

PARK PRESCRIPTIONS

Profiles and Resources for Good
Health from the Great Outdoors



INSTITUTE
AT THE GOLDEN GATE

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INTRODUCTION

Park Prescriptions—Linking the Medical Community and Public Lands

Park Prescriptions is a movement to create a healthier population by strengthening the connection between the healthcare system and public lands across the country. The goal is to increase the prescription of outdoor physical activity to prevent (or treat) health problems resulting from inactivity and poor diet.

Park Prescriptions will allow visitors to public lands to increase their time spent enjoying physical activity and will also provide physicians and other healthcare providers with a new set of tools to inspire patients to improve their health. *Park Prescriptions* programs also benefit public lands by promoting park stewardship and increasing potential funding sources.

More and more, programs around the country are building stronger connections between health and public lands. Doctors in New Mexico and elsewhere are prescribing outdoor activity. Health insurance companies such as SeeChange Health (see box on page 26) are making commitments to reimburse patients for park visits. Cities like Chicago are investing in obesity-reducing fitness programs. Parks nationwide are making it easier for visitors to utilize trails by increasing trailhead visibility and establishing trail ratings. Because each program addresses barriers between citizens and public spaces in a unique way, creators of these programs can learn from each other. By forming a cross-sector coalition, *Park Prescriptions* unites health care and public lands



through mutually beneficial means that serve the health of all.

The Problem— Inactivity and Chronic Disease

In the past decade, rates of obesity and associated chronic diseases have skyrocketed in children and adults. The Centers for Disease Control and Prevention (CDC) documents that more than one-third of adults in the United States—more than 72 million people—are considered medically obese and therefore more likely to develop major chronic diseases such as type-2 diabetes, heart disease, and cancer. At the same time, there has been a dramatic decline in physical activity. The CDC estimates that more than 40 percent of the U.S. population is sedentary. In the last 10 years alone, children ages 8 to 18 have increased nonactive time from 6½ hours per day in 1999 to 7½ hours in 2009.

Lack of physical activity and poor diet have been established as the causes of an unhealthy, overweight nation. The consequences of this are borne not only by individuals, but also by family members, employers, and the healthcare system. An estimated 10 percent of the nation's medical costs—\$150 billion annually or \$8,000 per person per year—are directly attributed to obesity.

Despite the clear evidence that increased physical activity reduces obesity, chronic disease, and stress, the medical community seldom advises patients to increase exercise. A recent study in the *American Journal of Preventive Medicine* revealed that fewer than 14 percent of primary care providers regularly gave any form of counseling on exercise. Health providers, who are short on time and stretched in all directions, spend most of their clinical hours treating active disease rather than focusing on prevention.

Because insurance reimbursements are geared toward treatment, there are few financial incentives for healthcare providers to offer exercise and lifestyle interventions. Additionally, physicians may not know what physical activity interventions to prescribe or

where to send their patients. Stronger links between the healthcare system and public lands can help the medical community promote activities that have a higher likelihood of becoming a permanent part of the patient's life.

Parks and Public Lands: The Place for Fun and Healthful Movement

A growing body of research suggests that exposure to nature and outdoor exercise has significant health benefits such as improved wellness and mental health, reduced stress, and lower blood pressure:

- A Danish study published in 2007 concluded that adults who could easily reach a green space had less stress and a lower body mass. Similar results were reported in a study of over 3,000 inner-city children in the United States.
- A 2005 *American Journal of Medicine* article reported that people with ready access to park or open space were 50 percent more likely to adhere to a regular walking regimen.
- A 2010 UK study in *Environmental Science and Technology* showed a positive dose–response relationship between exercise in nature and mental health, particularly for young subjects.
- A 2003 study in *Preventive Medicine* identified an annual reduction in average healthcare charges of \$2,200 per person per year for individuals who were initially sedentary (physically active one or fewer days per week) and later became physically active three or more days per week.
- Runners reported lower levels of stress and depression when exercising in nature than when exercising in an urban setting.

Parks and public lands are an underutilized healthcare resource. For example, just 20 percent of the 300 million visitors to America's national parks cite active recreation as the main reason for their visit. At the same time, parks and public lands represent

enormous acreage—nearly one in every five acres of the United States is federal land that is open for public use. Clearly, there is a great potential for increasing physical activity for the millions of Americans who have access to federal, state, and local public parks and open spaces.

A Growing Movement

A variety of programs around the country are utilizing parks and public lands as a health resource. For example:

- **Exercise is Medicine™:** An Indianapolis-based nonprofit program produces toolkits to educate healthcare professionals on effective methods for prescribing exercise.
- **Children and Nature Initiative:** A program in Brooklyn, New York, prepares “nature champions” to train other healthcare practitioners to prescribe outdoor activities for children.
- **Prescription Trails:** A program in New Mexico makes it easy to identify and prescribe trail-based exercise through a detailed trail rating system.

In addition, existing indoor physical activity programs can inform the development of *Park Prescriptions* programs:

- **Chicago Exercise Prescription Fitness Center Waiver:** The Chicago Parks District provides free

membership to its park-based fitness centers for residents whose physicians prescribed exercise as treatment for disease.

- **Golden Gate Community Trailhead Project:** A community trailhead established at a San Francisco YMCA boosts awareness among urban residents of health benefits to exercising in the “local” national park.
- **SilverSneakers®:** Senior citizens with prescribed fitness assessments and exercise plans through Healthways’ SilverSneakers Fitness Program reap the benefits of physical activity and significantly lowered healthcare costs.

Drawing on the experience of these and other existing programs, the Institute at the Golden Gate has gathered profiles of programs around the country that demonstrate successes and knowledge gained toward a *Park Prescriptions* model. This report is an initial compilation, yet not an exhaustive report of all programs connecting health and the great outdoors.

Park Prescriptions, which links medical professionals to park resources, is by nature a collaborative concept. This report is an invitation to further this important work through continued communication, knowledge-sharing, and cross-sector collaboration.

STUDY CONCEPT

This document describes 12 programs created by medical, public health, and park communities in the United States and one program in the United Kingdom. These innovative programs developed by either healthcare or park professionals aim to increase physical activity to improve health. Profiles of these programs have been collected in order to:

- Highlight successful examples of current programs that use physical activity in outdoor settings as part of a medical prescription or treatment
- Demonstrate opportunities for growth within similar recreation programs, whether driven by the healthcare community or public land managers
- Support healthcare professionals and public land managers in developing new programs, growing existing ones, and expanding their efforts

The cases profiled in this report include one (but not all) of the components listed below. An effective *Park Prescriptions* program would include all of these components.

- Prescriptions for physical activity
- Development of ways to get people outdoors for health
- Onsite guidance, such as fitness trainers or park rangers to support prescriptions
- Incentives, such as toys or financial reimbursements

The programs included in this report have been organized into three sections:

Part I—*Park Prescriptions* Programs: Medical Professionals and Parks Collaborate

Park Prescriptions programs encourage physicians to prescribe outdoor physical activity to prevent (or treat) health problems resulting from inactivity and poor diet.

Part II—Driven by Healthcare Experts: Physical Activity Indoors for Health

Indoor activity programs are instructive models for *Park Prescriptions* programs. Successful indoor activity programs demonstrate health benefits, effective tracking mechanisms, and related insurance claims reductions.

Part III—Driven by Parks: Physical Activity in Nature for Health

These programs encourage park visitation and promote public health but are not connected to prescriptions.

Although the report does not profess to be all-inclusive or comprehensive in its descriptions, it nevertheless provides an overview of instructive examples. This report is a living document, and we welcome comments, additions, and updates.

KEY FINDINGS

In the research conducted for this report, the Institute has identified six key observations that guide future implementation of *Park Prescriptions*:

1. There is tremendous enthusiasm to link outdoor/nature-based recreation with health care.

The staff, volunteers, healthcare practitioners, and other participants in these programs are passionate about more preventive approaches to health and the use of physical activity in nature as a complement or supplement to pharmaceutical interventions. In addition to an extensive body of supporting literature,

most key informants also cited examples of individual patients who improved their health because of an exercise prescription, counseling, or referral.

Programs that illustrate this finding:

- Children and Nature Initiative
- Prescription Trails New Mexico
- Step Into Cuba Alliance
- California State Parks/SeeChange Health Pilot (see box on page 26)
- National Park Service Pilot Projects
- Get Fit with US



2. Park programs are often easily converted to health programs.

Park-based staff, activities, materials, and initiatives—normally geared toward improving access and increasing awareness of park resources—translate well to health prescriptions programs. Many park agencies should be able to repurpose and adapt existing programs to meet the needs of healthcare practitioners who prescribe exercise.

Programs that illustrate this finding:

- National Park Service Pilot Projects
- Golden Gate Community Trailhead Project
- Green Gyms

3. Many non-park programs have tools that can inform *Park Prescriptions*.

There are a large number of tools available from programs developed in a more traditional health-care setting that can be applied to emerging *Park*

Prescriptions programs. For example, SilverSneakers has developed the process for an insurance company to attract and track member participation. Exercise is Medicine has deep resources to support doctors, and the Chicago Exercise Prescription Fitness Center Waiver Program has worked out many elements of program design that are specific to urban settings.

Programs that illustrate this finding:

- SilverSneakers
- Exercise is Medicine
- Chicago Exercise Prescription Fitness Center Waiver Program
- YMCA Diabetes Prevention Program

4. Incentives increase participation.

Programs that provide incentives seem to increase participation (Table 1). For example, children that return to hike additional trails on the Blue Ridge Parkway as part of the Kids in Parks program receive toys and games. Chicago residents that receive a prescription from their doctor to exercise receive a

Table 1. Incentives Offered by *Park Prescriptions* programs

Incentives for Patients	Programs That Use This Incentive
Games	Children and Nature Initiative
Activities at venue	SilverSneakers
Prizes and giveaways	Kids in Parks
Free/discounted gym membership	Chicago Exercise Prescription Fitness Center Waiver
Social opportunities at venue	Golden Gate Community Trailhead Project SilverSneakers Green Gyms
Reimbursement for fees	California State Parks/SeeChange Health YMCA Diabetes Prevention Program
Incentives for Health Provider	Programs That Use This Incentive
Personal desire, interest	All programs
Stipend to attend training	Children and Nature Initiative
Continuing Education Units	Children and Nature Initiative
Professional association requirements	None to date
Networking with professional colleagues	Children and Nature Initiative Exercise is Medicine
Doctors have access to external support through fitness trainers	SilverSneakers
Demonstrated health outcomes	None to date
Reimbursement for care	None to date

free gym membership valued at \$30 to \$70 depending upon their income. The Children and Nature Initiative provides Continuing Education Units (CEUs) and a small stipend for participating doctors. Most insurance companies and government programs do not reimburse a physician for time spent counseling patients or for prescribing exercise.

