
Community Program Planning Guidebook

Health Promotion & Disease Prevention Activities

Indian Health Service
Nashville Area Office
Office of Public Health

United South and Eastern Tribes, Inc.
Tribal Health Program Support

711 Stewarts Ferry Pike
Nashville, TN 37214
615-467-1500



CONTRIBUTIONS and CONTACTS

This guidebook was developed through the collaborative efforts of the following individuals. Please feel free to contact them for additional information regarding program planning.

M. Catherine Hollister, RDH, MSPH, PhD
Director- Nashville Area Dental Support Center
United South and Eastern Tribes, Inc.

Mary.Hollister@ihs.gov

615-872-7900

Fax: 615-872-7417

Michael Rathsam, REHS, MS
Indian Health Service-Nashville Area
Deputy Director Emergency Services, Community Injury Prevention Specialist,
and Safety Officer for the Sanitation Construction Branch

Michael.Rathsam@ihs.gov

615-467-1509

Fax: 615-467-2963

Dianna Richter, RD, MPH, CDE
Nashville Area Diabetes Consultant
United South and Eastern Tribes, Inc.

drichter@usetinc.org

615-872-7900

Fax: 615-872-7417

Michelle Ruslavage, BSN, RN, CDE
Indian Health Service-Nashville Area Office of Public Health
Community Health Representative, Health Promotion and Disease Prevention,
and Nurse Consultant

Michelle.ruslavage@ihs.gov

615-467-1628

Fax: 615-467-1585

Palmeda D. Taylor, PhD
Indian Health Service-Nashville Area Office of Public Health
Behavioral Health Consultant

Palmeda.Taylor@ihs.gov

615-467-1534

Fax: 615-467-1585

INTRODUCTION

PURPOSE:

The primary purpose of the *Community Program Planning Guidebook* is to offer those working in the health care field basic and consistent guidelines to systematically develop, implement and evaluate health programs.

Many factors influence health care today such as utilizing evidence-based practices, health care outcomes, quality improvement, community mobilization and competitive funding. It may not be acceptable to merely count the number of people who came to a health fair and state it was effective because the turn-out was more than the year before.

This guide provides a framework for developing a sound program plan which focuses on meeting the community's needs.

INTENDED AUDIENCE:

This guidebook is intended for staff working in the health care field with little experience in program planning or those who need a quick refresher.

Because health professionals receive minimal, if any, training in the areas of program planning, implementation and evaluation, this handbook is intended to meet the needs of professionals from various health disciplines whose responsibilities include program planning.

HOW TO USE GUIDEBOOK:

This guidebook is designed to be used in whole by the novice program planner, or in parts by the once skilled planner who has been out of program planning for a while and needs a quick refresher

For the Novice: To become familiar with the different program planning criteria used in this guidebook, it is recommended that you learn about each criterion in the order presented. It is especially important that you become familiar with what is often considered the final step of program planning, i.e., the evaluation, which is actually a part of the initial planning.

For the Once Skilled Planner: It is recommended that you use the sections of this guidebook as needed as a quick refresher. You do not necessarily have to review the sections of the guidebook in the order presented, However, it is strongly recommended that you follow the program planning process as suggested.

Table of Contents

Section 1. Program Planning: POARE Model.....	5
Section 2. Problem Statement	10
Section 3. Objectives	16
Section 4. Activities.....	20
Section 5. Resources.....	22
Section 6. Evaluation	25
Section 7. Planning for the Next Project: Back to the Beginning.....	30
Section 8. Appendix.....	32
<ul style="list-style-type: none">• Sample Program Plans<ul style="list-style-type: none">▪ Sample A▪ Sample B• Resources• References	

Program Planning

Goal

To help you gain a general understanding of program planning.

Learning Objectives

Upon completion of this chapter, you will be able to:

Explain Program Planning

State the benefits of program planning

Identify stakeholders

Key Terms

Goals

POARE Format

Stakeholders

Objectives

Program Planning

Section 1: Program Planning

What is program planning?

Program planning is an organized process to address the needs of a specific group of people. ¹

Program planning involves a process which is to design, implement and evaluate a clinic or community-based project.

What are the Benefits of program planning?

Many health care facilities have multiple projects designed to improve the health and wellness of the community. Many financial, personal and organizational efforts may be expended in these projects. However, at times these projects may not be as productive as possible because of lack of community or organizational support, lack of coordination, duplicated efforts, or failure to use evidence-based interventions.

The benefit of program planning is that everyone involved in the project can make rational choices based on relevant information, previous experiences, and community preferences. Careful planning **before** a project begins can make a significant impact on the success of the project. ¹

First Steps

1. Identify the overall issue or concern
2. Establish a committee/task force
3. Identify the overall goal

Who should be involved?

Broad-based participation in the planning process, *before any activities begin*, is critical to the success of a project. ² The following is a partial list of stakeholders to consider when forming a planning committee:

- | | | |
|--------------------|------------------|------------------|
| - Tribal Planner | - Nurses | - Doctors |
| - Social Workers | - Parents | - Teachers |
| - Elders | - Police | - EMS |
| - WIC Program | - Local Partners | - County |
| - Health Educators | - Youth | - Transportation |

Section 1: Program Planning

What are Goals?

Goals are typically broad, sweeping statements which provide a long-term vision for the outcome of the project. Goals should be in agreement with the organization's mission. They should also be achievable within the organization's scope.

Goals are not specific; they do not specify the methods that will be used or the degree of improvement expected (**See Table 1**).

A well written goal should be simple, brief and consist of :

- Who is affected, and
- What change will occur as a result of the program

Table 1: Goals vs. Objectives

Goals	Objectives
Broad statement	Specific, limited in scope
Remains stable over the course of the project	Change as needs of the population or community evolve
Identifies the long range purpose of the project	Identifies a measurable outcome of the project
<i>Example: The goal of the project is to increase physical activity in the community</i>	<i>Example: The number of individuals reaching 100 miles in the walking club will increase by 20% within 6 months</i>
<i>Example: The goal of the project is to reduce the incidence of cardiovascular disease in Bangor County.</i>	<i>Example: The number of cardiovascular disease deaths will be reduced by 25% in 12 months.</i>
<i>Example: The goal of this project is to reduce incidence of childhood caries in the community.</i>	<i>Example: Reduce the caries prevalence of Head-Start-age children such that >50% of Head Start children on the XXX Reservation present as caries-free by October 2010 (in two years).</i>

Section 1: Program Planning

Once health planners determine the scope of influence for the organization, goals may be set. Because of the broad nature of goals, they may change very little over time, even though objectives or activities may change drastically as new interventions are proven safe and effective. Appropriate goals may be identified in the overall strategic plan of the organization, major areas of concern by a community, or agency mandates.

Remember: Goals and objectives are not the same thing.

