



# What's the Value in Evaluation?

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# Learning Objectives

- Using a community issue/problem of your choice:
  1. Define a process and an outcome
  2. Describe the relationship between a process and outcome.
  3. Apply a Logic Model
  4. Apply elements of Continuous Quality Improvement (CQI) strategies to your evaluation plan
  5. Integrate CQI concepts into your setting

# Groups represented today

- ❑ Faith community
- ❑ Health care
- ❑ Children and youth issues
- ❑ Community interests
- ❑ Foundations
- ❑ Schools

# What we will cover today

- Reasons for evaluation
- Models for evaluation
- Imbedding evaluation activities into your organization
- Using evaluation data to improve performance in your organizations

# Reasons for lack of program evaluation

- ❑ Program staff and funders place higher priority on service delivery (helmets, car seats, etc) than on measuring effectiveness
- ❑ Program managers may not appreciate the importance of program impact, may lack staff trained in evaluation, or may be concerned about poor outcomes
- ❑ Target populations may be too small or events too infrequent to demonstrate impact on outcomes

# Benefits of evaluation

- ❑ Evaluation is necessary to document effectiveness, which assists with program sustainability
- ❑ Were program goals and objectives met?
- ❑ Demonstrate cost-effectiveness of program to target population, policymakers, researchers, the public and practitioners

# Importance of Measuring Outcomes

- ❑ To know whether we are doing a good job
- ❑ For our own professional satisfaction
- ❑ To ensure we are meeting the needs of the groups that we serve
- ❑ To provide evidence to those who fund such services that they are getting good value