Programs that illustrate this finding:

- SilverSneakers
- Kids in Parks
- Chicago Exercise Prescription Fitness Center Waiver Program
- Children and Nature Initiative
- YMCA Diabetes Prevention Program

5. There is a need for sharing lessons learned.

In many cases, programs that engineered their own tools did so with little or no knowledge of similar

tools already created by other efforts around the country. For example, at least five programs created exercise prescription pads, and at least seven agencies developed different online mapping tools to help patients find trails and parks. Efforts to share materials, ideas, and lessons learned will have a large impact on the ability to improve program design and expand program reach.

6. Evaluation of *Park Prescriptions* is in its infancy.

There are very few *Park Prescriptions* programs in the United States that have been able to evaluate effectively all elements of a program that has medical experts prescribing outdoor activity for health. Table 2 illustrates the programs that have developed specific portions.

Table 2. <i>Park Prescriptions</i> Evaluation Activities				
	PHASE 1 Recruit Participants	PHASE 2 Change Behavior	PHASE 3 Improve Health Indicators	PHASE 4 Reduce Mortality
Metric	<ul style="list-style-type: none"> ■ Track number of doctors, nurses, etc. trained ■ Count number of prescriptions written ■ Survey participant interest 	<ul style="list-style-type: none"> ■ Track park use ■ Track fitness facility use 	<ul style="list-style-type: none"> ■ Track type and frequency of physical activity ■ Track physical health indicators (BMI, blood pressure, weight change) ■ Track emotional health indicators (depression) 	<ul style="list-style-type: none"> ■ Track ultimate improvement to health outcomes
Who Uses This Evaluation Technique	<ul style="list-style-type: none"> ■ Children and Nature Initiative counts doctors trained 	<ul style="list-style-type: none"> ■ Green Gyms counts number of park visits ■ Chicago Exercise Prescription Fitness Center Waiver reimburses gym membership ■ Children and Nature Initiative gives CEUs for doctor training ■ California State Parks/SeeChange Health Pilot reimburses park entry fee 	<ul style="list-style-type: none"> ■ Green Gyms count gym visits ■ Green Gyms track BMI, blood pressure, and mental health measures ■ SilverSneakers tracks gym visits and fitness progress ■ SilverSneakers analyzes cost reductions ■ YMCA Diabetes Prevention Program demonstrates reduced risk of diabetes 	<ul style="list-style-type: none"> ■ None to date



CASE SUMMARIES

Park Prescriptions Programs: Medical Professionals and Parks Collaborate

- Case 1. Children and Nature Initiative
- Case 2. Prescription Trails New Mexico
- Case 3. Davenport ACHIEVE Project and Genesis Health Partnership
- Case 4. Step Into Cuba Alliance

Driven by Healthcare Experts: Physical Activity Indoors for Health

- Case 5. YMCA Diabetes Prevention Program
- Case 6. SilverSneakers® Fitness Program
- Case 7. Exercise is Medicine™
- Case 8. Chicago Exercise Prescription Fitness Center Waiver

Driven by Parks: Physical Activity in Nature for Health

- Case 9. National Park Service Health and Recreation Pilot Projects
- Case 10. Kids in Parks Initiative
- Case 11. Green Gyms
- Case 12. Golden Gate Community Trailhead Project
- Case 13. Get Fit with US

PARK PRESCRIPTIONS PROGRAMS: MEDICAL PROFESSIONALS AND PARKS COLLABORATE

CASE 1.

Children and Nature Initiative

Based in: National Participation

Parent Agencies/Funders: National Environmental Education Foundation (NEEF) in partnership with the U.S. Fish and Wildlife Service, National Audubon Society, Rockefeller Philanthropy Advisors, National Resources Council of America, and Department of Interior Office of Youth in Great Outdoors

Unique Features: Train-the-trainer approach to educate pediatric healthcare providers on how to prescribe outdoor activity and train other providers; partnerships with staffed nature sites, schools, and clinics in local communities

Website: www.neefusa.org/health/children_nature.htm

NEEF's Children and Nature Initiative addresses two important issues: preventing serious health conditions like obesity and diabetes and reconnecting children to nature. The program is designed to:

- Create "Nature Champions": Build capacity among pediatric healthcare providers to be leaders in prescribing nature
- Refer families to a park or nature center within economically, racially/ethnically, and culturally diverse communities

NEEF is holding a series of workshops to prepare pediatric healthcare providers to serve as Nature Champions in their communities. Building on

NEEF's highly successful Faculty Champions model,¹ NEEF's Nature Champion train-the-trainer workshops educate pediatric healthcare providers about prescribing outdoor activities to children. These Nature Champions, in turn, train 30 other local providers within 2 years.

Advisory Committee

An Advisory Committee of experts from major medical institutions and leaders in environmental education guides the Children and Nature Initiative. Members of the Advisory Committee include representatives from the American Academy of Pediatrics, Association of Clinicians for the Underserved, CDC, Children's Environmental Health Network, National Association of School Nurses, National Audubon Society, National Hispanic Medical Association, National Association of Pediatric Nurse Practitioners, WE ACT for Environmental Justice, U.S. Fish and Wildlife Service, and U.S. Forest Service.

Tools and Resources

NEEF provides pediatric healthcare providers with the technical support, tools, and resources they need to be effective, including a training PowerPoint presentation created by medical experts and Nature Kits that include prescription pads (see Figure 1), patient

¹ Children's Environmental Health Faculty Champions Initiative: A Successful Model for Integrating Environmental Health into Pediatric Healthcare. Rogers, McCurdy, Slavin, Grubb, and Roberts. *Environmental Health Perspectives*. 2009;117:850-855.

R_x for Outdoor Activity

Name _____

Date _____

My Schedule *(when and where will you play outside this week?)*

Weekdays _____

Weekends _____

Parent/Child signature _____

Health Care Provider signature _____

Go Outside and:

- Play!
- Visit a national wildlife refuge, national fish hatchery, park, playground, or nature center
- Take a walk around the block
- Ride bikes (wear a helmet!), go bird watching, or just explore.

Comments: _____



R_x para la Actividad al Aire Libre

Nombre _____

Fecha _____

Mi horario *(¿cuándo y dónde jugará al aire libre esta semana?)*

Los días de la semana _____

Los fines de semana _____

Firma de madre/padre o hijo/a _____

Firma del Proveedor de Cuidado Médico _____

Vaya afuera y:

- ¡Juege!
- Visite un refugio nacional de vida silvestre, un criadero nacional de peces, un parque, un patio de recreo, o un centro de naturaleza
- Dé un paseo por el vecindario
- Ande en bicicleta (¡use un casco!), observe las aves o simplemente explore.

Comentarios: _____



Figure 1: Children and Nature Initiative Prescription Pad

brochures, and pediatric environmental history forms in English and Spanish.²

The following tools are available on the NEEF website (www.neefusa.org/health/children_nature.htm):

- **Patient Prescription Pad** featuring:
 - Design that conveys professionalism and authority, yet is colorfully “friendly” enough so parents will remember and keep the prescriptions handy
 - Box that clearly indicates scheduled outdoor play for weekdays and weekends
 - Space to provide ideas for outdoor activities
 - English and Spanish versions
 - Room for medical centers to personalize the prescription and brochure with their contact information
- **Patient brochure** recommends specific nature sites that serve as partners to “fill” the prescriptions. Staff at these parks accept and “fill” outdoor activity prescriptions. The nature center in turn offers the parent and/or child a membership card as well as other incentives and directs the individual to outdoor activities.
- **Pediatric environmental history forms** contain questions such as “Does your child watch TV or use a computer or video game system for more than two hours a day?” and “How many times a week does your child have unstructured, free play outside for 60 minutes?”
- **Literature review article** “Using Nature and Outdoor Activity to Improve Children’s Health” that was published in the May 2010 issue of the *Current Problems in Pediatric and Adolescent Health Care*.³

- **Fact Sheet** for healthcare providers highlighting key peer-reviewed studies about the benefits of nature to children’s health.

CASE 2.

Prescription Trails New Mexico

Based in: Albuquerque and participating municipalities in New Mexico

Parent Agencies/Funders: Albuquerque Alliance for Active Living, New Mexico Health Care Takes On Diabetes

Unique Features: Thorough and accurate trail rating system; collaborative and data-driven program development; operates with little dedicated funding

Website: www.PrescriptionTrailsNM.org

The Prescription Trails program is designed to increase physical activity among New Mexico residents, especially those who are “totally physically inactive” or do not exercise. To accomplish this, the program aims to:

- Identify walking venues that are both safe and accessible to patients with diabetes and other chronic disease conditions
- Encourage healthcare professionals to write prescriptions for park and trail use
- Provide trail and park information through a printed walking guide and a web-based mapping tool to healthcare professionals so they can effectively prescribe their use
- Conduct public education about park-based physical activity

The Prescription Trails concept began within a grant-funded multi-agency partnership⁴ as a program to

2 Children and Nature Initiative: Resources. Available at http://www.neefusa.org/health/children_nature/resources.htm

3 Using Nature and Outdoor Activity to Improve Children’s Health. McCurdy, Winterbottom, Mehta, and Roberts. *Current Problems in Pediatric and Adolescent Health Care*. 2010;5:102–117.

4 This Robert Wood Johnson Foundation’s *Active Living by Design* grant to the Albuquerque Alliance for Active Living ended in 2008.

