Introduction to Program Evaluation— *Using CDC's Evaluation Framework*

AEA E-Study—2015
By:
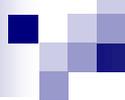**Thomas J. Chapel, MA, MBA**
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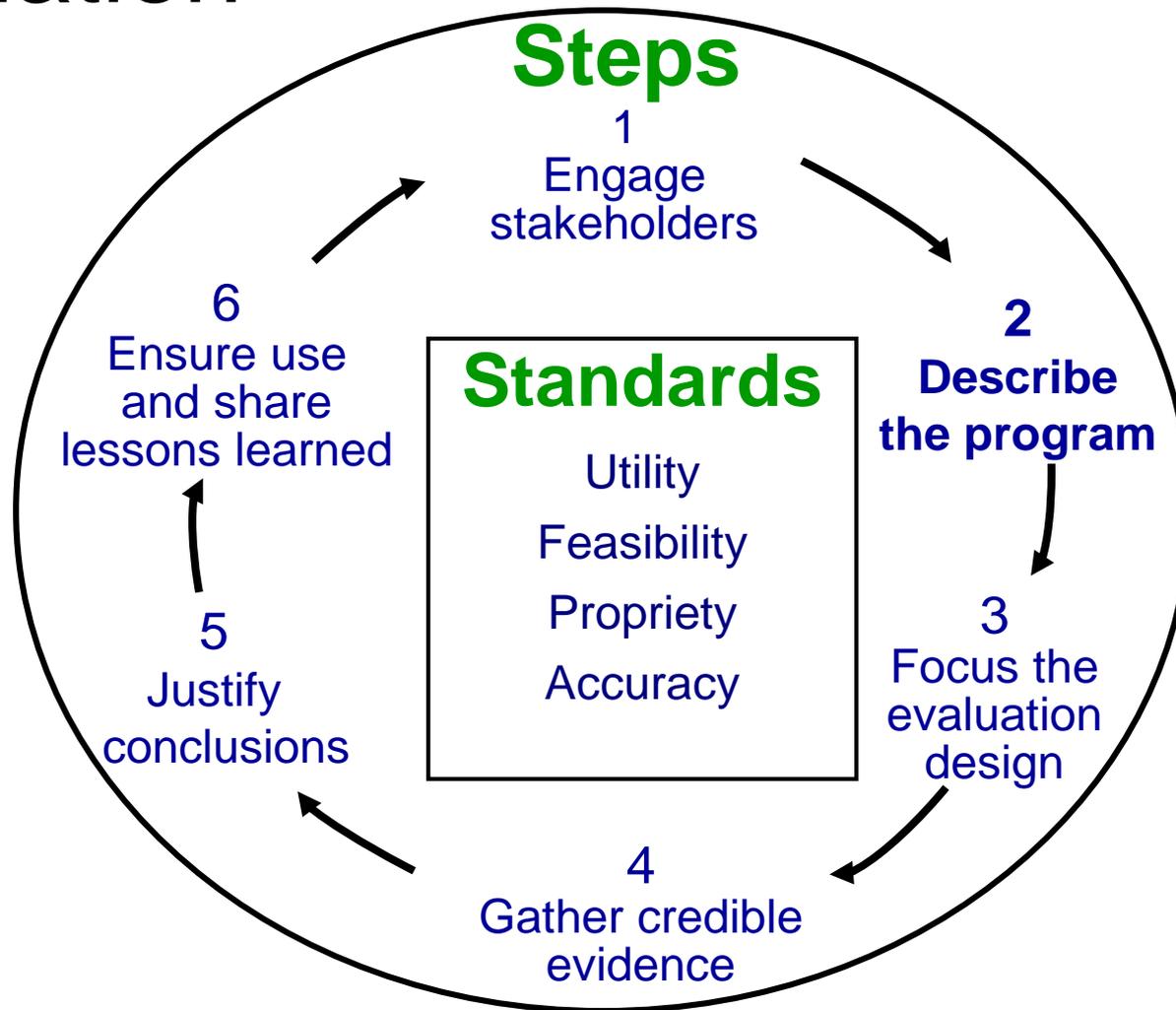**404-639-2116**

Session 2

By the end of the session, you will be able to:

- Describe at least two evaluation design options.

- Determine how to select the ideal evaluation design option in various situations.

- Identify preferred indicators and data collection sources for evaluation.

CDC's Framework for Program Evaluation

Steps
- 1 Engage stakeholders
- 2 Describe the program
- 3 Focus the evaluation design
- 4 Gather credible evidence
- 5 Justify conclusions
- 6 Ensure use and share lessons learned

Standards
- Utility
- Feasibility
- Propriety
- Accuracy

Case Exercise—Childhood Lead Poisoning

County X, with a high number of lead-poisoned children, has received money from CDC to support its Childhood Lead Poisoning Prevention Program.   The program aims to do outreach and identify children to screen, screen and identify those with elevated blood lead levels (EBLL), assess their environments for sources of lead, and case manage both their medical treatment and the correction of their environment. They will also train families of EBLL children in selected housekeeping and nutritional practices. While as a grantee they can assure medical treatment and reduction of lead in the home environment, the grant cannot directly pay for medical care or for renovation of homes.[4]

Listing Activities and Outcomes: Lead Poisoning

- **Activities**
  - ☐ Outreach
  - ☐ Screening
  - ☐ Case management
  - ☐ ***Referral*** for medical tx
  - ☐ Identification of kids with elevated lead (EBLL)
  - ☐ Environmental assessment
  - ☐ ***Referral*** for env clean-up
  - ☐ Family training

- **Effects/Outcomes**
  - ☐ Lead source identified
  - ☐ ***Families*** adopt in-home techniques
  - ☐ ***Providers*** treats EBLL kids
  - ☐ ***Housing Authority*** eliminates lead source
  - ☐ *EBLL reduced*
  - ☐ *Developmental "slide" stopped*
  - ☐ *Q of L improved*

Global Logic Model: Childhood Lead Poisoning Program

Early Activities	Later Activities	Early Outcomes	Later Outcomes
If we do…	*And we do…*	*Then….*	*And then…*
	Case mgmt of EBLL kids		
Outreach			
	Refer EBLL kids for medical treatment	EBLL kids get medical treatment	EBLL reduced
Screening			
			Develop'l slide stopped
ID of elevated kids	Train family in in-home techniques	Family performs in-home techniques	
			Quality of life improves
	Assess environment of EBLL child	Lead source identified	
	Refer environment for clean-up	Environment gets cleaned up	
		Lead source removed	

Lead Poisoning: "Causal" Roadmap

                                           Outcomes

Outreach

Screening

ID kids with EBLL

Case Management

Do Environment Assessment

Train Families

Refer for Medical Treatment

ID Source and Refer for clean-up

Family performs in-home techniques

Medical Management

Lead Source Removed

Reducing EBLLs

Improved Development and Intelligence

More Productive and/or Quality Lives

Phases and Types of Evaluation

Program Stage	Before Program Begins	New Program	(More) Established Program	Mature Program
Phase	FORMATIVE		SUMMATIVE	→
Evaluation Type	Needs Assessment	Process Evaluation	Outcome Evaluation	Impact Evaluation
(Some) Questions Asked	To what extent is the need being met? What can be done to address this need?	Is the program operating as planned?	Is the program achieving its short-term outcomes/ objectives?	Is the program achieving it's long-term outcomes and impacts??

