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Introduction to the Special Issue on Fall Injury Prevention

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Fall injuries are an enormous burden for older American Indians and Alaska Native (AI/AN) adults. They are the leading cause of unintentional injury deaths among AI/AN adults over 65 years of age. Among Alaska Natives aged 60 and older, falls account for 77% of all injury hospitalizations. In 2008, the average contract health charges for a single hospitalization due to fall injuries were nearly $36,000. The combination of demographic growth of the older population and high rates of diabetes in many AI/AN communities means that fall injury prevention will be an increasingly urgent priority.

As the articles in this issue demonstrate, comprehensive approaches to falls prevention among older adults must address the multi-factorial nature of falls. Both clinical and community health systems, and enhanced communication between them, are essential. Fortunately, models of care and resources for professional training and patient education are increasingly available. In addition to the program for primary care providers described in Dr. Scott's article in this issue, the CDC's National Center for Injury Prevention and Control recently released "The Stopping Elderly Accidents, Deaths & Injuries" (STEADI) Tool Kit for health care providers (*www.cdc.gov/injury/steadi*). Based on a simple algorithm, the tool kit includes basic information about falls, case studies, gait and balance assessment tests, instructional videos, and educational handouts.

This special issue of *The Provider* on fall injury prevention contains a great deal of practical information. In addition, we hope these articles will promote collaboration among clinicians, public health personnel, and community members to clarify the circumstances and risk factors behind fall injures and identify the best practices to prevent them.

In this Issue…

Fall Prevention for Primary Care Providers: A Model Program from British Columbia

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Background

An estimated one in three persons over the age of 65 is likely to fall at least once each year.[1] In Canada, this translates to over 1.6 million seniors experiencing a fall in 2011. With the anticipated increase in the number of older persons in Canada,[2] this will increase to approximately 3.7 million by 2036.

Falls are the most costly source of injury among all ages, and falls among seniors were responsible for over 30 percent of total injury-related costs in Canada in 2004.[3] Even more important are the costs to society and individuals who sustain a fall. These include immobility due to a fear of future falls, pain, disability, financial hardships for persons injured by a fall and their families, dependence on others, premature admission to long term care, and premature death due to fall-related injuries. In 2004, adults aged 65 years and older accounted for approximately 13% of the Canadian population, and direct health care costs for fall-related injuries were $2.0 billion.[3] Without concerted fall prevention efforts, these costs are expected to more than double by 2031.[3]

The good news is that there is strong evidence to show that falls and resulting injuries can be prevented through changes in behavior, health service delivery, and the built environment.[4-6]

The most successful programs are those that include a comprehensive risk assessment followed by multiple proven interventions tailored to individual risk profiles.[4,7]

A number of clinical fall prevention guidelines exist to assist health care professionals in their assessment of fall risk and in their management of older adults who have fallen or are at risk of falling. Examples are guidelines by the Registered Nurses Association of Ontario, the American Geriatrics Society and British Geriatrics Society, the National Institute for Clinical Excellence, and the American Medical Directors Association.[8,4,9,10] However, the application of such guidelines to clinical practice is lacking.[11-13] The challenges to integrating evidence into practice are many, including time limitations and competing demands, knowledge and skill deficits, lack of coordination, and inadequate reimbursement.[12-15]

Recommendations for improving fall prevention practices include providing physician and other primary care providers with training and resources such as screening guides, educational materials, environmental and home safety checklists, and resources to support referrals.[11] To address this issue, a partnership of fall prevention experts, health care policy makers, and primary care physicians from across British Columbia (BC) developed a user-friendly, evidence-based fall prevention multi-media training program for primary care providers in BC. This paper describes the process used to develop this program, the results of an evaluation of its application by physicians, and the dissemination plan.

Development

Development of the Primary Care Fall Prevention (PCFP) materials was funded by the BC Ministry of Health. The effort was led by fall prevention experts at the Ministry's Centre of Excellence on Mobility, Fall Prevention and Injury in Aging (CEMFIA), in partnership with the General Practice Services Committee (GPSC) Practice Support Program (PSP), the BC Medical Association (BCMA), and the BC Injury Research and Prevention Unit (BCIRPU).

The BC Ministry of Health has the overall responsibility for ensuring the quality, appropriateness, cost effectiveness and timeliness of health services that are made available for all British Columbians.[16] CEMFIA represents a unique collaborative of researchers, health care providers, and policy makers with a shared goal of improving the health and safety of older British Columbians.[17] The GPSC offers an expanded role for physicians in BC in determining the future direction of health care through mutually identified initiatives around quality patient care and system-wide improvements.[18] The PSP, offered through the GPSC, is focused training for physicians and their medical office assistants to help improve practice efficiency and to support enhanced delivery of patient care.[19] The PSP was launched in 2007 with two objectives: to improve care for patients throughout the province and to increase job satisfaction among BC's general practitioners. The BCMA is a voluntary association of British Columbia's physicians, medical residents, and medical students. Governed by an

elected body of physicians, the BCMA represents the collective view of the BC medical profession and negotiates on behalf of physicians for their compensation.[20] The BCIRPU is a government funded research agency whose key objectives include reducing the burden of injury in BC; leading research and knowledge development; improving surveillance; guiding evidence-based prevention; supporting professionals and practitioners; providing awareness, education, and public information; and saving lives, reducing disability, and promoting safety.[21]

A development committee provided expertise on the proposed components of the PCFP multimedia package, the contents of each element, appropriateness for application to primary care practice in BC, and on best the means for dissemination and implementation. In addition, a core team of fall prevention experts and multimedia program designers worked to ensure that the PCFP materials were consistent with proven evidence for fall prevention, applicable to primary care practice, and packaged for ease of use.

The development committee included government divisions that guide policy for injury prevention, health promotion, and care for seniors in BC (BC Ministry of Health: Chronic Disease, Built Environment and Injury Prevention Branch, Division of Integrated Primary and Community Care, and the Seniors Healthy Living Secretariat), divisions and organizations that provide education and training for physicians (BCMA, and BC Ministry of Health, Primary Care Division), as well as practicing physician and seniors' representatives. The development committee held monthly meetings over a period of three months, and the final package was edited by the authors of this article and approved by the BC Ministry of Health in June 2011.

The evidence-based framework used to guide the development of this package was the American and British Geriatric Society's (ABGS) clinical practice guidelines for physicians (2010).[4] The ABGS guidelines are considered by leaders in the field to be the "gold standard" for clinical approaches to the prevention of falls among older adults. These guidelines integrate evidence on fall and fall injury risk into the routine medical examination of older adults with the goal of uncovering and addressing the compounding effect of common health conditions that lead to exponential levels of risk. Additional components of the package were added to reflect the need for a team approach to fall prevention, with content relevant to medical office assistants, nurses, nurse practitioners, therapists, and other health care providers who work with older adults.