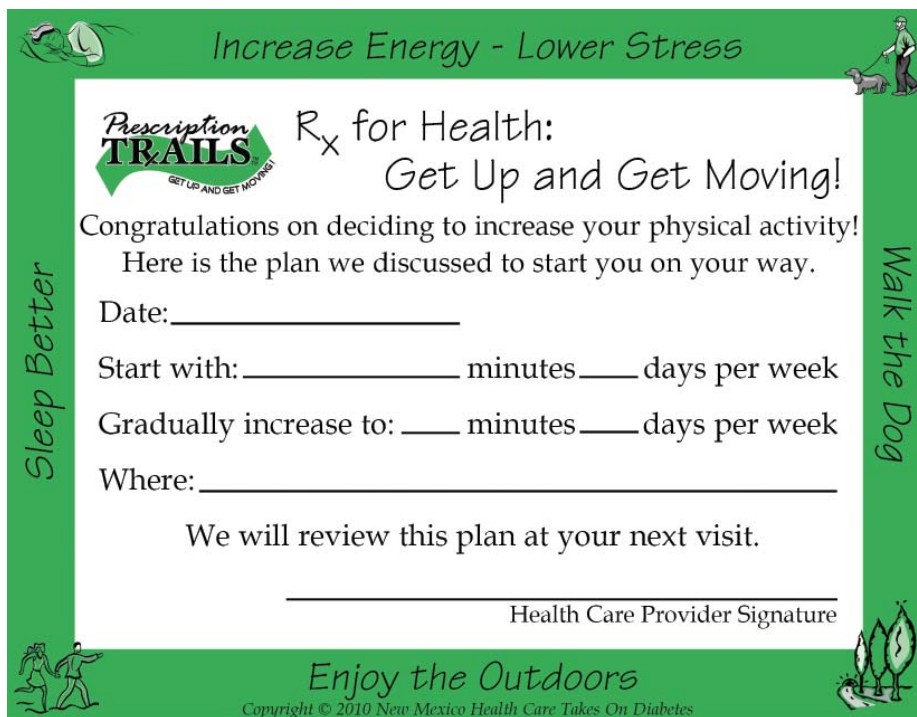


Figure 2: Albuquerque Prescription Trails New Mexico, Prescription Pad

From “Albuquerque Prescription Trails Pilot Program,” *Network & Provider News*, Lovelace Health Plan, Summer 2008. (www.lovelacehealthplan.com/documents/LHP_ProviderNewsSummer_2008.pdf)

write prescriptions for walking to patients with diabetes. Its development has continued largely through volunteer efforts by partner agencies and individuals, notably New Mexico Health Care Takes On Diabetes, which manages the Prescription Trails Program in New Mexico.

New Mexico Health Care Takes On Diabetes and local organizations manage Prescription Trails programs for their communities, develop coalitions to support the work, and decide how to implement activities most effectively. Each community uses an established evaluation form for assessing and rating trails (according to Americans with Disabilities Act [ADA] compliance and accessibility), provides Prescription Trails prescription pads to healthcare professionals (Figure 2), offers guidelines for physical activity, and publishes printed walking guides of parks and trails and a web-based mapping tool that lists and describes local walking routes. The program established two implementation committees: a Parks Evaluation Committee and a Prescription Development Committee.

The Parks Evaluation Committee set a goal to identify at least three transit-friendly, accessible parks and trail venues per zip code in participating communities. To do this, the committee first determined the criteria that made a trail *accessible*. Given the target audience, the committee believed that many of the patients who would use the trails would have injuries or medical conditions that made it difficult for them to walk. They drew from expert sources, including the ADA, to identify standards for surface materials and conditions, trail grades, and other factors.

The committee created a *Trail Evaluation Criteria and Notes Form* (Appendix C) that considered these and other issues, such as cross-slope and the types of activities and amenities around the trail. The program also recruited scouts, interns, and other volunteers to help evaluate more than 70 loop trails across Albuquerque. Only trails that had been field checked and approved were included in the program. Prescription Trails periodically reviews trails to ensure that they are well maintained and continue to meet established standards. It works with city and

county government to plan trail improvements, such as gluing trail markers every ¼ mile to identify distance traveled, or grinding down sidewalk edges that have been damaged by roots and other causes.

The Prescription Development Committee, primarily composed of physicians, determined best practices for the prescription process. This committee identified some key barriers to successfully prescribing trail and outdoor activity.

- Unfamiliarity with the evidence base that demonstrates the health benefits of specific types of exercise
- Lack of training for healthcare professionals on how to devise an exercise program that appropriately matched a patient's condition
- Little or no training on how to counsel patients effectively on modifying physical activity/nutrition habits
- Absence of these topics from traditional U.S. medical curricula
- Perceived or true impacts on time spent by doctors with each patient (doctors are not normally reimbursed for physical activity prescriptions)
- Paucity of information on physical activity behaviors in patient medical records
- Inability of program to achieve “critical mass” of participation within the medical establishment⁵

The Prescription Trails program has made some initial exploratory progress on addressing these gaps and challenges. The Prescription Development Committee elected to implement the program in ways that, when possible, would reduce the training

and patient consultation time necessary for medical practitioners to participate. The committee designed tools to help patients determine how to fill their prescriptions. Examples include:

- **A 15-minute online orientation** for healthcare professionals about how to encourage patients to follow a prescription for walking (offered by Prescription Trails program).
- **ADA park and trail ratings** to help doctors prescribe physical activity that would be appropriate for a patient's health condition.
- **Standardized Prescription Trails prescription pads** designed specifically to convey an austere sense of medical authority.⁶ The straightforward design provides areas to indicate the prescribed duration and frequency. There is also space for the practitioner to note specific physical activity locations.
- **Prescription Trails walking guide booklets** to local “approved” parks and trails, with photos and detailed information about park locations, amenities, and trail ratings.
- **Prescription Trails “walking log” and “walking tips” handouts** are available to supplement the patient's prescription.
- **Prescription Trails website** with search and map functionality designed to help patients find venues in their neighborhood that are approved by the Prescription Trails program.

⁵ A majority of inquiries about Prescription Trails programs have come from the general public. Partner agencies have increasingly been talking through options to refocus program outreach toward physical therapists, diabetes educators, and other medical professionals whose disciplines offer more training, experience, and incentives to prescribe physical activity.

⁶ Based on feedback, the prescription form has been modified in newer versions. Some of the improved features include: 1) No Patient Signature Line—To emphasize that the prescription is an order for a medical intervention by a physician, rather than a collaborative agreement. 2) Dosage Increases—a new version of the pad will include space for the doctor to indicate a target dosage level that the patient can work up to over time. E.g., “Gradually increase to [x] minutes [x] days per week.” 3) Size—at half of an 8.5 in. x 11 in. sheet of paper, doctors indicated the original prescription pad was too large. Newer versions will be a quarter of a sheet. 4) Encouraging text—includes more positive reinforcement, such as “Congratulations on deciding to increase your physical activity!”



CASE 3.

Davenport ACHIEVE Project and Genesis Health Partnership

Based in: Quad Cities, Iowa & Illinois
Parent Agencies/Funders: CDC and National Recreation and Park Association: Healthy Communities Program, ACHIEVE (Action Communities for Health, Innovation, and EnVironmental changeE); Genesis Health Systems
Unique Features: Replicates innovative collaborations in communities nationwide; creates technical assistance infrastructure
Website: www.achievecommunities.org/DavenportIowa/Pages/default.aspx

Davenport is an urban community located in the “Quad Cities”⁷ region at the border of Iowa and Illinois. It is home to approximately 98,400 residents, of which approximately 26 percent are under 18 years old. Thirty-seven percent of adults and 14 percent of youth are considered obese.⁸

A Municipal Healthcare Partnership
 Genesis Health Systems—the largest of four healthcare providers in the region—has partnered

extensively with the City of Davenport on several exercise and fitness-related initiatives. For example, Genesis:

- Provides resources to add nutrition educational material and equipment to the Davenport Parks’ *Mobile Playground* program—a decommissioned fire truck that visits 10 at-risk neighborhood parks per week, promoting park use and providing sports and play equipment to underserved children
- Sponsors “Genesis Healthbeat”⁹ outdoor fitness locations in five city parks in the region¹⁰
- Dispatches staff from Power Sports Performance, a subsidiary organization that trains elite athletes, to provide free public trainings on using fitness equipment¹¹

Davenport is also a designated ACHIEVE Community. ACHIEVE is sponsored by the CDC’s Healthy Communities Program to help local communities pursue coordinated “policy, systems, and environmental change strategies that will help prevent or manage health-risk factors for heart disease, stroke, diabetes, cancer, obesity, and arthritis.”¹²

Genesis and Davenport Parks & Recreation are active participants in the ACHIEVE program, alongside representatives from the city’s planning and public health departments, the YMCA, the community college extension, and other agencies.

Together they have set five priority areas, three of which were aimed at parks and trails—implementing smokefree policies, posting distance maps and

7 Descending order by population: Davenport, IA; Moline, IL; Rock Island, IL; Bettendorf, IA; and East Moline, IL.
 8 “Davenport, Iowa,” *ACHIEVE Communities* (www.achievecommunities.org/DavenportIowa/Pages/default.aspx).

9 Genesis’ name for the Healthbeat Outdoor Fitness Systems purchased from Landscape Structures, Inc. and installed in Quad Cities parks (www.playlsi.com/Explore-Products/Product-Lines/Park-Fitness-Equipment/HealthBeat/Pages/HealthBeat.aspx).
 10 Davenport, IA; Moline, IL; Dewitt, IA; Aledo, IL; and Village of Cordova, IL.
 11 Power Sports Performance (www.genesishealth.com/services/phys_med/psp/index.aspx).
 12 “About Us,” *ACHIEVE Healthy Communities* website (www.achievecommunities.org/Pages/AboutUs.aspx).

What makes ACHIEVE effective?

PARTNERSHIP EXPERT

Replicates local-level, cross-sector coalitions through which healthcare organizations can partner with YMCAs and other parks and recreation agencies.

NATIONAL INFRASTRUCTURE

A centralized technical assistance infrastructure can identify, filter, and redistribute nationwide local-level best practices.