# Relationship of process to outcome

Target Group Factors  
Psychosocial  
Environmental  
Economic  
Lifestyle

Process Factors  
Education process  
System processes  
Staff qualifications

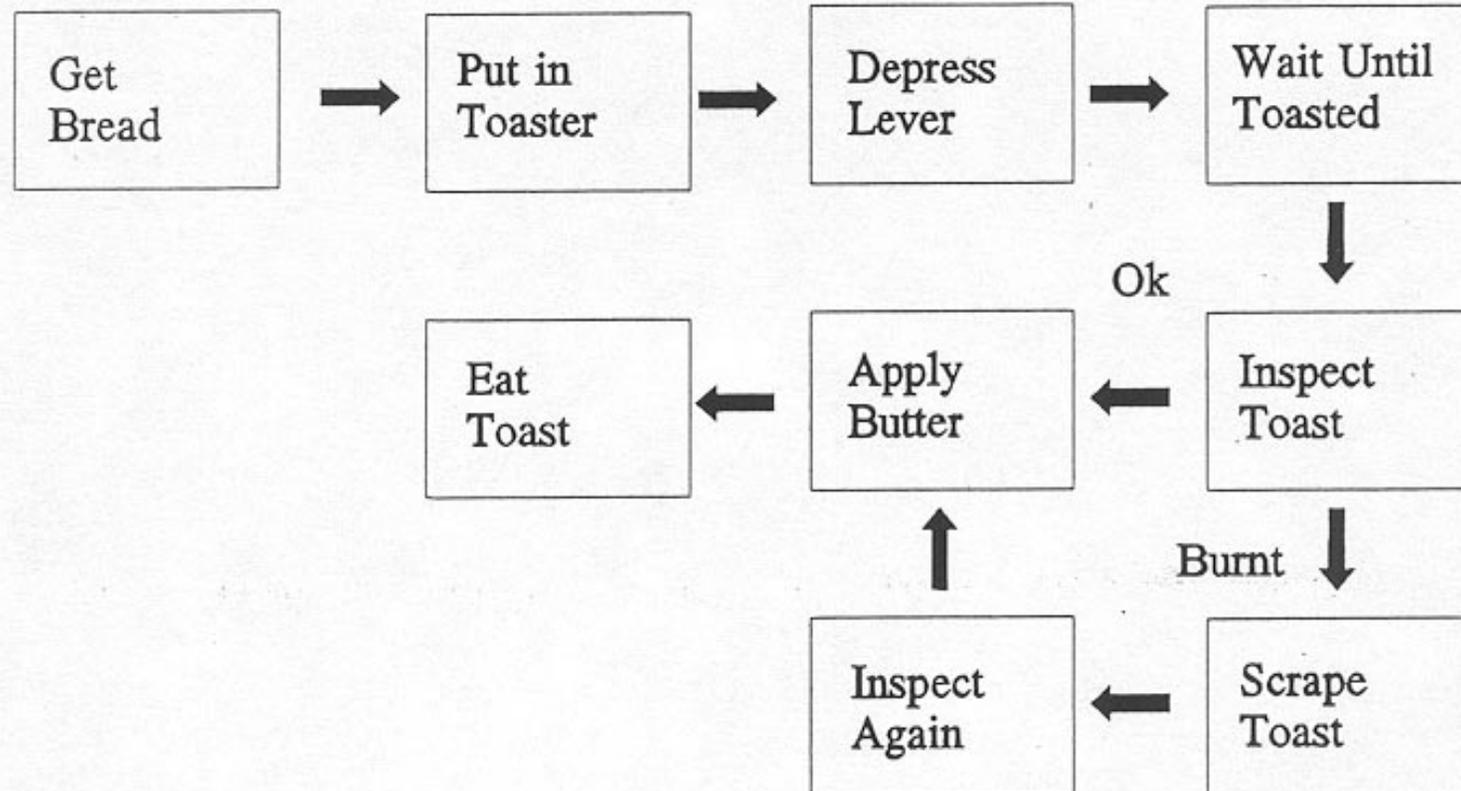
Input

Process

Outcome

Input and process factors influence outcomes

## Process Flow Charts



Process Flow Chart for Toasting Bread

From: Burr, J. (1989). SPC: Tools for Operators.  
Mil, Wis.: Quality Press

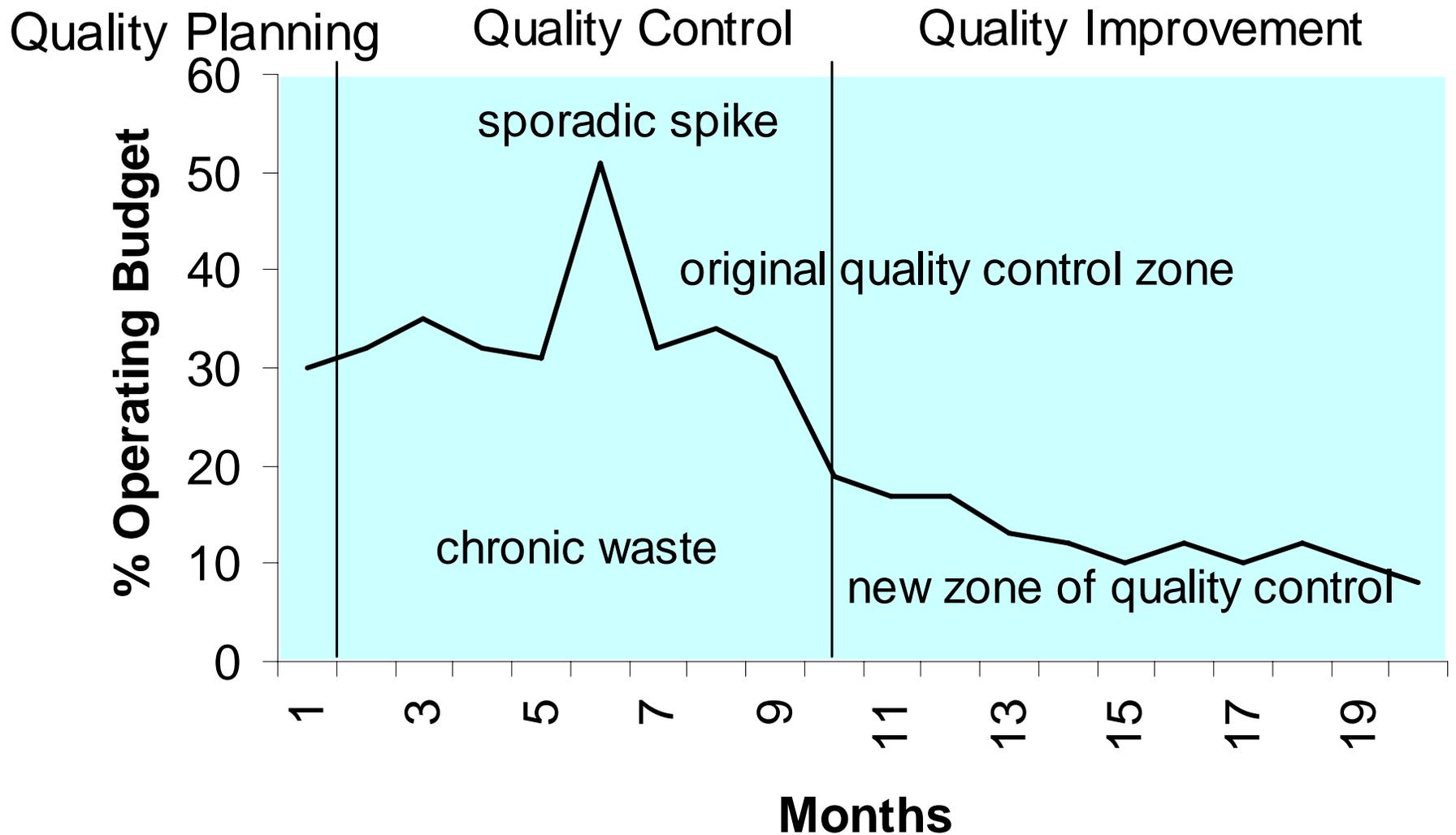
# What is an outcome?

