

# **IHS Best Practice Model**

## **Diabetes Self-Management Education**

### **Why is this important?**

Diabetes self-management education is a key element of diabetes prevention and treatment. People with diabetes and their families need to learn and practice new lifestyle skills, including monitoring their blood sugar, making food choices, and being more active. These skills are important not only in managing diabetes, but also in preventing or delaying diabetes complications. The importance of education in diabetes self-management is widely recognized. Medicare, the major health insurer for older Americans, now covers diabetes education. People with diabetes must be active participants in the educational process, setting learning and behavioral goals that meet their individual physical, emotional, and lifestyle needs. Incorporating cultural methods of sharing ideas and skills may be the single, best way of helping people with diabetes and their families learn about diabetes self-management practices.

### **What measures are used?**

The Indian Health Diabetes Care and Outcomes Audit measures documentation of nutrition, exercise, and general diabetes education. Audit trends show that more than 50 percent of people with diabetes receive diabetes education each year. The Healthy People 2010 objective is that 60 percent of people with diabetes receive formal diabetes education.

### **What are Standards and Best Practice models for diabetes education programs?**

Recognized standards for diabetes education programs in Indian Health Service communities are: the Indian Health Integrated Diabetes Education and Care Standards and the National Standards for Diabetes Self-Management Education (in *Diabetes Care*, January 2001).

Key scientific evidence related to this topic are:

- Transtheoretical Model (TTM); Readiness for Change; Precontemplation, Contemplation, Preparation, Action, and Maintenance;
- Empowerment Model: four-step model patient empowerment models based on counseling psychology--helping patients explore issues related to diabetes care, personalizing the problem, helping patients focus on emotions and the meaning of concerns, clarifying health-related values and establishing goals, and helping patients develop and commit to a specific plan to achieve goals;
- Self-efficacy (refers to a person's confidence in carrying out self-care tasks);
- Health belief model (compliance model);
- Self-determination (or autonomy motivation)--the psychological process that drives patient behavior change (the term "autonomy support" refers to actions by health care professionals that enhance patient autonomy motivation);
- Social action model ("It takes a village");

- Models that are appropriate for family/community oriented groups (*Diabetes Educator* article regarding Hispanics and diabetes intervention models).

### **Best practice in self-care science includes the following concepts:**

- Team approach,
- Self-monitoring of blood glucose (SMBG),
- Control of blood sugar reduces complications (Diabetes Control and Complications Trial and the United Kingdom Prospective Diabetes Study),
- Hypertension control reduces the risk of cardiovascular disease and complications, and
- Diabetes education is critical.

### **Community intervention Best Practice models include:**

- “Strong in Body and Spirit” (University of New Mexico with American Diabetes Association);
- “Partners in Care,” UNM evaluating intervention, available by fall;
- “IHS Diabetes Curriculum” ;
- “ADA Living Well With Diabetes, modified culturally specific” (Albuquerque IHS Diabetes Program);
- “Beginning Steps Toward Diabetes Self Care,” IHS Oklahoma Diabetes Program;
- “Take Charge” (Centers for Disease Control and Prevention--contact Dawn Satterfield);
- “Staged Diabetes Management” (International Diabetes Center);
- “Awakening the Spirit” (American Diabetes Association);
- “Wizdom” (ADA for Children).

### **What lessons have we learned about effective diabetes education programs?**

- “Lessons learned from this pilot study should enable better diabetes prevention effects in the Pimas. Future lifestyle intervention studies need to take further account of local cultural and values and more effectively address potential constraints to participation such as patient preference and socioeconomic factors” (*Randomized Clinical Trial of Lifestyle Interventions in Pima Indians: a Pilot Study, 1998*);
- The diabetes team must include persons other than health professionals such as community members (i.e., CHR’s, medicine men, mental health workers, etc.);
- Time paradigm;
- Diabetes educational materials must be culturally specific, tribal specific, and modifiable (*Roubideaux article; Gilliland DM, Spectrum 11:166-174, 1998; Glasgow DM, Diabetes Care 22:832-843, 1999*)—for example, misunderstanding of food guide pyramid as the top being the best;
- Self-care programs need to include a comprehensive approach (i.e., psychosocial, family, clinical, community, and cultural);
- Tribal leader involvement is critical;
- Child care and transportation issues are important;

- Barriers related to access, for example, hours of operation, are important;
- Denial, anger, fear, shame are still issues in the community;
- Tribal diabetes (health) liaison on the Tribal Council is important for ongoing support/discussions.

### **What are the perceived main challenges and roadblocks to implementation of diabetes education programs?**

- Lack of trained professionals and staff;
- Lack of consistent messages among health professionals;
- Lack of effective pilot-testing and validation of theoretical models in Native American communities;
- Community perception of diabetes (denial, anger, fear, shame are still issues in the community.);
- Lack of effective tribal leader involvement and acknowledgement of diabetes as an important issue;
- Lack of knowledge about how to effectively engage tribal leadership in ongoing dialog about diabetes for community well being;
- Lack of personal responsibility (engagement) for diabetes self-care.

### **What level of education in diabetes self-management should you provide?**

Education in diabetes self-management is provided at three levels—basic, intermediate, and comprehensive. An evaluation component should be present for each level. The goals, objectives, and program components for each level are listed below.

#### **Basic Level:**

**Goal:** Increase community awareness of the burden of diabetes.

#### **Objectives:**

- Early Identification for persons at risk for diabetes.
- Enhance open communication about diabetes as a public health issue-- important for families and communities and one with many prevention and treatment options.