BEST PRACTICES

National partner agencies work with CDC to identify, promote, and share “evidence- and practice-based strategies,” tools, and data from a variety of sources, including from ACHIEVE Communities themselves.

signage, and creating a map that shows where to find age-appropriate playground equipment.

Toward Park Prescriptions

Genesis soon recognized that while it had helped create attractive places to get exercise, it had not explored the role parks could play in the company’s primary objective: patient care. The Genesis representative on the Davenport program¹³ has since made a formal request to the operating board of the Genesis Health Group (GHG)—the physicians organization that represents 150 doctors at 35 locations in the Quad Cities area—for guidance on how parks could be medically useful as part of preventive care or treatment. The GHG has invited the representative to its August meeting.

¹³ Ken Croken, VP Corporate Communications and Marketing, Genesis Health System.

CASE 4.

Step Into Cuba Alliance

Based in: Cuba, New Mexico

Parent Agencies/Funders: Step Into Cuba Alliance

Unique Features: Thorough and accurate trail rating system; collaborative and data-driven program development; operates with little dedicated funding; example of how changes in the built environment can increase physical activity and trail use

Website: www.stepintocuba.org

Cuba is a town of fewer than 1,400 people, approximately 2 miles long and 3 miles wide, divided by a federal four-lane highway and surrounded on three sides by the Nacimiento Mountain Range, San Pedro Wilderness Peaks, Mesa Lands, and other National Forests and federal lands held by the Bureau of Land Management. The Continental Divide Trail also passes through Cuba. Despite these ample natural resources, residents did not exercise outside regularly. The reasons included:

- Unattractive or inaccessible opportunities for walking and/or exercise
- Poor condition of sidewalks (built in 1967)
- Unmaintained Continental Divide Trail within the city’s borders
- No trailheads to access federal parklands

The Step Into Cuba Alliance is a partnership of more than 20 organizations founded in 2008 “to promote healthy lifestyles and prevent chronic disease by providing walkways, trails and social support for walking and hiking.”¹⁴ It is coordinated by the local Nacimiento Medical Foundation and includes local, state, and national health agencies and funders, as well as three federal parks agencies—the U.S. Bureau of Land Management, Forest Service, and National Park Service (NPS). The Alliance runs a number of programs, including the local version of Prescription Trails New Mexico (see Case 2).

¹⁴ Step Into Cuba (www.stepintocuba.org).

One of the strongest supporters of Prescription Trails is Dr. Richard Kozoll, a senior primary care physician in Cuba. Dr. Kozoll emphasizes the importance of repeated patient interactions and a supportive environment to change patients' exercise behaviors. He therefore prefers to use "motivational interviewing"¹⁵ and referrals instead of writing a prescription for specific exercises. Dr. Kozoll estimates that on average he conducts four motivational interviews for each exercise prescription written. Moreover, he has found his patients are especially receptive when he refers them to participate in social exercise activities, such as those organized by the town's "Walking Champion."

In addition, the Alliance has several notable projects underway to develop safe places for exercise and promote their use.

■ **City Park Redevelopment**

With volunteer help from the University of New Mexico School of Architecture and funding from Step Into Cuba grants, Cuba recently redesigned its city park and trails.

■ **Trailhead to the Mesa Lands**

A strip of land has been donated to the Nacimiento Medical Foundation for a new, ½-mile trail that will connect Cuba to the top of the mesa providing great views, new access to forests, and incentives for use.

■ **Continental Divide Trailhead**

A new 10-year plan for the county fairgrounds includes the development of a series of trails, as well as a trailhead to the Continental Divide Trail.

Creating Trails with a Medical Purpose

THE MEDICAL MILE, LITTLE ROCK, ARKANSAS

The National Park Service's Rivers, Trails, and Conservation Assistance Program, Heart Clinic Arkansas, and Little Rock Parks and Recreation actively engaged the local medical community to procure funding for a trail that highlights the connection between healthy lifestyle choices and prevention of disease.

The Medical Mile—touted as a "linear health museum"—features a mural wall, art displays, and a "Body-Mind-Spirit" entry plaza all designed to inform and inspire walkers down a path toward improved health. The full Arkansas River Trail links with local, state, and federal parklands and other outdoor recreational opportunities. This stretch of trail attracts over one million visitors each year.

Two dozen physicians with the state's largest cardiology clinic helped support the completion of the Arkansas River Trail by raising \$350,000 over two years to create a "medical mile" in downtown Little Rock. Additional support came from major hospitals, the Arkansas Department of Health, and many individual physicians. A total of \$2.1 million was raised for the project.

http://www.heartclinicarkansas.com/medical_mile.htm

¹⁵ Motivational interviewing is a counseling technique that engages the patient in constructive dialogue to identify the root causes of ambivalence and unhealthy behavior and learn how to overcome them. See more at *Motivational Interviewing* (www.motivationalinterviewing.org).

DRIVEN BY HEALTHCARE EXPERTS: PHYSICAL ACTIVITY INDOORS FOR HEALTH

CASE 5.

YMCA Diabetes Prevention Program

Based in: National Participation

Parent Agencies/Funders: UnitedHealth Group, CDC

Unique Features: Evidence-based; federal government funding; cross-sector partnership with large insurance provider

Website: www.ymca.net

“Diabetes affects nearly 25 million Americans, and that number is expected to grow substantially every year. It’s the fifth leading cause of death in America, more than breast cancer and AIDS combined. According to a report released in 2010 from

the Agency for Healthcare Research and Quality (AHRQ), it’s a disease that’s costing Americans \$83 billion a year in hospital fees—23 percent of total hospital spending.”¹⁶

Several large research studies, including the U.S. Diabetes Prevention Program (DPP) have now shown that with lifestyle changes and modest weight reduction, a person with pre-diabetes can prevent or delay the onset of the disease by 58 percent.

Responding to the rapid growth of diabetes in the United States, Indiana University researchers worked

¹⁶ “Diabetes: Hospital Bills Cost Americans \$83 Billion a Year,” Blaire Briody, *The Fiscal Times*, August 19, 2010.



with the YMCA of Greater Indianapolis to adapt the successful U.S. DPP—a 10-year, \$20 million federal investment through the National Institutes of Health and the CDC. Unlike the original program, which was conducted with individuals one-on-one, the YMCA's program was conducted in a group setting and is facilitated by a trained lifestyle coach.

At the YMCA, participants make lifestyle changes to reach the goals of reducing body weight by 7 percent and increasing physical activity to at least 150 minutes per week. The program in Indianapolis replicated the weight loss results of the much more expensive federal program at a fraction of the cost—\$250–\$350 per person per year. A recent study by The Urban Institute estimated that scaling a program like the YMCA's DPP could save the country \$191 billion dollars over the next 10 years.¹⁷

In April 2010, YMCA of the USA and UnitedHealth Group announced a partnership to expand the YMCA's DPP to seven markets across the country. The YMCA is offering this program as part of UnitedHealth Group's Diabetes Prevention and Control Alliance. In this first-of-its kind collaboration, UnitedHealth Group will reimburse the YMCA for each participant who is referred through the Alliance. Reimbursement amounts will track with performance-based metrics. The YMCA will receive higher reimbursement when the desired weight loss is achieved. By 2011, the YMCA and UnitedHealth Group will be collaborating on programs at 20 sites.

The YMCA is also partnering with the CDC to provide start-up funds for the YMCA's DPP in an additional 21 pilot sites across the country this year.

CASE 6.

SilverSneakers® Fitness Program

Based in: National Participation

Parent Agencies/Funders: Healthways, Medicare Advantage health plans, Medicare Supplement Insurers, Group Retiree Insurers

Unique Features: Involves insurance companies in encouraging people to exercise and make health behavior changes; detailed tracking mechanisms

Website: www.SilverSneakers.com

The SilverSneakers Fitness Program is a for-profit insurance benefit developed by Healthways, a leading provider of specialized, comprehensive solutions to help millions of people maintain or improve their health and well-being. Participating Medicare plans offer this benefit to U.S. seniors who are either eligible for Medicare or are group retirees. The program provides seniors with a membership to a participating fitness center, as well as fitness assessments and exercise plans. Medicare health plans utilize SilverSneakers to improve member health, manage risk, and lower cost.

Fitness centers that become SilverSneakers providers draw new members to their businesses. In exchange, they offer a “Senior Advisor” fitness professional, classes, equipment, and health education seminars geared toward seniors. Participating seniors enjoy an accessible exercise environment in the supportive company of peers.

In 2010, of the over six million health plan members eligible to participate in the SilverSneakers program, just over one million were enrolled at a given participating location (gym, YMCA, fitness center, etc.). In the month of June 2010, over 360,000 members participated in SilverSneakers (for a total of over 2,500,000 visits in one month).

Fitness Works for Seniors and Providers

According to a “claims analysis” performed by the Institute for the Study of Aging, the SilverSneakers

¹⁷ “The \$174 Billion Dollar Question: How to Reduce Diabetes and Obesity,” PowerPoint presentation by Lynne Vaughn, Chief Innovation Officer, The YMCA, July 24, 2010.

Fitness Program reduced healthcare costs and improved health status in the first year of program participation. The research examined data from Medica's Medicare Plans and concluded that healthcare costs among members enrolled in the program were \$441 (11 percent) lower than among a matched control group of nonparticipants. SilverSneakers' members had significantly lower inpatient hospital, skilled nursing facility, and home health costs.

Research showed a relationship between the number of times members visited a fitness center and their healthcare costs. Those averaging 1.4 fitness center visits per week contributed the largest savings—\$1,018—over those who enrolled in the program but barely participated. More frequent program participation also increased the likelihood of members reporting better health. Greater participation in the program is also associated with significantly lower risk of depression.

CASE 7.

Exercise is Medicine™

Based in: Indianapolis, Indiana

Parent Agencies/Funders: American College of Sports Medicine

Unique Features: Comprehensive medical diagnosis and treatment methodology; referral process to trained medical exercise professionals

Website: www.acsm.org

Exercise is Medicine™ (EIM) is a nonprofit program founded by the American College of Sports Medicine to promote physical activity as an essential component of health care. EIM boasts an expansive network of over 400 organizations of doctors, nurses, medical professional associations, nonprofits, public and private companies, and academic institutions.¹⁸

EIM developed a standard process¹⁹ for healthcare practitioners to diagnose and either directly prescribe or refer a patient to an expert who can work on an exercise program for the individual. The model considers two categories of information about a patient: 1) health (and level of physical activity) and 2) “stage of change,” a model that describes a patient's willingness to pursue exercise as part of treatment.