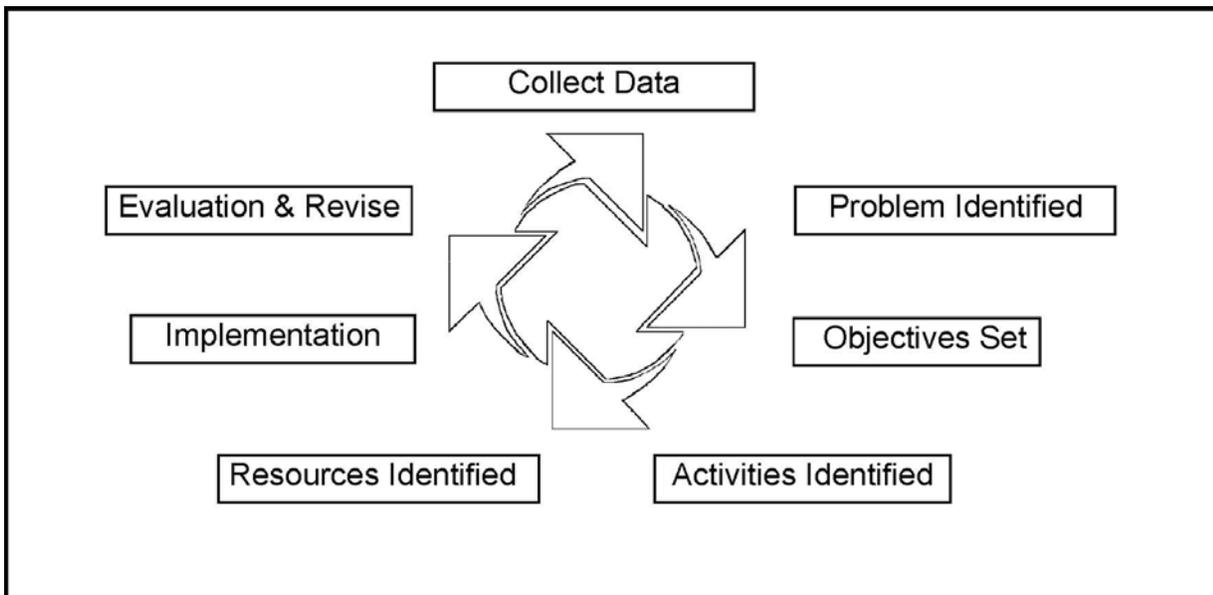
Objectives are addressed in Section 3 page 16.

The Planning Cycle

Planning a project begins by using the goals of the organization to formulate a comprehensive program. The planning process is circular (**See Figure 1**). Data is collected, a problem statement is formulated, objectives are set, activities and resources are identified, programs are conducted and evaluated, and revisions correct the program to fit changing needs.

The planning process is critical to a successful project and Figure 1 provides a framework for the plan.

Figure 1: The Planning Cycle



Section 1: Program Planning

POARE Format

The classic planning cycle may be summarized in a simple Problem, Objective, Activities, Resources, and Evaluation (POARE) format. This format provides an easy, step-by-step process to organize and evaluate the project (**See Table 2**). Each step of the process should be developed in order (problem first, then objectives...) as each element will build upon the previous one.³

Table 2: Elements of the POARE Format

P	Problem <ul style="list-style-type: none">• Collect relevant information• Determine Community Support• Gather baseline data• Identify target population
O	Objectives <ul style="list-style-type: none">• State SMART objectives• May be formative, process, or impact• May be short or long-term
A	Activities <ul style="list-style-type: none">• Outline methods that will achieve objectives• Only PROVEN strategies should be used• Identify barriers and strategies to overcome those barriers
R	Resources <ul style="list-style-type: none">• Identify personnel, space, time, supplies, travel, financial need, or in-kind contributions
E	Evaluation <ul style="list-style-type: none">• Plan how objectives will be evaluated• Implementation and Evaluation may occur at the same time• Qualitative methods may be used to explain “why” or “how” something happened• Use information to revise objectives

Problem Statement

Goal

To help you gain a general understanding of developing a problem statement

Learning Objectives

Upon completion of this chapter, you will be able to:

Identify data resources to use when developing a problem statement.

Write a descriptive problem statement

Key Terms

Data Resources Conditions

Section 2: Problem Statement

Why develop a Problem Statement?

A problem statement identifies various elements that may lead to a new health program, the need to wait for a new program, or discontinue a current program. Some of these elements to consider include:

- Community Support
- Factors contributing to the Problem
- The Problem
- Impact of the Problem
- Extent of the Problem
- Effective interventions

Determining the Problem

After gathering the various data sources, thoroughly review the data to determine if a problem exists. Here are some questions to aid in determining if a problem exists:

- Are local data available?
- Is this a serious health issue?
- Has a target group been identified?
- Is there an effective intervention for the problem?
- Is there community support?
- Does the organization have sufficient resources to implement the intervention?

Data sources to consider

Use supportive evidence to clearly describe the nature and extent of the problem. Be judicious in your selection of data and use those which most pointedly “paint the picture”. A select list of data sources are as follows:

- Healthy People 2010
- State Surveys
- Local GPRA
- CDC
- IHS Surveys
- Chart Reviews
- Census
- Regional Publications
- Focus Groups
- National GPRA
- Regional Epidemiologic Centers
- Community Assessments

Obviously you can't use all the data, so scrutinize it carefully. Good planners will use local experts to help define and measure the problem to be addressed in the project.

Section 2: Problem Statement

Every good program is data driven. Data may be quantitative (numbers) or qualitative (processes or reasons for program success or failure). Data collection must be done during the assessment phase (Problem). Objectives, activities, resources and evaluation all flow from the baseline data.

National, Regional and Local

National, regional, Area, or local data may be used throughout the program planning process. **National** data will show trends, identify key health care issues, identify successful strategies and help set realistic objectives (**See Table 3**). Example: **Healthy People 2010 Objectives** provide national baseline data and targets.⁴

Table 3: Example of Using National Data to reach the Health People 2010 with baseline and target measurements.

27-2. Reduce tobacco use by adolescents (Target and baseline)

Objective	Reduction in Tobacco Use by Students in Grades 9 Through 12	1999 Baseline Percent	2010 Target Percent
27-2a.	Tobacco products (past month)	40	21
27-2b.	Cigarettes (past month)	35	16
27-2c.	Spit tobacco (past month)	8	1
27-2d.	Cigars (past month)	18	8

Regional data may be found in Indian Health Service, Centers for Disease Control and Prevention (CDC) or other federal agency publications. National reports are often presented by region or state. Resources at the regional level such as Tribal Epidemiology Centers or Area reports may contain useful regional information. State publications may also be a good source of regional data.

Local data may be gathered in the computerized patient records or patient charts. This is especially useful for demographic data or finding any services or diagnoses that are regularly coded into the computer system. Examples may be Government Performance and Results Act (GPRA) reports, Diabetes Outcome and Care Audit (Diabetes Audit) results, disease rates determined by computer searches. Planners should consult experts at local sites, Tribal organizations, Area Offices, or Tribal Epidemiology Centers to determine disease rates or other clinical measures. Other sources of local data could be chart reviews, case reports or clinical impressions.

Section 2: Problem Statement

In the assessment portion of the Problem statement local data should be used whenever possible. National or regional trends may shed light on the seriousness of the issue, but local decision makers want to know what is happening in the local community. When setting objectives, data from similar programs in other locals may be used. Consider looking at similar programs when setting a measure of success. At first glance, planners may think anything less than a 50% improvement signifies failure. However, an examination of similar programs may find that a short-term change of 20% was the norm, and with a 20% change, long-range benefits could be gained.

Advantages and Disadvantages

National data have the advantage of being collected and reported by experts in the field and they are usually repeated at regular intervals. The disadvantages of national data are long times between reports (e.g. 10 years for census data), low response rates for certain groups, and national data do not indicate what is happening at the local community.

Regional data may have some of the same advantages and disadvantages as national data. One advantage to regional data is that documents such as Director's Initiatives and Agency reports may identify key health issues and resources in addition to disease rates or baseline measurements. Indian Health Service surveys will often provide data by Area, showing the state of a health issue in the Area. This is more specific than national data, but it is not specific to a local community.

Disadvantages of **Local** data are cost and expertise. Surveys and screening can be time consuming and costly. Also, expertise is needed to design and test the survey tool. If a survey or screening questionnaire or form is not well designed and tested, information may be inadequate or misleading.

