Using the CDC Framework to Evaluate School-Based Asthma Programs

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Objectives:

After this webinar, participants will be able to:

- List the six steps of the CDC Framework for Evaluation;
- Identify possible stakeholders unique to school-based asthma programs;
- Explain a sample logic model for school-based asthma programs;
- Describe important considerations for focusing the design of a school-based asthma program evaluation;
- Identify possible sources of credible data for school-based asthma program evaluation;
- Describe important considerations in analyzing and interpreting school-based asthma program evaluation data; and
- Identify at least three strategies that can enhance the likelihood that findings from school-based asthma program evaluations will be used.
CDC Evaluation Framework

**Steps**
- Engage stakeholders
- Describe the program
- Focus the evaluation design
- Justify conclusions
- Gather credible evidence
- Ensure use and share lessons learned

**Standards**
- Utility
- Feasibility
- Propriety
- Accuracy

Source: [http://www.cdc.gov/eval/framework.htm](http://www.cdc.gov/eval/framework.htm)
CDC Evaluation Framework: Standards for Effective Evaluation

- Utility
  - Serve the information needs of intended users

- Feasibility
  - Be realistic, prudent, diplomatic, and frugal

- Propriety
  - Behave legally, ethically, and with regard for the welfare of those involved and those affected

- Accuracy
  - Reveal and convey technically accurate information

Step 1: Engaging Stakeholders

- Stakeholders – persons involved in or affected by the program and primary users of the evaluation

- Why engage stakeholders?
  - Make evaluation useful
  - Increase credibility
  - Help protect participants

- Who could be stakeholders in a school-based asthma program?

You Tell Me…

What types of stakeholders have you worked with in school-based asthma programs?

- Asthma program staff
- Funders/sponsors
- Local asthma coalitions
- Hospitals/emergency clinics
- Insurance agencies
- Students with asthma
- School nurses
- Teachers and principals
- Bus drivers
- HVAC personnel
- Custodians and maintenance personnel
- Parents
- School Board members
- Other community organizations (ALA, Boys and Girls Clubs, faith-based organizations, etc.)
Step 1: Engaging Stakeholders

After identifying stakeholders, decide how they will be engaged in the evaluation process.

- Directly involved in designing and conducting the evaluation
- Informed periodically of evaluation progress
- Can provide guidance and/or feedback in all steps of the evaluation process

Step 2: Describing the Program

- Need
- Expected Effects
- Activities
- Resources
- Stage of Development
- Context
- Logic Model

Step 2: Describing the Program Logic Model

- A visual depiction of how your program is intended to work; shows relationships between elements of the program and expected changes.
- Can be an excellent tool to help guide your evaluation.

- Although a logic model is not an essential prerequisite for evaluation, the understanding of your program that it depicts is essential.

Logic Model for Planning & Evaluating LEA Efforts to Help Schools Address Asthma

**Overall DASH Goal:** Increase the number of ‘asthma-friendly’ schools nationwide

### Inputs
- CDC DASH
- State, federal, local, and private sources
- Staff and volunteers
- LEA and/or LHD
- Asthma coordinator
- Health coordinator
- Resource nurses
- School nurses
- Health educators
- Physician consultant
- District- & school-level advisory groups
- Collaboration & TA
- Federal agencies
- NGOs
- State agencies
- Local agencies
- Universities
- Parents
- Community coalitions
- Policy-makers
- Community Physicians
- Legislation and Policy
  - IDEA, 504, ADA
  - HIPAA
  - Children’s Health Act of 2000
- Pro-Children Act
- State/local school health laws & regulations
- Prof Dvpt
- Science-based asthma
- EA programs
- Program planning & evaluation
- Initial needs assessment
- Ongoing quality improvement

### Activities
- Inform & educate policy makers
- Establish & maintain program management & administrative support systems
  - Information management
  - Communication
  - Reimbursement
- Build partnerships
  - ID & provide guidance & resources to LEA asthma champion
  - Participate in school health advisory council, asthma coalition & family activities
- Establish ‘asthma-friendly’ policies
  - Tobacco-free
  - Access to medicines
  - AAP
  - Emergency care
  - Physical activity
  - IAQ
- Providing health & mental health services
  - Conduct case identification, refer uninsured
  - Ensure links with medical care
  - Require AAP & provide acute care
  - Track symptoms & attendance
  - Target students with poorly controlled asthma
- Provide intensive case management
- Provide asthma education programs
  - All students
  - Students with asthma
  - School staff
  - PE and coaches
  - Parents
- Provide or support smoking cessation
  - Any student
  - Staff
- Develop an environmental management plan
- Develop an IPM plan
- Develop a system for evaluating & improving policies and programs
  - Use a coordinated approach
  - Monitor school policies & programs
  - Monitor asthma prevalence using YRBSS
  - Focus on health disparities