#### **Program Components:**

- Indian Health Service Diabetes Standards of Care;
- IHS Educational Curriculum”;
- Integrated Diabetes Education and Care Standards for American Indian and Alaska Native Communities” (including appointment of a diabetes coordinator, diabetes registry, defined community, and identification of the diabetes health care team);
- Standardized screening guidelines (American Diabetes Association screening guidelines, Jan. 2001);
- Early referral system for diabetes education and self-management;
- Access to home glucose monitoring;

- Basic diabetes training for support and clinical staff, including educating patients about their own lab work (HbA1c) and annual lipids;
- Active community awareness;
- Address language barriers;
- Evaluation component;
- Collaboration with outside agencies and inter community agencies.

**Intermediate level:**

**Goal:** Empower persons with diabetes to participate in diabetes self management.

**Objectives:**

- Provide comprehensive diabetes care and education services;
- Enhance open communication about diabetes as a public health issue--important for families and communities and one with many prevention and treatment options.

**Program Components:**

- Indian Health Integrated Diabetes Education and Care Standards for American Indian and Alaska Native Communities;
- IHS Educational Curriculum;
- Indian Health Diabetes Care and Outcomes Audit;
- Diabetes basic and diabetes surveillance;
- Multidisciplinary team;
- Evaluation component.

**Comprehensive level:**

**Goal:** Improve the Quality of Life for people with diabetes and their families and communities.

**Objectives:**

- Prevent or postpone complications (morbidity) and mortality for people living with diabetes;
- Enhance open communication about diabetes as a public health issue--important for families and communities and one with many prevention and treatment options;
- Attain some type of diabetes education program accreditation--either ADA or IHS.

**Program Components:**

- All of the above, plus
- Clinic case management connected to public health management (example., PHN) connected to tribal health (CHR and other tribal programs) and tribal leadership;
- A plan for accreditation/recognition.

## **Who should be the target populations for self-management education?**

It is important to have a base level of diabetes education within the community at large for people at risk, people with diabetes and their families, and tribal programs and leaders in primary, secondary, and tertiary prevention. (Example: Partners in Care). Each of these levels can be targeted separately on a small or large scale, or you can establish an overall program that brings in all segments in a comprehensive community program. Major target populations include:

- Individuals with diabetes (self-care education, secondary or tertiary);
- Family (primary prevention or support to family member for self-care);
- People at risk (primary prevention);
- Health care providers (same messages);
- Tribal health workers (CHR's) (education and support self-care for individual with diabetes as secondary or tertiary prevention AND/OR support primary prevention);
- Other community tribal programs (i.e., Head Start, WIC, Tribal Schools, Food Distribution, Title V);
- Tribal leaders.

## **What are methods of assessment and what elements should be included in assessing your program?**

### **Assess your current program:**

- Is there a registry (manual, electronic)?
- Are chart audits being done?
- Is there a clinic diabetes team?
- Is there a community diabetes team?
- What tribal programs exist?

### **Use community surveys:**

- Social Capital Assessment (Nina Wallerstein, Ph.D., UNM and Jemez Pueblo and other NM communities);
- Ask local IRB or university for assistance (Dine College or other tribal college student and technical resources);
- Assess need for coordination rather than competition among clinical and community programs;
- How available are resources (access to space, personnel, materials; tribal leadership support and support of other tribal programs; clinic staff support);
- What technical assistance is available locally and regionally and nationally?

**Use your diabetes registry** to identify people who don't access services and to identify use of secondary/tertiary services (i.e., eye appointments, foot checks).

**Use chart audits to assess areas of need (gaps).**

**Basic data elements for evaluation:**

- Registry (manual or automated) showing number of newly diagnosed patients and how many currently accessing care and the number of people with diabetes and how many currently accessing care;
- Standards of Care Chart Audit to: show the percentage who receive diabetes education (any diabetes education), track elements targeted (e.g., eye intervention, did eye checks increase?), show the percentage of patients doing self-monitoring, show average HbA1c and blood pressure control and average BMI;
- Community Screening, including numbers of community events (screening), how many people participated, number referred for services/evaluation, and other information shared at the screenings;
- The following self-care measures:

Monitoring:

- number who get monitors
- number who are monitoring once/week
- number who monitor >2X/week

Physical Activity:

- number with diabetes who access Wellness Center (attendance logs)
- number who engage in physical activity 3X/week

Nutrition:

- number of nutrition/cooking classes offered
- attendance at nutrition/cooking classes
- reports of changed behavior (using information/recipes from classes)

Overall Wellness Activities:

- participation in community diabetes wellness activities (attendance logs)

Medication:

- pharmacy refills
- “Do you know the name of your medicine?”

Clinic visits:

- tracking lost to follow-up
- percent who bring log to clinic

Knowledge questions:

- “Do you know your BP (HbA1c, cholesterol) number?”
- “Do you know the name of your medicine?”
- “Do you check your feet every day?”

Attitudes:

- confidence in ability to do self care behaviors
- being able to talk to family members about diabetes

Quality of life:

- questions related to Quality of Life

Dental care:

- Percentage who get regular dental care

## **What issues should you consider in preparing your proposal?**

### **Administrative issues:**

- Does your program plan identify a clear target population?
- Does your program plan outline an intervention that includes goals, objectives, activities, and a timeline?
- Does your evaluation plan include measurable goals and objectives and process and outcome measures?
- Do you include CVs for your proposed personnel, identify your program coordinator or director, and outline a recruitment plan for new employees?
- Have you included an organizational chart showing connections between your program and the clinic or tribes, and does the chart explain how these elements will work together?
- Does your proposed budget include self-monitoring supplies and equipment, educational materials, food for food demonstrations, and food models?
- Do you show adequate resources for your program, including space for activities, tribal resolution or support, or a community advisory group (list potential members)?

### **Programmatic issues:**

- Is there coordination among existing programs? Do you show evidence of partnership among clinic, tribal leadership, and tribal programs and evidence of unique collaborations (e.g., tribal colleges, universities, national organizations, nonprofit organizations, extension agencies, public schools, etc.)?
- Do you outline a staff development plan (professional and paraprofessional) that could be included in your recruitment plan?
- Do you have a plan for how your staff will collect evaluation and tracking information (data management)? Are personnel allocated for this activity?

