



# Pathways

## Introduction

*Pathways* is a school-based health promotion program that includes the following components: classroom curriculum, physical activity, nutrition (food service), and family involvement. The primary purpose of the *Pathways* curriculum is to prevent obesity among American Indian children by promoting increased physical activity and healthy eating behaviors.

## Program Components

### Curriculum

*Pathways* curriculum is a health promotion program for American Indian children in grades three, four, and five. The framework for the *Pathways* curriculum is based on the Social Learning Theory to encourage changes in children's environment at home and school. These patterns are introduced by promoting healthful eating and physical activity through opportunities to eat healthy foods and through peer support for selecting healthy foods and engaging in regular physical activity. Lessons at each grade level contain the following activities: (a) storytelling, (b) letter writing, (c) educational games, (d) snack preparations, (e) goal setting, and (f) demonstrations that support the promotion of health. The American Indian traditions that the curriculum supports include:

- The use of oral history to communicate knowledge.
- A holistic view of health and health practices.
- Involvement of younger generations in activities.
- The concept of community, where everyone contributes to the survival of the group.

- Respect for individual worth.

The overall organization of the *Pathways* curriculum is sequential from third grade to fifth grade. The lessons typically require 45-60 minutes to complete. Twenty-four lessons are taught at the third and fourth grade levels, and are typically taught for two six-week periods. The fifth grade level has sixteen lessons that are typically taught over an eight-week period. With some variation, the basic design for each lesson is: Lesson Overview, Student Objectives, Lesson Outline (activities, total minutes, student and teacher materials), Theme Music, Activities, Summary of the Week, Family Packs, and Reminders. Table 1 shows an example of the weekly lesson topics taught in the third grade and a description of the thematic approach within each grade level is shown in Table 2.

### Physical Activity

The goal of this component is to increase physical activity opportunities for children at school. The physical activity component includes the SPARK (Sport, Play, and Active Recreation for Kids) physical education curriculum, the Exercise Break Box, American Indian games, and ideas for increasing physical activity during recess.

- **SPARK Curriculum:** Taught a minimum of 30 minutes a session for 3 to 5 days each week. SPARK is an elementary physical education curriculum and staff development program that offers materials and services to schools, recreation departments, after school programs, community outreach programs, and health organizations on a non-profit basis.



*Pathways* promotes healthful eating and physical activity through opportunities to eat healthy foods and through peer support for selecting healthy foods and engaging in regular physical activity.

- **Exercise Break Box:** Exercise breaks are incorporated into daily class activities using the Exercise Break Box. This box contains a variety of physical activities that can be done during class and recess times. These include color-coded cards with description of activities with clear instructions for engaging in the activity. Teachers and/or students can use the cards in the break box. Exercise Break Box activities should be carried out at least once daily for three to five minutes at a time.
- **American Indian Games:** Contains games in a lesson plan format that were developed from traditional American Indian games and activities. The program includes a binder with easy-to-follow diagrams and instructions for each game. Information about the tribal origin, history of the games, and how it was traditionally played are included. American Indian games can be played during PE, class time, or during recess.



- **Recess:** A primary goal of the physical activity component is to increase free playtime for all children. The amount of time children spend at recess each week is increased, with recess being offered for a minimum of 15 minutes each day. To increase physical activity during recess, children have access to equipment and games, school staff supervising during recess are educated on encouraging students to actively play during recess, American Indian games and activities from the Exercise Break Box are incorporated into recess time, and children are provided with a supportive environment to enjoy active play.

### **Food Service**

The goal of this component is to work in partnership with school food service personnel to plan, prepare, and serve meals that are healthy to students and staff. The food service component includes nutrient and behavioral guidelines, support materials and activities, training sessions, and school kitchen visits. The *Pathways* Food Service Nutrient Guidelines promote 30% or less of calories from fat over 5 days; maintenance of adequate calories; and consistency with other USDA requirements for school meals. The *Pathways* Food Service Behavioral Guidelines are specific food purchasing, preparation, and serving activities that can be implemented by the food service personnel to lower the fat in school meals. Implementation of these guidelines provides healthy meals as well as an opportunity for nutrition education, role modeling of meal patterns, and support for students in developing healthful food habits. The *Pathways* Food Service Intervention is very 'hands-on' and visually oriented. Materials include posters, a video, visual aids, and demonstration activities. School administrators and/or program facilitators frequently visit school food service personnel. These visits serve to model and reinforce the implementation of the Behavioral Guidelines.

### **Family Involvement**

The purpose of the family component is to (a) introduce and familiarize families with the objectives and health behaviors central to the *Pathways* intervention; (b) assist families in creating an environment which reinforces and supports healthy behaviors; and (c) provide an interactive forum through which families and *Pathways* staff can discuss the intervention and the practical implementation of suggested behavior changes. The family component consists of Family Fun Nights, Family Events/Workshops, Year End Celebration Event, and Family Packs/Challenge Sheets.

