steam to next location

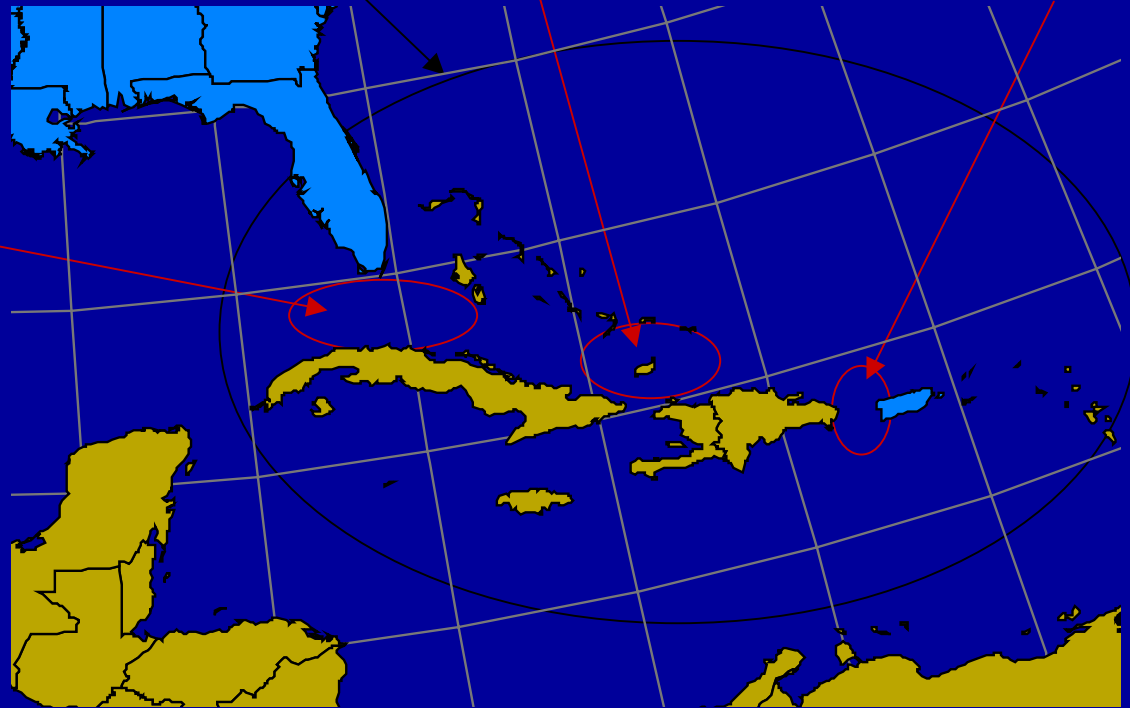
D7 “area of responsibility”

AOPS “D7/LANT AMIO”