The PCFP package consists of the provider resources, assessment tools, a training video, and patient education materials. The provider resources include five fact sheets designed as quick reference on the following key areas:

1. Providing a context for falls and fall-related injuries
2. Identifying risk factors related to falls and fall injuries
3. Incorporating assessments and interventions to reduce fall risk
4. Information about and a list of medications linked to falls
5. An algorithm outlining the pathway for fall prevention in older persons

The assessment tools include a validated 12-item checklist to assess the risk for falling,[22] and instructions for performing three validated tests of balance and mobility.[23-26] The checklist is designed to be completed in the waiting room by the patient. The balance and mobility tests are the Timed Up and Go (TUG) test, Tandem Stance test, and Chair Stand test, and are to be conducted by the office assistant or physician.

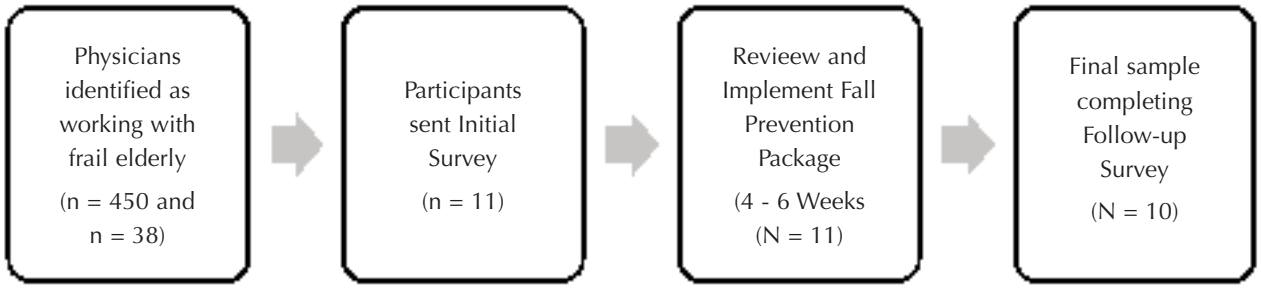
The 11-minute training video for primary care providers applies a case study approach involving a frail older adult in the community. The video depicts how the different components of the package can be incorporated into a routine physician visit, including a demonstration of the standardized balance and mobility tests. The education materials for clinicians to give to older adult patients include 1) a fall risk assessment checklist; 2) a brochure on fall risk factors and ways to improve the home environment to reduce fall risk; 3) a handout on safe and easy to follow exercises to do at home; and 4) recommendations for good sleep habits.

Field testing the multi-media package

Field testing of the package consisted of an independent evaluation[27] in 2011 to determine the effectiveness of the resources in increasing knowledge and/or bringing about changes in physician practice, and to identify strategies to promote the integration of the package into the routine care of physicians and other primary care providers across BC.

The field testing included a pre/post survey on fall-related knowledge and the use of the PCFP resources. Family physicians from the five regional health authorities in BC (Fraser, Interior, Northern, Vancouver Coastal and Vancouver Island) were approached about reviewing and evaluating the materials in the fall prevention package. A convenience sample of family physicians targeted for the evaluation were chosen from among those who have a substantial number of older patients who may be at risk of falling using two recruitment methods. First, 450 family physicians were sent a letter of invitation from among those who had participated in a workshop on the frail elderly or who had participated in the PSP Chronic Disease Module training. A second recruitment method consisted of connecting with potential participants through key contacts identified by the development and research team members and their networks of people who had substantial contact with family physicians. The research team sent invitation letters to 38 physicians identified as potential participants (Figure 1). Interest in participation was expressed by a number of physicians from both recruitment arms, with a final commitment from 11 physicians to participate in the full evaluation.

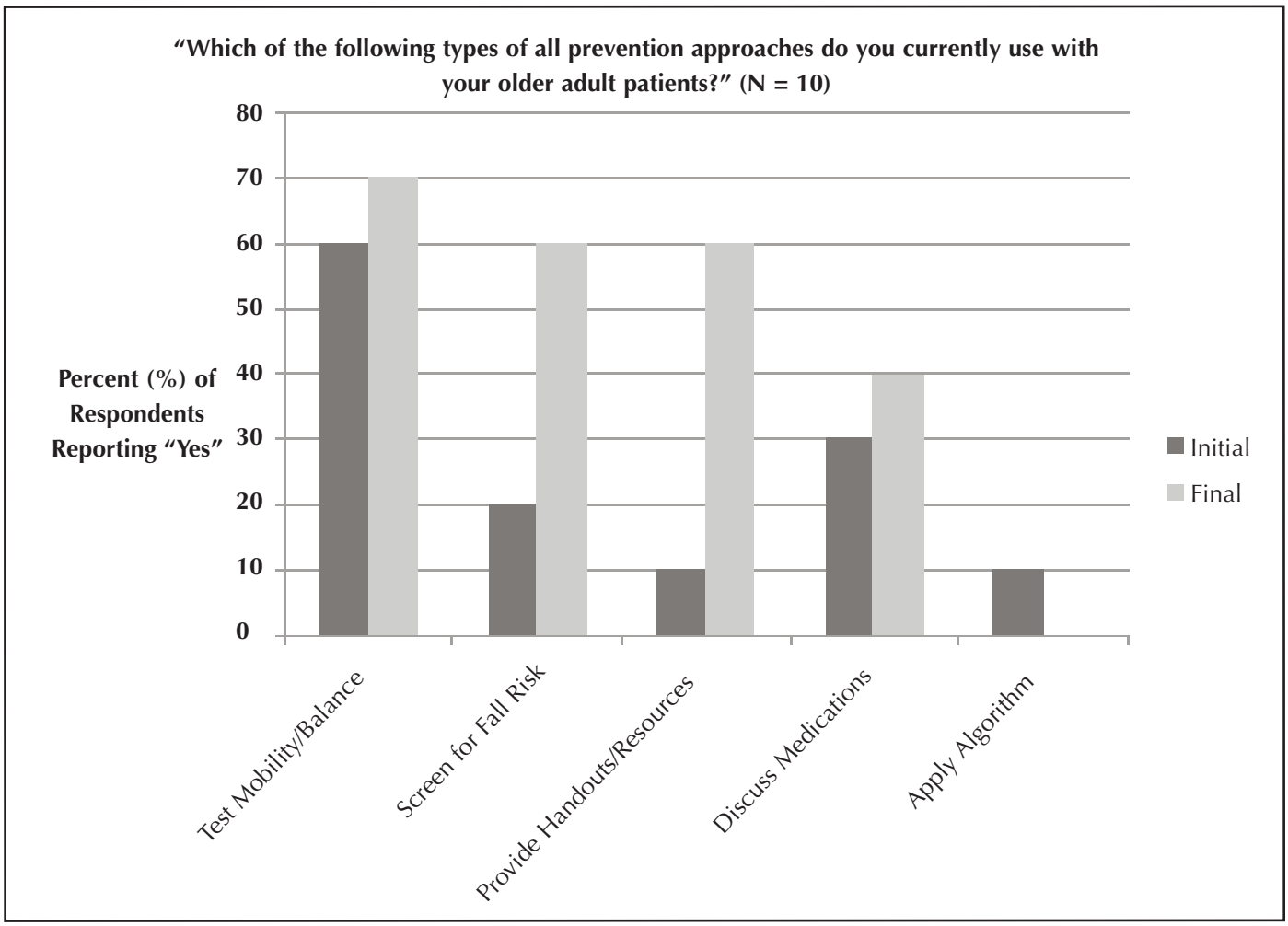
Figure 1. Evaluation steps



After completing an initial survey and applying the package over 4 - 6 weeks, the physicians participated in in-depth phone interviews and provided a follow-up telephone survey (Figure 1). Participants were asked if they found the information in the PCFP package helpful, what suggestions (if any) they had for improving the package, and whether there were any additional topics they would like to see covered, either in the existing materials or in a supplementary resource.