Source: Based on slides from Jennifer Nichols, Porter Novelli

Case Exercise—Provider Education in Immunization

State A has determined that providers can play a significant role in increasing immunization coverage in the state. They have developed a comprehensive provider education program that is intended to train and motivate providers to do more immunizations. The program includes these components:
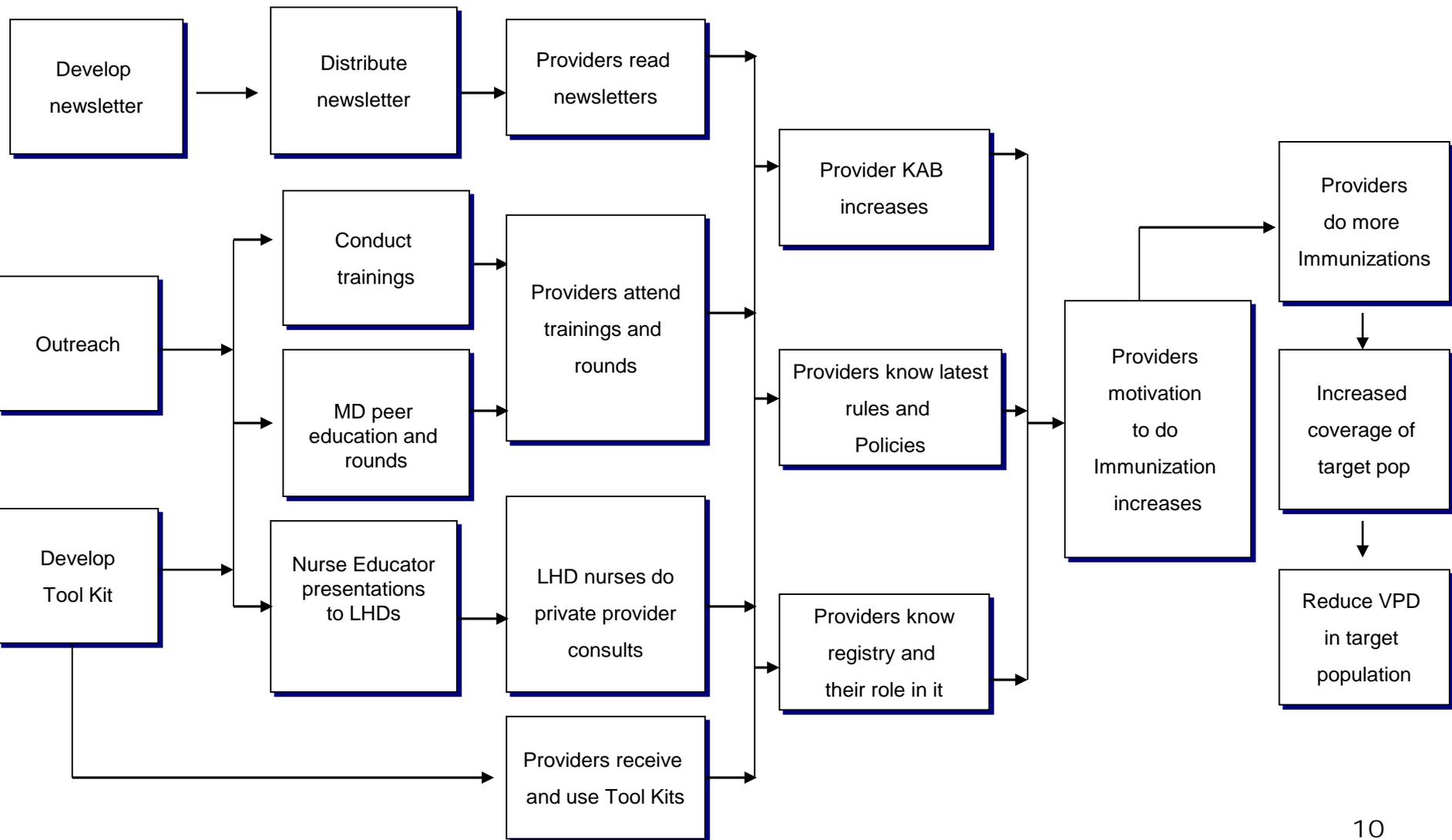
- A state immunization newsletter. Distributed 3 times per year to 10,000 (mainly) private sector providers, it's designed to update providers on new developments, changes in policy, and to provide brief education on various immunization topics.

- 6 immunization trainings per year held around the state; featuring a combination of state immunization program staff, physician educators, and Nat'l Immunization Program (NIP) staff. In addition to general immunization topics, presentations on the registry are given, with a hands-on computer station available for those who want to see how the registry works.

- A Tool Kit that is given to providers during visits by staff of the state Vaccines for Children (VFC) Program and other venues, including a brief discussion of the kit content, how to use it, and return feedback postcard.

- Nurse educators who train nursing staff in local health departments (LHDs) who then conduct immunization presentations in individual private provider clinics. They also conduct immunization education in clinics that have received an initial visit under the AFIX program—an innovative effort to get providers to minimize missed opportunities to vaccinate.

- 19 physician peer educators composed of pediatricians, family practitioners, and ob-gyns are paid to conduct presentations on immunizations and other topics at physician grand rounds and state conferences on immunization related topics.

Provider Education: "Causal" Roadmap

Activities

Outcomes

Develop newsletter → Distribute newsletter → Providers read newsletters

Outreach → Conduct trainings

Outreach → MD peer education and rounds

Conduct trainings, MD peer education and rounds → Providers attend trainings and rounds

Develop Tool Kit → Nurse Educator presentations to LHDs → LHD nurses do private provider consults

Develop Tool Kit → Providers receive and use Tool Kits

Providers read newsletters, Providers attend trainings and rounds → Provider KAB increases

Providers know latest rules and Policies

Providers know registry and their role in it

Provider KAB increases, Providers know latest rules and Policies, Providers know registry and their role in it → Providers motivation to do Immunization increases → Providers do more Immunizations → Increased coverage of target pop → Reduce VPD in target population

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Setting Focus: Some Rules

Based on "utility" standard:

- ***Purpose:*** Toward what end is the evaluation being conducted?