Haitians

Dominicans

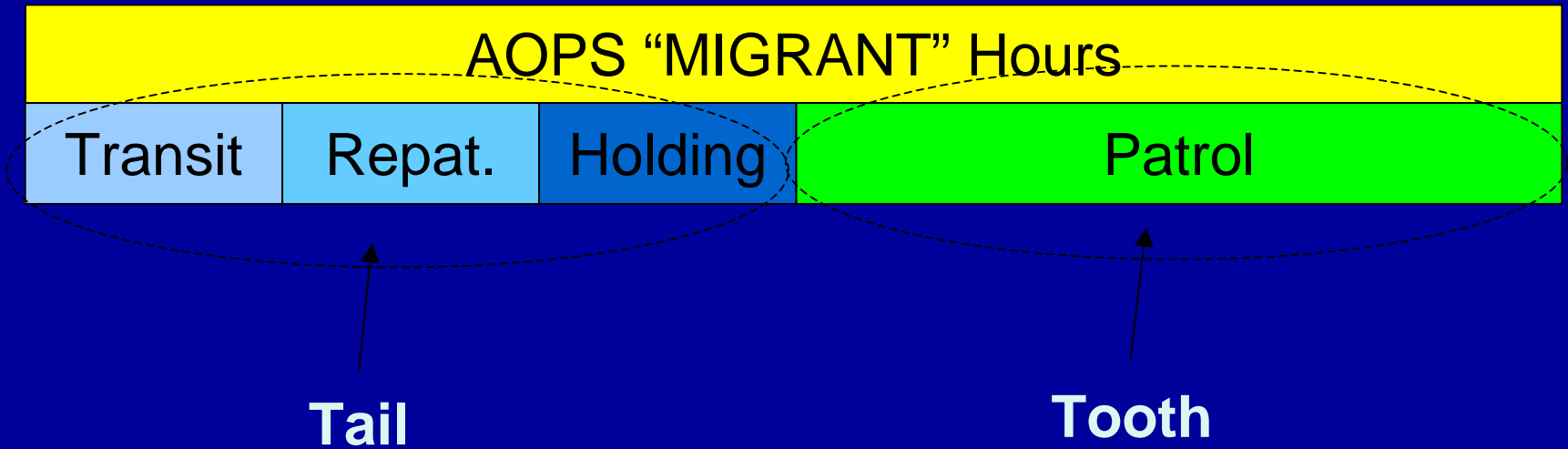
Cubans



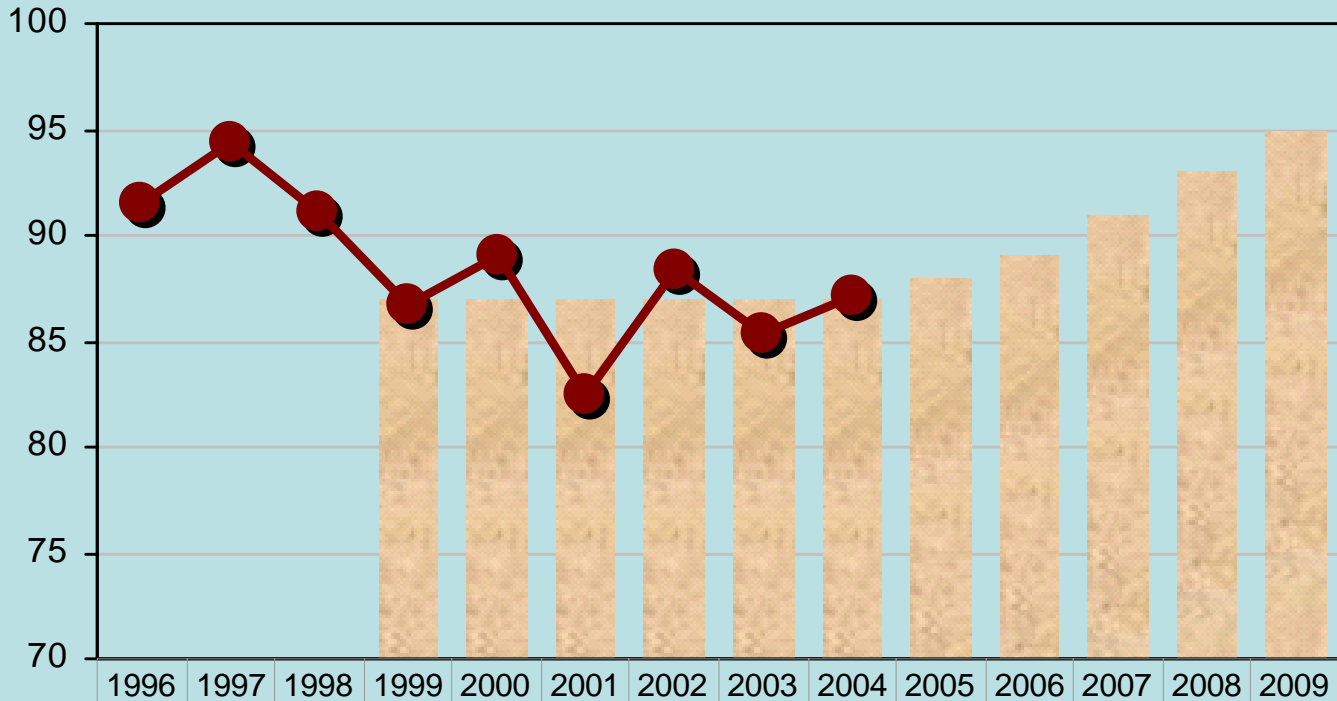
Effectiveness

- In all these steps, the cutter is busy...
 - Can only hold so many migrants
 - Can't patrol when full
 - Awaiting direction on repatriation
- ...but not “effective” WRT stated measures
 - Not patrolling
 - Actions not directly affecting stated performance goal of “Interdicting 87%* of migrants attempting to enter the US via maritime means”



Accounting for the Mission



Program Performance



% Undocumented
Migrants
Interdicted or Deterred

 Target				87	87	87	87	87	87	88	89	91	93	95
 USCG Actual	91.5	94.4	91.1	86.7	89	82.5	88.3	85.3	87.1					

Note: Prior to 1999, the Migrant program set explicit performance standards, but did not utilize explicit performance targets.

Results of Program Evaluation

- **Program is largely effective**
 - Good program & management design
 - Flexible, decentralized execution
 - Tactical creativity, strong partnerships
 - Meets or nearly meets targets
- ***But***
 - Late, informal planning & little or no reporting
 - Measures incomplete, potentially misleading
 - Weak management information systems (MIS), inadequate data collection
 - No tools for resource & performance tradeoffs

Next Steps

- Improve execution of the current metric via regular updates of source countries and threat estimates.
- Tie goals explicitly to threat and resource levels, and update them regularly as levels change
- Define & track program efficiency measures

Next Steps

- Implement new capabilities
 - Better data collection and improved reporting MIS
 - Improved metrics
 - Resource-constrained, threat-dependent goals
 - Efficiency and proxy measures
 - Quantitative tools linking performance to threats and resources
 - Regularly-updated goals, metrics, and planning guidance, incorporating MPAR feedback
 - “What-if” capability for changing threats, resources, policy, doctrine (within and across programs)

Contributor Acknowledgements

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