- ❑ Outputs--result of transforming inputs
- ❑ Reason the process exists
- ❑ Examples--healthy patients, laboratory reports, revenue, satisfaction, buildings that meet safety codes, children trained in safety procedures
- ❑ Output of one process can be the input for another process (e.g. the output of a specimen analysis is generally an input to the patient healing process)

# *To improve a process*

- **Understand the process:** document the process, and identify obvious problems
- **Reduce obvious problems:** a process with problems can fail, resulting in low productivity, lost revenue
- **Reduce variation:** identify sources of inappropriate variation and eliminate them
- **Implement ideas for improvement:** those with “fundamental knowledge” of the process frequently have the best solutions for identified problems

# Juran Cycle: Costs of Poor Quality



# Process / Outcome Measurement

- Timeliness
- Appropriateness
- Efficiency
- Effectiveness
- Efficacy
- Response time
- Customer satisfaction
- Turnaround time
- Lost charges
- Equipment failures
- Number of injuries

# Evaluation questions

- ❑ What are the nature and scope of the problem?
- ❑ Why should the program be expanded or modified?
- ❑ What feasible interventions will impact the problem?
- ❑ Who will be affected?
- ❑ Is the intervention being implemented well?
  - Reaching the intended groups?
  - Are the intended services being provided?
- ❑ Is the intervention effective in attaining the desired goals or benefits?
- ❑ How much does the program cost? Is the program cost reasonable in relation to its effectiveness and benefits?

# Types of Program Evaluation

- **Formative**: process of testing program plans, messages, materials, strategies, and activities for feasibility, appropriateness, acceptability, and applicability to the program and target population.
- **Process**: used for testing whether program is reaching the target population (counting number of people or households reached).
- **Impact**: measure the changes in the target population's knowledge, attitudes, beliefs, or behaviors associated with program.
- **Outcome**: used to determine how well the program achieved the goal of reducing morbidity and mortality.

Program goal: “Decrease hospitalized and fatal burn and smoke inhalation injuries associated with residential fires by 50% in the targeted population

- ❑ **Formative**: demographics of target population, educational materials were refined prior to use
- ❑ **Process**: effectiveness of methods of distributing alarms and soliciting household participation
- ❑ **Impact**: appropriate use and function of smoke alarms distributed
- ❑ **Outcome**: injury surveillance of burn and smoke inhalation injuries.