- ***User:*** Who wants the info and what are they interested in?

- ***Use:*** How will they use the info?
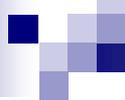
(Some) Potential Purposes

- **Test program implementation**
- Show accountability
- "Continuous" program improvement
- Increase the knowledge base
- Other…
- Other…

Activities   *Outcomes*

Outreach → Screening → ID kids with EBLL → Case Management

Do Environment Assessment → ID Source Refer for Clean-Up → Lead Source Removed

Train Families → Family performs in-home techniques

Refer for Medical Treatment → Medical Management Provided

Reducing EBLLs → Improved Development and Intelligence → More Productive and/or Quality Lives

Process Evaluation

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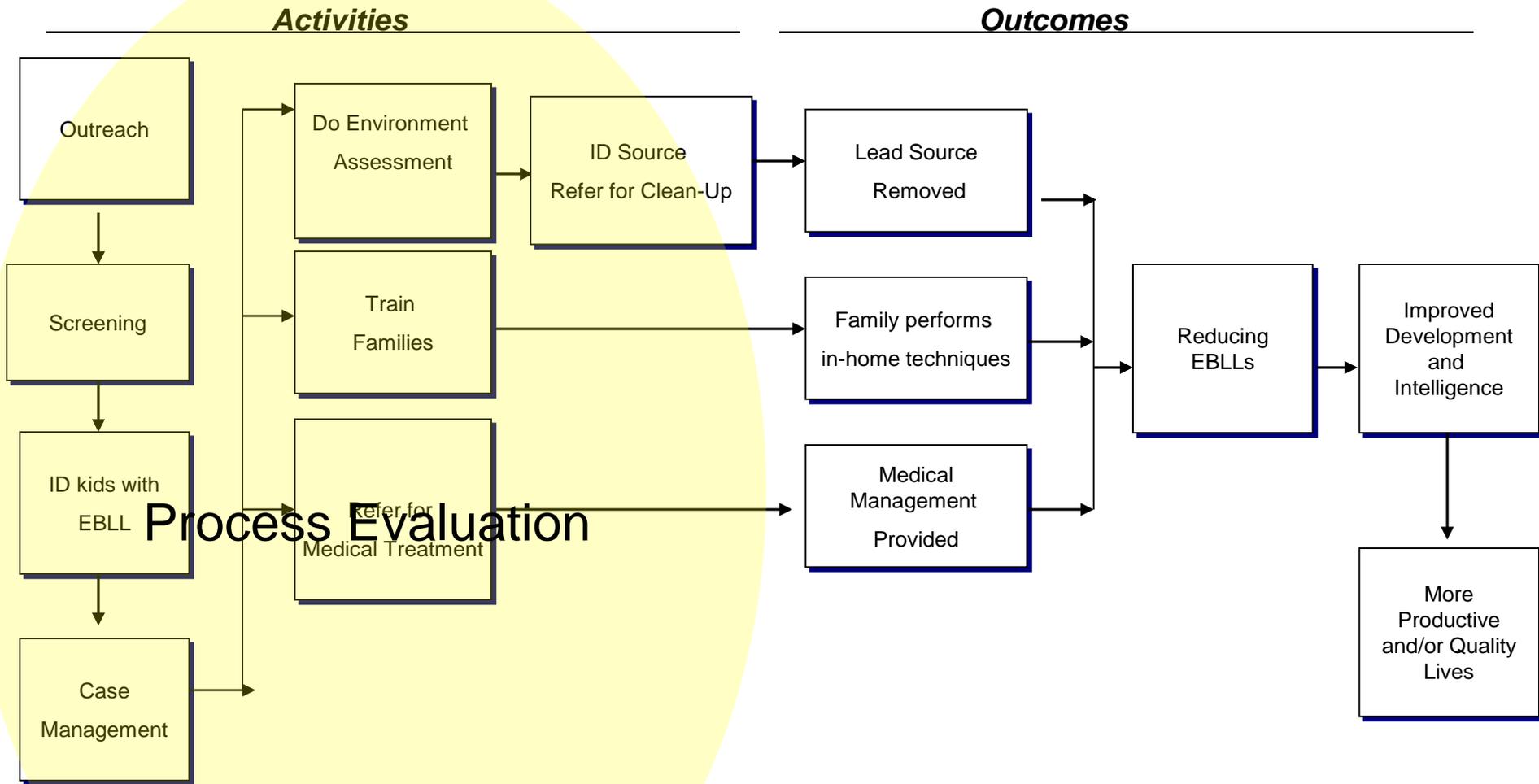
Process Evaluation