### **Content issues:**

- Does your program content include training in diabetes self-care (professional and paraprofessional)?
- Does your proposal show evidence of education curriculum/program?
- Do you include treatment models?
- Do you express willingness for technical assistance in program development, implementation, and evaluation?
- Does your proposal show how you will access local, regional, and national professionals and resources?
- Does your proposal show evidence of those linkages?
- Do you include a multidisciplinary, balanced team of professional and paraprofessionals as part of the staffing program?

# **IHS Best Practice Model**

## **Nutrition and Physical Fitness Programs for People with Diabetes**

### **Why is this important?**

Nutrition and physical fitness play major roles in helping people with diabetes and their families stay healthy. Investment of time and resources in programs fostering healthy eating and physical fitness promise long-term benefits not only for diabetes, but also in reducing risks for heart disease and promoting overall health. Blending traditional and local nutrition and fitness practices helps to effect needed lifestyle changes for families and communities.

### **Would your community benefit from a nutrition and fitness program?**

What are the rates of diabetes in your community? Are they going up? What is the prevalence of obesity and is the prevalence increasing? What does your community offer in the way of fitness activities and nutrition counseling? If you see opportunities for improvement, you should consider sponsoring a program focusing on nutrition and fitness.

### **What is the scientific evidence for the benefits of nutrition and fitness programs and what lessons have we learned about these programs?**

- Nutrition and fitness should be offered together (can't do one without the other).
  - Research shows that weight loss and diabetes control are achieved most effectively with both components.
  - *Pate, et al JAMA 1995*
- Programs need to be culturally relevant.
  - *Venkat Narayan, et al, Diabetic Medicine 1998*
- Community input is essential.
  - *Pargee, J Health Educ March 1999*
- Programs should serve all people--don't segregate clients with diabetes from those without diabetes (e.g. fitness for the family); the general focus should be on "health" rather than weight loss.
  - *Venkat Narayan et al Diabetic Med, 1998*
- Programs should target entire families for lifestyle change, not just the overweight child within a family.
- There is a strong behavioral component to lifestyle change.
  - *Foreyt, Clin Diab, Jan/Feb 1995*
  - *Gregg, et al Diab Care, 19, 1996*
  - *Dunn et al JAMA 281, 1999*
  - *Pratt, JAMA 281 1999*
- Use people indigenous to communities as your leaders and as teachers.
  - *Pargee, as above*

- To be more successful in the community, collaborate with other agencies (such as WIC, universities, etc.).
- It is possible to maintain weight loss long-term.
  - *Klem, Wing, et al, AJCN, 1997*
- Even a 10 percent decrease in weight can improve diabetes control.
- Knowing how to cook and sitting down together as a family and enjoying the social aspects of eating both contribute to improved eating behaviors.
- Programs should focus on prevention activities; be proactive.
  - *Story, et al AJCN 69, 1999*
  - Walking to prevent Type 2: *Hu et al JAMA 282 1999*
- Adequate staffing is needed to implement programs; daily, ongoing programs versus once-a-month or once-a-quarter activities are more successful in improving nutrition and fitness.
  - Having a dietitian and fitness consultant on site on a daily basis (or trained community members) versus professional consulting on an occasional basis is recommended.
  - Staff should provide ongoing support, not just occasional visits; use incentives to help motivate people.
- Both group and individual interventions have their strengths; a variety of settings should be offered for physical activity; activities of both higher and lower intensity are effective (*King, et al, JAMA 266 1991*).
- Programs should be innovative and teaching methods should be adapted to the audience; for example, there is no one meal planning method--the diabetic exchange system is one method, but not commonly used in this population.
- Fitness: need both aerobic and strength training programs for overall wellness.
- People tend to believe many myths and misconceptions about nutrition and fitness; this is a barrier that needs to be overcome before learning and knowledge can take place.
- Professional cross-training is very effective; for example, fitness professional teaching nutrition, dietitian teaching use of blood glucose meters (principle of “team management” of diabetes).
- Allow time for your program to be successful; change needs time--it may take 1 to 2 years for clients to change health behaviors, don't give up them!

## **What are Best Practice models for nutrition and fitness programs?**

The following Best Practice models are listed in the following order: nutrition (only), fitness (only), and nutrition and fitness combined.

### **Nutrition:**

- Cooking classes
  - Learning Kitchens--5-class module from IHS “Cooking for Good Health” (Nonie Woolf, IHS National Diabetes Program, 1995)
  - Classes at Indian Health Council, Pauma Valley, CA

- Tribal community gardens
  - Head Start model (contact: Indian Health Council, Pauma Valley, CA)
  - Crow Reservation Garden (Charlene Johnson)
  - Article from Diabetes Educator journal on gardening in a Northwest tribe
  - Leech Lake tribal garden
  - Montana gardens
- Community-based coalitions
  - Diabetes advisory groups
  - Nutrition coalitions—nutrition professionals from various agencies collaborating to work on programs based on needs in communities
    - Montana Nutrition Coalition
    - Blackfeet Community Nutrition Council
    - Nutrition Council of California Indian Clinics
  - CDC program: “Diabetes Today”—extensive curriculum on developing coalitions in communities to fight diabetes (not just nutrition)
- Strong Women Stay Slim (Nonie Woolf)
- Summer feeding program – Kidz Café (Deb) – Level: comprehensive
- Prenatal GDM Keychain (Nonie) – Level: basic
- Grocery store tours
- Claremore Diabetes Program (Melanie Sipe)
- Power of Stories:
  - Snow White and the 7 Fruits and Vegetables – plays presented to elementary and middle schools, also Head Start, on nutrition/health topics (contact: Monica McCorkle, Indian Health Council, Calif.)
  - Teddy Bear clinic (Brenda Broussard has reference)
- Healthy Choice Pow–Wow stand (contact: Deb)
- Nutrition/health presentations with discussion afterward (support group atmosphere), delivered at weekly diabetes clinics with healthy breakfast served (contact: Monica Giotta, IHC)
- Awakening the Spirit NA Outreach Program ADA program – Lorraine is the contact
- Food access issues, e.g. availability of fresh produce
- USDA commodity food programs
  - Food/recipe demonstrations at site of food distribution
    - Examples: FDPIR program, Nutrition aide at Indian Health Council (contact: Monica McCorkle)
- Staged Diabetes Management