Findings from the evaluation revealed that overall, participants' awareness of falls among seniors improved

Figure 2. Use of Fall Prevention Approaches



significantly as a result of reviewing the fall prevention materials. In addition, after receiving the PCFP package, several participants made practice changes to help reduce the risk of falls (Figure 2). All participants indicated that they would recommend the fall prevention package to other family physicians as well as non-physician primary care providers.[19]

Participants who reviewed the fact sheets said that they provided good information and increased and/or reinforced physicians' knowledge of falls, but suggested that reducing the number of fact sheets may be beneficial. Participants who reviewed the video reported that it had a professional look, and was clear and informative, helpful, and a good length. Suggestions for improvement included streamlining the information on-line and including full demonstrations of the three balance and gait tests. Examples of quotes from evaluation respondents included the following:

> "The fact sheets are very helpful and provide information about a wide variety of topics in one spot. They are good to have when I need to approach patients who are at risk of falling."
>
> "Seniors are often prescribed medications which are inappropriate because of their age, their disease state or drug/drug interactions. The importance of medications in falls needs to be emphasized more, and the medication list needs to be a bigger feature in the package."
>
> "Using the [balance and mobility] tests shows us and patients that they have issues related to falls. Patients find it motivating if they are told they don't meet the average."

Participants felt that the resources designed for patients could be used to start conversations with patients regarding their risk of falling; reinforce concepts discussed with either the physician or an allied health professional (such as a physiotherapist); and serve as a resource for seniors regarding fall risks and prevention strategies. Suggestions for additional resources were identified, such as a handout on assistive devices and a poster on fall prevention.

Findings from the evaluation resulted in immediate revisions and will inform future improvements to the PCFP package, with a focus on components that are most useful for incorporating fall prevention into routine practice.

Dissemination

A dissemination plan was developed based on information gathered from the planning phase, the evaluation, and from a scan of current structures and programs in BC to support family physicians. It consists of four components: 1) increasing awareness of the existence of the PCFP Multimedia Package; 2) increasing awareness among primary care providers of the contents of the package; 3) encouraging use of the materials in the package as well as fall prevention approaches in general; and 4) incorporating the PCFP package into the development and maintenance of fall prevention programs for seniors throughout BC. This work is on-going in partnership with physicians and other primary care providers. To support this plan, the PCFP resources are made publicly available at the GPSC Chronic Disease Management website under the following two links:

Written resources:
www.gpscbc.ca/psp-learning/chronic-disease-management/tools-resources

Primary care fall prevention video (11 minutes):
www.gpscbc.ca/psp-learning/clinical-management/videos-chronic-disease-management-cdm

Conclusion

There is a need for standardized interventions designed for primary care providers to avoid missed opportunities to reduce the risk of falls and fractures among seniors. Physicians and other primary care providers often interact with older patients who have experienced a fall or fall-related event and are therefore well placed to play an important role in influencing health behaviors through increasing awareness about reducing their risk of fall and related injuries. Effective fall prevention involves not only tailoring interventions for older adults, but also tailoring resources and training for ease of access and application by specific health care professionals. The PCFP package is an evidence-based fall prevention resource specifically targeted for primary care providers to incorporate fall prevention into routine care.

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Falls

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An Overview of the Problem

Falls in the elderly are a major problem, for individual older adults and for the public health. One in three adults 65 and older falls each year.[1] Approximately 20% - 30% of these falls result in serious injuries such as fractures and brain injuries, and the rates of fall-related deaths among older adults have risen significantly over the past decade.[2] In fact, falls are the most common causes of nonfatal injuries and hospital admissions for trauma, and the leading cause of injury deaths among older adults.[2,3] Older adults are hospitalized for fall-related injuries five times more often than they are for injuries from all other causes.[4] (See Figure A1: Non-fatal fall-related injury hospitalizations, US, 2008.)[5]

The impact of falling goes beyond the risk of injury. A fear of falling can cause older adults to limit their activities, reducing their physical fitness and ability to get around and actually increasing their risk of falling.[2] Older adults are right to fear falling. Falls often lead to a loss of independence, nursing home admissions, disability, and reduced quality of life for older adults.[1] About 90% of hip fractures are caused by falls.[2,6] After a hip fracture, half of older adults can no longer care for themselves, and a quarter die within a year of the injury.[7]

Falls and fall-related injury have a large impact on health care utilization and costs. For every older adult who dies from a fall-related injury, there are 56 hospitalizations and 194 visits to emergency rooms and physicians' offices.[8] Most fractures among older adults are caused by falls. In 2000, the total direct cost of all fall injuries for people 65 and older was over $19 billion. The financial toll of falls will rise as the population ages, and may reach $55 billion by 2020. The average health care cost of a fall injury among adults 72 years and older is $19,440 (including hospital, nursing home, emergency room, and other health care, but not doctors' services).[4]

The increase in falls and fall-related injury reflects the welcomed increase in the number of older adults living in the community, a consequence of the aging of the baby-boomer generation and increased longevity. However, the risk of being seriously injured in a fall increases with age: nearly 85% of deaths from falls are among people 75 and older.[2]

What about Indian Country?

While the picture we have from data on older American Indians and Alaska Natives (AI/AN) is incomplete, what we know suggests that falls and fall-related injury are major problems in Indian Country as well.

Between 1991 - 1993 and 2005 - 2007, unintentional fall death rates for AI/AN adults 65 and older rose 51%, from 18.3 per 100,000 to 27.6 per 100,000.[5] Falls are the leading cause of unintentional injury deaths for older AI/AN adults, and accounted for one third of those deaths in 2005 - 2007.[5] Outpatient visits for falls in this age group rose from 7,550 in 2005 to 9,099 in 2008, a 21% increase over 3 years.[9] Among Alaska Natives age 60 and older (1991 - 2003), falls accounted for 77% of all injury hospitalizations.[10]

So while the data may be limited, it is clear that falls and fall-related injury are increasing among older American Indians and Alaska Natives and that these injuries cause extensive suffering and use scarce resources.

In early 2010 the IHS Injury Prevention Program and the IHS Elder Health Consultant formed a workgroup to address this issue. The aim of this work group was to develop a holistic approach to preventing falls and injury in older American Indians and Alaska Natives living in the community, based on the best available evidence for effective public health and clinical interventions. The Injury Prevention and Healthy Aging programs of the Centers for Disease Prevention and Control (CDC) were instrumental in this effort, providing both expertise and funding. The approach developed by that workgroup was sent for widespread review and discussion by stakeholders and program staff throughout Indian Country, and this article represents a summation of that work.