Planners must consider the relative advantages and disadvantages of using national, regional or local data (**See Table 5**). Local data are the most powerful in developing a local program, but in collecting local data program organizers may spend most of the budget on data collection and have very little left over for program activities. Organizers should consider all possible sources of data, consider program needs and resources, and select the most appropriate data source for the program.

Section 2: Problem Statement

Table 4: Data Sources and Considerations

	National	Regional	Local
Source	<ul style="list-style-type: none"> - Healthy People 2010 - CDC - Census 	<ul style="list-style-type: none"> - IHS Surveys and publications - Director's Initiatives 	<ul style="list-style-type: none"> - Computer system (clinical, demographic, GPRA, DM Audits, other reports) - Local surveys - Screenings - Chart reviews - Case reports - Focus groups
Advantages	<ul style="list-style-type: none"> - Reliable - Repeated (show trends) - Define health issues - Improvement targets may be identified 	<ul style="list-style-type: none"> - Reliable More specific to target groups - May be more timely than national data - May identify Agency priorities and resources 	<ul style="list-style-type: none"> - Most specific to local community - Timely
Disadvantages	<ul style="list-style-type: none"> - Not specific to local community - May have long time between reports 	<ul style="list-style-type: none"> - Not specific to local community - Not as timely as local data 	<ul style="list-style-type: none"> - Requires considerable time and expense to gather data - Requires expertise to design and conduct

Section 2: Problem Statement

Problem Statement Template

Every problem statement will be different depending on the issue to be addressed and available information.

The following is a suggested template when writing the problem statement:

- **Describe local demographics:**
 - the region, population, clinic, services provided, local history as it relates to the problem
- **Describe the nature and extent of the problem**
 - Make sure to target a specific problem
 - Use statistical data percentages, incidence, gender, age
- **Include data**
 - **Compare local to state and national data if available**
- **Impact of the problem**
 - Impact on the client, family, community
 - Benefits derived through prevention, intervention, or treatment of the problem
- **Describe approaches used in the past and barriers to improving the problem.**
- **Consider what has been tried in the past and what the outcome of various programs has been. In an established program, this might be the result of your evaluation as you examine outcomes and formulate revised strategies.**
- **Include a summary statement such as, “The purpose of this project is to...”**

Length

The problem statement length will vary depending on the intent. Remember the purpose is to identify compelling conditions, problems, or issues that are leading to a program.

Generally this can be achieved in 1-2 pages.

Objectives

Goal

To improve your knowledge of developing objectives.

Learning Objectives

Upon completion of this chapter, you will be able to:

Define an objective.

State what the **SMART** acronym stands for when writing objectives

Write SMART objectives.

Key Terms

Objectives

SMART

Section 3: Objectives

What are objectives?

The World Health Organization defines objective as:

“The end result a programme, a project or an institution seeks to achieve. A specific end point, condition or situation one is determined to achieve.”

Benefits of Objectives

- Objectives will provide the framework for the project by setting benchmarks for success.
- Objectives are specific actions to achieve “The Goal”
- Objectives provide clarity to the team of expected results

Elements of Objectives

Many different organizations from health care, information technology, automobile industry, real estate and banks have adopted the “SMART” acronym for writing objectives (**See Table 5**). **Table 6** contains useful verbs to facilitate writing measurable objectives.

Table 5: Elements of SMART Objectives.

S	Specific <ul style="list-style-type: none">• The objective is specific to the identified problem• Introduced with a specific action verb
M	Measurable <ul style="list-style-type: none">• The objective is measurable• Identify what you are measuring
A	Attainable <ul style="list-style-type: none">• The objective has been met by similar programs, or you have good reason to believe your program will reach a certain point.• The objective is challenging but achievable
R	Relevant <ul style="list-style-type: none">• The objective directly relates to the overall goal of the community
T	Timely <ul style="list-style-type: none">• The objective has an identified time frame in which the desired result is expected to be achieved.

Section 3: Objectives

Table 6: Useful Verbs to Facilitate Writing Measurable Objectives

Type	Verbs
Knowledge	Cite, Count, Define, Draw, Identify, Indicate, List, Name, Point, Read, Recite, Recognize, Relate, Repeat, Select, State, Tabulate, Tell, Trace, Write
Comprehension	Associate, Classify, Compare, Compute, Contrast, Describe, Differentiate, Discuss, Distinguish, Explain, Estimate, Express, Interpret, Interpolate, Locate, Predict, Report, Restate, Review, Translate
Application	Apply, Calculate, Complete, Demonstrate, Dramatize, Employ, Examine, Illustrate, Interpret, Interpolate, Locate, Operate, Order, Predict, Practice, Relate, Report, Restate, Review, Schedule, Sketch, Solve, Translate, Use, Utilize,
Analysis	Analyze, Appraise, Contrast, Criticize, Debate, Detect, Diagram, Differentiate, Distinguish, Experiment, Infer, Inspect, Inventory, Question, Separate, Summarize
Synthesis	Arrange, Assemble, Collect, Compose, Construct, Create, Design, Detect, Formulate, Generalize, Integrate, Manage, Organize, Plan, Prepare, Produce, Propose, Specify
Evaluation	Appraise, Assess, Choose, Critique, Determine, Estimate, Evaluate, Judge, Measure, Rank, Rate, Recommend, Revise, Score, Select, Test

How many objectives should there be?

Two to three objectives will usually be enough to keep the project on track and ensure success.

A common error is to set too many objectives, making the project too complicated or inflexible. Planners should decide what key elements a program needs to be successful, then select objectives.

Section 3: Objectives

Example

Assume that in the *Problem* phase of the project, planners discovered that low nutrient, high sugar beverages were commonly consumed in school. Further investigation showed that sodas, sports drinks and low fruit content “fruit” juices were actually being sold at school. The school dietician has determined which beverages are of higher nutrient content and would be better choices.

Planners then decided the overall goal of the program:

Improve the nutritive value of foods consumed in community schools.

Table 7: Examples of Objectives and the SMART elements addressed.

Strong Written Objective	Weak Written Objective	SMART Element
<i>Decrease by 10% the amount of sugar sweetened drinks sold at school concessions within 6 months of the start of the school year.</i>	<i>Decrease the amount of soda sold at school functions.</i>	
Identifies what will be included in the project and what will be counted	Identifies reduction of soda sold	Specific
School based concession purchases (and can be easily monitored)	∅ Does not state what will be included: external vendors, soda machines, drinks brought by students to school	Measurable
Reasonable target for change in a short time	∅ No target amount was set.	Attainable
Addresses nutrition at school	Addresses nutrition at school	Relevant
6 months from the start of the school year	∅ No time frame set	Timely

Activities

Goal

To help you gain a general understanding of how activities fit into program planning.

Learning Objectives

Upon completion of this chapter, you will be able to:
State the elements of sound program planning activities.

Identify evidence-based activities based on SMART objectives.

Key Terms

Evidence-Based

Section 4: Activities

Benefit

- Activities are what the program will do to achieve its objectives.
- The activity section will serve as the blueprint for program implementation.

Select Activities

- Plan activities **after** the data has been collected, a problem statement has been developed, and SMART objectives have been established.
- Match activities with each objective to ensure a comprehensive plan.
- It is **critical** to choose only proven, evidence-based activities.
- Another critical consideration for selecting activities is community preferences and previous success or less than effective programs.
- Activities should be selected based on effectiveness.
- The activities should be appropriate to the target group.
- The activity should be reasonably completed with available resources.
- The activity should have the community's support.