**Fitness:**

- Native Wellness Leaders program (contact: Monica McCorkle) training community members to lead classes
- Body composition analyses – any method – shows change even if weight not lost
- Fitness testing
- Walking clubs/Fun runs
- Fitness trails around indigenous plant gardens
- Fitness classes— aerobics, exercise—including classes for seniors

- Employee health
- Wellness centers as adjunct to clinic/hospital
- Weight training
- Traditional games and relays
- Bicycle rodeos/rodeo activities without the horse
- Prenatal/postnatal exercise programs
- Youth sports – intramural teams, “Rez ball”
- Open gym nights at community gyms, school gyms, church gyms
- Water exercise (community pool)
- Blackfeet 10000 program (pedometer steps) – good idea but unsure about present implementation

**Nutrition and Fitness (combined):**

- Pathways NIH NHLBI obesity prevention study, Grades 3-5 in 7 Indian nations – results in April 2001 - Level is comprehensive
- Head Start Obesity and Diabetes Prevention Initiative called “Healthy Children, Healthy Families and Healthy Communities” in 5 pilot communities (Winnebago - (Deb Parker) is one of the pilot communities)
- Strong Women Stay Slim (Level: comprehensive)
- Diabetes camps – Cherokee Nation Youth Fitness Camp
- Healthy Eating Learning Program (Zuni) and modifications by other tribal programs
- After school program for kids (contact: Deb)
- School-based walking program for kids that incorporated nutrition (Gwen Hosey)
- Health fairs
- Kids ‘n Health diabetes prevention program–First Nations community in Saskatchewan Canada; telephone (204) 957-5057
- Strong in Body and Spirit – NA Diabetes Project - (www.laplaza.org)

**What level of program should you propose?**

The following chart presents examples of best practices, goals, and target audiences for three levels of nutrition and fitness programs: basic, intermediate, and comprehensive.

Nutrition

<b>Best Practice</b>	<b>Basic Level</b>	<b>Intermediate</b>	<b>Comprehensive</b>
1. commodities Goal: improve nutritious use of commodity foods  Target: people who prepare food in family	Recipes provided at distribution site Objective: Client will get new ideas of ways to cook commodity foods.		Cooking demo at distribution site Objective: clients will have opportunity to try new recipes; this will be a stronger inducement to try them at home.

<p>2. stories Goal: increase diabetes awareness</p> <p>Target: school age children</p>	<p>Develop skit for kids at Head Start – use one already completed by another site.</p> <p>Objective: Kids will be able to verbalize what diabetes is.</p>		<p>Take the skit to all area schools; use kids as actors; invite parents to attend.</p> <p>Objective: To increase diabetes awareness in 75% of children aged X to X in X school.</p>
<p>3. Food access Goal: improve access to fresh &amp; nutritious foods</p> <p>Target: person who procures food for family</p>	<p>Have fresh produce available at diabetes clinic – from local farm, grocery</p> <p>Objective: client will use fresh produce in a meal at home.</p>	<p>Add recipes to use produce</p> <p>Objective: client will introduce new foods to family.</p>	<p>Do recipe/cooking demo using the fresh produce; taste testing; get produce from tribal community gardens.</p> <p>Objective: same as intermediate level</p>
<p>4. Strong Women Stay Slim Goal: to help women with diabetes begin a light handweight lifting program and continue past the first 10 wks of the program</p> <p>Target: women between. 18 and 60 years of age</p>	<p>--</p>	<p>--</p>	<p>Objectives:</p> <ol style="list-style-type: none"> <li>1. Program will be staffed by at least a nurse and an RD</li> <li>2. SWSS group will meet 1 hour weekly to exercise together, provide group support and receive nutrition sample &amp; recipe.</li> <li>3. Assessmt of wt, ht, % body fat, #lean, #fat, waist hip ratio, %IBW, BMI, lipid panel &amp; HbA1c (in diabetes) will be completed at recruitment, 10 wk class and ____, 6 mo reunion and 1 yr reunion</li> <li>4. Participants will increase wt lifted by 1# each wk or 2 wks</li> </ol>
<p>5. Cooking for Good Health classes Goal: 1 to provide a hands on opportunity to experience great tasting foods that are high in fiber and lower in fat, calories and sodium 2. to establish a non-threatening atmosphere in which participants can taste alternative versions of familiar recipes with encouragement to try them at home.</p> <p>Target: family cooks and family members (as young as 5<sup>th</sup> grade); training for staff (Head</p>	<p>Objectives:</p> <ol style="list-style-type: none"> <li>1) Fix the food ahead and offer a sample to taste and pass out a recipe.</li> </ol>		<p>Objective:</p> <ol style="list-style-type: none"> <li>1) Hold a 2-1/2 hr class in which everyone in class has a chance to work and taste all recipes.</li> <li>2) Provide nutrition education to emphasize why these recipes are healthy.</li> </ol>