Unintentional fall prevention in elders 65 years of age and older is one of the priorities of the IHS Injury Prevention Program. Since 2010 the Indian Health Service Injury Prevention Program has provided funding to support fall prevention programs at 19 tribal sites (see Table 1). The tribal fall prevention programs include strength and balance exercises (tai chi); medication review; home assessments, and other key measures to prevent falls to elders. The IHS Injury Prevention Program uses the evidence-based guidelines derived from CDC and United States Prevention Services Task Force recommendations to support the fall prevention initiative.

Fall injury prevention requires a broad approach that truly integrates the clinic and the community, and the approach outlined below builds on the best available evidence for fall prevention in both the community and clinical settings.

Evidence-based Guidelines for the Prevention of Falls and Fall-Related Injuries in Older American Indians and Alaska Natives Living in the Community

The current falls literature is extensive and complex. Fortunately there are several authoritative sources for

evidence-based guidelines for effective interventions, based on extensive reviews of the scientific literature, and developed by leading national and international experts.

Public health and community-based interventions are evaluated, and effective strategies are summarized in two CDC publications:

- Preventing Falls: How to Develop Community-based Fall Prevention Program for Older Adults (2008)
- Preventing Falls: What Works: A CDC Compendium of Effective Community-based Interventions from Around the World, 2nd Ed (2010)

Both resources are found at: *http://www.cdc.gov/HomeandRecreationalSafety/Falls/pubs.html*

Clinical Guidelines and Recommendations have been developed by the United States Preventive Services Task Force (USPSTF) and the American and British Geriatrics Societies. The USPSTF released recommendations in May 2012 for the *Prevention of Falls in Community-Dwelling Older Adults*, which can be found at: *http://www.uspreventiveservicestaskforce.org/uspstf/uspsfalls.htm*

The American Geriatrics Society and British Geriatrics Society published evidence-based clinical guidelines for the prevention of falls in the elderly, the *2010 AGS/BGS Clinical Practice Guideline: Prevention of Falls in Older Person*, which is available at: *www.americangeriatrics.org/health_care_professionals/clinical_practice/clinical_guidelines_recommendations/2010/* .

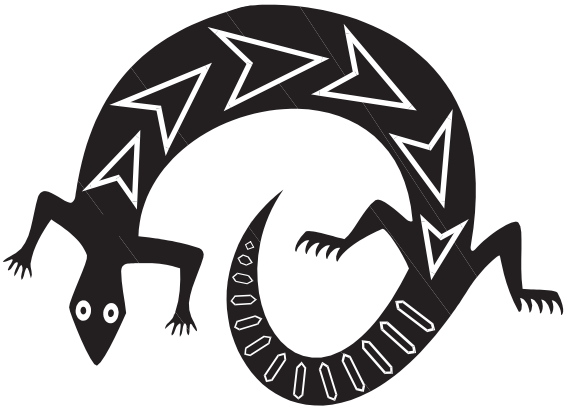
The recommendations in the following tables are based on these resources.[11-14]

Additional resources are available from the CDC at their STEADI (Stopping Elderly Accidents, Deaths, & Injuries) website at *http://www.cdc.gov/homeandrecreationalsafety/Falls/steadi/index.html*

Guidelines for the Prevention of Fall-related Injury in Older American Indians and Alaska Natives Living in the Community

Community-Based	***Clinical Settings***
The 5 main building blocks of an effective community-based prevention program are: 1. **Education** about falls and fall risk factors. 2. **Exercises** that improve mobility, strength, and balance, and that are taught by trained, nationally certified exercise instructors or physical therapists. 3. **Medication review** to identify side effects or drug interactions that may contribute to falls. The reviews should be conducted by pharmacists or qualified health care providers. 4. **Vision exams** by trained health care professionals with vision correction by an optometrist or ophthalmologist. 5. **Home safety assessment and home modification** by occupational therapists or other health care professionals with specialized training, to identify and modify home hazards that can increase older adults risk of falling.	There is evidence to support the following interventions to prevent falls in adults age 65 and older at increased risk for falls: 1. **Exercise or physical therapy** 2. **Vitamin D supplementation** 3. **Multifactorial risk assessment with comprehensive management of identified risks**, while not universally recommended, should be available and offered to certain individuals based on the circumstances of prior falls, medical comorbidities, and patient values. The multifactorial fall risk assessment should be performed by a clinician (or clinicians) with appropriate skills and training. The multifactorial fall risk assessment should include 1. **Focused History** including history of falls, medication review, and history of relevant risk factors. 2. **Physical Exam** including assessment of gait, balance, mobility, and lower extremity function, examination of neurologic function, muscle strength, cardiovascular status, feet and footwear, and assessment of visual acuity. 3. **Functional Assessment** including activities of daily living, use of assistive devices or mobility aids (e.g. reachers, canes, walkers), and perceived functional ability and fear related to falling. 4. **Environmental Assessment** including home safety. The multi-factorial fall risk assessment should be followed by direct interventions tailored to the identified risk factors, coupled with an appropriate exercise program.

Screening	
Community-Based	***Clinical***
Community-based recommendations provide guidelines for evidence-based practices that can be implemented for generally healthy older adults aged 65 or older without regard for specific risk factors. In general, community-based interventions can be provided without pre-screening. Community-based programs do provide valuable opportunities for screening and identification of older adults at increased risk for fall. The screening process outlined in the Clinical Guidelines can be initiated by or through community-based programs, with referral of those identified as at increased risk for fall.	Clinical guidelines are based on an individual *determination of increased risk for falls in persons aged* 65 and older. All older individuals should be asked whether they have fallen (in the past year). Older persons presenting with a single fall should be evaluated for gait and balance. Older individuals should be asked if they experience difficulties with walking or balance. An older person who reports a fall should be asked about the frequency and circumstances of the fall(s). Older persons who have difficulty or demonstrate unsteadiness during the evaluation of gait and balance require a multifactorial fall risk assessment. Older persons who present for medical attention because of a fall, report recurrent falls in the past year, or report difficulties in walking or balance (with or without activity curtailment) should have a multifactorial fall risk assessment. Older persons reporting only a single fall and reporting or demonstrating no difficulty or unsteadiness during the evaluation of gait and balance do not require a fall risk assessment.



Exercise	
Community-Based	***Clinical***
Progressive exercise programs improve mobility, strength, and balance. Among older adults, strength and balance exercises, such as Tai Chi, can reduce falls by improving mobility, strength, and balance. These programs focus on exercises that are specifically designed or adapted for older adults. Exercise programs can be offered in a community setting, at home with supervision, or in a program that combines group classes or one-on-one training with home-based exercise. Appropriate types of exercises that effectively reduce falls in older adults include Tai Chi and strengthening exercises combined with balance training	As a single intervention, all older adults who are at risk of falling should be offered an exercise program incorporating balance, gait, and strength training. Flexibility and endurance training should also be offered, but not as sole components of the program. Exercise should be included as a component of multifactorial interventions for fall prevention in community-residing older persons. An exercise program that targets strength, gait, and balance, such as Tai Chi or physical therapy, is recommended as an effective intervention to reduce falls. Exercise may be performed in groups or as individual (home) exercises, as both are effective in preventing falls. Exercise programs should take into account the physical capabilities and health profile of the older person, (i.e., be tailored) and be prescribed by qualified health professionals or fitness instructors. The exercise program should include regular review, progression, and adjustment of the exercise prescription as appropriate.