Source: Mallonee S. Future Child. 2000;10(1):164–174)

# Reduce Variation via Process Measurement

- ❑ **Data source:** Where will the information/data come from?
- ❑ **Baseline:** What is the starting point? What provides the basis for comparison?
- ❑ **Target/Threshold:** Where do we want to be? What point triggers further investigation?
- ❑ **Target Date:** When will we see improvement?

## Inspection Results at 3, 12 and 48 months: Alarm Installation and Functional Status in OKC, 1990 to 1994

<b>Alarm Status</b>	<b>3 Months</b>	<b>12 Months</b>	<b>48 Months</b>
Alarm installed and functioning	65%	53%	46%
Alarm not yet installed	20%	6%	4%
Alarm/battery did not function	2%	5%	7%
Removed the batteries	2%	10%	19%
No longer had the alarm	7%	14%	9%
Moved and took the alarm with them	4%	11%	15%
<b>Sample Size</b>	<b>875</b>	<b>5,617</b>	<b>749</b>

# Examples of Prevention

(or how do you measure something that never happens?)

	Primary	Secondary	Tertiary
Dental	Brush & floss daily	Visit dentist for cleaning	Fillings, crowns
Fire	Laws for inflammable fabric	Stop, drop, roll Immediate first aid	Accessing resources to address injury

# Primary Prevention Educational Programs

- ❑ Identify target group
- ❑ What is the epidemiology of the group?
  - Types of burns?
  - Where, when, how do they happen?
- ❑ Educational program addresses these issues
- ❑ What type of program will impact knowledge, attitudes, beliefs, intentions and behavior?
- ❑ Measures flow from the content of the program and the targeted behaviors for change

# Shewart Cycle



- Plan—What changes are needed? What data are available?
- Do—Collect & analyze data. Design intervention & implement
- Check—What are the effects of the change?
- Act—Make changes in the intervention to achieve desired results