See Additional Resource Section for appropriate activities and successful prevention programs

Elements of the Activity

The following elements detail exactly what will be included in the activity section of the program plan:

- **What** will be done.
- **Who** will be involved.
- **When** activities will take place.
- **Where** events or activities will take place.
- **How** events or activities will be conducted.

Activities vs Objectives

- *Activities* are not the same as *Objectives*.
- *Objectives* decide how success will be measured.
- *Activities* detail exactly what will be done and how it will be done to achieve the project goal.

Resources

Goal

To help you identify resources necessary to implement the plan.

Learning Objectives

Upon completion of this chapter, the you will be able to:
State what is meant by resources for program planning.
Identify resources at the local, regional and national levels.

Write a resources/budget list.

Key Terms

Resources In-Kind contribution

Section 5: Resources

What is included in Resources?

- Personnel
- Space
- Time
- Supplies
- Travel
- Financial need
- In-kind contribution

Resources must be identified for each objective and activity. The plan may include a resource page incorporated with objectives, or a separate budget page may be used.

In either case, organizers must take care to ensure adequate resources are available to carry out the activities that will accomplish the objectives of the plan.

Including volunteer hours and in-kind contributions demonstrates community support and shows funding agencies the sponsoring group and/or community is contributing to the project.

Justification for each item will add strength to the plan and help funding sources understand how each resource will be used. A detailed explanation of why each item is needed will help secure funding and also allow planners to determine exactly what resources are needed for the program. A detailed resource section can help planners identify all resources needed as well as sources of funding or contributions. Some budget items, such as laptop computers, need extensive justification. Be careful not to “pad” your budget with items that will be used primarily for other projects.

Section 5: Resources

Table 8: Resource and Budget List Example

Stronger Resource List	Weaker Resource List
Salaries \$7,920.00 (1 FTE @ \$18.00/hr for 5days/week for 11 weeks)	Salaries \$8,500.00
Supplies \$800.00 (describes what & quantity)	Supplies \$600.00
Travel \$100.00 (.24/mile)	Travel \$100.00
Incentives, blood pressure Monitors (20 @ \$50 each) \$1,000.00	Incentives \$1,000.00
Program Space \$0.00 Donated by Program	
Educational Materials \$0.00 In-Kind contribution from XXX Program	
TOTAL \$9,820.00	TOTAL \$10,200.00

Evaluation

Goal

To help you develop an evaluation planning process for a community program.

Learning Objectives

Upon completion of this chapter, you will be able to:

Identify 2 types of evaluation.

Define Formative and Summative Evaluation.

State 2 types of Formative Evaluation.

Key Terms

Formative Evaluation

Implementation Evaluation

Summative Evaluation

Progress Evaluation

Section 6: Evaluation

Purpose of Evaluation

- To ensure that a program is fulfilling its purpose.

How Do You Determine if the Program's Purpose is Being Met?

It should answer the following questions:

- Are the needs for which the program was designed being met?
- Are the problems it was designed to solve being solved?

Evaluation data are used to make judgments about a program and may be used to justify making adjustments in the program, expanding or reducing the program, or even closing it.

Evaluation must be included at the very start of the planning process.

- If evaluation is left until the end of the project, you may not have the information you need, or an opportunity to examine your program in action may be lost.
- Decide from the very beginning how you will evaluate the success of your program, then build the evaluation process into your overall plan.⁵ Good evaluation can provide valuable information that can be used to improve the program.
- Plans for evaluation should never be left for the end of the project, but should be included in the original planning process. All too often, an evaluation tool or technique cannot be used because plans were not incorporated at the beginning of the plan

Types of Evaluations

Evaluation may take one of two forms:

- Formative
 - Implementation
 - Process
- Summative
 - Impact or also known as outcome

Section 6: Evaluation

Formative Evaluation

- Formative evaluation begins during project development and continues throughout the life of the project.
- Its intent is to assess ongoing project activities and provide information to monitor and improve the project.
- It is done at several points in the developmental life of a project and its activities.⁶

Example: When a cook tastes the soup, that's formative.
 When the guests taste the soup, that's summative.

1. **Implementation Evaluation**: Assess whether the project is being conducted as planned.
Example questions to ask:
 - Were appropriate number of staff available for seeing patients in the emergency room?
 - Were staff in-serviced on appropriate protocols?
2. **Progress Evaluation**: Assess progress in meeting the goals. It involves collecting information to learn whether or not the benchmarks of participant progress were met and to point out unexpected developments.
Example questions to ask:
 - Are patients moving toward the anticipated goals of the project?
 - Are the number of patients enrolled in the project increasing?

Summative Evaluation (also referred to as impact or outcome evaluation)

- The intent is to assess a mature project's success in reaching its stated goals.
- It takes place **after** the project has been established, implemented and run its entire stated timeframe.
Example questions:
 - Can the program be sustained?
 - Which components are most effective?
 - Which components are in need of improvement?
 - Were the results worth the program's cost?

Section 6: Evaluation

Evaluation Methods

- **Quantitative**
 - Most evaluation is quantitative in nature, as most evaluation measures the extent to which the objectives were met.
 - Numerical data is useful for future planning of resources.
 - Quantitative evaluation does not inform organizers why the program was a success or failure.
For example, a survey may reveal how satisfied participants were with the program, but not why they were satisfied or how the program could be improved.

- **Qualitative**
 - Interviews with providers, program participants, or community members may divulge strengths or weaknesses in the program that can be used for future planning.
 - Observations done during the program can identify problems with program flow, other services that could be incorporated, or reasons for participant satisfaction or dissatisfaction. When using qualitative techniques such as observations or unstructured interviews.
 - Focus groups acknowledge the participants' perspectives are meaningful and valuable.
 - Checklist of desired topics will ensure relevant information is gained. The list could contain roughly worded questions that can be paraphrased and/or points to cover in the interviews or observations.⁶

Table 9: Concepts and Methodology of Quantitative and Qualitative Evaluation.

Quantitative	Qualitative
<ul style="list-style-type: none"> • Computer searches • Chart reviews • “Canned” computer reports • Epidemiologic data • Demographic data • Surveys • Screenings 	<ul style="list-style-type: none"> • Interviews • Observations • Focus groups • Key informant interviews

Section 6: Evaluation

Where to Start?

Make a plan:

- What do you want to know?
- Why do you need to know it?
- How can you measure what you need to know?

Questions to Consider

- What health status will/does the program affect?
- How will health status change because of program activities?

Make Program Improvements

- What worked?
- What didn't work?
- What could get better?

Planning for the Next Project:

Back to the Beginning

Goal

To gain a general understanding of the complete planning cycle process.

Learning Objectives

Upon completion of this chapter, you will be able to:

Identify the next step after evaluation.

State how the program planning cycle assists in program improvement.

Section 7: Planning for the Next Project

As demonstrated in the planning process, all community programs are circular in nature. Lessons learned from previous projects should be incorporated into future plans. *Very few programs get it right the first time.* Strong programs usually evolve over time as planners discover strengths and weaknesses of the program and work to improve services. Many clinics have ongoing programs. A careful examination of both quantitative and qualitative data will allow organizers to continue to improve the program and the service to the community.

If a group runs annual programs, some consideration should be given to changes in the community. If significant changes have occurred such as political ideology, changes in clinic organization, differences in the scope of services available, or other significant changes, a different type of intervention may be more relevant than programs run in the past. If interests of the local health boards have changed significantly, previous community support for some interventions may not be present. Organizers must re-examine local interests, current health status and health services, and most pressing health needs when deciding to continue existing programs or change direction. In any case, the program planning loop will help organizers plan effective services and make maximum use of health care resources.

All stakeholders involved in the planning process must be aware of changing environments and areas of interest to ensure the programs meet current needs.