Education	
Community-Based	***Clinical***
While education alone has not proven to effectively reduce falls among older adults, it is typically combined with one of the other building blocks. Education includes older adult fall risk factors and prevention strategies for older adults, families, and caregivers. Information can be communicated on an individual, one-on-one basis, or in a group setting.	Multifactorial/multicomponent intervention should include an education component complementing and addressing issues specific to the intervention being provided, tailored to individual cognitive function and language. Education should not be provided as a single intervention to reduce falls in older persons living in the community.

Medications	
Community-Based	***Clinical***
Medication review should be conducted by a pharmacist or qualified health care professional, with medication adjusted or modified by their primary care provider or team or specialty providers	The multifactorial fall risk assessment should include a medication review, addressing all prescribed and over-the-counter medications with dosages Psychoactive medications (including sedative hypnotics, anxiolytics, antidepressants) and antipsychotics (including new antidepressants or antipsychotics) should be minimized or withdrawn, with appropriate tapering if indicated. A reduction in the total number of medications or dose of individual medications should be pursued. All medications should be reviewed, and minimized or withdrawn. As a single intervention or as part of a mulitfactorial intervention, Vitamin D supplements of at least 800 IU per day should be considered for people with suspected vitamin D deficiency or who are otherwise at increased risk for falls.

Vision	
Community-Based	***Clinical***
Vision exams by trained health care professionals with vision correction by an optometrist or ophthalmologist The multifactorial fall risk assessment should include assessment of visual acuity	As part of a multifactorial intervention, in older women in whom cataract surgery is indicated, surgery should be expedited as it reduces the risk of falling. There is insufficient evidence to recommend for or against the inclusion of other vision interventions within multifactorial fall prevention interventions. There is insufficient evidence to recommend vision assessment and intervention as a single intervention for the purpose of reducing falls. An older person should be advised not to wear multifocal lenses while walking, particularly on stairs.

Home Safety Assessment and Modifications	
Community-Based	***Clinical***
Home safety assessment and home modification by occupational therapists or other health care professionals with specialized training, to identify and modify home hazards that can increase older adults risk of falling.	Environmental assessment including home safety is part of the multifactorial risk assessment for older persons who are at increased risk of falls. A multifactorial intervention should include mitigation of identified hazards in the home, and evaluation and interventions to promote the safe performance of daily activities.

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Bristol Bay Health Corporation	Data, home assessment, home enhancements, exercise, medicine review, ice cleats distribution.	Mary Clark	mclark@bbahc.org
California Rural Indian Health Board, Inc.	Newsletter, toolkit, resources, tai chi instructor.	Julie Adams	Julie.Adams@crihb.net
Colorado River Indian Tribes	Data, home assessments, exercise, medication review, optometry.	Jaymee Moore	jamee.moore@crit-dhs.org
Fond du Lac Band of Lake Superior Chippewa	Data, home assessments, home enhancements, exercise, community events.	KaRee Lockling	KareeLockling@fdlrez.com
Gila River Indian Community	Data, home assessments, medication review, exercise (Matter of Balance trainers).	Verena Jackson	verena.jackson@gric.nsn.us
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Kiowa Tribe of Oklahoma	Data, home safety assessments, home enhancements, education prescription medicine, exercise.	Melody Redbird-Post	melodyredbird@gmail.com
Maniilaq Association	Ice cleats distribution, community education.	Donald Fancher, Jr	Donald.fancher@maniilaq.org
Menominee Indian Tribe of Wisconsin	Data, exercise classes, coalition, collaborate Senior Centers, Home Health Aide training	Alan Tomow	atomow@mitw.org
Northwest Washington Indian Health Board	Presentations on Fall Prevention	Gloria Point	Gloria@indianhealthboard.org
Norton Sound Health Corporation	Data, collaborate with hospital for Elder Services Clinic, strength and balance assessments, eye exams, medication review, home safety checks, distribute ice cleats.	Kendra Nichols-Takak	ktaka@nshcorp.org
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Pueblo of Jemez	Data, home safety assessments, referrals for at risk elders, home safety modifications, community education.	Maria Benton	mabento@jemezpueblo.us
Pueblo of San Felipe	Data, home assessments, home modifications, patient screening and treatment, partnerships with community groups.	Karen Ansera	kansera@sfpueblo.com

Tribe	Activities	Contact	Email
Quechan Tribe	Data, home assessments, exercise, medication review	Lisa Aguerro	l.aquero@quechanindiantribe.com
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Tule River Indian Health Center, Inc.	Data, home assessments, collaborate with senior services and CHRs, Diabetes weekly walks, community education.	Adrienna Gilbson	Adrianna.gibson@crihb.net

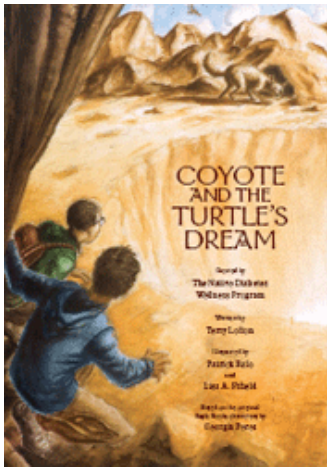
Print Version of *The Provider* Has Ceased Publication

The federal government is always exploring ways to reduce costs. One recent initiative is an effort to reduce printing expenses. For this reason, we have stopped publishing and distributing the print edition of *The Provider.*

We will continue to publish the monthly electronic edition of our journal to the CSC website. Currently, about 900 individuals are subscribers to the listserv that notifies them when each monthly issue is posted, and lists the contents of that issue. It is unknown how many readers simply access the website on a periodic basis without relying on the listserv for reminders that the monthly issue is available.

We encourage all our readers to subscribe to the listserv (go to *http://www.ihs.gov/provider/index.cfm?module=listserv)* so that you will receive monthly reminders about when the latest issue is posted to the website. This will also give us an improved count of the number of readers.

Dozens of free downloadable Eagle Books posters, games, crafts, flyers, event planning tools, family activities, animations, stationery, and other resources can be found in the Eagle Books Toolkit at the CDC's Native Diabetes Wellness Program site. The toolkit is a free online resource for Eagle Books activity sheets, displays, props, games, how-to instructions, and even more incentives to help educate your community about type 2 diabetes in a fun and entertaining way. Don't forget, the four original Eagle Books for young children and an Eagle Books adventure novel for middle school youth are still completely free for families and for programs serving American Indians and Alaska Natives. Order books at *http://wwwn.cdc.gov/pubs/diabetes.aspx*.



The Eagle Books

Inspired by the wisdom of traditional ways of health in tribal communities, the four original Eagle Books stories feature a colorful cast of animal characters and young children who explore the benefits of being physically active, eating healthy foods, and seeking the wisdom of elders regarding healthy living. In Coyote and the Turtle's Dream (2011), and the forthcoming Hummingbird Squash, the children are growing up and finding adventures with their middle school friends. Both sets of books are produced by CDC's Native Diabetes Wellness Program of the Division of Diabetes Translation in cooperation with the Tribal Leader Diabetes Committee and the IHS to broaden type 2 diabetes awareness and prevention.