EIM advocates treating exercise as a “vital sign” and supports checking the four indicators of healthy exercise on a routine basis: types of activities, level of exertion, duration, and frequency. Practitioners benchmark against recommended guidelines from the *2008 Physical Activity Guidelines for Americans* (see Appendix D).²⁰

In addition to tracking exercise on an individual patient basis, EIM advocates that exercise be adopted into the Healthcare Effectiveness Data and Information Set (HEDIS). Developed by the National Committee for Quality Assurance, HEDIS data benchmark and “measure performance on important dimensions of care and service.” These data are also a precursor for patient care reimbursements to doctors.²¹

Tools to Help Prescribe Exercise

EIM has created a large collection of tools to help healthcare providers prescribe exercise to improve health such as:

- **Prescription Pad and Referral Form**
This form can be used for three purposes:
to prescribe a specific exercise regimen;
to recommend an exercise plan for a health

18 “Network Members,” *Exercise is Medicine* (www.exercisemedicine.org/supporters.htm).

19 Adapted from “Healthcare Providers' Action Guide,” *Exercise is Medicine* (www.exercisemedicine.org/physicians.htm).

20 *2008 Physical Activity Guidelines for Americans*: minimum 150 minutes of moderate physical activity a week and muscle-strengthening activities on two or more days a week (www.health.gov/paguidelines/default.aspx).

21 “HEDIS & Quality Measurement,” National Committee for Quality Assurance website (www.ncqa.org/tabid/59/Default.aspx).



EXERCISE PRESCRIPTION

Patient name: _____ DOB: _____

Physician's Signature _____

Date: _____

AEROBIC EXERCISE _____ Days/Week		Progressing to _____ min/session	
Impact Exercises		Non/Low-Impact Bearing Exercises	
<input type="checkbox"/> Jogging	<input type="checkbox"/> Aerobics	<input type="checkbox"/> Walking	<input type="checkbox"/> Swimming
<input type="checkbox"/> Walk/Jog	<input type="checkbox"/> _____	<input type="checkbox"/> Stationary bicycling	<input type="checkbox"/> Bicycling
<input type="checkbox"/> Rope skipping		<input type="checkbox"/> Rowing	<input type="checkbox"/> Aerobics
		<input type="checkbox"/> _____	<input type="checkbox"/> _____
Intensity Exercise Heart Rate _____ to _____ beats/min. or _____ to _____ beats/10 sec.			
Perceived exertion (see chart) _____ to _____ averaging _____			
Begin _____ program with _____ minutes, add _____ minutes every week.			
Begin _____ program with _____ minutes, add _____ minutes every week.			
Additional instructions _____			

STRETCHING/FLEXIBILITY EXERCISE _____ Days/Week	
<input type="checkbox"/> Pre/post Exercise and Physical Activity	<input type="checkbox"/> Low Back Flexibility Program
<input type="checkbox"/> General Program	<input type="checkbox"/> _____
Additional Instructions _____	

STRENGTH EXERCISES _____ Days/Week	
<input type="checkbox"/> Dumbbell/Barbell Conditioning Program	<input type="checkbox"/> Calisthenics
<input type="checkbox"/> Weight machine strength program	<input type="checkbox"/> Low Back Strengthening Program
Additional Instructions _____	

SPORTS AND RECREATIONAL EXERCISE	
Mode _____	Frequency _____ time(s)/week
Duration _____ minutes	

ADDITIONAL RECOMMENDATIONS AND COMMENTS

Figure 3: Exercise is Medicine Prescription and Referral Form

and fitness professional to supervise a patient; or to refer the patient to a professional who can tailor an exercise plan (see Figure 3).

- **Action Guide Toolkits**

EIM has developed at least five *Action Guide* toolkits to train healthcare practitioners on effective methods for counseling patients and prescribing exercise. Each *Action Guide* is written for a specific audience, including healthcare providers, nurses, physicians, fitness professionals, colleges/universities, and the general public.

- **Your Prescription for Health Series**

This is a set of more than 40 handouts and articles recommending specific types of exercise for patients with different types of illnesses, injuries, or conditions, taking into account their age, pregnancy status, and habits (e.g., travel a lot). These resources can provide training to healthcare providers and may also be used as handouts for patients.

- **“Physical Activity Readiness Questionnaire”**

The PAR-Q (modified version in Appendix E) contains yes/no questions that help assess a patient’s readiness for physical activity. It was developed with assistance from the Canadian Society for Exercise Physiology.

- **Exercise Readiness and Prescription Form**

A summary of findings from the exercise diagnosis, this form records useful information for the patient’s file. It provides space for a patient’s current exercise indicators, stage of change, and the practitioner’s recommendations.

- **ACSM ProFinder**

Useful for practitioners who want to refer a patient to an exercise professional, the ProFinder is a searchable online database of credentialed clinical and nonclinical exercise professionals.²² A

future goal of the EIM program is to create a similar online registry for fitness professionals educated about the EIM program and process.

CASE 8.

Chicago Exercise Prescription Fitness Center Waiver

Based in: Chicago, Illinois

Parent Agencies/Funders: Chicago Park District

Unique Features: Uses economic incentives to encourage patients to exercise; includes a detailed paper trail of prescriptions filled, which provides an opportunity to evaluate efficacy of model

Website: www.ChicagoParkDistrict.com/resources/fitness_centers/waiver.html

In 2003 the Chicago Park District launched a program to provide free gym membership to all Chicago residents whose physician diagnosed them with an obesity-related disease (e.g., diabetes, asthma, high blood pressure, heart disease) and prescribed exercise as part of their treatment. The program sought to eliminate cost as a barrier to exercise for these patients and to create an incentive for physicians to refer patients to the District’s fitness centers.²³

In addition to an extensive network of parks and outdoor recreation sites, the Chicago Park District boasts 66 parks that offer field houses with fitness centers. Chicago residents must pay for a 12-week quarterly membership to use a specific fitness center.

A Detailed Paper Trail

The fitness centers accept a prescription only if it explicitly states that it is for an obesity-related

²² “ACSM ProFinder,” American College of Sports Medicine (forms.acsm.org/_frm/crt/online_locator.asp).

²³ The Chicago Park District works with medical and nonprofit partners on a variety of obesity-related prevention efforts. CLOCC, West Side Health Authority, and the Chicago Department of Public Health are among those who actively promote the exercise prescription waiver program among the medical community. However, the District does not train physicians or offer training resources to participating organizations.



A Model for Park Exercise Prescriptions

The Chicago Exercise Prescription Fitness Center Waiver program may be the best publicly accessible model available to test different “park prescription” strategies.

This economics-based program offers unique opportunities to gauge efficacy and improve upon the exercise prescription model. By comparing the number of prescriptions written to the paper trail of prescriptions filled, researchers can determine a baseline prescription “fill rate” for the program.

By working with physicians, it is plausible that researchers could test the effectiveness of different types of patient counseling and prescription approaches to improving the baseline fill rate.

condition. In order to be accepted, physicians must write detailed, accurate prescriptions. One participating medical center developed a standardized prescription pad with spaces for each required piece of information.

The prescription can be used for only two sessions (24 weeks) and must be renewed by the physician each 12-week quarter, or else the patient will be charged the regular membership fee (\$30–75). The District creates a paper trail to track the prescriptions; copies of membership documents are kept at individual fitness centers and at the District’s central office.

Nonpharmaceutical Prescriptions: Boston Medical Center Patient Support Services

For more than a decade, Boston Medical Center (BMC)^a has acknowledged that nonmedical factors affect health—disproportionately so among low-income populations. As a result, the doctors and BMC play a role in educating their patients and connecting them with services that will help them deal with these other core issues.^b BMC's Patient Support Services program helps its doctors prescribe or refer their patients to legal aid,^c nutrition education, a food pantry,^d and other resources. The *Preventive Food Pantry and Demonstration Kitchen* is perhaps “the only hospital-based facility of its kind in the nation.”^e

BMC's many lifestyle-related programs^f include:

- **Preventive Food Pantry and Demonstration Kitchen** provides “food, education in nutrition, and cooking demonstrations to nearly 5,000 patients per month.”
- **Nutrition and Fitness for Life** addresses medical, behavioral, and social factors that contribute to obesity by employing an array of unique, multidisciplinary treatments.
- **Medical-Legal Partnership | Boston** allies with lawyers to ensure patients' basic needs such as food, housing, safety, and health care are met.
- **Project HEALTH** advocates for 700 inner-city families per year connecting them with food, shelter, health insurance, job training, and child care. BMC mentors include physicians, lawyers, family advocates, and nurses.

a BMC was formed by the merger of Boston City Hospital (BCH) and Boston University Medical Center Hospital in July 1996. Many of these programs were in existence at BCH prior to the merger (en.wikipedia.org/wiki/Boston_Medical_Center).

b For example, landlords who maintain unhealthy conditions. Rachel Gotbaum, WBUR 90.9FM. *Boston Medical Center Documentary*. June 22, 2006; updated October 4, 2009 (www.wbur.org/2006/06/22/boston-medical-center-documentary).

c *Medical-Legal Partnership | Boston* (www.mlpboston.org). *Pediatrics—Medical-Legal Partnership* (www.bmc.org/pediatrics-medicallegalpartnership.htm). Boston Center for Refugee Health and Human Rights (www.bcrhhr.org).

d *The Grow Clinic* (bmc.org/pediatrics-growclinic.htm). See also (www.bmc.org/Documents/WhatMakes_BMC_Special_Brochure.pdf).

e www.bmc.org/services.htm; www.mlpboston.org

f Boston Medical Center Office of Development website (<http://development.bmc.org/site/pp.asp?c=fllVJhP8H&b=131278>).

DRIVEN BY PARKS: PHYSICAL ACTIVITY IN NATURE FOR HEALTH

CASE 9.