- The type and quantity of services provided
- What actually happens during implementation—implementation "fidelity"
- The number of people receiving services
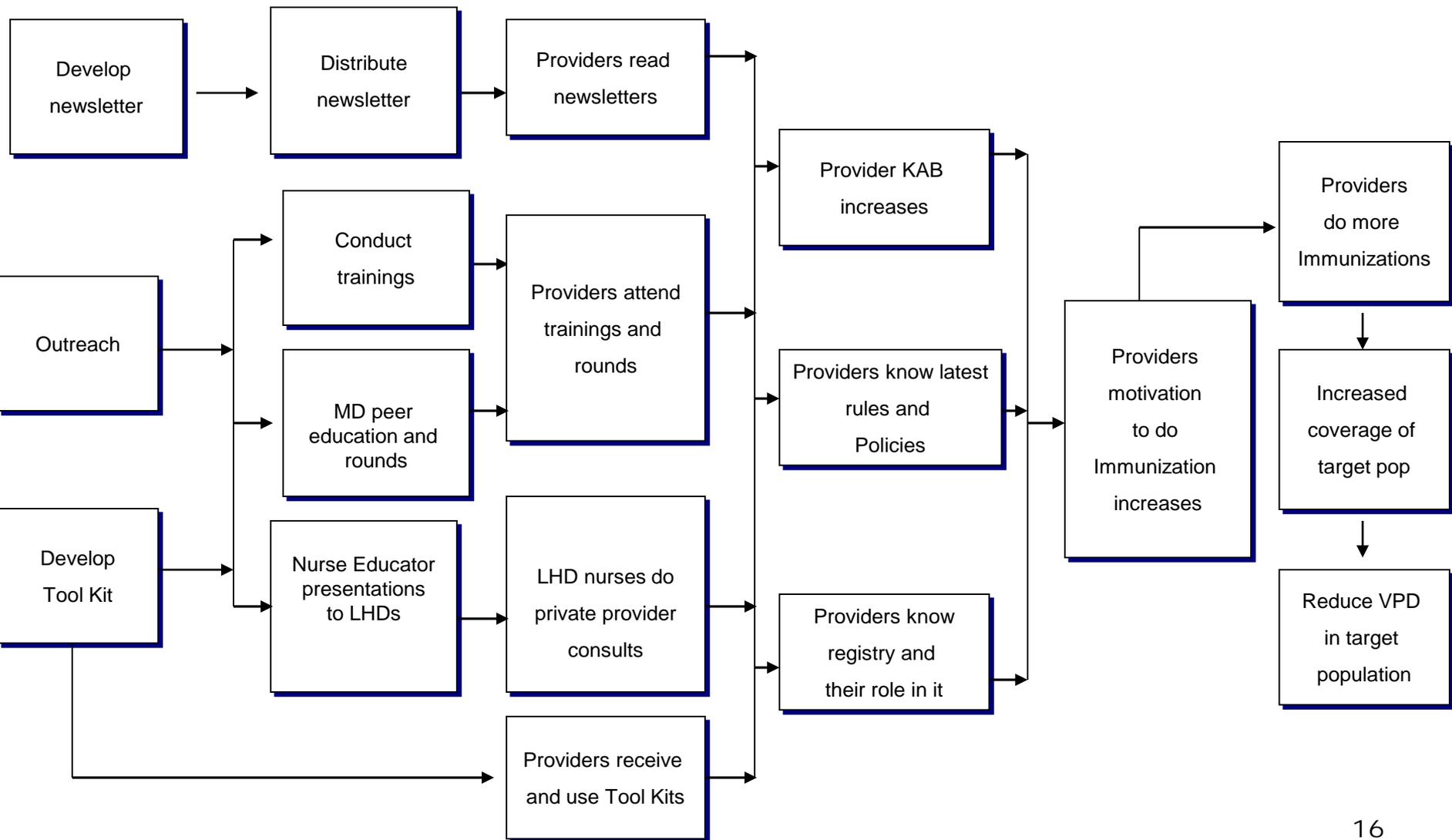- The number of coalition activities and meetings
- How much money the project costs
- The staffing for services/programs

Provider Education: "Causal" Roadmap

Activities

Outcomes

- Develop newsletter → Distribute newsletter → Providers read newsletters
- Outreach → Conduct trainings; MD peer education and rounds
- Develop Tool Kit → Nurse Educator presentations to LHDs
- Providers attend trainings and rounds
- LHD nurses do private provider consults
- Providers receive and use Tool Kits
- Provider KAB increases
- Providers know latest rules and Policies
- Providers know registry and their role in it
- Providers motivation to do Immunization increases
- Providers do more Immunizations
- Increased coverage of target pop
- Reduce VPD in target population

Some Evaluation Scenarios

- ***Scenario I:*** At Year 1, other communities want to adopt your model but want to know "what are they in for"
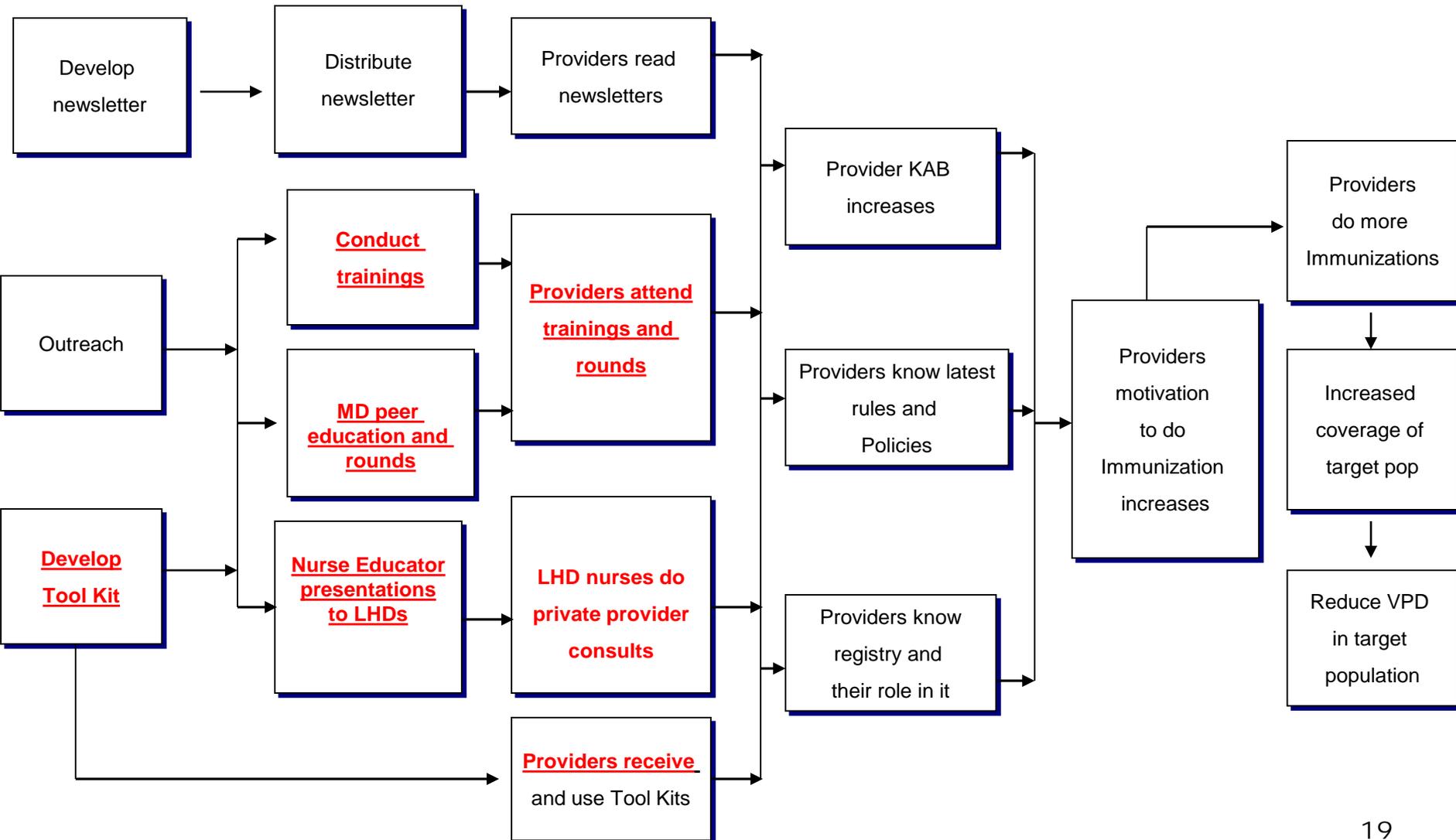
Scenario 1:

- ***Purpose:*** Examine program implementation
- ***User:*** The "other community"
- ***Use:*** To make a determination, based on your experience, whether they want to adopt this project or not

Provider Education: "Causal" Roadmap

Activities   *Outcomes*


```
Develop          Distribute         Providers read
newsletter  -->  newsletter  -->    newsletters

                                                    --> Provider KAB
                                                        increases         --> Providers
                 Conduct                                                      do more
                 trainings    -->   Providers attend                         Immunizations
Outreach                            trainings and
                 MD peer            rounds          --> Providers know
                 education and                          latest rules and
                 rounds                                 Policies          --> Providers
                                                                             motivation    --> Increased
                                                                             to do             coverage of
Develop          Nurse Educator     LHD nurses do                            Immunization      target pop
Tool Kit    -->  presentations -->  private provider                         increases
                 to LHDs            consults         --> Providers know                       --> Reduce VPD
                                                        registry and                             in target
                 Providers receive                      their role in it                        population
                 and use Tool Kits
```
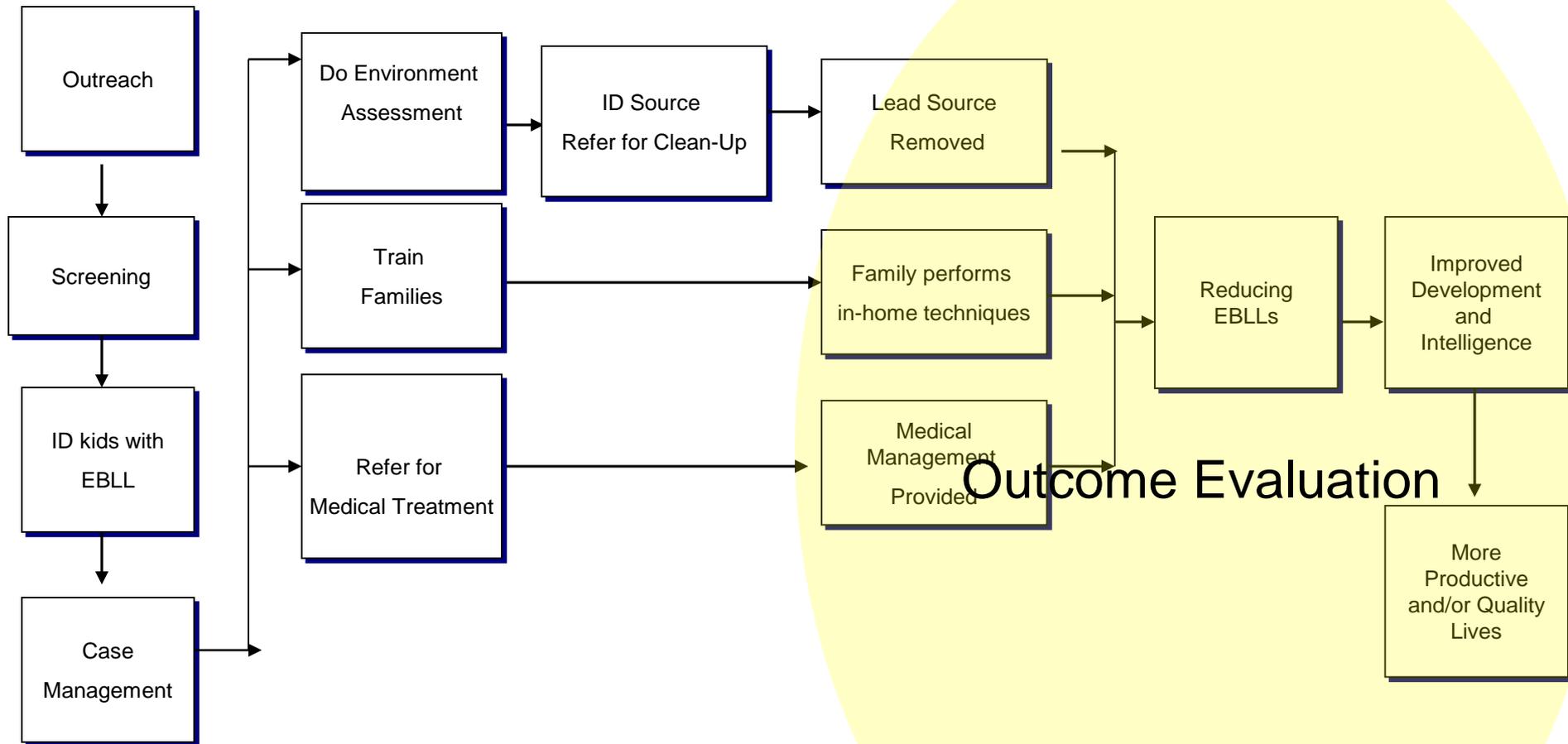
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(Some) Potential Purposes

- Test program implementation
- **Show accountability**
- **"Continuous" program improvement**
- Increase the knowledge base
- Other…
- Other…

Lead Poisoning: "Causal" Roadmap

Activities | **Outcomes**

- Outreach → Screening → ID kids with EBLL → Case Management

- Do Environment Assessment → ID Source Refer for Clean-Up → Lead Source Removed
- Train Families → Family performs in-home techniques
- Refer for Medical Treatment → Medical Management Provided

Reducing EBLLs → Improved Development and Intelligence → More Productive and/or Quality Lives

Outcome Evaluation

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Outcome Evaluation

- Results of program services
- Changes in individuals
    - Knowledge/awareness
    - Attitudes
    - Beliefs
- Changes in the environment
- Changes in behaviors
- Changes in disease trend

"Reality Checking" the Focus

Based on "feasibility" standard:

- ***Stage of Development:*** How long has the program been in existence?

- ***Program Intensity:*** How intense is the program? How much impact is reasonable to expect?

- ***Resources:*** How much time, money, expertise are available?

Some Evaluation Scenarios

- ***Scenario II:*** At Year 5, declining state revenues mean you need to justify to legislators the importance of your efforts so as to continue funds.