Start cooks for ex.)			
<p><b>6. Grocery store tours</b>          Goal: To teach lowfat, high fiber, nutrient dense food choices at the point of purchase           Target: adults; program staff; school age</p>	<p><b>Objective:</b>          1) Purchase supermarket savvy slide series and present it to a client or group</p>	<p><b>Objective:</b>          1) With an RD as leader, tour a local grocery store with participants handling foods &amp; calculating % calories from fat</p>	<p><b>Objective:</b></p> <ol style="list-style-type: none"> <li>1) Families grow gardens, attend classes and sell excess in farmers markets</li> <li>2) Emphasis in mode of energy expenditure</li> <li>3) Education on garden &amp; its products at local schools</li> </ol>
<p><b>7. Community coalitions</b>          Goal: Community members with like minds will form a coalition based on a perceived need (nutrition, fitness, wellness, diabetes) which will provide a method of information &amp; community events sharing and will provide a body fo volunteers to support programs &amp; provide education           Target: adult community members; could be a high school committee also</p>	<p><b>Objective:</b>          Coalition formed to meet and network</p>	<p><b>Objective:</b>          Coalition formed as advocacy group to increase awareness &amp; host educational activities</p>	<p><b>Objective:</b>          Members form a community mobilization group. To develop &amp; complete interventions that are ongoing</p>
<p><b>8. Gestational Diabetes Nutrition Tool/Keychain</b>          Goal: Women w/DM in pregnancy can utilize this culturally relevant tool to follow a diet plan which results in good blood sugar control           Target: patients with diabetes during pregnancy</p>	<p><b>Objective:</b>          1) Nutrition aides can be trained to use tool with Food Guide Pyramid (each bead represents a food group with at least 4 groups/meal and 3 for snack</p>	<p><b>Objective:</b>          Developed w/ the patient following a diet pattern devised by RD and adjusted for the individual patient based on the quality of blood sugar control</p>	

## FITNESS

<b>BEST PRACTICE</b>	<b>BASIC LEVEL</b>	<b>INTERMEDIATE</b>	<b>COMPREHENSIVE</b>
<p>Body composition Goal: Perform body composition analysis on participants to obtain realistic wt goals</p> <p>Target: 5 yrs old and up; comprehensive program is for adults only</p>	<p>Objective: Complete training to perform girth meas. &amp; skinfold calipers method</p>	<p>Objective: Use more "expensive" method (electrical impedance) and computer printout capability w/ girth meas.</p>	<p>Objective: Body comp analysis with expanded exercise &amp; dietary consultations and fitness testing</p>
<p>Fitness testing Goal: Perform fitness testing on participants to use as pre &amp; post evaluation for programs and individual progress</p> <p>Target: 5 years on up</p>	<p>Use tests that require minimal equipment: flexibility, cardiovascular (walk test), muscle. Strength (pushups), muscle. Endurance (curl ups)</p>	<p>Use tests that utilize equipment or additional tests so modifications can be made.</p>	<p>Use certified fitness specialist so all fitness components can be tested w/ accurate results with specific modifications and follow-up consultations</p>
<p>Walking clubs Goal: Encourage community to participate in walking as their physical activity</p> <p>Target: families</p>	<p>Develop short term (6-8 wk) walking program that will impact all ages either as individuals or a team option</p>	<p>Expand programming into a year-round exercise option with special events to require consistent "training" i.e. fun runs, mileage clubs</p>	<p>Series of events that require consistent training, seminars, involve other communities, all age events: school, family, etc.</p>
<p>Employee Health Goal: Develop wellness programs tailored around employee groups</p>	<p>Develop health promotion one time event or 6-8 wk. Program that would require employees to form a team. Basic health screening.</p>	<p>Investigate employee benefit option for wellness: time during workday, alternative schedule, incentives. Arrange programs around work schedules. Expand programming.</p>	<p>Add evaluation component – fitness testing, attitude survey, workplace satisfaction. Programming expands to special events and on-going individual programming.</p>

### General comments/ideas:

- Consider use of technology; e.g., videoconferencing, telemedicine to improve access to health education and intervention, particularly in remote populations.  
*Ref: J Dietetic Assoc Feb 2001 ("Interactive videoconferencing improves nutrition intervention in a rural population")*
- See IHS Nutrition program, *Nutrition Strategic Planning for FY 2001* report
- Other references:  
Diabetes in American Indian Communities conference agenda, October 1999  
Conquering Diabetes: A Strategic Plan for the 21<sup>st</sup> Century. A report of the congressionally-established Diabetes Research Working Group

## **What kinds of assessments should you carry out in setting up a program?**

### **Assessment of clinical/community settings:**

- Determine what other agencies (e.g., WIC, tribal programs, schools, local coalitions) are doing in the areas of nutrition and fitness in order to avoid duplication of services and to fill whatever niche required.
- Community needs assessments to determine what your community wants. Also check previous surveys.
  - In nutrition look for: where people buy food, where people eat (restaurants, etc.), # of restaurants, groceries, and fast food, income levels of population, who is teaching nutrition and fitness at the current time, where do people get their information on these topics (e.g. healers, magazines, TV, etc.).
  - For fitness look for: environmental factors, facilities available (indoor and outdoor), whether there is rapport with school system; programs available in peripheral area (e.g. basketball league in nearby community) – 50 mile radius.
  - For both, look at demographics of community.
- Assessments can be oral interviews, written questionnaires, group meetings, focus groups, talking circles, telephone interviews, interview clinic outreach people such as CHRs to get past history of activities.
- Samples: select samples that represent your community (age groups, gender, Indian/non-Indian); can use census data for demographics (tribal planning departments often have census data); RPMS system through IHS (#s of people presenting with specific health problems)

### **How to assess readiness for the program:**

- How many people interested as determined by your assessment?
- Do you have the staff to run the program and keep it ongoing?
- Do you have the space and facility for the program?
- Do you have the time to devote to the program (e.g., can you staff evening programs vs just daytime programs)?
- Do you have the resources (money, etc.) to adequately do the program? Can you get other agencies to donate resources (space, funding, materials, etc.)? This encourages community buy-in.
- Do you have the support and approval of your community (e.g. tribal council, clinic director, executive committee, funding agencies, tribal health board)?