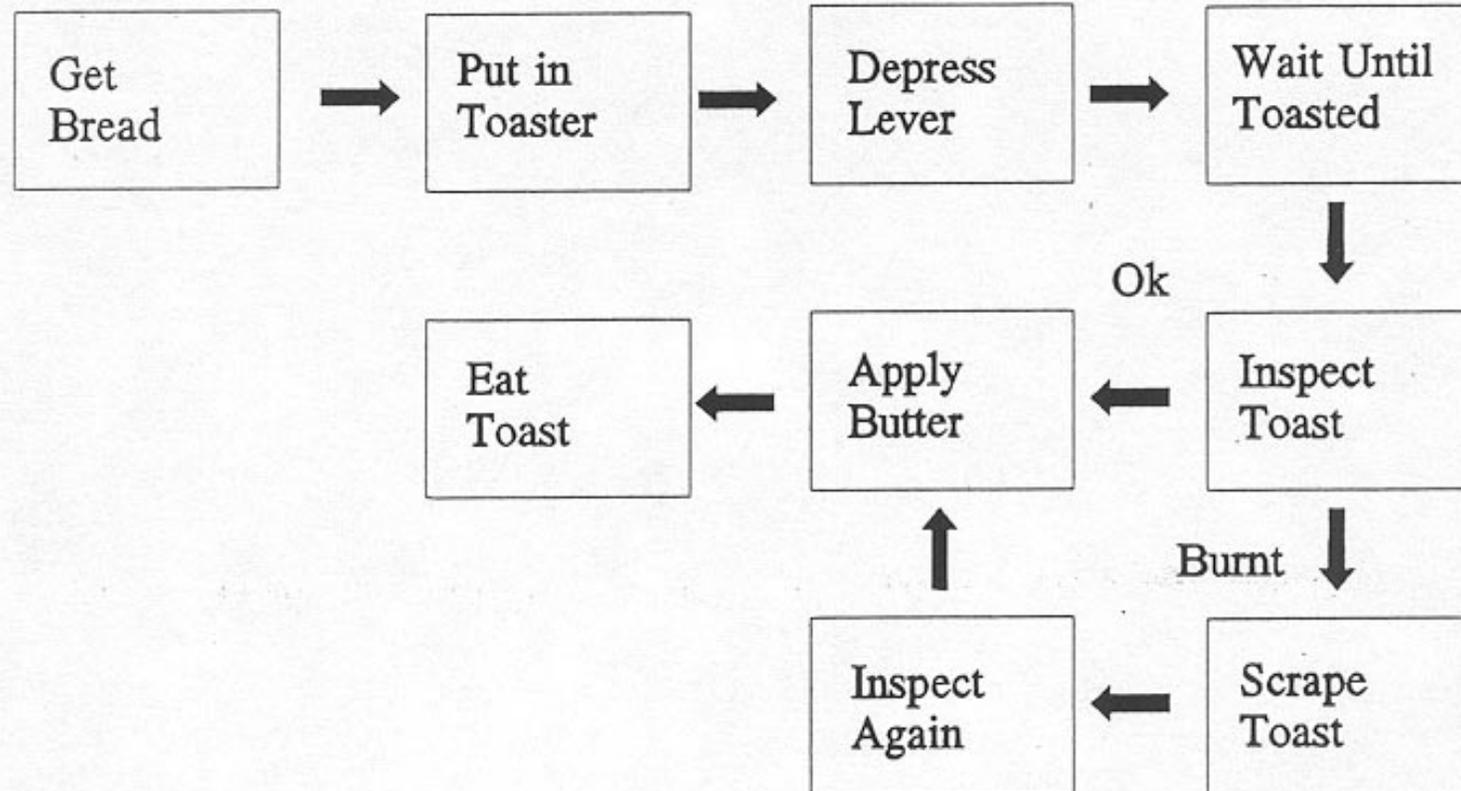
# Flow Diagram

- ❑ Graphically describes a process
- ❑ Sequentially displays each process step or activity
- ❑ Makes delays, omissions, duplicated effort and potential problems easier to identify
- ❑ Uses symbols to depict the process

# Steps to Flow Diagram

- ❑ Describe the process as it actually occurs--- not how you would like it to be
- ❑ Use the minimum number of symbols necessary
- ❑ Start at a high-level, non detailed master flowchart that describes the entire process under investigation (five to 10 boxes)

## Process Flow Charts



Process Flow Chart for Toasting Bread

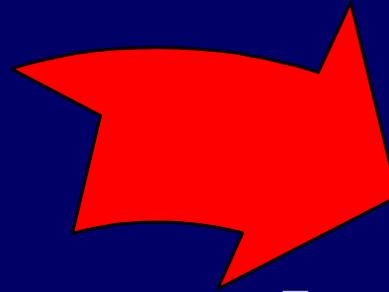
From: Burr, J. (1989). SPC: Tools for Operators.  
Mil, Wis.: Quality Press

# *Methodology to Frame Evaluation*

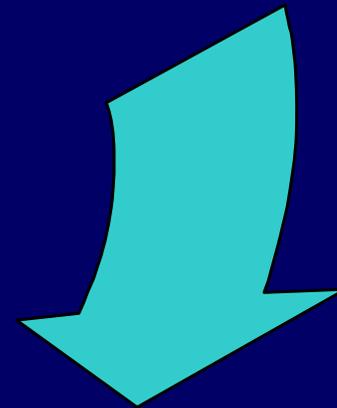
<b>Structure</b>	<b>Process</b>	<b>Output</b>	<b>Short-term Outcome</b>	<b>Long-term Outcome</b>
Description of program participants and providers	How the provider adds value	What is produced by process step	Results at < one year	Results at one or more years

# Evaluation + CQI Strategies

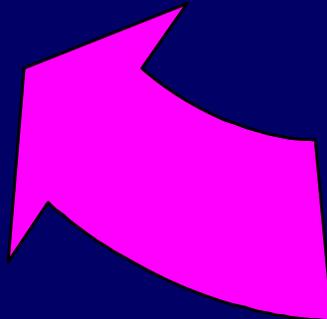
Implement strategies and monitor process to assess ongoing performance