National Park Service Health and Recreation Pilot Projects

Based in:

Acadia National Park
 Chesapeake and Ohio Canal National Historical Park
 Cuyahoga Valley National Park
 Point Reyes National Seashore
 Sitka National Historical Park
 Timucuan Ecological and Historic Preserve
 Zion National Park

Parent Agencies/Funders: NPS Health and Recreation Committee Advisory Board

Unique Features: Systematic attempt to quantify changes in awareness, attitude, and behavior regarding park-based physical activity

Website: www.nps.gov/policy/advisory/Progressreport-2007.pdf

In 2006, the Health and Recreation Committee of the NPS Advisory Board recommended a study of how NPS could increase physical activity and exercise among park visitors and community members. As a result, the NPS conducted seven health and recreation pilot programs in three destination parks (Acadia National Park, Sitka National Historical Park, and Zion National Park) and four urban parks (Chesapeake and Ohio Canal National Historical Park, Cuyahoga Valley National Park, Point Reyes National Seashore, and Timucuan Ecological and Historic Preserve).

The study's goal was to assess the effectiveness of communications and program strategies to:

- Increase awareness of health benefits by park visitors derived from recreation activities at national park units
- Increase healthful recreational/physical activity by park visitors
- Increase regular healthful physical activity behaviors at home, outside of park settings

The pilots conducted and developed:

- **Marketing campaigns** including brochures, newspaper ads, and press releases.

Key recommendations produced by the pilot projects include:

- Continue refining evaluation strategies
- Obtain adequate sample sizes, both within and across parks, for future study
- Identify individually tailored approaches for special (high-risk) populations
- Deepen and broaden partnerships and coalitions to promote physical activity
- Utilize social media/marketing to enhance program effectiveness
- Institutionalize "evidence-based strategies" to promote physical activity at parks
- Study feasibility of scaling up to an NPS-wide initiative

- **Guides, maps, and other published materials** disseminated both within parks and within nearby city centers.
- **Participatory contests** where participants in a program at C&O Canal logged their miles on a website that in turn offered incentives such as entertaining podcasts.
- **Ranger-led activities.** One program at Sitka National Historical Park arranged for uniformed rangers to meet cruise ship passengers disembarking at Sitka.
- **Targeted outreach to underserved populations.** Timucuan Preserve targeted African American youths from a nearby subsidized housing community, working with the development to provide transportation to the site. Cuyahoga Valley's "Get Up, Get Out, and Go!" program

conducted pre-tests to alleviate local children's fears of unfamiliar, wooded environments.

According to the final report, "five of seven pilot projects showed evidence of effectiveness in increasing rates of physical activity" with relatively little cost or strain on NPS resources. These five programs were ones that conducted organized events or used ranger interaction to enhance the experience, versus those that relied on marketing campaigns alone.

A commonly cited "side benefit" of the pilot projects was the establishment of new partnerships across a diversity of sectors and organizations, including healthcare organizations, media outlets, public housing, schools, and recreation groups.

CASE 10.

Kids in Parks Initiative

Based in: Asheville, North Carolina

Parent Agencies/Funders: Blue Ridge Parkway Foundation; NPS Blue Ridge Parkway; Blue Cross and Blue Shield of North Carolina

Unique Features: Website targets children, who can track progress and receive toy incentives; website includes resources for hiking and nutrition; explicitly identifies reciprocal relationship between healthy parks and healthy kids

Website: www.kidsinparks.com

According to a program summary released by Blue Ridge Parkway Foundation, one in every three children in North Carolina is overweight and only 7–12 percent of the Parkway's visitors bring children. The survey results identified an opportunity to promote future stewards as well as combat childhood obesity among residents and visitors by promoting active lifestyles.

Kids in Parks is a program of the Blue Ridge Parkway Foundation supported by Blue Ridge Parkway and the Healthy Active Communities program of Blue Cross and Blue Shield of North Carolina Foundation,

California State Parks and SeeChange Health Insurance Pilot Projects

SeeChange Health is a new insurance company that rewards members for healthy lifestyles and preventive health practices. SeeChange Health's value-based plans reduce healthcare costs by encouraging individuals to play an active role in the management of their health. The benefit plans provide members with financial incentives, such as reduced co-pays and lower deductibles, to encourage adherence to recommended preventive care and condition-specific actions.

SeeChange and the California State Parks are developing a new partnership whereby all SeeChange members will receive information about the State Parks located in their region. SeeChange has committed to reimbursing all members for the cost of State Park entrance fees. SeeChange will track park reimbursement claims and compile data on correlations between health and park visitorship. This is the first step in an effort to create meaningful evaluation programs of *Park Prescriptions*.

within its focus area. Reflected in its partnerships, this initiative’s primary aim is to connect and promote child health, park health, and community health. Kids in Parks recognizes the reciprocal relationship between parks serving as resources for health and those experiences creating a path to future stewardship.

One of the Kids in Parks’ tools for achieving its goals is the TRACK Trails program. The TRACK (Trails, Ridges, & Active, Caring Kids) program is designed to make hiking more attractive to kids and families in order to increase physical activity and connection to the cultural heritage and natural resources of local communities. Families use the website to log in and register trail hikes to receive prizes related to outdoor activities (see Figure 4). The website doubles as a resource for parents and as a method for collecting data regarding the program’s effectiveness. It includes a trail locator map, hiking tips, and a section for good nutrition habits and food resources titled “Feed Me Well.”

Since Kids in Parks opened its first pilot trail in Asheville on August 29, 2009, 35 percent of registered users indicated they had never been to the Parkway before; 97 percent said they would come again; and 45 percent have already returned.²⁴ Currently, there are four TRACK trails with six new trails to open this year, including the nation’s first Nature Trail Disc Golf Course and a Nutritional TRACK Trail in Partnership with Food Lion.

Figure 4:
Trail TRACKer Gear, Kids in Parks Initiative Incentives

Trails Tracked	Trail TRACKer Incentive
1	Bandana
2	Nature journal
3	Discovery kit
4	Field guide
5	TRACK sac
6	Walking stick

(<http://kidsinparks.com/tracker/>)

24 Kids in Parks program summary. Carolyn Ward, President, Blue Ridge Parkway Foundation (August 12, 2010).

CASE 11.

Green Gyms

Based in: Doncaster, United Kingdom

Parent Agencies/Funders: BTCV (formerly the British Trust for Conservation Volunteers)

Unique Features: Impressive longevity and durability of program combining outdoor activity and healthy exercise; prominent outdoors volunteerism component; integration with and endorsement by the national healthcare system

Website: www2.btcv.org.uk/display/greengym

Founded in England over a decade ago by BTCV (formerly the British Trust for Conservation Volunteers), Green Gyms are structured programs that use gardening, trail maintenance, environmental conservation, and other nature-based activities as exercise. The original community-based program was 10 weeks long and included pre- and post-assessments of health and biweekly nature-based exercise activities. This developed into a model that created a Green Gym over a period of 18–24 months in order to leave a self-sustaining, volunteer-led “gym.”

Advertised as a fun, free alternative to gyms and sports and an opportunity to meet other people, serve the community, and learn new skills, Green Gyms typically attracted 10–40 people. BTCV has since replicated the model for schools, and more recently, prisons, for a total of approximately 115 Green Gyms across the United Kingdom. BTCV replicates Green Gym through franchise licenses to groups across England. Local governments have funded partnerships to start Green Gyms.

The original Green Gym program model calls for staff support from BTCV to get a Green Gym club started and to transfer leadership to local volunteers within two years.²⁵ However, future organizations

25 It has priced the startup cost to mentor the program into sustainability at £7,000 for a community-based and £17,000 for a school program per year. “Start a Green Gym,” BTCV (www2.btcv.org.uk/display/greengym_starting).

purchasing a licence to run Green Gyms will have a lower level of BTCV support and monitoring. While they do not manage or offer an exercise prescription process, Green Gyms are often founded through the advocacy of primary care practitioners and other healthcare professionals.

BTCV has been recognized by the British National Health Service for improving exercise habits and overall health of its Green Gym members. A February 2010 study of cost-effectiveness by Oxford-Brooks University also found that between 2005 and 2009, Green Gyms operated at a 1 to 2.55 cost-to-benefit ratio—“for every £1 invested in Green Gym infrastructure, £2.55 has been saved in the treatment of inactivity-related illness.”²⁶

CASE 12.

Golden Gate Community Trailhead Project

Based in: San Francisco, CA

Parent Agencies/Funders: Golden Gate National Parks Conservancy; Richmond District (San Francisco) YMCA; NPS Golden Gate National Recreation Area (GGNRA); Presidio Trust; CDC

Unique Features: Effective collaboration of a fitness center, NPS, and nonprofit partner

Website: www.parksconservancy.org/our-work/trails-forever

The Community Trailhead Project (CTP)²⁷ is a collaboration²⁸ designed to encourage residents of a San Francisco neighborhood and members of a local YMCA²⁹ to use nearby trails and national

park lands to improve health. The program is a successful collaboration of a community-based fitness center, a national park (Golden Gate National Recreation Area), and a regional nonprofit that supports it (Golden Gate National Parks Conservancy).

Prior to initiating the project, a survey of YMCA members found that 42 percent did not walk or run on the trails immediately adjacent to the neighborhood and the YMCA facility. The reason cited for non-use was a lack of information about how to do so.

Program implementation included:

- Installation of a publicly accessible sign in front of the YMCA that showed how to find the park sites and trails, the distance and duration of each hike, difficulty, and health information such as number of calories burned
- Free brochures of this information in English, Chinese, and Russian (reflecting the diversity of the neighborhood)
- Training for YMCA fitness staff on walking/hiking routes and staff-led hikes for YMCA members
- Establishment of a hiking club

The CTP plans to quantify the level of raised awareness through a survey in the fall of 2010.

CASE 13.

Get Fit with US

Based in: Nationwide Participation

Parent Agencies/Funders: U.S. Department of Agriculture Forest Service

Unique Features: Regional and local partnerships with schools and recreation and health businesses

Website: www.getfitgreatfalls.org

Get Fit with US is a partnership led by the USDA Forest Service in collaboration with community businesses and health advocates. *Get Fit with US*

26 “Cost-effective health: Estimated cost effectiveness of the BTCV Green Gym between 2005-2009,” BTCV, 2010, pg. 2.