### **What level or approach should you take?**

If you are just beginning a new program, it is best to start small—look at basic levels first. Based on the community assessment process listed above, ask yourself what you can realistically achieve, based on your available resources. If your program is a first, start at the basic level. Better to achieve small success than to try to do too much and fail.

## **How should you evaluate your program?**

### **Suggestions for minimum data elements:**

#### **Nutrition:**

- Anthropometrics (weight, Body Mass Index (BMI))
- Weight change and BMI change over time
- Body composition analysis and change over time
  - changes in lean and fat mass
- Progression in nutrition program (e.g. meetings goals that were set)
- Baseline and ongoing data to assess change
- Laboratory values (lipid panels, HbA1c, blood glucose levels, BUN, creatinine, albumin, liver panel, etc.)
- # of classes or programs attended
- Diet analyses (calorie intake, % of carb,pro,fat, grams of nutrients, carbohydrate counting, etc.)
- Behavioral changes

#### **Program/process indicators for nutrition:**

- Contact hours for each program
  - #participants X duration of individual session X # days
  - collect cumulative data monthly
  - compare data month to month and program to program
  - gives idea of use of programs
- # of attendees at programs
- Client satisfaction surveys

#### **Questions to ask:**

- How are people changing their food buying and eating habits in the community?
- How are supermarkets changing? Are different foods available?
- Are tribal feeding program menus changing?
- How are food choices different at tribal potlucks, gatherings, employee functions, church activities?
- Is incidence of disease (diabetes, heart disease, kidney disease, hypertension, etc) decreasing?
- Are there places where people now meet to talk/do nutrition?

#### **Fitness:**

- Anthropometrics (weight, Body Mass Index (BMI))
- Body composition analysis
- Fitness levels
- Progression in exercise program (e.g., walking 1 mile, then 5 miles)
- Baseline and ongoing data to assess change
- Laboratory values (lipid panels, HbA1c, etc.)

**Program/process indicators for fitness:**

- Contact hours for each program
  - #participants X duration of individual session X # days
  - collect cumulative data monthly
  - compare data month to month and program to program
  - gives idea of use of programs

**Questions to ask:**

- Are people exercising more?
- How have types of exercise changed? Are there more places to exercise?
- Is there a place available for exercise now that wasn't available before?
- What do you see that tells you that people are exercising more?
- Is fitness changing the community's health? (e.g., less diabetes, fewer heart attacks?)
- Has perception of weight moved beyond the bathroom scale? What is "healthy weight"?
- How are the fitness goals of the community different?
- Has the perception of healthy exercise changed?
- Are more families exercising together than before?

**Evaluation for both nutrition and fitness:**

- Subjective indicators of success from Tufts University research (books: Strong Women Stay Slim, Miriam Nelson, PhD, author)
- Anthropometrics and other data elements from both nutrition and fitness

**Questions to ask:**

- Where do people learn or do fitness/nutrition that they didn't have before?
- What are observed changes in eating/fitness habits of your target population?
- Is incidence of disease (diabetes, heart disease, kidney disease, hypertension, etc) decreasing?
- The best results are seen in programs combining nutrition and fitness. How have exercise and nutrition been combined in your programs?

**What issues should you consider in writing your proposal?**

As you prepare your proposal, check to be sure you have covered the following issues:

- Does your proposal address diabetes care and prevention?
- Have you included information about your target population, its size, and its age group?
- Do you address the criteria discussed in this report?
- Do you list specific goals and programs in nutrition and fitness?
- Does your proposal demonstrate that it will have an impact on diabetes in your community?
- Does your proposal show adequate community resources?
- Do your goals meet the identified resources available for your program?

- Have you included information about staffing, including staffing needs, recruitment, and training?
- Are your program evaluation elements clearly defined?
- Have you identified collaborations/alliances/networks in your community and shown how they will be used?

# **IHS Best Practice Model Basic Diabetes Care and Education: A Systems Approach**

## **Why is this important?**

Indian health and national studies show that diabetes programs that use a system approach to diabetes care and education result in improved diabetes care services. Indian health diabetes programs have helped define the elements that make up quality diabetes care and education within American Indian/Alaska Native communities. These nine elements are based on recognized standards of care. Programs looking to improve their care delivery system can review these elements and determine which are lacking in their program or which could be enhanced. Activities for each element are described for three levels, with each level building on the earlier one. For example, a program wishing to pursue a Level III step would already have implemented Levels I and II.

## **What measures are used?**

- The Diabetes Quality Improvement Project (DQIP) is a national diabetes performance and outcome measurement set. DQIP will help health care systems across the U.S. improve diabetes care.
- The Indian Health Diabetes Care and Outcomes Audit is similar to DQIP measures. The system of care described in the nine elements can help programs improve outcomes for audit measures.

## **What are the nine elements of quality diabetes care and education?**

### **1. Case Management**

Case Management has been shown to improve adherence to standards of care and patient outcomes. Two examples might include an RN who coordinates the care of people with diabetes who are seen by contract providers or an RN/CDE who is actively involved in the care and follow-up of a set group of people with diabetes.

Level I: 1 RN coordinates the care and education of the diabetic population.

Level II: RN Case Manager tracks follow-up, appointments not kept, and people with diabetes lost to follow-up. Also coordinates the annual diabetes audit.

Level III: RN Case Manager is an active participant in the care of a set group of people with diabetes. This could include phone or in-office follow-up for blood sugars and blood pressure, facilitating medication refills, and so on.

### **2. Information Management**

Whether a program is starting with a hand-kept patient list or is already fluent in the RPMS System, managing information on both individuals and communities helps improve care and demonstrates that the program works! The more we can rely on RPMS (or similar program), the better our information and the less time audits will consume.

Level I: Diabetes Registry, Flowsheet, and Chart Section (manual or automated)

Level II: Automated diabetes management program, including computer-generated health summaries; conducting at least part of the diabetes audit electronically.