- **Family Fun Night:** The purpose of a *Pathways* "kick-off" Family Fun Night is to introduce *Pathways* to students and their families and provide an opportunity for them to share an evening of fun and learning. In addition, the Family Fun Night serves as a mechanism to engage the support of parents/families in their children's health. This is an opportunity to help parents/families get started in improving their own eating and exercise behaviors. The "kick-off" Family Fun Night occurs at the beginning of the school year, prior to implementation of the curriculum. The "kick-off" Family Fun Night is the first family program to be implemented with the children and their families.
- **Family Events/Workshops:** For each intervention grade, a series of evening family events/workshops are arranged. The events are to be implemented in the community by a joint team of staff, community volunteers, teachers and food service workers. The intent of these events/workshops is to work with families to reinforce the health behaviors introduced through the classroom curriculum, physical activity, and food service components of the intervention, and to assist families in implementing these behaviors at home. The purpose of the *Pathways* family events/workshops is to offer *Pathways* as a resource for helping families make changes in

**Table 1**



Third Grade Weekly Lesson Topics	
WEEK 1	Preparing for Our Journey
WEEK 2	Beginning Our Journey
WEEK 3	Setting the Pace
WEEK 4	Food for Our Journey
WEEK 5	Fruits for Our Journey
WEEK 6	Learning from Our Journey
WEEK 7	Continuing Our Journey
WEEK 8	Knowing Our Journey
WEEK 9	Choosing Everyday Beverages
WEEK 10	Keeping Up Our Pace
WEEK 11	Grains From Our Harvest
WEEK 12	Remembering Our Pathway Journey

**Table 2.**

### **Description of Thematic Approach**

**3rd–4th GRADES:** Two American Indian characters who are elementary school children living in an Indian community model the process of changing behaviors to be more positive. They begin a journey with their grandparents, who impart their personal life experiences to stimulate changed behaviors. Through storytelling and appropriate cultural concepts, this journey becomes an educational adventure as well as an illustration of cultural pride and knowledge.

**5th GRADE:** Young American Indian runners from the seven nations carry the messages of healthy eating and exercising. Knowledge about fats and sugars encourages the planning of specific meals and snacks while applying the knowledge of Everyday Foods and Sometimes Foods. In physical activity, Trailblazers lead teams to complete a series of trails called the Mt. Pathways Challenge.

diet and physical activity patterns. In addition, the family events/workshops serve as community events providing direct opportunity for *Pathways* to work in partnership with families.

- **Year-End Celebration Event:** This ending celebration is the culminating event of the *Pathways* interven-





tion. The culminating event, scheduled for the end of the academic year, allows students to demonstrate the knowledge and expertise gained through *Pathways* and encourages families to maintain healthy behaviors during the summer.

- **Family Packs/Challenge Sheets:** The Family Packs consist of take-home materials designed to cultivate an involved, supportive, and informed home environment. Family Packs accompany classroom curriculum units and consist of two types: Snack Packs and Action Packs. Snack Packs are small packages of low-fat foods and tips given to the students to share with members of their household. Action Packs are envelopes containing worksheets and suggested activities for students and their families to complete together. Each Family Pack also contains a copy of the story from the accompanying curriculum unit for the family to read together. After the completion of each Family Pack activity, the student and an adult household member each signs a Return Card, checking the activities they have accomplished.

## Program Materials

All program materials can be viewed, downloaded, and/or printed for free at the following website: [http://hsc.unm.edu/som/prcl\\_Pathways/introduc/introd.htm](http://hsc.unm.edu/som/prcl_Pathways/introduc/introd.htm).

- **Teacher's Guide:** A guide for teachers or implementers of the program is included for all three grade levels (3rd, 4th, and 5th

grade curriculum). These guides contain all lessons, student materials, posters, family packs, etc., which are necessary to implement the curriculum.

- **Curriculum Procedures Manual:** A Procedures Manual for all three grade levels (3rd, 4th, and 5th grades) is used for training teachers using a 'Train the Trainers model.' The process to set an agenda for training and the scripting of lessons are contained within this manual. In addition, there is a detailed listing of the materials needed in putting together a Teacher Box (e.g., materials for games and activities) for teaching the curriculum in the various grade levels.
- **Student Notebook:** This is a downloadable booklet for each grade level (3rd, 4th, and 5th grades) that is given to students. This booklet contains goal pages, recipes, self-reflection questionnaires, and other activities.
- **Glossary and Pronunciation Guide:** Because many of the American Indian words included in the program may be difficult to pronounce, a pronunciation guide can be downloaded from the internet and printed.
- **Pathways Measurement Forms:** The following are downloadable forms used to take data and measure progress within the *Pathways* program: Classroom Teacher Interview (weeks 1-6), Classroom Teacher Interview (weeks 7-12), Family register roster, Family Fun Night Evaluation Form for Adult Participants (16 and older), Family Fun Night Evaluation Form for Child Participants (under 16), Kitchen Visit Contact Form/ Behavioral Guidelines Evaluation, Food Service Manager Interview, Knowledge, Attitude, and Behaviors Questionnaire, and Physical Activity Questionnaire.