Diabetes and Fall Injury Prevention: A Call to Action

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Introduction

An estimated 18.8 million adults in the US have been diagnosed with diabetes.[1] Among American Indian and Alaska Native (AI/AN) adults, the prevalence of diagnosed diabetes is 2.3 times that of non-Hispanic whites (16.1% vs. 7.1%; 2009).[1] In some AI/AN communities, diabetes rates exceed 60%.[2]

Persons with diabetes, especially older adults and individuals with long-standing diabetes, are at higher risk of falls and fall injuries.[3-8] In a study of elderly residents of a long-term care facility, for example, the fall incidence rate for the participants with and without diabetes was 78% and 30%, respectively ($p < .001$). The authors concluded that "diabetes mellitus is an independent fall risk factor among elderly nursing home residents. Gait and balance were the only other risk factors independently associated with increased risk of falls.[3]

Yet fall injury prevention is an aspect of comprehensive diabetes care that has been relatively neglected. For example, the topic is not listed in the table of contents of popular diabetes management educational materials[9-11] nor in well-recognized diabetes websites.[12-14]

In this article, we outline the risk factors contributing to the higher risk of fall injuries among individuals with diabetes and recommend strategies for incorporating fall prevention activities into the comprehensive care of adults with diabetes.

Fall Risk Factors Relevant to Diabetes

Medical conditions, physical and functional impairments, behavioral factors, medications, and environmental hazards contribute to the risk of falls and fall injuries. The risk of falling increases with the number of risk factors.[15] "Among a cohort of community-dwelling older adults, during one year of follow-up, the risk of falling increased from 8 percent for persons with no risk factor to 78 percent for persons with four or more risk factors."[16]

Diabetes and its complications are associated with many risk factors for fall injuries (Table 1). Despite its length, Table 1 is by no means a complete summary of all relevant factors. Older individuals, and those with long-standing diabetes, are likely to have more risk factors. However, even younger individuals with newly-diagnosed disease may receive more than four medications (polypharmacy), smoke cigarettes, be obese, and exhibit reduced sensation on a monofilament test for peripheral neuropathy, for example.

Medications and medication classes that are associated with falls and which are likely to be prescribed to individuals with diabetes are outlined in Table 2. Of course, the age of the patient, indications, dosage, concomitant medications, co-morbidities, possible adverse effects, and other factors are important in deciding whether to prescribe any medication for an individual patient.

Strategies to Promote Fall Injury Prevention Among Persons With Diabetes

Several current national IHS initiatives will undoubtedly contribute to reducing fall risks among AI/AN adults with diabetes. The IHS Working Group on Fall Injury Prevention is preparing a report that highlights both clinical and community-based effective strategies for fall injury prevention.[17] Still in its early stages, the IHS LEAP (Lower Extremity Amputation Prevention) program has joined the IHS Would Care Initiative, IHS Podiatry Services, and Veterans Administration to promote diabetes foot care, from prevention to comprehensive wound care.[18,19] The IHS Community Health Representatives (CHR) program has teamed up with the American Association of Diabetes Educators to provide a free, online diabetes certification program for CHRs. The six-module, self-paced program topics include diabetes care guidelines, physical activity, safety, and medication issues.[20]

To further reduce the likelihood of fall injuries among adults with diabetes, we recommend the following:

1. Promote frequent foot inspections, skilled foot examinations, and monofilament testing for the early detection and management of foot problems and peripheral neuropathy:
    a. Train outreach workers (ORWs), such as public health nurses and CHRs, to perform foot inspections and monofilament tests during home visits;
    b. Establish a system for ORWs to document their findings in the electronic health record;
    c. Collaborate with podiatrists to ensure that

abnormal screens receive appropriate follow-up and management.

2. Ensure that all patients "participate as actively as possible in a tailored physical activity program involving resistance training, balance exercises, and cardiovascular fitness training."[21]
   a. Incorporate specific activities (such as balance exercises and Tai chi) aimed at reducing fall risk into existing physical activity programs for persons with diabetes.
   b. Although not specifically aimed at persons with diabetes, an exercise program in New Zealand for persons 65 years and older resulted in a 35% reduction in falls with simple strength and balance training.[22-24]
3. Incorporate falls risk assessment criteria into medication management systems to reduce polypharmacy and the discretionary use of medications contributing to a higher risk of falls. In weighing risks and benefits, medication reviews should consider the number of medications, duplication of medication classes, drug-drug and drug-condition interactions, potentially inappropriate medications and dosages, and medications no-longer-indicated.
4. Ensure that every person with diabetes receives an annual comprehensive diabetes care visit, including the vision exam, medication review, and complete foot exam with monofilament test.
   a. Improve the rate of kept appointments for diabetes care through enhanced patient education, outreach services, and appointment reminder approaches.[25,26]
   b. Reduce the time burden on providers by instituting group educational classes and peer support meetings.[27,28]
5. At each scheduled primary care visit, providers should ask about previous falls; use standardized algorithms to assess falls risk and identify specific risk factors; and refer patients for appropriate clinical care (e.g., physical therapy assessment and management) and community services (e.g., home fall assessment and modifications, exercise classes).
6. Institute a coordinated approach to fall injury prevention through existing approaches to comprehensive care of persons with diabetes. These approaches include the Special Prevention of Diabetes Initiative, local elder care consortia, and Improving Patient Care Committees.[29] Table 3 is a list of potential stakeholders for such an effort.
7. Promote training in fall injury prevention for providers who treat individuals with diabetes:
   a. Providers include physicians, podiatrists, physician assistants, nurse practitioners, CHRs, PHNs, physical therapists, and exercise leaders.
   b. Create an inventory of educational resources including webinars, training videos, falls assessment tools, and patient education materials. Examples of current training resources are the CDC's STEADI program,[30] Q3 Aging video (a 30-minute video on falls prevention and mobility),[31] and the online resources described by Dr. Scott in this issue of the Provider.
8. Educate individuals with diabetes, their family members, and other caregivers regarding fall prevention:
   a. Tailor educational materials to address diabetes-specific risk factors as well as universal ones;
   b. Utilize multiple avenues for educational materials, such as digital videos and social media, in addition to traditional approaches, such as brochures and community presentations.
9. Promote research and improve data on diabetes and fall injury prevention:
   a. Develop evidence-based fall injury risk assessment tools and protocols tailored to individuals with diabetes.
   b. Evaluate the impact of interventions to reduce fall injuries among persons with diabetes
   c. Establish a surveillance system for falls and fall injuries among individuals with diabetes.[32]
   d. Monitor the administration and follow-up of monofilament testing as a measurable activity, rather than assuming it is universally performed as a component of a complete foot exam.
   e. Conduct cost analyses to clarify the burden of fall-related injuries and potential cost savings of fall prevention interventions compared to other health priorities among persons with diabetes.[33]
10. For older persons with diabetes, conduct a comprehensive geriatric assessment (CGA) at least annually, as recommended by the International Association of Gerontology and Geriatrics.[21] A CGA not only assess physical issues (e.g., gait and balance, medication management, nutritional status, hearing and vision, comorbidities), but also cognition, mental health (e.g., depression, alcohol/substance use), environmental factors (e.g., housing, finances, social support), and activities of daily living (e.g., bathing, dressing, eating, toileting).[34-37]

Conclusion

Categorical programs that target specific problems with effective interventions can be enormously effective. Since the inception of the SDPI, for example, there has been a 10.8% decrease in the mean hemoglobin A1C level of AI/ANs with diabetes. This translates to "an almost 40 percent reduction in diabetes-related complications."[38] IHS programs to reduce

lower extremity amputation rates through early identification and comprehensive management of foot problems have reduced amputation rates by 25 – 90%.[39-40] A concerted effort to reduce fall injury risks could prevent many serious injuries and improve the overall quality of life for American Indians and Alaska Natives with diabetes. An inventory of successful fall prevention initiatives for persons with diabetes within and outside the Indian Health Service would be a valuable starting point.