Scenario 2:

Purpose: Determine program impact
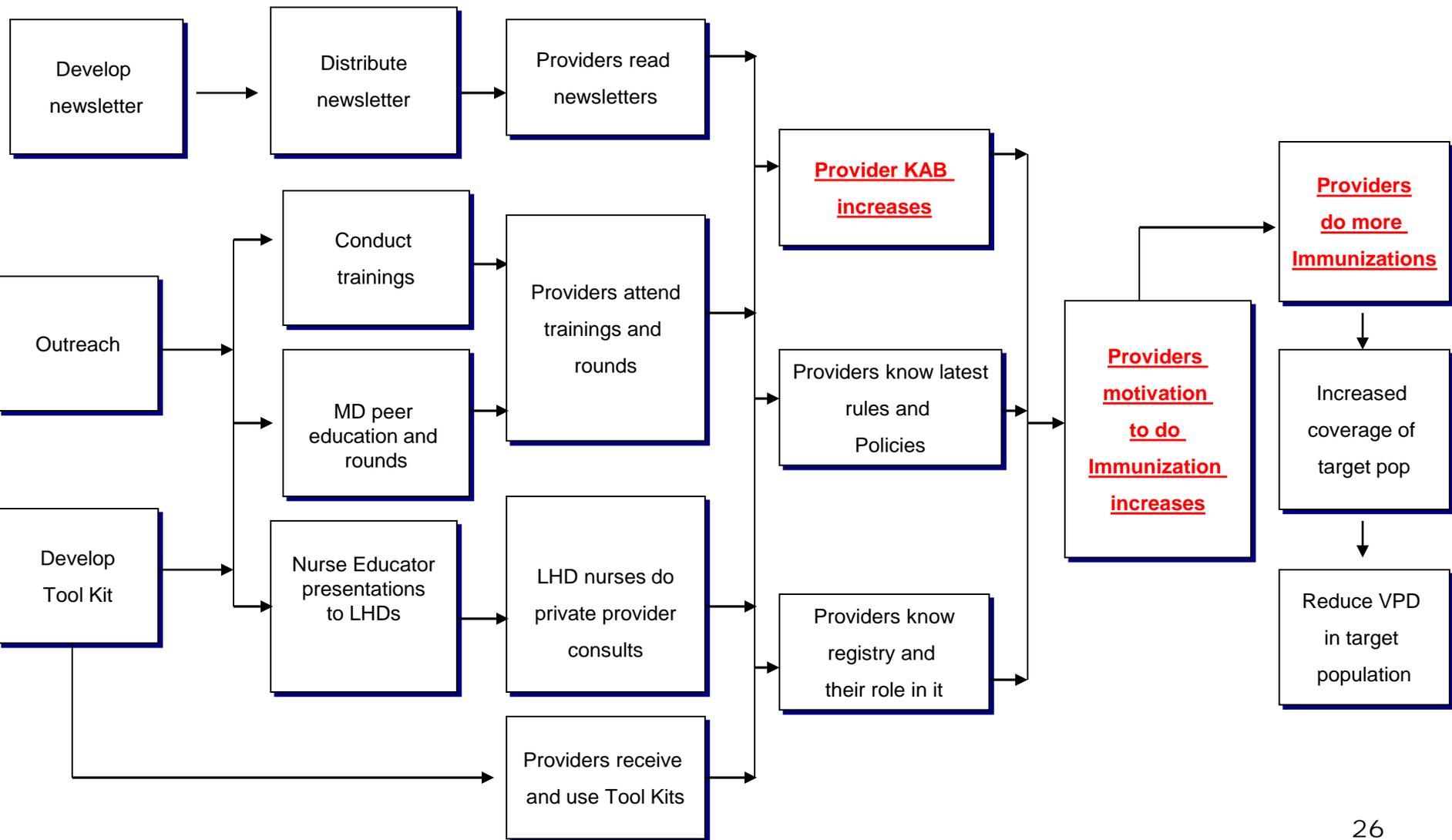
User: Your org and/or the legislators

Use:

- **_You_** want to muster evidence to prove to legislators you are effective enough to warrant funding, or

- _Legislators_ want you to show evidence that proves sufficient effectiveness to warrant funding

Provider Education: "Causal" Roadmap

Activities

Outcomes

Develop newsletter → Distribute newsletter → Providers read newsletters

Outreach → Conduct trainings

Outreach → MD peer education and rounds

Develop Tool Kit → Nurse Educator presentations to LHDs

Conduct trainings, MD peer education and rounds → Providers attend trainings and rounds

Nurse Educator presentations to LHDs → LHD nurses do private provider consults

Develop Tool Kit → Providers receive and use Tool Kits

Provider KAB increases

Providers know latest rules and Policies

Providers know registry and their role in it

Providers motivation to do Immunization increases

Providers do more Immunizations

Increased coverage of target pop

Reduce VPD in target population

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Process Evaluation

Did we get the inputs we needed/were promised?

| Inputs | Activities | Outputs | Short-term Effects/ Outcomes | Intermediate Effects/ Outcomes | Long-term Effects/ Outcomes |

Were activities and outputs implemented as intended? How much? Who received?

Efficiency Evaluation

Causal Attribution

```
Inputs → Activities → Outputs → Short-term Effects/Outcomes → Intermediate Effects/Outcomes → Long-term Effects/Outcomes
```

*Did outcomes occur **because** of our activities and outputs?*

Taking Stock…What We've Done:

- Clarified relationship of activities and outcomes
- Identified inputs, outputs, and moderators
- Ensured clarity and consensus with stakeholders
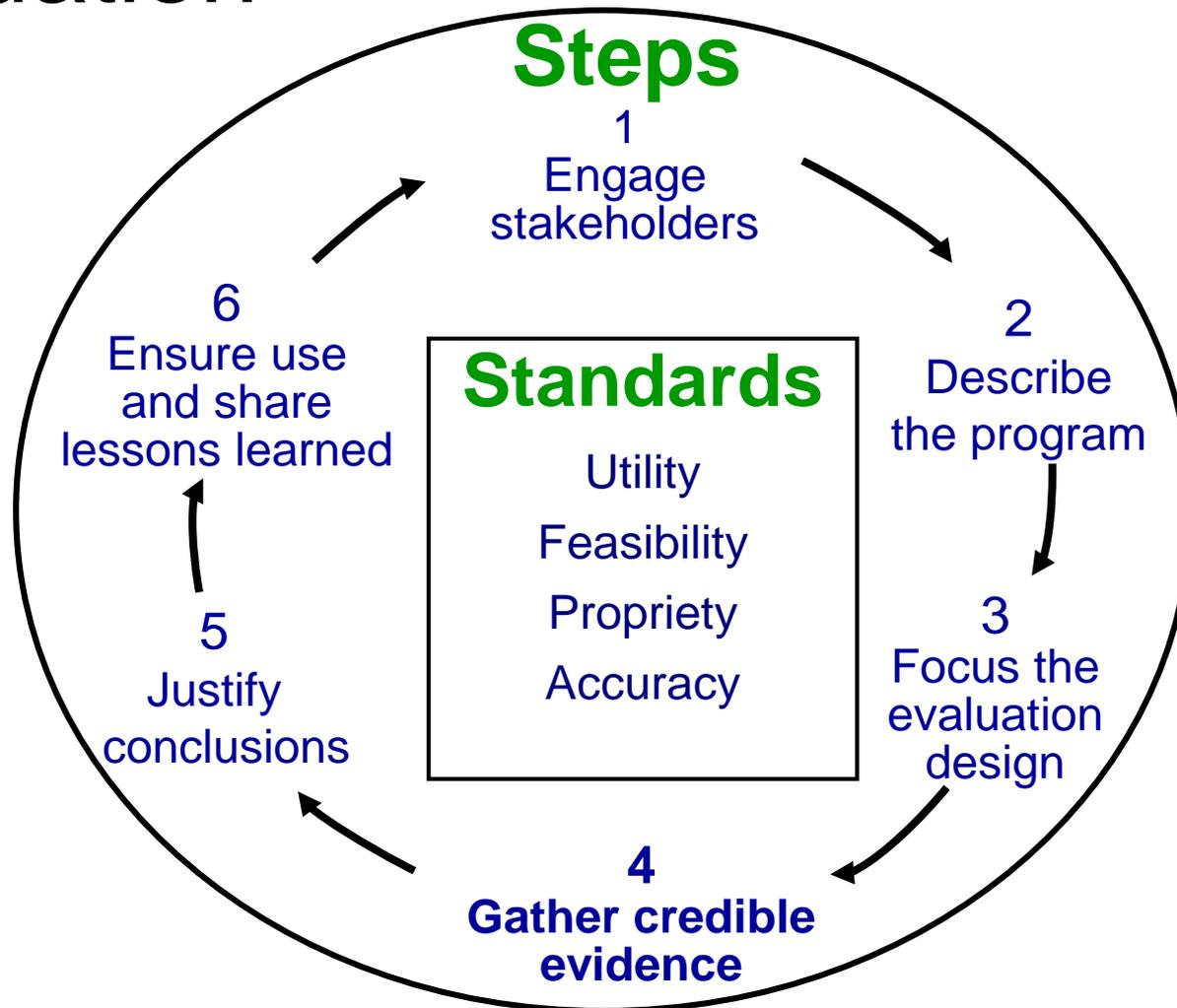- Helped identify a focus for my evaluation

Taking Stock…What's Next:

- Elaborate evaluation questions
- Write indicators
- Affirm evaluation design
- Choose data collection sources and methods
- Define data analysis plan
- Determine how best to report findings to ensure use
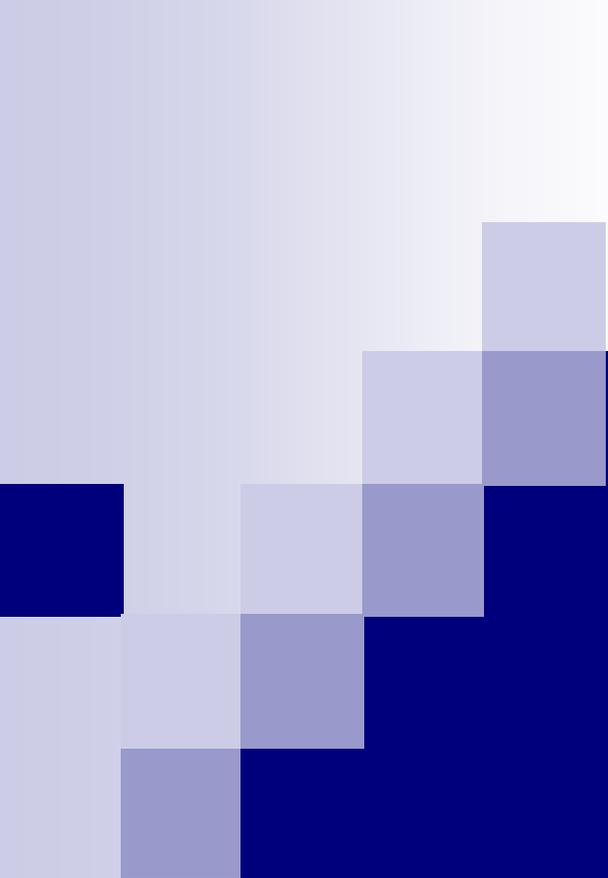
Intro to Program Evaluation

Step 4: Gathering Credible Evidence

CDC's Framework for Program Evaluation

Steps

1 Engage stakeholders

2 Describe the program

3 Focus the evaluation design

4 Gather credible evidence

5 Justify conclusions

6 Ensure use and share lessons learned

Standards

Utility

Feasibility

Propriety

Accuracy

Evaluation Plan

Evaluation Plan Matrix								
Evaluation Questions	Indicators	Data Sources	Data Collection Methods	Data Collection Procedures		Data Analyses		
				Person Responsible	Schedule	Procedure	Timeline	Person Responsible

Evaluation Plan—Core

Evaluation Questions	Indicators	Data Source(s)	Data Collection Methods

What is an indicator?

- Specific, observable, and measurable characteristics that show progress towards a specified activity or outcome.