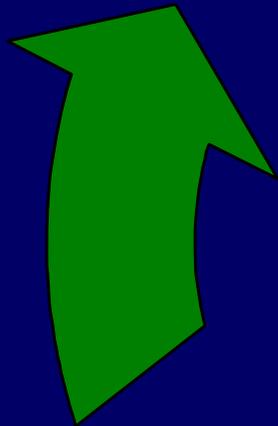
Establish & collect measures



Front Line staff and leadership review measures and identify improvement strategies



Measures feed into evaluation assessment system



# RCT of Smoke Alarm Promotion Interventions

DiGiuseppi C, Higgins, JPT. Arch Dis Child 2000;82:341–348

## Intervention

- Studies featured a variety of educational methods provided in tandem with well child checks:
  - Burn prevention lecture
  - pamphlets
  - handouts
  - videos
  - modeling

## Outcomes

- Home inspection post class (8 studies)
- Medical chart review for injuries (2 studies)
- Telephone and/or mailed survey (3)
- Parent interview (1)

# RCT of Smoke Alarm Promotion Interventions

DiGiuseppi C, Higgins, JPT. Arch Dis Child 2000;82:341–348

## Intervention

Mass media

School based programs

Community outreach

Alarm discounts or free alarms

## Outcomes

- Alarm ownership rates
- Population-based injury surveillance (per phone survey or medical billing systems)
- Fire incidence rates
- Burn incidence rates
- Burn rates compared to a demographically similar community (comparisons)

# House fire injury prevention research

Warda L, Tenebein M, Moffatt MEK. Inj Prev 1999;5:217–225

Intervention	Data Source	Outcome
<p>Education programs (school-based, Community-based (14)</p> <p>Fire response training (16)</p> <p>Office counseling w/ SD coupon (5)</p> <p>Smoke detector-give-away (7)</p>	<p><input type="checkbox"/> Pre/post test (14) using picture, written, multiple choice, crossword puzzle, verbal, questionnaire, bingo</p> <p><input type="checkbox"/> Direct behavioral assessment</p> <p><input type="checkbox"/> Home inspection</p> <p><input type="checkbox"/> Fire reports</p> <p><input type="checkbox"/> Inspection</p>	<p><input type="checkbox"/> Mastery (80% correct)</p> <p><input type="checkbox"/> Percent correct</p> <p><input type="checkbox"/> Means comparison</p> <p><input type="checkbox"/> Improvement in scores</p> <p><input type="checkbox"/> Fire situation responses Safe exit (mean time)</p> <p><input type="checkbox"/> Matches accessible</p> <p><input type="checkbox"/> Fire incidence</p> <p><input type="checkbox"/> One working SD</p>

# What to collect on every evaluation

- ❑ Demographic characteristics (age, gender, years of education or grade in school, race/ethnicity, income or socio-economic status (SES) equivalent, occupation, marital status, nature of leisure activity, etc.)
- ❑ Factors that may explain group differences (risk factors—smoking, substance abuse, disease status, self-reported religiosity)
- ❑ Why?
  - Describe the characteristics of the group
  - Permits stratified analysis (are differences in outcomes due to age, gender, SES, developmental stage?)