Example:

Goal of the project is to increase documentation of patient education for tobacco use in all disciplines.

Current method of documentation is recording on a paper PCC form that is then entered into the computer system by data entry clerks.

Objectives: Increase documentation of tobacco counseling for patients identified as tobacco users by 25% within 12 months.

Activities focused on provider training and improving forms to track patient education.

Evaluation showed a 10% increase in documentation at the end of 12 months.

At the beginning of the next year, planners examine the results of the project and plan for the next cycle. During this process planners find that there has been a change in the environment. Now all patient education is entered directly into an Electronic Health Record. Previous efforts to change forms are no longer relevant.

The goals of the project will remain the same. The objectives of the project will remain the same. However, the activities will change to include training on patient education data entry by the providers directly into the EHR.

Appendix

- Two Sample Program Plans
- Resources
- References

Section 9: Appendix

SAMPLE A

HPDP Community Nutrition Award Application

Tribe X

Date

Healthy Beverage Choices

Primary Contact:

Name, Title

Address

Telephone Number

Fax Number

Email address

PROBLEM STATEMENT

Tribe X is located in a rural community and most of the Tribal services are conducted out of a single facility. There are X number of Tribal members and of those, X are between the ages of 11-19. The Tribe has a youth program, limited medical services, social services and after school cultural program.

Poor food choices in Tribal youth that may lead to obesity and other health related outcomes is of increasing concern to Tribal leaders. Lack of education about nutrition, easy availability of high sugar drinks, and little responsibility in purchasing drinks offered for sale may all contribute to poor snacking habits. Previous community education has had little impact on soft drink consumption. Through a recent community assessment, the health department staff learned that the community members are now concerned and interested and ready to take the next steps needed to address healthier beverage choices. Even in the absence of hard data, community members perceive an increase in high sugared beverage consumption.

To address these needs, Tribe X proposes to purchase a new vending machine for the Tribal building. Tribal youth would be responsible for selecting the items for sale in this machine; selections would be supervised by health department personnel. To help the youth make healthy choices for the items to be sold tribal youth will research healthy drinks that would be beneficial for good health and oral hygiene. The idea is for them to make the decisions (with health staff guidance) while teaching them healthy habits. Other benefits of the program are that the youth will learn about how to write a Tribal Resolution and present the project to the Tribal Board and basic business skills will be gained through the management of the vending machine. One immediate measurable outcome would be the elimination of sodas out of the tribal building!

Currently, there is one vending machine in the Tribal office building that contains high sugar drinks with low nutritional value. The purpose of this project is to improve the nutritional value of drinks consumed at the Tribal office

OBJECTIVES

1. Within 3 months, Tribal youth will complete the nutritional research needed to determine appropriate drink selections for the vending machine.
2. Self reported consumption of high sugar-low nutrient beverages will decrease by 25% within 12 months.

ACTIVITIES

- The Tribe will purchase a vending machine to be placed in the Tribal building.
- Tribal youth will research appropriate drinks to be made available in the vending machine.

- Health department personnel will assist the youth in determining appropriate items to be placed in the machine.
- Youth will be responsible for orders, stocking the machine, and keeping track of sales and order costs.
- Tribal personnel will help youth develop a tracking system for orders, costs, and sales receipts.
- Quarterly the youth will examine the items that have been sold and determine if changes should be made.
- Youth will monitor which items sell and which do not and try to find products that both sell well and meet nutritional guidelines.
- Youth will develop a survey to be distributed to staff in the Tribal building. Questionnaire will be distributed before the first items are made available for sale to determine self-reported consumption of soft drinks or other high sugar beverages.

RESOURCES

Vending Machine	\$3,000
In-Kind Contribution by Tribal Youth Program	\$500
Initial Stock	
Project Total	\$3,500
Total Award amount	\$3,000

EVALUATION

Objective #1

(Evaluation Type: Progress and Evaluation Method: Qualitative)

Health personnel will monitor progress on the youth’s research of nutritional content and selection of items to be offered in the vending machine.

Objective #2

(Evaluation Type: Summative also know as outcome and Evaluation Method: Quantitative)

At the end of 12 months, youth will distribute the post-questionnaire to determine changes in beverage consumption of the Tribal office personnel.

Overall Project Evaluation

(Evaluation Type: Summative also know as outcome and Evaluation Method: Qualitative)

The tribal youth will prepare a report on the lessons learned, the progress of the project and what do they recommend for other tribal youth for vending machines items that they have liked to drink.

SAMPLE B

Clinic X Dental Program
Clinic X Health Clinic

Place your own Organization(s) Logo(s) here

Proposed HP/DP Program Award:

Head Start Xylitol Gum/Fluoride Varnish Program

Contact Name
Title, Program Name
Address
City, State
Telephone Number
Email address

PROBLEM STATEMENT

The two most common oral diseases are dental caries (tooth decay) and periodontal (gum) disease.¹ Dental caries is a complex disease process initiated by specific bacteria, such as *Mutans Streptococci*, which metabolize carbohydrates to form acids.² These acids in turn demineralize the outer enamel surface of the teeth, depleting the calcium matrix of the hydroxyapatite crystal that forms the enamel, eventually resulting in a cavitated lesion.

Prevention of dental caries is the primary goal of public health dentistry. This demonstration project will propose the implementation of several prevention strategies that ultimately may reduce caries incidence in the Native American population of the Native American reservations in XXX. These prevention strategies include comprehensive dental examinations and treatment planning, oral hygiene instructions, topical fluoride (varnish) therapy, the use of chlorhexidine mouth rinse as a caries preventative agent, pit and fissure sealant application, professional removal of caries-causing plaque, and the establishment of a xylitol chewing gum program for post-partum mothers and Head Start students.

Some public health dental facilities and Head Start programs do utilize some of these preventive tools, but often do so in a rationing approach – resources are expended based on the risk of developing dental caries. This demonstration project is set up to provide equal access to resources for all Native Americans at the reservations' Head Start centers, regardless of past caries risk classification. This utilitarian philosophy is what sets apart this project from other public health dental programs – instead of rationing services, services will be offered to the entire population because they are all inherently at risk of developing caries (see Ethnicity section).

Extensive evidence using animal models indicates that caries is a communicable, transmissible, and infectious bacterial disease.³ Caries can be a significant problem not only in adults and school-aged children, but also infants and toddlers. Studies have shown that the bacteria responsible for caries development are transmitted from mothers to their children within the first three years of life.¹ These children become infected usually between the ages of 6 months and 30 months by salivary exchange with their mothers.^{4,5} But caries is not just a childhood disease – it can continue to be a significant problem throughout life.¹ In fact, dental caries affects over 85 percent of U.S. adults over the age of 18 and up to 60 percent of children under five years of age.⁶

Despite nearly 7 years of concentrated disease interventions aimed at 0-3 year-olds, including parental counseling, fluoride varnish applications, 3-month recalls, early screenings, xylitol gum to post-partum mothers of children 6-36 months of age, and even dental sealants, the caries rate for Head Start-age children on the ---- Reservation continues to be in excess of 55%. However, there has been an 11% decrease in caries prevalence in the Head Start-age population over the past seven years, some of this as a result of these intervention programs, demonstrating the evidenced-based need for continuation of such interventions.

As all of us who work in IHS dental clinics can attest, despite our efforts to reduce early childhood caries by targeting 0-3 year-olds and their mothers, we often “lose” our patients during the Head Start period, and for numerous reasons, we often are faced with treating rampant caries in Head Start children. This comes at an enormous cost to our IHS clinics, both in terms of manpower and Contract Health Services costs (the average cost for treating the 10-15 children on the ***** Reservation with rampant caries, in the operating room, exceeds \$5,000 per child).