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Table 1. Fall Injury Risk Factors and Diabetes

Fall injury risk factor associated with diabetes and its complications	Comments
Peripheral neuropathy	• "Involvement of the peripheral and autonomic nervous systems is probably the most common complication of diabetes. [41] • Depending on the study, 20 - 100% of patients with diabetes develop peripheral neuropathy (PN), formally classified as chronic sensorimotor distal symmetric polyneuropathy[41-43] • PN can contribute to fall injury risk by impaired proprioception; loss of sensation in the feet leading to foot infections, foot ulcers, amputation; foot drop; pain; gait and balance difficulties. • Diabetic patients with PN were 15 times more likely to experience an injury while walking than matched controls[44] and 23 times more likely to report instability resulting in a fall or injury.[45]
Peripheral artery disease (PAD)	Poor circulation leads to foot disorders: ulceration, infection, amputation
Vision problems	• About 30% of adults over 40 years of age with diabetes have diabetic retinopathy.[1] • Patients with diabetes also are at higher risk of glaucoma, cataracts, and hypertensive retinopathy. • Both diabetic retinopathy and cataracts are associated with increased risk of fractures.[46]
Hearing loss	• The prevalence of hearing loss among people with diabetes is nearly double that of persons without the condition.[47] • "People with a mild (25-decibel) hearing loss were nearly three times more likely to have a history of falling. Every additional 10-decibels of hearing loss increased the chances of falling by 1.4 fold. [48] • Possible reasons: hearing loss might result in less awareness of the overall environment, making tripping and falling more likely; also, gait and balance may be impaired by the "cognitive load imposed by hearing loss.[48,49]
Hypertension	• 2/3 of adults with diabetes have hypertension.[1] • Raises the risk for heart attack, stroke, eye problems, and kidney disease.
Hypotension/orthostatic hypotension	Syncopal episodes.
Specific medications	See Table 2
Multiple medications (polypharmacy = 4 or more)	• Average is 4 - 13 medications per patient with diabetes.[50-54] • With increasing number of meds there is an increased likelihood of medication duplication, conflicts, adverse effects, and dose errors.[55,56] • Among AI/AN adults 65 and older, 43% had 4 or more prescriptions.[55] • Patients with diabetes ages 70 and older in a British general practice were taking an average of seven medications (range, zero to 17). The medications were prescribed for treatment of diabetes, vascular disease risk factors, and coexistent conditions.[52]

Balance and gait disorders	• Detectable gait abnormalities affect 20-40% of adults 65 years of age and older;[57] • In persons with diabetes, balance and gait disorders result from peripheral neuropathy, peripheral artery disease, foot disorders, stroke, adverse effects of medications, and other causes.
Foot disorders	• In a group of persons with diabetes and prior foot ulcers (average age 62), 32% had fixed foot deformities and 58% had insensate feet.[58] • 15% of patients with diabetes will develop foot ulcers during their lifetime; 5%-10% of patients who develop a diabetes foot ulcer will have a foot or lower limb amputation in their lifetime.[58]
Muscle weakness	May result from limited physical activity due to pain and chronic conditions (e.g., cardiac, renal); adverse effect of medications; and other causes.
Insulin use	Insulin use has been demonstrated to increase the risk of falls in the elderly. Possible mechanisms: hypoglycemia, "marker for disease severity and its complications of reduced balance, strength, and gait abnormalities. [59]
Hypoglycemia	Weakness, confusion, dizziness and other symptoms of hypoglycemia can lead to falls.
Hyperglycemia	Drowsiness, fatigue, blurred vision, difficulty concentrating
Nephropathy/kidney disease	• Incidence of end stage renal disease is 2.1 times higher in AI/AN vs. overall US population;[60] • Renal failure can lead to somnolence, leg pain, cognitive impairment; weakness, shortness of breath, heart rhythm disturbances, loss of appetite, fatigue; increased risk of adverse medication effects due to reduced renal clearance.
Nutritional inadequacies	Increased risk of fractures, muscle weakness
Depression	• People with diabetes are 2-3 times likely to suffer from depression.[1,61] • Fall risk due to anti-depressant medications, alcohol misuse, inattention, decreased physical activity.
Smoking	• Among AI/AN, smoking rates are 30% with diabetes and 19% without.[62] • Smoking may contribute to diminished bone mineral density,[63] and is associated with increased risk of hip fractures.[64,65] • Other impacts: vascular impairment (vision, micro-vascular disease), decreased immunity, increased heart and lung disorders, increased risk of peripheral neuropathy
Osteoporosis/ bone density loss	Increased risk of fractures after falling.[66]
Obesity	• In a CDC study of U.S. adults aged >20 years with diabetes in 1999-2002, 55% were obese (BMI >/=30 kg/m2).[67] • Obesity is associated with increased fall risk and increased likelihood of developing disability after a fall.[68] • Impaired balance, poorer control of blood glucose levels, decreased physical activity, and exacerbation of musculoskeletal pain likely contribute to falls risk.
Heart disease	• Adults with diabetes have heart disease mortality rates 2-4 times higher than adults without diabetes.[1,2] • The risk for cardiovascular in American Indian adults may be 3-8 times higher than in people without diabetes (Strong Heart Study).[2] • Fall risk due to weakness, medications, arrhythmias. • Cardiovascular diseases are associated with an increased hip fracture risk.[69]

Stroke	• Risk for stroke is 2 to 4 times higher among people with diabetes.[1,70] • Higher risk of falls post-stroke due to urinary incontinence, impaired postural stability, motor/cognitive/visual impairments, and use of diuretics, antidepressants, or sedatives.[71] • Stroke is associated with a higher risk of hip fractures.[72]
Chronic pain	• Common symptom of neuropathies. • Pain can alter mobility, increase fear of falling, decrease overall physical activity
Urinary frequency, nocturia, incontinence	Fall risk due to night-time trips to urinate, sitting/standing from toilet seat
Poor sleep	Resulting from medications, nocturia, anxiety
Cognitive impairment	• May result from medications, cerebrovascular disease, and other causes. • "Diabetes patients were 74% more likely to develop dementia of any type over 15 years of follow-up after adjustment for other confounding factors (P=0.004). [73]
Dizziness, light headedness, somnolence, confusion	• May result from polypharmacy, specific meds, hypoglycemia, hypotension, dehydration. • Dizziness can result from vestibular dysfunction, which is 70% more frequent in people with diabetes and carries up to a 12-fold increased risk of falling.[74]