Level III: Fully utilize RPMS, including tracking patients with complications, giving providers feedback on their adherence to standards of care, and performing completely automated diabetes audits.

### **3. Diabetes Team**

To meet IHS and ADA guidelines, every diabetes program should have a clearly identified Diabetes Team. If possible, the team should minimally consist of an RN and an RD. The Diabetes Team has the responsibility for ensuring the quality of all diabetes care offered at a site.

Level I: Diabetes Team consists of at least an RN and an RD

Level II: Diabetes Team is multidisciplinary both in composition and in delivering services to people with diabetes. Team must include a physician.

Level III: At least one team member should be a CDE and the program should have achieved both Education Program and Provider Recognition by the ADA (or, hopefully, soon the IHS equivalent).

### **4. Systems of Care**

There are many ways to deliver quality care and education. The goal is to have a clearly defined system. Many sites have instituted diabetes-specific clinics and also have much of their diabetes care occurring in general or walk-in clinics. The result is often a disparity in the quality of care achieved. Other sites have elected to pursue what is called a Primary Care Model, which focuses on continuity of care with one provider. In addition, there are some newer models, such as Group Medical Visits, which can be incorporated into either the "Diabetes Clinic" or "Primary Care" models.

Level I: Medical care is contracted out, but the non-medical components are provided by the program (e.g. Foot Checks, Education, Nutrition Counseling, etc)

Level II: Complete primary care of diabetes is provided by the program, either in the "Diabetes Clinic" or "Primary Care" model (or a combination).

Level III: Newer models of care are incorporated, such as Group Medical Visits or a Primary care/case manager caring for a defined panel of people with diabetes.

### **5. Patient Education**

All quality diabetes programs have a strong education component to help people actively direct their care and manage their diabetes every day.

Level I: A basic body of diabetes knowledge is taught to each patient.

Level II: Organized Education Plan with a defined curriculum and lesson plans.

Level III: Inclusion of empowerment strategies, including support groups, training in coping skills, and problem-solving/behavior-change interventions.

## **6. Training Providers and Educators**

All of us involved in diabetes care need to stay up-to-date and refresh our skills. This applies to all providers, not just those directly involved with the Diabetes Team.

- Level I: Each member of the Diabetes Team receives basic diabetes training periodically.
- Level II: Each member of the Diabetes Team receives a minimum of 12 hours of diabetes-specific training every 2 years.
- Level III: Ongoing, coordinated education on-site for all providers, to include training in site-specific information management and documentation issues.

## **7. Protocol-based Practice**

Diabetes standards of care can be adapted to local formularies and staffing, allowing many programs to adopt or write their own protocols.

- Level I: Promotion of diabetes standards of care knowledge and adherence among providers and people with diabetes.
- Level II: Protocol-based medical care (both diabetes team and non-team providers)
- Level III: Protocol-based medication adjustments by other members of diabetes team (e.g. RN/CDE, pharmacists).

## **8. Specialty Exams and Services**

Diabetes care often requires the services of specialists, both for screening and treatment of complications (e.g. eye, foot, kidney) Whether a site contracts outside for the exams or provides them on-site, ensuring access to specialty care is an essential part of a diabetes system.

- Level I: Most/all screening exams and specialty services are provided by contract providers.
- Level II: Screening exams and basic services are available on-site.
- Level III: Subspecialty services are available on-site.

## **9. Staging of Population**

The care needs of people with diabetes change as their disease progresses. Following a patient at high risk for diabetes requires a different set of skills than does management of one experiencing end-stage complications. For example, a program may choose to assign the follow-up of people at high risk for diabetes to an RN and/or an RD, the care of recently diagnosed diabetics to mid-level practitioners, and the care of patients with complications to physicians. This fully utilizes the skills of available staff in a cost-effective manner and matches people with diabetes' needs with the most appropriate providers.

- Level I: Optimal use of existing diabetes team specialties.
- Level II: Provide prevention/early detection services to people at high risk for diabetes.
- Level III: Resources are specifically directed toward the care of people with advanced diabetes complications.

When developing your program grant, you may want to refer to the *Indian Health Integrated Diabetes Education and Care Standards*. This document will help you assess your diabetes program current level of function. You can also use the document to plan ways to improve the quality of diabetes education and care services within your community.

# IHS Best Practice Model

## Screening

### Why is this important?

Type 2 diabetes has reached epidemic proportions in American Indian and Alaska Native communities. American Indians have nearly three times greater a chance of dying from diabetes and its complications than non-Hispanic whites. Yet, many people with diabetes, about 60 percent according to national estimates, remain undiagnosed. Blood vessel damage from high blood sugar can begin before diabetes is diagnosed, leading to early problems with the eyes, nerves, kidneys, and heart. Screening programs to identify people with diabetes and link them to effective treatment programs are needed in AI/AN communities.

### What do we know?

Major risk factors for type 2 diabetes such as a family history of diabetes, obesity, impaired glucose tolerance, and a history of gestational diabetes are well known, and the criteria for diagnosis are established. In addition, a large clinical study, the Diabetes Prevention Program, is underway in the United States. The purpose of this study is to find out if people at high risk for type 2 diabetes can prevent or delay the onset of diabetes through lifestyle changes and/or use of medicine. If this study shows positive results, more widespread screening and prevention programs for people at risk for diabetes may be needed.

### What is the scientific evidence for screening programs in American Indian/Alaska Native communities?

- Screening for Educational Opportunity
  - Foundation / Raison d'être for all screening programs
    - Foot-in-the-door
    - Increase community awareness
- Screening for Case Finding
  - Justification
    - Organ damage precedes symptoms
    - Treatment is effective
    - Diabetes is definable
    - Specific criteria exist
    - These criteria were developed in AI/AN population
  - Strategies
    - Questionnaire -> labs
    - Physical exam / biometrics
    - Lab testing

- Criteria
  - Sensitivity/Specificity/PPV/Prevalence
  - Fasting CWBG vs FPG, FSG
  - Random CWBG vs. RPG, RSG
  - Timed pp CWBG vs. ppPG, ppSG
  - HbA1c
  - Serum insulin level
  - Time-of-day: different criteria?