Selecting Indicators

- Focused and measure an important dimension of the activity or outcome

- Clear and specific in terms of what it will measure
  - NOT components of the activity/outcome
  - NOT "fruits" of the activity/outcome

- At least one indicator for each activity or outcome of interest; but may need multiple ones

# Provider Education: Combined Evaluation Focus

Activities

Outcomes

| Develop newsletter | → | Distribute newsletter | → | Providers read newsletters |

Conduct trainings

Outreach

MD peer education and rounds

Providers attend trainings and rounds

Provider KAB increases

Providers know latest rules and Policies

Providers motivation to do Immunization increases

Providers do more Immunizations

Increased coverage of target pop

Develop Tool Kit

Nurse Educator presentations to LHDs

LHD nurses do private provider consults

Providers know registry and their role in it

Reduce VPD in target population

Providers receive and use Tool Kits

Measurement Table: Scenarios 1-2 : Provider Education Program

| Eval Focus Components	Indicators
Conduct immuno trainings	# trainings conducted in each region of the state
Nurse educator LHD presentations	# nurse educators presentations made to (targeted) LHDs # physician-hosted peer ed rounds at (targeted) hospitals
Physician peer ed rounds	# participants in trainings # participants completing series of trainings
Provs attend trainings and rounds	% participants by discipline % participants by region
Provs receive and use tool kits	% providers who report use of toolkit # "call-to-action" cards received from toolkit
LHD nurses do private prov consults	% trained nurses in LHDs will do provider consults with (targeted) provider practices in county
KAB increases	% providers showing increases in (targeted) KAB items % increase in provider KAB on (targeted) items
Motivation increases	% providers reporting increased motivation to immunize % increase in provider motivation to immunize
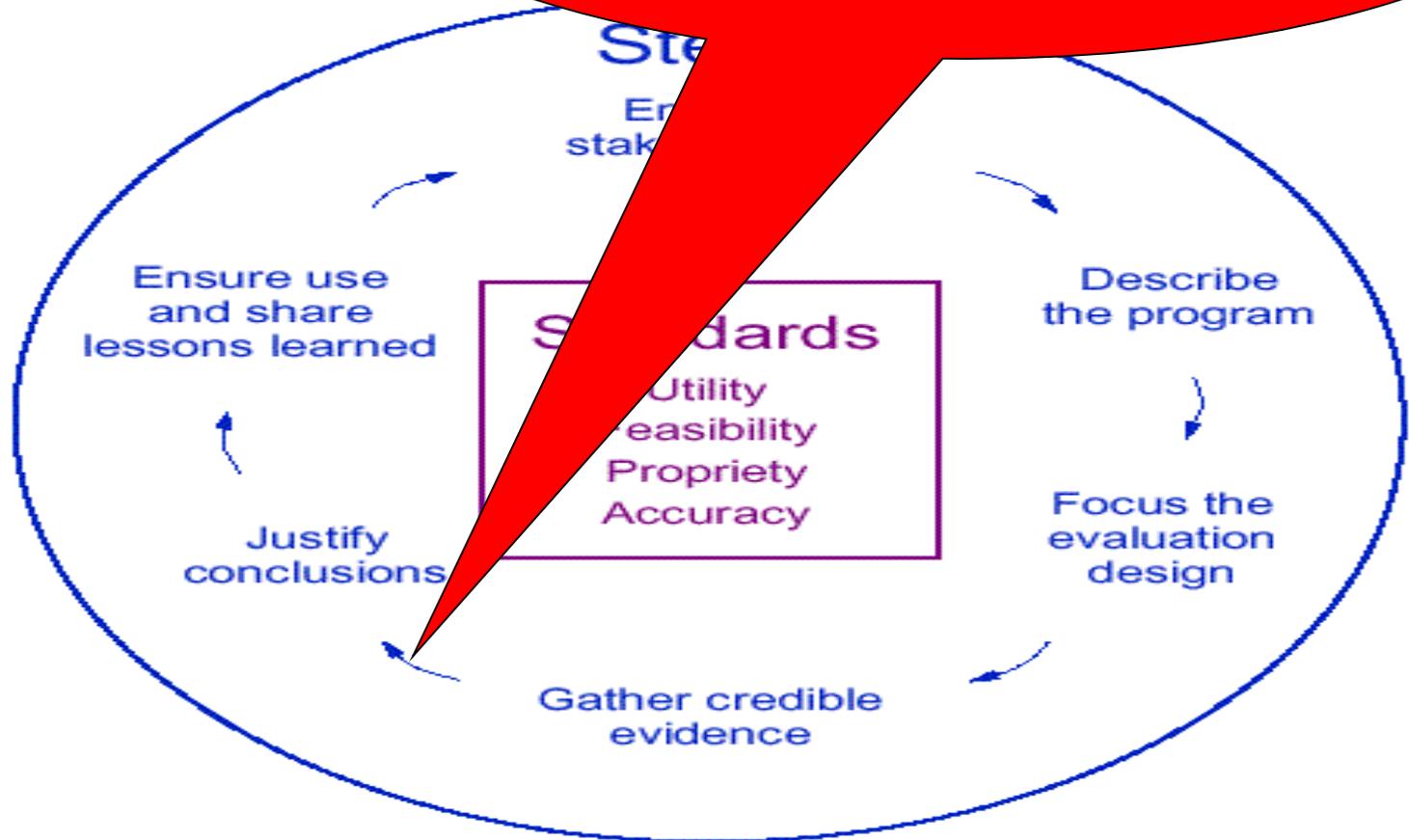
Not "Collect Data", BUT "Gather Credible Evidence"

Narrowing from 100s of ways to collect data:

- *Utility:* Who's going to use the data and for what?

- *Feasibility:* How much resources?

- *Propriety:* Ethical constraints?

- *Accuracy:* How "accurate" do data need to be?

These Ways to Gather Evidence…

- Written survey
- Personal interview
  - ☐ individual, group
  - ☐ structured, semi-structured, conversational
- Observation
- Document analysis
- Case study
- Group assessment
  - ☐ brainstorming, delphi, nominal group, fishbowl
  - ☐ Role play, dramatization
- Expert or peer review
- Portfolio review
- Consensus modeling

- Testimonials
- Perception tests
- Hypothetical scenarios
- Storytelling
- Geographical mapping
- Concept mapping
- Freelisting
- Sociograms
- Debriefing sessions
- Cost accounting
- Photography, drawing, art, videography
- Diaries/journals
- Logs, activity forms, registries
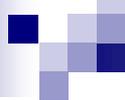
Cluster Into These Six Categories…

- Surveys
- Interviews
- Focus groups
- Document review
- Observation
- Secondary data analysis

Choosing Methods—Cross-Walk to Eval Standards

- Function of *context*:
  - ☐ Time [FEASIBILITY]
  - ☐ Cost [FEASIBILITY]
  - ☐ Ethics [PROPRIETY]
- Function of *content* to be measured:
  - ☐ Sensitivity of the issue [ALL]
  - ☐ "Hawthorne effect" [ACCURACY]
  - ☐ Validity [ACCURACY]
  - ☐ Reliability [ACCURACY]

Trade-offs of Different Data Collection Methods

Method/Factor	Time	Cost	Sensitive Issues	Hawthorne Effect	Ethics
Survey: Mail					
Personal Interview					
Focus Groups					
Document Review					
Survey: Phone					
Observation					
Secondary Data					