27 “YMCA’s Community Trailhead project promotes health through trails,” Health & Fitness, American Trails (www.americantrails.org/resources/health/ymca08.html).

28 Participating Agencies: Golden Gate National Parks Conservancy, Richmond District YMCA, U.S. Centers for Disease Control and Prevention, and National Parks Service.

29 www.ymcasf.org/richmond



focuses on the health benefits that can be derived from outdoor recreation and takes advantage of over 193 million acres of forest and grasslands managed by the Forest Service. *Get Fit with US* promotes easy, natural, and fun solutions to inactivity and obesity, and supports the First Lady's Let's Move Outside campaign.

Get Fit with US was launched in 2003 to raise awareness of outdoor recreation opportunities and encourages children and their families to become more active outdoors. The Forest Service developed and field-tested materials (e.g., brochures, booklets) for participating community coalitions to use in encouraging people to become more active outdoors.

These free materials can be modified to meet the needs of local populations.

Get Fit with US represents a new approach for the U.S. Forest Service to engage with local communities. Several projects work with local schools and after school programs, thereby reaching a broad range of demographics. For example, the intermountain west is experiencing rapid growth in the Hispanic population. In Salt Lake City, Utah, a *Get Fit with US* project conducted by the Wasatch-Cache National Forest and Cottonwoods Foundation provides first-time snowshoeing experience during a winter ecology field trip. Thus, Hispanic fourth graders in the Salt Lake City school system have a first-hand experience of their local national forest.



CONCLUSION

Parks, public health agencies, healthcare providers, and other entities across the United States are working together to promote physical activity and nutrition and improve the health of patients and the general public. Some of these partnerships have developed strategies to leverage the doctor–patient relationship to achieve this goal.

These programs have begun to learn what works, what deserves more study, and the institutional realities that may challenge their success. Generally, two overarching needs must be met. Healthcare practitioners need more education on the value of physical activity in nature as a powerful resource for health and more training on how to counsel and

prescribe it to their patients. At the same time, parks and community programs need to tailor their communications and programs to better serve patients with a variety of health conditions—as well as the doctors making the park prescriptions.

The programs highlighted in this report represent a small but shining portion of the landscape of rapidly emerging innovation. However, the existing efforts are fragmented. By establishing mechanisms for shared communication, learning, funding, and coordination, these local efforts can be leveraged into a more impactful, cross-sector movement that improves health and well-being on a national scale.



APPENDIX A RESOURCES

ParkInfo.org

Based in: San Francisco, California

Parent Agencies/Funders: GreenInfo Network

Unique Features: Highly detailed web resource for parks, trails, and campgrounds in California; easily adapted for health-related purposes

Website: www.ParkInfo.org

ParkInfo is a website that allows users to search for parks, campgrounds, and trails throughout California.³⁰ The nonprofit GreenInfo Network, ParkInfo's creator, contends that with relatively little effort it could build a health-focused website portal into ParkInfo's data. This would allow doctors and patients alike to search for nature-based exercise venues according to the patient's locations and needs.³¹

30 ParkInfo is uniquely detailed because of its use of data from the California Protected Areas Database (www.CALands.org), a complete Geographic Information System database of "all protected parks and open space areas in California....over 50,000 holdings totaling 49 million acres, owned by 850 public agencies and non-profits," according to GreenInfo Network. It was made possible by a collaboration of 12 nonprofit organizations, foundations, and government agencies, who intended that it be widely shared. It invites other agencies, organizations, and businesses to embed ParkInfo's "search and mapping capacities" into their websites.

31 Building this website is contingent on receiving detailed specifications from medical advisors.

Places for Physical Activity Action Guide

Based in: Washington, DC

Parent Agencies/Funders: Partnership for Prevention

Unique Features: Offers detailed, step-by-step guidance for public health professionals to coordinate trail development and promote use

Website: www.prevent.org/Publications-and-Resources.aspx

*Places for Physical Activity*³² is one of five Action Guides published by the Partnership for Prevention that show community members, government agencies, and nonprofit and private partners how to create, improve, and raise awareness about accessible venues for physical activity.³³

The 39-page *Places for Physical Activity* action guide focuses on helping public health practitioners coordinate community trail development projects and effectively promote their use by people of all ages.³⁴ It describes 19 different action steps, including how to gather information, pick a trail location, identify and recruit partners and sponsors, raise money to implement the project, obtain permits and easements, prepare for construction, and

32 From *The Community Health Promotion Handbook: Action Guides to Improve Community Health*. Washington, DC: Partnership for Prevention; April 2009. The full title of this Action Guide is "Places for Physical Activity: Facilitating Development of a Community Trail and Promoting Its Use to Increase Physical Activity Among Youth and Adults—An Action Guide."

33 Ibid, pg. 3. Three recommended focus areas by the CDC's Task Force on Community Preventive Services.

34 Ibid.

conduct promotional activities. It also contains an extensive appendix.

National Physical Activity Plan

Based in: National Participation

Parent Agencies/Funders: National Coalition of Health and Public Lands Organizations

Unique Features: Detailed recommendations for policies, programs, strategies, and research related to physical activity for health

Website: www.physicalactivityplan.org

As described on its website, the National Physical Activity Plan is a comprehensive set of policies, programs, and initiatives designed to increase physical activity in all segments of the American population. The Plan is the product of a private–public sector collaborative. Hundreds of organizations are working together to change our communities in ways that will enable every American to become physically active.

The Plan aims to create a national culture that supports physically active lifestyles. Its ultimate purpose is to improve health, prevent disease and disability, and enhance quality of life.

The U.S. National Physical Activity Plan is comprised of recommendations, strategies, and tactics that are organized in eight societal sectors:

- Business and Industry
- Education
- Health Care
- Mass Media
- Parks, Recreation, Fitness, and Sports
- Public Health
- Transportation, Land Use, and Community Design
- Volunteer and Nonprofit

Task Force on Community Preventive Services

Based in: Atlanta, Georgia

Parent Agencies/Funders: CDC

Unique Features: Evaluative forum for nature/park prescription programs

Website: www.thecommunityguide.org

The Task Force on Community Preventive Services periodically reviews the results of public health interventions and publishes recommended strategies in journals and through the *Community Guide to Preventive Health*.³⁵

³⁵ CDC *Community Guide to Preventive Health* (www.thecommunityguide.org)

APPENDIX B

ORGANIZATION WEBSITES CONTAINING PARKS MAPPING TOOLS

Internet Park Mapping Tools

American Hiking Society	www.americanhiking.org/Get-Involved/National-Trails-Day
American Trails	www.americantrails.org/resources/statetrails/index.html
Every Trail	www.everytrail.com
Golden Gate National Parks Conservancy	www.parksconservancy.org/visit/map.html
Intermap Technologies	www.mobile.accuterra.com
Kids in Parks Initiative	www.kidsinparks.com/trail_locator
Let's Move Outside	www.letsmove.gov/outside/index.html
Nature Find	www.nwf.org/naturefind
ParkInfo.org	www.parkinfo.org
Playspace Finder	playspacefinder.kaboom.org
Prescription Trails New Mexico	www.prescriptiontrailsnm.org
Recreation.gov	www.Recreation.gov
Take A Hike	www.parks.ca.gov/?page_id=24054
Take It Outside	www.blm.gov/pgdata/content/wo/en/prog/more/Children_and_Nature.html

iPhone Mobile Apps

Hike. GPS trail maps supporting the American Hiking Society

<http://itunes.apple.com/us/app/hike-gps-trail-maps-supporting/id365960694?mt=8>

AccuTerra. On-demand Maps & GPS Tracker: Hiking, Trail Running, Biking, Skiing, Snowboarding

<http://itunes.apple.com/us/app/accuterra-on-demand-maps-gps/id324036903?mt=8>

Map Candy. AccuTerra Maps & GPS Tracker: Trails to Hike, Run, Bike, Ski, Hunt

<http://itunes.apple.com/us/app/map-candy-unlimited-accuterra/id355787609?mt=8>

APPENDIX C

PRESCRIPTION TRAILS NEW MEXICO, TRAIL EVALUATION CRITERIA AND NOTES FORM

PARK NAME & ZIP CODE	NOTES	SAMPLE QUESTIONS
parking		Is there a parking lot? Is parking on street?
major cross streets		Identify major cross streets. Helpful for people who may not know where smaller parks are located
SF Trails		Is there a bus stop nearby? (Probably within ¼ mile)
public facilities nearby		Community/rec/senior/ library/ etc. Police/Fire stations Restrooms, telephones, etc, business areas
safety/ visibility		We're looking for clear lines of sight along the paths. Would users feel comfortable? Is vegetation along trail being managed? Could someone hide in the vegetation?
loops/ distance		Loop routes are preferred. A loop can be a minimum of ¼ mile
path width (4' minimum)		6-8 feet preferred. Cannot accommodate 2 abreast with 4' easily.
grade (less than 5%)		Grades in excess of 5% can be considered, but not for universal access
cross-slope (less than 2%)		Difficult to measure. Think of a driveway cut—that's excessive cross-slope.
firm, stable, and slip-resistant surface		Concrete, asphalt, packed crusher fine are primary acceptable surfaces. Packed dirt suitable for Grade III.
attractions for kids		Is there a playground nearby?
benches, resting areas		
other notes		Comment on activity: Is trail/park obviously getting public use?
label aerial, draw loops on it		

Grade Definitions	Trails are identified and graded according to level of difficulty. Most are loops that go around a park.
Grade 1 = Accessible to all users.	A flat, paved pathway located in or around a park that is suitable for wheelchairs and mobility impaired
Grade 2 = Mostly accessible.	A paved or packed crusher fine pathway that may have minor grade changes, located in or around a park
Grade 3 = Slightly challenging.	A paved, packed crusher fine or dirt pathway with variations in grade