### Outputs
- Presentations conducted & target audiences
- Program management & administrative support systems in place
  - Data tracking system
  - Communication system
- Partners participate in activities
- ‘Asthma-friendly’ policies established
- Asthma case identification conducted
- AAP required
- Attendance data for students with asthma tracked & monitored
- Acute care protocols established
- Equipment & supplies provided
- Qualified staff trained & available at all times
- Updated AAPs from MDs on file at school
- Communication plan between MDs and RNs established
- Effective case management services provided
- Appropriate asthma education sessions provided for specified target audiences
- Smoking cessation sessions available for any student & staff
- PA guidance established
- Tobacco-free policy established
- Environmental management plan established
- IPM plan established
- Annually reviewed policies available
- Annual process evaluation report available

### Short-Term Outcomes
- ▲ collaboration among agencies, organizations, providers & the community
- ▲ skills of designated staff & peer educators to plan & deliver high quality asthma programs
- ▲ number of schools that:
  - Permit self-care/self-administration of quick relief medicine by appropriate students
  - Ensure immediate access to quick relief medications
  - Target students with poorly controlled asthma
- ▲ knowledge of which students have asthma (including days absent) among appropriate school staff
- ▲ number of schools that report:
  - Number of students identified with asthma
  - Current AAP on file at schools for students known to have asthma
  - Attendance data for students with asthma
- ▲ student adherence to AAP
- ▲ staff adherence to AAP
- ▲ access to schools to asthma management tools (peak flow meters, spacers)
- ▲ correct use of asthma management tools (peak flow meters, spacers) by students with asthma
- ▲ communication among medical home, family and school nurses (or other appropriate staff)
- ▲ use of appropriate pharmacotherapy by students with persistent asthma
- ▲ students’ sense of self-efficacy to manage their asthma
- ▲ asthma knowledge among students with asthma
- ▲ students’ skills & familiarity with their AAP
- ▲ school staff knowledge of asthma
- ▲ school staff asthma management skills as appropriate
- ▲ full PA participation among students with asthma
- ▲ number of schools that implement & enforce ‘tobacco-free’ policies

### Intermediate Outcomes
- ▲ enforcement of ‘asthma-friendly’ policies
- ▲ improved asthma management behaviors of targeted students
- ▲ improved asthma management behaviors of staff
- ▲ access to health care for students with asthma
  - ▲ asthma symptoms at school
  - ▲ number of students sent home from school due to asthma
  - ▲ absentee days for students with asthma
  - ▲ limitation to physical activity due to asthma

### Long-Term Outcomes
- ▲ improved academic performance of students with asthma
- ▲ improved interactions between schools & medical homes
- ▲ improved QOL for students with asthma & their families
  - ▲ ED visits for asthma
  - ▲ hospitalizations for asthma
  - ▲ health disparities (QOL, ED, Hospitalizations) among students with asthma

### Key
- IAQ: Indoor Air Quality
- Asthma-friendly: Policies and procedures that create safe and supportive learning environments for students with asthma
- ED: Emergency Department
- SEA: State Education Agency
- TOT: Training of the Trainer
- LEA: Local Education Agency
- TA: Technical Assistance
- Prof Dvpt: Professional Development
- % Absences: % absentee days
- PA: Physical activity, physical education, athletics
- MGMT: Management
- QOL: Quality of Life
- AAP: Asthma Action Plans
- Decreased: Improved
- Asthma ed: Asthma Education
  - ▲ Increased
  - ▲ Integrated pest management system

### Abbreviations
- CDC: Centers for Disease Control and Prevention
- DASH: Data Analysis and Synthesis Hub
- LEA: Local Education Agency
- LHD: Local Health Department
- AAP: Asthma Action Plan
- YRBSS: Youth Risk Behavior Surveillance System
Step 2: Describing the Program Logic Model for Addressing Asthma

**Inputs**
- Funds
- Staff and volunteers
- NGOs
- Policy
- Science-based programs

**Activities**
- Asthma education programs to students with asthma
- Training for school staff on asthma basics and emergency response
- Training for PE and coaches on asthma

**Outputs**
- Open Airways for Schools provided to all students with asthma
- Staff education on asthma basics and emergency response provided to all school staff
- Coaches Clipboard training provided to all PE teachers and Coaches

**Short-term outcomes**
- ▲ students’ sense of self-efficacy to manage their asthma
- ▲ asthma knowledge among students with asthma
- ▲ students’ skills & familiarity with their AAP
- ▲ school staff knowledge of asthma
- ▲ school staff asthma management skills as appropriate
- ▲ full PA participation among students with asthma

**Intermediate outcomes**
- Improved asthma management behaviors of targeted students
- ▼ asthma symptoms at school
- ▼ number of students sent home from school due to asthma
- ▼ absentee days for students with asthma
- ▼ limitation to physical activity due to asthma

**Long-term/global outcomes**
- Improved academic performance of students with asthma
- Improved QOL for students with asthma & their families
- ▼ ED visits for asthma
- ▼ hospitalizations for asthma
Step 3: Focusing the Evaluation Design

Consider:

- Purpose
- Users
- Uses
- Questions
- Methods
- Agreements

Step 3: Focusing the Evaluation Design

▲ Purpose

- To gain insight? Change practice? Assess effects? Affect participants?

For which of the following purposes have you used evaluation?