The expected outcome of this program cannot be measured only in terms of a reduction in caries prevalence in Head Start-age children, although that is the quantitative goal. It also is expected that this program will result in improved and new collaborations between the ***** Dental Program and the Head Start program, teachers and administrators, and improved public awareness of the caries epidemic on this reservation. The objectives outlined previously seem to be, given the historical downward trend in the past seven years in caries prevalence, easily attainable.

Although the funding for this program is requested for two years, it is expected that supplies can be supplemented through the ***** Tribe, the ***** Service Unit, and through the Head Start Program, so the impact of this program may be long-lasting and greatly effective over the coming years. The purpose of this project is to reduce caries in primary and permanent teeth in Head Start children.

National Data

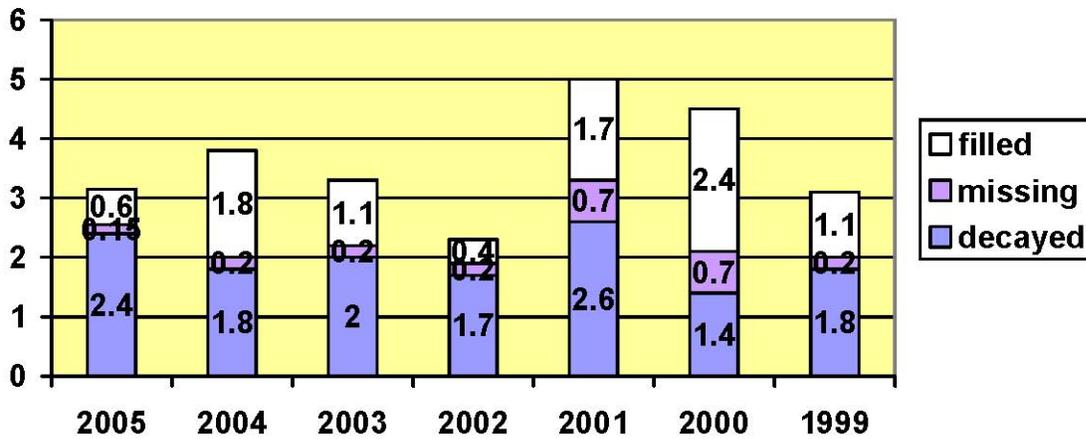
The Indian Health Service conducted oral health surveys in 1984, 1991, and 1999, utilizing volunteer clinics from across the nation. A significant increase in caries in all age groups has occurred over these survey periods.¹ Most of these changes occurred between the 1991 and 1999 surveys.

For example, the dmfs index (decayed, missing, and filled *surfaces*, a measurement score for primary teeth) increased from 11.1 in the 1991 survey to 14.6 in the 1999 survey in the 3-5 year-old age group.¹ Although some of the increase seen was due to filled teeth (3.8 in 1991 to 5.4 in 1999), a statistically significant increase remained (6.0 surfaces in 1991 to 7.3 in 1999) in untreated caries.¹ In the 6-14 year-old age group, there was little change from 1991 to 1999 in the overall dmfs score, but the number of carious surfaces increased from 1.53 in 1991 to 1.78 in 1999.¹ Likewise, in the 13-19 year-old age group, there was a decrease in the overall DMFT (decayed, missing and filled teeth, permanent) score, but the number of decayed teeth has increased from 2.37 in 1991 to 2.88 in 1999.¹

Local Data

Local descriptive data were obtained through seven years of screening and recording the oral health status of Head Start children enrolled in the Head Start centers. Two key epidemiological indices, DMFT (decayed, missing, and filled teeth) and prevalence (percentage of a population with disease), are used in dental epidemiology to assess oral health status.

Decayed, Missing, and Filled Teeth (dmft)----- Reservation, 3-5 year-olds



This chart shows the average number of decayed, missing, and filled teeth per child enrolled in the ----- Head Start centers. For 2005, there is an increase from 2004 for the number of decayed teeth, most likely due to the fact that screenings were just conducted and restorative treatment has not commenced. However, the overall mean DMFT (dmft) for 2005 is lower than any year except 2002, demonstrating a significant improvement in the overall oral health of Head Start children, a result of previous HP/DP efforts.

Mean dmft and dmfs, ----- Reservation compared with IHS Oral Health Survey. An analysis was done to compare not only dmft (decayed, missing, and filled teeth) between the Head Start children on the ----- Reservation, but also to compare dmfs (decayed, missing, and filled surfaces), an epidemiological tool frequently used in dental research and perhaps more indicative of the dental caries burden. Below is a summary of this analysis.

Oral Health of Head Start Children

Variable	Head Start Children								
	IHS OHS	2005	2004	2003	2002	2001	2000	1999	'99-'04
n=	2,488	27	34	30	37	29	29	39	198
Percent caries-free	20.3	44.4	35.3	26.7	43.2	17.2	27.6	43.6	33.3
Percent with Untreated Decay	68.2	55.6	32.4	40	51.4	65.5	44.8	43.6	46
Mean number of:									
Decayed primary teeth	3.77	2.4	1.79	2	1.68	2.55	1.38	1.82	1.86
Missing primary teeth	0.46	0.15	0.21	0.2	0.19	0.69	0.66	0.23	0.34
Filled primary teeth	1.54	0.56	1.68	1.1	0.39	1.66	2.34	1.1	1.33
dmft	5.77	3.11	3.68	3.3	2.26	4.9	4.38	3.15	3.53
Mean number of:									
Decayed primary surfaces	7.31	1.08	3.97	4.33	4.14	4.48	2.07	4.03	3.86
Missing primary surfaces	1.92	0.2	0.82	0.8	0.76	2.93	2.79	0.97	1.43
Filled primary surfaces	5.38	0.58	6.97	5.4	1.84	8.03	9.69	4.69	5.88
dmfs	14.62	1.86	11.76	10.53	6.74	15.44	14.55	9.69	11.17

What this table portrays is that a growing number of Head Start children have not experienced tooth decay at the time of the initial school year screening examination. **This is most likely a direct result of previous HP/DP efforts (fluoride varnish applications since 2000, xylitol gum in 2005, parental education and early screenings since 1999), and is why a continuance of these interventions is needed.** In 2005, a record 44.4% of Head Start children had never experienced tooth decay. The numbers are misleading on the other 55.6% with a history of caries, however. Of the children with caries this year, seven children had 5 or more cavities, while 5 had only one or two cavities. The American Dental Association states that “25% of children have 75% of the cavities.” On the ----- Reservation, this is also true of Head Start patients – seven children (25.9% of the screened children) have 72.3% of all cavities.

As this chart shows, the number of children with untreated caries had been steadily declining up to the most recent screening examination, demonstrating the Clinic A Dental Department's commitment to completing treatment on Head Start children. At the same time, the percentage of children that have never experienced tooth decay continues to gradually increase, with a record 44.4% children this year presenting at the screening examination with no history of caries – no fillings, missing teeth due to decay, and no existing decay.

OBJECTIVES

Outcome objective – Reduce the caries prevalence of Head-Start-age children such that >50% of Head Start children on the ----- Reservation present as caries-free by October 2008 (in two years).

Process objective – Screen 100% of Head Start children on the ----- Reservation in FY 2006 and FY 2007.

Process objective – Apply Duraflor fluoride varnish to 120 children aged 6 months – 5 years each year for the next two fiscal years.

Process objective – Provide xylitol gum to at least 50 Head Start children at the two ----- Head Start centers over the next two fiscal years.