### **What lessons have we learned about diabetes screening in AI/AN communities?**

- Preparatory phase is critical to program success.
  - Pre-program assessment of community needs/attitudes/acceptable approaches
  - Limited tolerance for screening in some communities (“research fatigue,” “poked & prodded”, etc.)
  - Political support necessary up front
    - Identify “gatekeepers,” “movers-&-shakers,” those who influence/lead community attitudes & perceptions
    - Establish planning group involving all essential personnel
- Advertise prior to screening event(s)
- Pre-plan the follow-up phase
  - How to deal with positives
  - Arrangements for follow-up definitive testing
    - Dealing with those with DIABETES
      - Clinic availability, capacity
    - Dealing with those with precursor conditions (IGT)
      - Education with urgency
  - How to deal with negatives
    - Education

### **What can we learn from best practice models?**

#### **Issues:**

- Include some follow-up;
- HIV screening programs as models: Pretest and posttest counseling;
- Adequate training for contact people (no “touch of diabetes”).

#### **Specific model programs:**

- National Diabetes Education Program (NDEP)– American Indian (Level I);
- Phoenix Indian Medical Center (PIMC) (Level II);
- Colville Indian Health Clinic (Level III).

**Levels for screening program:**

- Level I: **Education** regarding importance of being screened; leave testing to the clinic;
- Level II: **Education plus testing**: Add Casual (random) blood sugar screens;
- Level III: **Integrated program** of screening for Diabetes and Lipids, other health assessments, and extensive education.

**Goals and objectives for each level:**

- Level I: Increase target population's awareness & understanding of diabetes as a potential health problem.
- Level II: Test target population.
- Interpret test result to individual tested.
- Assure confidentiality of those tested.
- Level III: Assure that definitive testing occurs.
- Evaluate related risk factors and health issues; e.g., lipids, blood pressure.

**Setting up a screening program**

Initial planning for a screening program involves identifying your target populations and where they may be found, assessing your community and its needs, and collecting certain data relevant to your proposed program.

**Identifying your target populations:**

- Entire community (reservation or urban,) [non-diabetic] population;
- Clinic users;
- Children and adolescents
- Schools
- After school programs / athletics
- Community centers
- School/sports physicals;
- Adults
- At work
- Bars
- Community events: Pow-wows, ceremonies;
- Elders
- Community / senior centers
- Elder meal sites
- Meals-on-wheels;
- Remote/isolated residents;
- Mothers
- Well child clinic
- School functions
- WIC, Head Start
- Day care centers;
- Grandparents

- Foster Grandparent Program;
- Family members of people with diabetes
- Type 1 / Type 2 / Gestational diabetes
- Work through clinic / diabetes clinic / diabetes registry;
- Previous false-positive screens;
- Previous negative screens (tickler file).

**Assessing your community:**

- Community **understanding** of diabetes
- Community **beliefs** about diabetes
- What level of screening is needed to fill in?
- What target groups need it most?
- For educational purposes
- For case-finding purposes?
- Registry?
- Known prevalence?
- Numerator
- Denominator
- Clinical setting for diabetes testing & treatment
- Current care acceptable?
- Process?
- Outcomes?
- Control measures / HbA1c
- Complication rates?
- Able to absorb additional workload?

**Personnel needed to implement screening:**

- Level I: Health Educator, HP/DP, School Nurse, CHR, CDA
- Level II: above, plus RN, LPN, RPh, PHN
- Level III: above, plus PA, CDE, FNP, PNP, MD/DO, RD

**Techniques/data sources:**

- Detailed interview of statistical sample, in homes: by CHR, etc., high school students, by trained interviewer;
- Telephone interviews
- RPMS, Diabetes registry, tribal enrollment, census data
- Clinic staff
- Community leaders
- Focus groups

**Minimum data elements to collect during planning phase:**

- Number of persons contacted in each aspect of community needs assessment;
- Sizes of relevant populations: Community population, target group populations;

- Current work loads: Persons presenting to clinic requesting diabetes screening and clinic patient volume.

## **What data will you need to collect during the program ?**

### **Level I:**

- Number of ads run: TV, radio, newspaper;
- Number of persons receiving diabetes education at schools, community functions, health fairs, etc.;
- Number of people presenting to health care facility for testing for diabetes screening;
- Number of persons diagnosed with diabetes;
- Clinic work load.

### **Level II: All Level I elements, plus:**

- Number of persons receiving pre-test counseling;
- Number of persons screened (in each target group) for glucose, blood pressure, and cholesterol;
- Number of persons receiving post-test counseling;
- Number of people referred for diagnostic testing;
- Number of persons attending diabetes education programs supported by the screening program.

### **Level III: All Level I and Level II elements, plus:**

- Number of persons diagnosed with diabetes precursor conditions
 

Insulin Resistance	IGT
IFG	Dyslipidemia
- Number of persons receiving individual diabetes education
 

by CDE	by RN
by RD	by R.Ph.
by exercise trainer	by MD/DO/NP/PA
by other.....	

## **Evaluating your program: What progress indicators should you look for?**

- Written (narrative) plan for screening program, signed by appropriate council members and involved medical staff.
- Receipts for equipment and supplies purchased or rented for program use.
- Evidence of actual use of such equipment and supplies for program purposes such as glucose meters, lancets, test strips, alcohol, bandages, Blood pressure cuffs, stethoscopes, anthropometric equipment, cholesterol testing machine and strips, phlebotomy supplies, and laboratory equipment.
- Copy of ads, PSA's, etc. used to announce the screening program or for community awareness.
- Informational materials and incentives (prizes, food) distributed.
- For programs involving minors: Informed consent from parents.