- To see if a program had its intended effect
- To determine which program components were most effective
- To identify unintended consequences of a program
- To gain insight that could be used to improve program implementation (facilitators, barriers, etc.)
- To help program participants learn
- To determine cost-effectiveness
- To meet a funder’s requirements
Step 3: Focusing the Evaluation Design

- Users
  - Who will use the evaluation findings? Involve those people in selecting questions and methods.
  - In a school-based asthma program, who might some of the users be?
    - Program director/staff/nurses
    - Local asthma coalition
    - Funders
    - Principal
    - Superintendent
    - School board members

Step 3: Focusing the Evaluation Design

▲ Uses

- Clarify how results will be used.
- This will be linked to specific users.

Example Logic Model Segment

**INPUTS**
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**ACTIVITIES**
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**LONG-TERM /GLOBAL OUTCOMES**
- Improved academic performance of students with asthma
- Improved QOL for students with asthma & their families
- ▼ ED visits for asthma
- ▼ hospitalizations for asthma
Step 3: Focusing the Evaluation Design

> Evaluation questions

- Create boundaries for your evaluation; work with stakeholders to select evaluation questions to be answered.

Step 3: Focusing the Evaluation Design

Methods

- Design: Experimental? Quasi-experimental? Observational?
- Other considerations: What data sources will be used? What data collection instruments are necessary? Who collects data? How is it managed? How will it be analyzed?
Step 3: Focusing the Evaluation Design

Agreements

- Clarify how evaluation plan will be implemented and establish clear roles and responsibilities for those involved.

Step 4: Gathering Credible Evidence

- Information needs to be both believable and relevant to stakeholders.
- Credible evidence allows for sound judgments and well-supported recommendations.
- Credibility of evidence can be impacted by:
  - Indicators
  - Sources (of data)
  - Quality
  - Quantity
  - Logistics

Step 4: Gathering Credible Evidence

Indicators

- Translate general concepts regarding the program, its context, and its expected effects into specific measures that can be interpreted

Examples:

- Program participation rates
- Client satisfaction
- Intervention exposure (dosage)
- Changes in behavior
- Changes in policy
- Changes in environment

Example Logic Model Segment

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Step 4: Gathering Credible Evidence

 Sources of data

 - Identify sources of data to address your indicators.

 - Some indicators may be measured by more than one data source.

 - Consider using more than one type of data – Qualitative and quantitative

 Ex: Ask about access to inhalers on a student survey and in focus groups.

Step 4: Gathering Credible Evidence

- Sources of data

  - Examples from DASH asthma program evaluations:
    - Student surveys, student and parent focus groups, interviews with key staff, nurse and health service records, policy documents, program participation records
  
  - Other examples:
    - School attendance records, hospital/ED records, PE class records, student information forms, grades/academic achievement records
Step 4: Gathering Credible Evidence

▲ Quality of data
  • Impacted by collection instruments, collection procedures, sources, data management, coding, error-checking, and other factors
  • Goal (in the real world): obtain data that is high enough quality to meet the stakeholder’s criteria for credibility

▲ Quantity of data
  • To ensure conclusions can be made with confidence

Step 4: Gathering Credible Evidence

Logistics

- Methods, timing, and infrastructure for collecting and handling data
- When working with schools, consider:
  - Parental consent/student asset
  - If surveying students, plan for those who don’t participate
  - Academic Calendar:
    - Summer, winter, and spring breaks
    - Standardized testing (may be hard to pull students out of class during or immediately prior to this time)
    - Snow days!
    - School events
    - Teachers’ schedules
    - Priorities of the administration

Step 5: Justifying Conclusions

- Evaluation conclusions are justified when they are linked to the evidence gathered and judged against agreed-upon values or standards set by the stakeholders.
  - This is a necessary step for evaluation findings to be used.
- Standards – values of the stakeholders against which the program is judged
  - Program objectives, performance by a comparison group, participant needs, participation levels, feasibility, sustainability, and institutional goals

Step 5: Justifying Conclusions

- Analysis/Synthesis
  - Guided by evaluation questions, types of data, and stakeholder input

- Interpretation
  - Determining the practical significance of the evidence

- Judgments
  - Making statements about the merit, worth, or significance of the program

Step 5: Justifying Conclusions

Recommendations

- What actions should be considered given the evaluation results?
  - This requires knowledge of program context, not just evaluation results.
  - Share draft recommendations.

- Remain aware of the limitations of your evaluation.

Step 6: Ensuring Use and Sharing Lessons Learned

Must plan for using data from the beginning.

Critical elements:

- Design
- Preparation
- Feedback
- Follow-up
- Dissemination

To Sum It Up

We’ve discussed:

- Six steps of the CDC Framework for Evaluation;
- Stakeholders unique to school-based asthma programs;
- Using logic models for school-based asthma programs;
- Considerations for focusing the design of a school-based asthma program evaluation;
- Sources of credible data for school-based asthma program evaluation;
- Considerations in analyzing and interpreting school-based asthma program evaluation data; and
- Strategies to enhance the likelihood that findings from school-based asthma program evaluations will be used.
Questions?
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