Justification:

The outcome objective is in line with the historical trend on the -----Reservation (see Chart 1). From FY 2004 – FY 2005, there was a 9% increase in the prevalence of caries-free children, and from FY 1999 – 2005, there was an 11% increase in the prevalence of caries-free children. Using FY 2005 as the baseline, the objective calls for a 5.6% increase in the caries-free prevalence over the next two fiscal years. The process objectives are based upon newly developed Head Start-***** policies (see interventions): an average of 75-80 0-5 year-olds visit the ***** Dental Clinic each year (so a 75% fluoride varnish participation rate is the goal), and the average enrollment each year at the two ***** Head Start Centers is 47 (so slightly over 50% enrollment in the xylitol program is the goal).

Activities

Evidence-based approach

1. Fluoride varnish therapy – topical fluoride

Fluoride plays a pivotal role in the overall dental preventive strategy to reduce caries development.⁷ Though some studies have shown no association between fluoride varnish therapy and caries reduction,⁸ while others show that fluoride varnish significantly reduces caries development.⁹ Duraflor® (or Cavity Shield) fluoride varnish, containing 5% sodium fluoride and the equivalent of 22.6 mg fluoride ion (or 23,000 parts per million) in each single dose application, is predominantly used in the United States to treat hypersensitive teeth and seal dentinal tubules for cavity preparations, though it does have an off-label use as a caries preventive agent. Approval for the purpose of caries prevention still awaits FDA approval, though this topical fluoride treatment is “fast becoming the standard of care” in the U.S.¹⁰

More importantly, however, is the fact the fluoride varnish and fluoride gel (Prevident®, containing 1.1% sodium fluoride, used as a home fluoride therapy) aid in the prevention of secondary caries – caries development after the initial carious lesion is restored with an amalgam or composite (tooth-colored resin material) restoration. In one study, teeth, restored with amalgam or composite, were exposed for four days to a microbial caries model; specimens that were treated with fluoride varnish or gel for one day were more likely than those untreated to have a slowed progression of secondary carious lesions.¹¹ In a second study, repeated applications of fluoride varnish every three months over a five-year period resulted in the arrest of secondary caries in all of the adult cases.¹²

The plan is for the Head Start Director, and as an alternate the IHS dental staff, to apply fluoride varnish applications to Head Start students (with parental consent) two to four times per year. Other possible staff, including physicians, the public health nurses, and Community Health Representatives may also assist in applying fluoride varnish to the children. This interdisciplinary team has already been trained in application technique by the **Service Unit Dental Chief, and this program has been ongoing for over two years. In addition, the IHS dental staff at ***** Dental Clinic will continue to apply fluoride varnish to 0-3 year-olds at the clinic.***

2. Xylitol chewing gum therapy

Xylitol (Xylimax®, 66% xylitol) chewing gum is another preventive agent that has been shown to reduce caries development. Xylitol is a five-carbon sugar found naturally in many plants and fruits that is used as a sweetener in some food products such as gum and in some toothpastes. Unlike other sweeteners, xylitol has been proven to be noncariogenic.^{13,14,15}

Not only is xylitol in chewing gum noncariogenic, it is also a caries preventive agent. One famous study, the Turko study, showed that xylitol in chewing gum reduced caries by 70-81% when compared with a sucrose gum group, and by 59-79% when compared to a control group that chewed no gum.¹⁶ The mechanism by which xylitol reduces caries may be in its effect on the *Mutans Streptococci (MS)* population in the oral cavity. Hrimech reported that xylitol disturbs protein synthesis in MS,¹⁷ while Modesto and Drake showed that xylitol inhibited the ability of MS to colonize and form biofilm on the teeth.¹⁸

Xylitol may also be used as part of the arsenal in the fight against early childhood caries. One study of 195 mothers in Finland showed that in mothers with high salivary MS levels, regular maternal use of xylitol chewing gum resulted in a “statistically significant reduction in MS colonization in their children’s teeth at the age of 2 years compared with teeth in children whose mothers received fluoride or chlorhexidine varnish treatment” only.¹⁹ Thus, in addition to the proven benefits of fluoride, chlorhexidine, and sealant therapy, xylitol chewing gum may be yet another successful anticaries agent because of the significant inhibition of MS growth in the oral cavity.²⁰

The plan for this demonstration project is to supply each Head Start center with a 24-month supply of xylitol (3 months at a time), train the teachers and assistants, and have the children chew the gum (two pieces at a time) twice daily, once when they first get to the center in the morning, and once right after lunch. This is a key project component, and in a survey across the IHS, there appears to be only one or two other programs that are targeting Head Start students with the proven xylitol gum therapy.

3. Oral hygiene instructions

Although not a definitive treatment, the instruction of patients in proper oral hygiene – brushing and flossing techniques, most commonly – is a critical part of any prevention program. Not only do such instructions aid in patient education and self-awareness of their own dental conditions, oral hygiene instructions may, even without adjunctive preventive services, aid in caries prevention. A six-month study in Milwaukee showed that there was a statistically significant drop in inflammation and plaque formation (plaque contains caries-causing MS) in 157 patients given only oral hygiene instructions without adjunctive preventive services.²¹ Despite the possibility that oral hygiene instructions do indeed decrease caries development, most dental health professionals find little time for this important aspect of prevention. A study of adolescents, conducted from 1989 to 1997, concluded that oral hygiene instructions were not routinely given only to a minority of patients, even those at high risk of developing caries.²²

This project will involve staff –Head Start Health Director, the IHS dental staff, Community Health Representatives, and Head Start teachers – providing oral hygiene instructions in fun, informative ways (a curriculum will be designed and customized to the Head Start programs) to the children, and the IHS dental staff will provide training and instruction to Head Start teachers and assistants.

RESOURCES

1. Duraflo Fluoride Varnish.....\$587.76

The ***** Head Start Centers (Wadsworth and Nixon) average 47 children each year. The amount requested is enough for four single-dose fluoride varnish applications four times per year for each child, assuming a 100% participation rate: \$24.49 per package (16 applications) X ¼ box per child (4 applications) X 94 children, or 24 packages.

2. Xylitol Gum.....\$6,784.96

The two Head Start Centers average 47 children each year. Children are in school approximately 180 days each school year. The project calls for children chewing the xylitol gum, two pieces twice daily. Assuming a 75% participation rate over two years, 70 children will chew 50,400

pieces of xylitol gum (180 X 4 pieces/day X 70). Therefore, a total of 224 boxes of Spry xylitol gum is requested (225/box) at a cost of \$30.29 per box.

3. Colgate Cavity Prevention Kits.....\$215.56

Prevention kits (toothpaste, toothbrushes) are requested to supplement existing Head Start supplies (provided to the children twice a year), one kit per child per year at a cost of \$53.89 kit (36/kit). A total of 4 kits is requested.

4. TOTAL REQUEST.....\$7,588.28

5. In-kind (not requested).....\$3,076.92

Based on Head Start Health Manager's salary and other supporting (non-IHS) staff contributions to the project – information obtained from HS Manager)

EVALUATION

1. Caries Prevalence Rates ((Evaluation Type: Summative also know as outcome and Evaluation Method: Quantitative)

The ***** chief dentist routinely performs cross-sectional analyses of caries rates, as evidenced by the dmft table previously shown. Twice each fiscal year, in October and April, the caries prevalence rate, and caries-free status, will be calculated by the ***** dentist after the bi-annual Head Start screening examinations. Adjustments to the program (such as an increased focus on 0-3 year-olds and other possible new targeting at post-partum mothers) will be made as a result of these analyses.