APPENDIX D

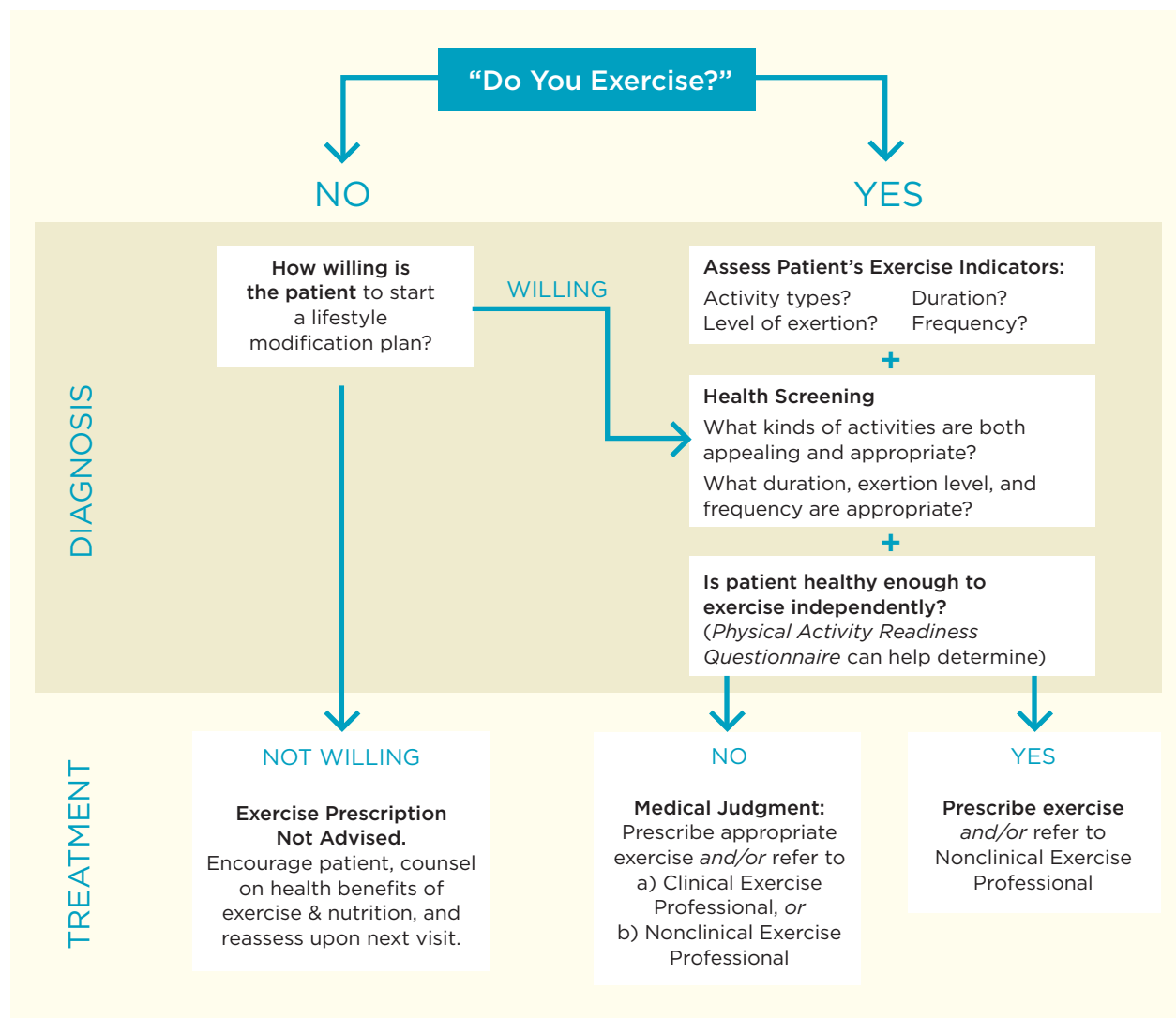
EXERCISE IS MEDICINE™ “MEETING THE GUIDELINES AND STARTING AN EXERCISE PROGRAM”

(FROM *PUBLIC ACTION GUIDE*)

Age	No Chronic Conditions	Chronic Conditions
Children & Adolescents (ages 6-17)	<p>60 minutes or more of physical activity every day (moderate- or vigorous-intensity aerobic physical activity).</p> <p>Vigorous-intensity activity at least 3 days per week.</p> <p>Muscle-strengthening and bone-strengthening activity at least 3 days per week.</p>	<p>Develop a physical activity plan with your healthcare professional. Avoid inactivity.</p> <p>Refer to the <i>Your Prescription for Health</i> series.</p>
Adults (ages 18-64)	<p>150 minutes a week of moderate-intensity, or 75 minutes a week of vigorous-intensity aerobic physical activity</p> <p>Muscle-strengthening activities that involve all major muscle groups performed on 2 or more days per week.</p>	<p>Develop a physical activity plan with your healthcare professional. Be as physically active as possible. Avoid inactivity.</p> <p>Refer to the <i>Your Prescription for Health</i> series.</p>
Older Adults (age 65+)	<p>Follow the adult guidelines, or be as physically active as possible. Avoid inactivity.</p> <p>Exercises that maintain or improve balance if at risk of falling.</p>	<p>Develop activity plan with healthcare professional.</p> <p>Refer to the <i>Your Prescription for Health</i> series.</p>

Source: 2008 *Physical Activity Guidelines for Americans*.

APPENDIX E EIM PRESCRIPTION DIAGNOSIS TREE (ADAPTED FROM *HEALTHCARE PROVIDERS' ACTION GUIDE*)



APPENDIX F

LIST OF INTERVIEWEES

- Attila Bality. National Park Service, Rivers, Trails & Conservation Assistance Program New Mexico Office. *Prescription Trails New Mexico* (June 15, 2010).
- Kate Bickert. Associate Director, Park Projects & Stewardship, Golden Gate National Parks Conservancy. *Community Trailhead Project* (June 24, 2010).
- Ellen Burton. ACSM Program Officer, Exercise is Medicine™. *Exercise is Medicine* (July 6, 2010).
- Melanie Chansky. Senior Program Evaluator, National Recreation and Park Association. *ACHIEVE Communities* (June 17, 2010).
- Rachel Cook. Senior Specialist Health and Environment, Active London Programme. Senior Health Policy Advisor, Office of the Mayor of London. *Walk for Health* (June 25, 2010).
- Ken Croken. VP Corporate Communications and Marketing, Genesis Health System, Davenport, IA. *ACHIEVE Communities* (June 28, 2010).
- Mark Cucuzzella, MD. Associate Professor Family Medicine, West Virginia University Department of Family Medicine. Harpers Ferry Family Medicine. *C&O Canal* (June 22, 2010).
- Bryan Day. Assistant City Manager, Little Rock, AR. *Medical Mile* (August 11, 2010).
- David Goodspeed. Healthways Fitness Division Communications, Healthways. *SilverSneakers Fitness Program* (August 10, 2010).
- Laura Gottlieb, MD, MPH. *Prescription Trails New Mexico* (June 18, 2010).
- Theresa Hauman. Senior Recreation Manager for the City of Davenport. *ACHIEVE Communities* (June 28, 2010).
- Yvonne Hunt. Development Manager—Health, BTCV. *Green Gyms* (June 21, 2010).
- Richard Kozoll, MD. Nacimiento Medical Foundation. *Prescription Trails, Cuba New Mexico* (June 25, 2010).
- Colleen Lammel-Harmon, RD, LDN. Wellness Manager, Chicago Park District. Executive Director, Mayor's Fitness Council. *Exercise Prescription Fitness Center Waiver* (July 2, 2010).
- Charm Lindblad. Executive Director, New Mexico Health Care Takes On Diabetes. *Prescription Trails New Mexico* (June 10, 2010).
- Leyla McCurdy. Senior Director World Health & Environment, National Environmental Education Foundation. *Children and Nature Initiative* (June 22, 2010).
- Larry Orman. Executive Director, GreenInfo Network. *ParkInfo.org* (June 9, 2010).
- Duane L. Ross, MD. Medical Director, Government Programs, BCBSNM. *Prescription Trails New Mexico* (June 17, 2010).
- Anna Schulte. Healthy Communities Coordinator, Nacimiento Medical Foundation. *Prescription Trails, Cuba New Mexico* (June 23, 2010).
- Carolyn Ward. Program Director, Blue Ridge Parkway Foundation. *Kids in Parks Initiative* (August 12, 2010).

ABOUT US

The Institute at the Golden Gate

Fort Baker | Sausalito, California | (415) 561-3560 | www.instituteatgoldengate.org

The Institute at the Golden Gate advances environmental preservation and global sustainability by facilitating cross-sector dialogue and collaboration, encouraging new partnerships, and promoting action. The Institute is a program of the Golden Gate National Parks Conservancy in partnership with the National Park Service. Working alongside Cavallo Point—the Lodge at the Golden Gate—the Institute convenes and collaborates with nonprofit, for-profit, and government groups to broker long-term relationships focused on driving environmental change in an exceptional and inspirational setting at Fort Baker.

At the Institute’s annual signature event, *Turning the Tide*, working groups called “guilds” convene around key topics such as business and the environment, youth leadership, sustainable communities, media and the environment, and health and national resilience. In the spring of 2009, the Health and National Resilience Guild began discussing how parks can be better utilized by and integrated with the American healthcare system. *Park Prescriptions* is the result of these initial Guild conversations.

Golden Gate National Parks Conservancy

Fort Mason | San Francisco, California | (415) 561-3000 | www.parksconservancy.org

The Golden Gate National Parks Conservancy is the nonprofit membership organization created to preserve the Golden Gate National Parks, enhance the experiences of park visitors, and build a community dedicated to conserving the parks for the future. The Conservancy is an authorized “cooperating association” of the National Park Service and is one of more than 70 such nonprofit organizations working with national parks around the country.

National Park Service

Golden Gate National Recreation Area | San Francisco, California | (415) 561-4700 | www.nps.gov/goga

National Park Service is a federal agency within the U.S. Department of the Interior charged with managing the preservation and public use of America’s most significant natural, scenic, historic, and cultural treasures. The NPS manages the Golden Gate National Parks, as well as 391 other parks across the United States.

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