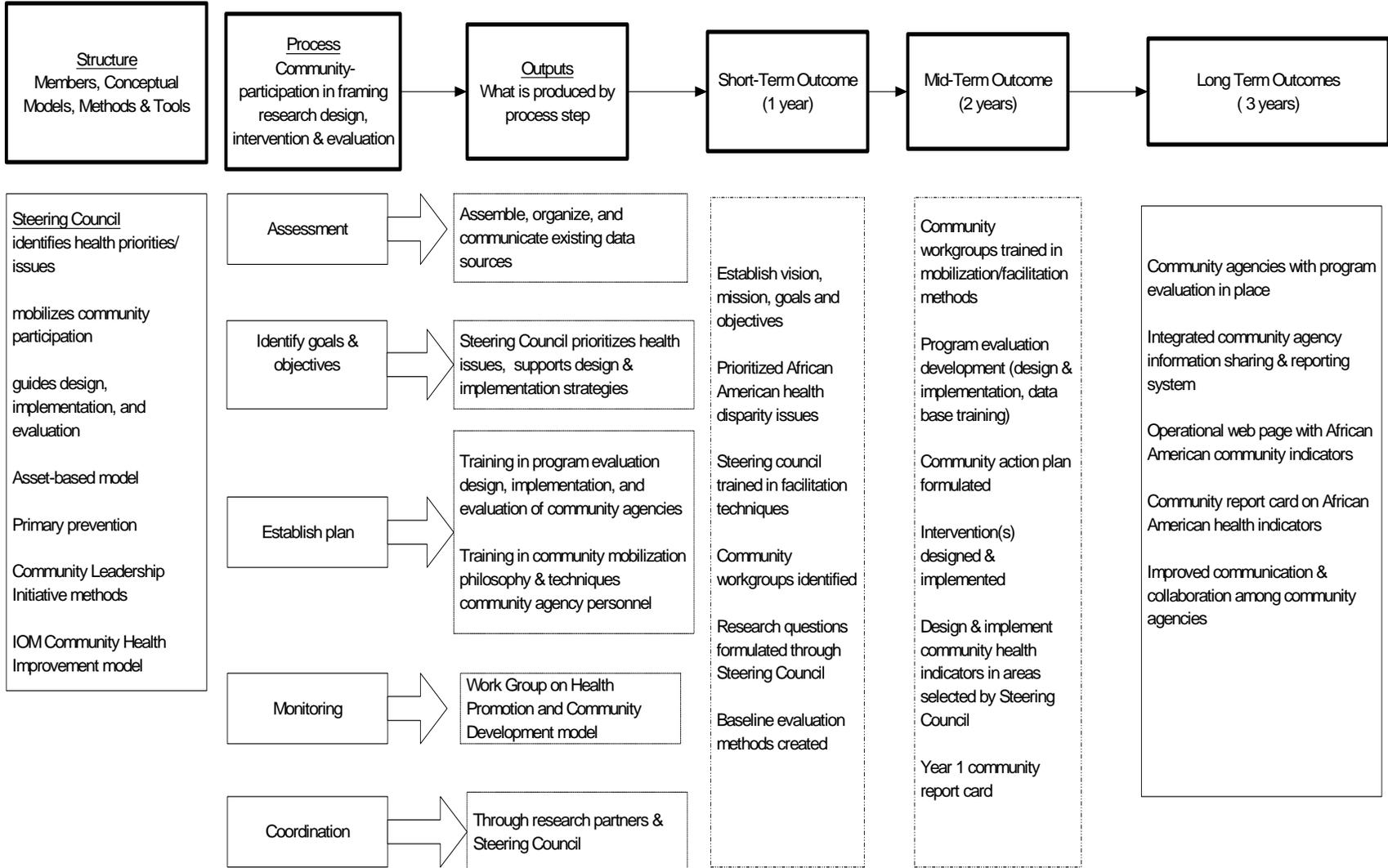
# Conclusions

- ❑ Program evaluation systematically investigates the effectiveness of interventions
- ❑ The need for program evaluation continues to grow
- ❑ Evaluation must be tailored to the political and organizational context of the program
- ❑ Involves the assessment of program
  - need, design, implementation and service delivery, program impact or outcomes, program efficiency
- ❑ Outcomes should be benchmarked against established criteria or standards





**Fix the Difference**  
Community-Based Participatory Prevention Research Logic Model



## Hypothetical Example of Year Two and Three Community Action Plan

Vision: Healthy pregnancies for African American women in Sedgwick County

Mission: To improve the health of Sedgwick County infants by promoting health and safety among African American women in Sedgwick County

Family Services Institute (FSI), Center for Health & Wellness (CHW), Sedgwick County Health Department