2. Process objectives ((Evaluation Type: Progress and Evaluation Method: Qualitative)

The ***** dentist after receiving quarterly reports from the Head Start Health Manager, who will help oversee the xylitol and fluoride varnish program at the Head Start centers. At least once annually, the ***** dentist will meet with the Head Start Health Manager and the Head Start teachers to discuss what worked and what changes need to be made to the program.

REFERENCES

- ¹ Indian Health Service. An Oral Health Survey of American Indian and Alaska Native Dental Patients: Findings, Regional Differences, and National Comparisons. Indian Health Service, Office of Public Health, Division of Oral Health. 1999; pp. 1 – 108.
- ² Loesche WJ. Chemotherapy of dental plaque infections. *Oral Sci Rev* 1976;9:65-107.
- ³ Tanzer JM, Livingston J, Thompson AM. The microbiology of primary dental caries in humans. *J Dent Educ* 2001;65:1028-1037.
- ⁴ Berkowitz RJ. Streptococcus mutans and dental caries in infants. *Compen Contin Educ Dent* 1985;6:463-466.
- ⁵ Brambilla E, Felloni A, Gagliani M, Malerba A, Garcia-Godoy F, Strohmenger L. Caries prevention during pregnancy: Results of a 30-month study. *JADA* 1998;129:871-877.
- ⁶ U.S. Department of Health and Human Services, Office of the Surgeon General. Oral Health in America: A Report of the Surgeon General. 2000. In NICDR [Web site]. Cited January 5, 2003; available at: <http://www.nidcr.nih.gov/sgr/sgrohweb/chap3.htm>.
- ⁷ ADA Council on Access Prevention and Interprofessional Relations. Caries diagnosis and risk assessment. A review of preventive strategies and management. *J Am Dent Assoc* 1995;126(Suppl):1S-24S.
- ⁸ Eklund SA, Pittman JL, Heller KE. Professionally applied topical fluoride and restorative care in insured children. *J Pub Health Dent Winter* 2000; 60(1):33-38.
- ⁹ Modeer T, Twetman S, Bergstrand F. Three-year study of the effect of fluoride varnish (Duraphat) on proximal caries progression in teenagers. *Scand J Dent Res* 1984 Oct;92(5):400-7.
- ¹⁰ Vaikuntam J. Fluoride varnishes: should we be using them? *Pediatr Dent* 2000 Nov-Dec;22(6):513-6.
- ¹¹ Fontana M, Gonzalez-Cabezas C, Haider A, Stookey GK. Inhibition of secondary caries lesion progression using fluoride varnish. *Caries Res* 2002 Mar-Apr;36(2):129-35.
- ¹² Milgrom P, Rothen M, Spadafora A, Skaret E. A case report: arresting dental caries. *J Dent Hyg* 2001 Summer;75(3):241-3.
- ¹³ Barmes D, Barnaud J, Khambonanda S, Infirri JS. Field trials of preventive regimens in Thailand and French Polynesia. *Int Dent J* 1985;35:66-72.
- ¹⁴ Scheinin A, Banoczy J, Szoke J, Escztari I, Pienihakkinen K, Scheinin U, Tiekso J, Zimmermann P, Hadas E. Collaborative WHO xylitol field studies in Hungary. I. Three-year caries activity in institutionalized children. *Acta Odontol Scand* 1985;43:827-347
- ¹⁵ Banoczy J, Scheinin A, Pados R, Ember G, Kertesz P, Pienihakkinen K. Collaborative WHO xylitol field studies in Hungary. II. General background and control of dietary regimen. *Acta Odontol Scand* 1985;43:349-357.
- ¹⁶ Makinen KK, Bennett CA, Isokangas P, Isotupa K, Pape HJ Jr, Hujoel PP, Makinen PL. Caries-preventive effect of polyol-containing chewing gums. *J Dent Res* 1993;72(Special Iss):346.
- ¹⁷ Hrimech M, Mayrand D, Grenier D, Trahan L. Xylitol disturbs protein synthesis, including the expression of HSP-70 and HSP-60, in Streptococcus mutans. *Oral Microbiol Immunol* 2000;15:249-257.
- ¹⁸ Modesto A, Drake D. Multiple exposures to chlorhexidine and xylitol: Biofilm formation by Streptococcus Mutans. *J Dent Res* 2002;81(Spec Iss):445.

¹⁹ Isokangas P, Soderling E, Pienihakkinen K, Alanen P. Occurrence of dental decay in children after maternal consumption of xylitol chewing gum, a follow-up from 0 to 5 years of age. *J Dent Res* 2000 Nov;79(11):1885-9.

²⁰ Sahni PS, Gillespie, MJ, Botto RW Otsuka AS. In vitro testing of xylitol as an anticariogenic agent. *Gen Dent* July-Aug 2002;50(4):340-43.

²¹ Dentino AR, Derderian G, Wolf M, Cugini M, Johnson R, Van Swol RL, King D, Marks P, Warren P. Six-month comparison of powered versus manual toothbrushing for safety and efficacy in the absence of professional instruction in mechanical plaque control. *J Periodontol* 2002 Jul;73(7):770-8.

²² Honkala S, Honkala E, Rimpela A, Vikat A. Oral hygiene instructions and dietary sugar advice received by adolescents in 1989 and 1997. *Community Dent Oral Epidemiol* 2002 Apr;30(2):124-32.

Section 9: Appendix

RESOURCES

- Literature Searches

The National Library of Medicine and the National Institutes of Health maintain a database of peer reviewed health journals. A limited number of full text articles are available, but most have an abstract for review. A quick search may provide guidance on evidence based activities and expected results.

www.pubmed.gov

- Evidence Based Interventions

CDC Website provides guidance and recommendations for interventions that have demonstrated effectiveness in community settings.

<http://www.thecommunityguide.org/>

<http://www.nrepp.samhsa.gov/>

- Program Planning Sites

<http://www.cdc.gov/eval/resources.htm#manuals>

<http://www2a.cdc.gov/phtn/pract-eval/workbook.asp>

http://grants.nih.gov/grants/writing_application.htm

http://www.managementhelp.org/evaluatn/fnl_eval.htm

<http://ctb.ku.edu/en/>

<http://www.uwex.edu/ces/pdande/evaluation/evaldocs.html>

http://www.mchb.hrsa.gov/training/writing_grant_proposal.asp

- Program Evaluation Resources

<http://www.nsf.gov/pubs/2002/nsf02057/nsf02057.pdf>

<http://www.cdc.gov/mmwr/PDF/rr/rr4811.pdf>

Section 9: Appendix

REFERENCES

¹ McKenzie J, Pinger R, Kotecki J. *An Introduction to Community Health*. Sudbury, MA Jones and Bartlett 2005; pg 127

¹ Frazier PJ, Horowitz AM. Priorities in planning and evaluating community oral health programs. *Family & Community Health* 1980; 3; 103-113.

² Hanlon JJ, Pickett GF. *Public health administration and practice*. St. Louis, MO: Times Mirror/ Mosby College Publishing, 1984.

³ Indian Health Service. *Oral health program guide for the Indian Health Service*. Department of Health and Human Services, 1997.

⁴ Department of Health and Human Services. (2000). Healthy People 2010. Accessed 8/21/07:
http://www.healthypeople.gov/Document/html/uih/uih_bw/uih_4.htm#tobaccouse

⁵ US Department of Health and Human Services, Centers for Disease Control and Prevention. (1999). Framework for program evaluation in public health. MMWR. Accessed 8/22/07:
<http://www.cdc.gov/mmwr/PDF/rr/rr4811.pdf>

⁶ National Science Foundation. (2002). The 2002 user-friendly handbook for project evaluation. Accessed 8/22/07: <http://www.nsf.gov/pubs/2002/nsf02057/nsf02057.pdf>