## Program Materials

The *Pathways* program was implemented with 1,704 third through fifth grade children from 41 schools

in seven American Indian Nations, using a randomized, controlled, school-based trial. The tribal groups participating in this study included the Navajo Nation, the Gila River Indian Community, the Tohono O'odham Nation, the White Mountain Apache Tribe, the San Carlos Apache Tribe, the Oglala Lakota Nation, and the Sican-gu Lakota Nation. The tribes worked in partnership with five universities to develop and implement *Pathways*. The universities included the University of New Mexico, the University of Arizona, Johns Hopkins University, the University of Minnesota, and the University of North Carolina.

The main outcome in the research study was percentage of body fat; other outcomes included dietary intake, physical activity, and knowledge, attitudes, and behaviors. The results of study showed no significant reduction in percentage of body fat. However, a significant reduction in the percentage of energy from fat was observed in the intervention schools. Total energy intake (by 24 hour dietary recall) was significantly reduced in the intervention schools but energy intake (by direct observation) was not. Motion sensor data showed similar activity levels in both the intervention and control schools. Several components of knowledge, attitudes, and behaviors were also positively and significantly changed by the intervention. These results document the feasibility of implementing the *Pathways* program for obesity prevention in elementary schools serving American Indian communities. The program produced significant positive changes in fat intake and in food and health related knowledge and behaviors.

The Office of Children with Special Health Care Needs within the Bureau of Women's and Children's Health (BWCH) at the Arizona Department of Health Services (ADHS) recently completed a comprehensive review of published, peer-reviewed research on health promotion curricula that combined nutrition and physical activity





components. Forty-two articles were appraised based on study quality, intervention effects, and the relevance of the curriculum for children with special health care needs and their families. Programs were considered relevant if they were inclusive and appropriate for a variety of children with special health care needs, had the potential to prevent secondary conditions, involved family members, and were suitable for implementation in a variety of home and community settings. *Pathways* received one of the top scores indicating it has adequate research support and can be implemented in a flexible manner so that it is relevant to children with special health care needs and their families, especially those from American Indian communities.

## Appropriate Modifications

*Pathways* was designed for American Indian children and evaluated in third, fourth, and fifth grade classrooms; however, with some minor modifications it can be used with other children who are not American Indian and in other settings outside of schools.

- **Other Children:** The main purpose of the curriculum is to increase physical activity and healthy eating behaviors. This is an appropriate goal for all children, whether American Indian or not. The American Indian traditions that the curriculum supports (i.e., oral history to communicate knowledge, involvement of younger generations in activities, concept of community, and respect for individual worth) can be used to help children expand their understanding of other cultures. Additionally, implementers and children can integrate their own traditions and cultures into the curriculum (e.g., games, storytelling, etc.).
- **Other settings:** Although *Pathways* was designed for a school setting; it can be implemented in other settings, including clinical settings, community settings, or hospitals. The following modifications need to

be made: a) Recess activities need to be turned into 15 minute activity times. The break box activities and American Indian games can still be used during this 15-minute physical activity time. b) The food service component needs to target parents, hospital food service providers, or community food service providers rather than school food service personnel. This component focuses on training for food service providers on planning, preparing, and serving healthy meals.

The following components need to be implemented with complete fidelity, because they are the components that make the program effective: a) adherence to lessons outlined in the Teacher's Guide b) training using the Curriculum Procedures Manual, and c) family components.

- a. Teacher's Guide:** A guide for implementers of the program is included for all three grade levels. These guides contain all lessons, student materials, posters, family packs, etc., which are necessary to implement the curriculum. Adhering to the teacher's guide with fidelity is important for effective outcomes.
- b. Training for Implementers:** The Curriculum Procedures Manual should be used to train all individuals implementing the *Pathways* program. The program must have trained individuals delivering the curriculum in order for the program to be successful.
- c. Family Components:** A major component that sets this curriculum apart from others is the family involvement. Teaching entire families about increasing physical activity and healthy eating habits is extremely important. All the family components (i.e., family fun night, family workshops, year end celebration, and family packs) need to be included in the program.

## Considerations for CYSHCN

When considering a modification for CYSHCN, it is important to understand the essence or primary objective of

the lesson or activity. Adhering too strictly to a specific activity (e.g., jumping rope) may exclude a child or

**The Pathways curriculum has a strong, holistic health approach that respects individual worth and community.**

youth from accomplishing the goal of the activity (e.g., exercise). In *Pathways*, stories are used as a context for teaching, but they are not the lesson. Stories that are applicable to a specific child or youth can be used to enhance the relevance and appropriateness of the targeted content. With all CYSHCN, the focus should be on ensuring the overall aim of the program is achieved (e.g., prevention of secondary conditions) and not on forcing the rigid completion of specific activities.

The *Pathways* curriculum already has a strong, holistic health approach that respects individual worth and community. This can be easily applied to CYSHCN so that full inclusion in health promotion lessons and activities can be achieved. The values reflected in *Pathways* promote CYSHCN and their families as key contributors. Because they have the most direct and relevant information about the child or youth's abilities, interests, and preferences, CYSHCN and their families are the most qualified to guide the modification process.



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