<b>Stratégies</b>	<b>Objectives</b>	<b>Start Date</b>	<b>Responsible party</b>
Improve coordination of prenatal and perinatal services	<ol style="list-style-type: none"> <li>1. Implement outreach system to support pregnant women</li> <li>2. Convene regular meetings among perinatal service providers.</li> <li>3. Enhance communication between service providers and African American women</li> </ol>	Sept 2003	Project coordinators, CHW, FSI
Create a culture of confidence in self-care practices among African American women	<ol style="list-style-type: none"> <li>1. Implement social networks around pregnant African American women with prenatal and perinatal service providers.</li> <li>2. Partner with local religious community to create social networks</li> <li>3. Incorporate culturally-sensitive and culturally-specific messages and practices in self-care information</li> </ol>	Oct 2003	Coalition partners, FSI, CHW
Promote healthy behaviors among pregnant African American women (e.g. smoking, nutrition, exercise)	<ol style="list-style-type: none"> <li>1. Partner with coalition partners to offer smoking cessation course, nutrition counseling, and exercise programs.</li> <li>2. Use social networks to support healthy behaviors</li> </ol>	Feb 2004	Steering Council Community work groups
Enhance early and consistent use of prenatal care services	<ol style="list-style-type: none"> <li>1. Identify barriers to early and consistent use of prenatal care.</li> <li>2. Develop strategies with coalition partners and community to eliminate barriers.</li> <li>3. Reinforce use of services</li> </ol>	Mar 2004	Project coordinators, CHW, FSI

Strategies	Objectives	Date	Responsible party
Evaluate the effectiveness of strategies	<p>1. Community Mobilization Process Evaluation</p> <p>a) Establish a monitoring and feedback system for process measures.</p> <ul style="list-style-type: none"> <li>▪ Constituent survey of coalition goals.</li> <li>▪ Constituent survey of process</li> </ul> <p>Community and Systems Change Evaluation</p> <p>b) Establish a monitoring and feedback system for community and systems changes.</p> <ul style="list-style-type: none"> <li>▪ Goal attainment report.</li> </ul> <p>2. Community-Level Distal Outcome Evaluation</p> <p>a) Establish a monitoring and feedback system for distal outcome measures.</p> <ul style="list-style-type: none"> <li>▪ Evaluate the Protocol Indicator Set for Infant Health</li> <li>▪ Establish neonatal outcomes core indicator set</li> <li>▪ Implement tracking process</li> </ul>	Jan. 2003	R. Wetta-Hall Evaluation team

Community Indicators:

- Reduced incidence of low birth weight (LBW) and very low birth weight (VLBW) babies among African American women
- Increased the percentage of women of pregnant African American women enter prenatal care in the first trimester
- Improved regularity of prenatal care visits among African American women
- Reduced incidence of tobacco use among expectant African American women
- Reduced hospitalization costs associated with LBW and VLBW infants

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**Organization Name** \_\_\_\_\_

Vision Statement: \_\_\_\_\_

Mission Statement: \_\_\_\_\_

Stratégies	Objectives	Measure	Start Date	Responsible party



Strategies	Objectives	Date	Responsible party
Evaluate the effectiveness of strategies	1. Community Mobilization Process Evaluation a) Establish a monitoring and feedback system for process measures. <ul style="list-style-type: none"> <li>▪ Constituent survey of coalition goals.</li> <li>▪ Constituent survey of process</li> </ul> Community and Systems Change Evaluation b) Establish a monitoring and feedback system for community and systems changes. <ul style="list-style-type: none"> <li>▪ Goal attainment report.</li> </ul> 2. Community-Level Distal Outcome Evaluation a) Establish a monitoring and feedback system for distal outcome measures. <ul style="list-style-type: none"> <li>▪ Evaluate the Protocol Indicator Set for Infant Health</li> <li>▪ Establish neonatal outcomes core indicator set</li> <li>▪ Implement tracking process</li> </ul>	Jan. 2003	R. Wetta-Hall Evaluation team

Indicators:



		MEASUREMENTS		
Structure	Process	Output	ST Outcome	LT Outcome

For each measurement, identify data source, frequency of collection, who will collect, management data, analyze, what team members will be involved in understanding how it relates to their process and identifying improvement strategies. Remember to ask: WHO, WHAT, WHEN, WHERE, WHY