Table 2. Medications and Medication Classes Likely to be Prescribed to Individuals with Diabetes and Its Complications Associated with an Increased Risk of Falls or Fall Injury

Insulin and insulin secretagogues (biguanides, sulfonylureas, thiazolidinediones): hypoglycemia risk

Anti-hypertensive medications: can cause orthostatic hypotension
- Diuretics: vertigo, frequent urination
- ACE-Inhibitors -
- Beta blockers -

OTC sleep medications, including **antihistamines**

Opioid analgesics: sedation, confusion, dizziness, cognitive impairment

Anticoagulants: risk of serious bleeding post-fall

Psychoactive meds:
- Benzodiazepines: impair balance, may cause CNS depression
- Tricyclic antidepressants: orthostatic hypotension, - anticholinergic and sedative effects; used to treat depression or neuropathic pain
- SSRIs: may induce hyponatremia, which can lead to delirium
- Sedatives

Class 1A anti-arrhythmics: association with falls may be due to medication effects or the underlying arrhythmias causing hypotension and light-headedness

Anticholinergics: dizziness, drowsiness, sedation, blurred vision, lightheadedness
- Urinary antispasmodics
- Gastrointestinal antispasmodics: treatment of diabetic diarrhea
- Anticonvulsants: used to treat pain due to diabetic neuropathy pain
- Antiemetics

Source: References 56,75-77.

Table 3. Diabetes and Fall Injury Prevention: Potential Partners

Tribal Agencies and Services: Department of Health Health promotion program CHR program Community health Medical and nursing staff Elder Care committee Senior services Behavioral health Social services Family assistance Transportation Diabetes program Special diabetes program Health education Housing	**IHS Area:** Diabetes consultant Injury prevention specialist Behavioral health Information technology **IHS locally:** Clinical staff: Clinical director, Chief Medical Officer, physicians, NPs, PAs, nursing, pharmacy, podiatry, optometry, physical therapy, occupational therapy Improving Patient Care (IPC) committee EHS/sanitarians Medical records/EHR IPC group Public health nursing Medical records Information Technology
IHS National: Diabetes Treatment and Prevention Special Diabetes Prevention Initiative (sp?) LEAP initiative Nursing CHR IHS/AADE CHR diabetes online certification program Other IHS national consultants: medicine, diabetes, optometry, podiatry	**State Departments of Health:** Injury prevention program Vital statistics Epidemiology Diabetes

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Our Apologies

We apologize for the delay in the production of this issue. Constraints on funding at the end of the fiscal year made it impossible to complete the preparation of the issue until now. We will catch up with our usual monthly publishing schedule as soon as possible. We are currently accepting submissions for the September issue.

POSITION VACANCIES

Editor's note: As a service to our readers, THE IHS PROVIDER *will publish notices of clinical positions available. Indian health program employers should send brief announcements as attachments by e-mail to* john.saari@ihs.gov. *Please include an e-mail address in the item so that there is a contact for the announcement. If there is more than one position, please combine them into one announcement per location. Submissions will be run for four months and then will be dropped, without notification,, but may be renewed as many times as necessary. Tribal organizations that have taken their tribal "shares" of the CSC budget will need to reimburse CSC for the expense of this service ($100 for four months). The Indian Health Service assumes no responsibility for the accuracy of the information in such announcements.*

Mid-Level Practitioner
Health Director
Quileute Tribe; La Push, Washington

The Quileute Tribe has a job opening for a full-time mid-level practitioner. Must be a certified physician assistant, licensed in the state of Washington, and must have a valid Washington driver's license. Submit your application, professional license, cover letter, resume and three references by August 16, 2013, although the position will be open until filled.

We are also looking for a health director, who will provide administrative direction, negotiate and administer IHS contracts, develop and administer budgets, write reports, insure HIPPA compliance, comply with ACA, manage EHR, evaluate staff, and insure third party reimbursements are done. Must have a bachelor's degree related to health administration, and two years of management experience. This position is open until filled.

Telephone (360) 374-4366 or visit our website at *www.quileutenation.org* for a job application and job description. Alternatively, you may contact Roseann Fonzi, Personnel Director, PO Box 279, 71 Main Street, La Push, Washington 98350; telephone (360) 374-4367; fax (360) 374-4368; or e-mail *roseann.fonzi@quileutenation.org*. (8/13)

Registered Dietitian
Consolidated Tribal Health Project, Inc.;
Calpella, California

Consolidated Tribal Health Project, Inc. is a 501(c)(3) non-profit, ambulatory health clinic that has served rural Mendocino County since 1984. CTHP is governed by a board comprised of delegates from a consortium of nine area tribes, eight of which are federally recognized, and one that is not. Eight of the tribes are Pomo and one is Cahto. The campus is situated on a five-acre parcel owned by the corporation; it is not on tribal land.

CTHP has a Title V Compact, which gives the clinic self-governance over our Indian Health Service funding allocation. An application for any of these positions is located at *www.cthp.org*. Send resume and application to Karla Tuttle, HR Generalist, PO Box 387, Calpella, California 95418; fax (707) 485-7837; telephone (707) 485-5115 (ext. 5613). (7/13)

Family Practice Physician
Jicarilla Service Unit; Dulce, New Mexico

The Jicarilla Service Unit (JSU) is a new, beautiful 65,000 square foot facility nestled in the mesas of northern New Mexico with views of the edge of the Colorado Rockies. We provide care to the Jicarilla ("Basket-maker") Apache community with a population of 4,400. Our clinic has an opening for a board certified/eligible family practice physician for purely outpatient care with a 40 hour work-week. Our site qualifies for IHS and state loan repayment programs. JSU has a fully functional electronic health record system. Our pharmacy has a robust formulary including TNF-alpha inhibitors and exenatide. The clinic also has an urgent care clinic for acute walk-in cases. Our staff currently consists of an internist, three family practice physicians, an optometrist, and three dentists. We also have a team of dedicated public health nurses who specialize in home visits for elders and prenatal follow-up. The Jicarilla Apache Nation is self-sufficient with revenues from oil and natural gas. Much has been invested in the infrastructure of the reservation, including a large fitness facility, a modern supermarket, a hotel and casino, and more. We are also located 45 minutes from the resort town of Pagosa Springs, which has year-round natural hot springs and winter skiing at renowned Wolf Creek Pass.

We welcome you to visit our facility in person. To take a video tour of the Nzh'o Na'ch'idle'ee Health Center online, go to *http://www.usphs.gov/Multimedia/VideoTours/Dulce/default.aspx*. Please call Dr. Cecilia Chao at (575) 759-3291 or (575) 759-7230; or e-mail *cecilia.chao@ihs.gov* if you have any questions. (4/13)

Hospitalist
Gallup Indian Medical Center; Gallup, New Mexico

Gallup Indian Medical Center (GIMC) is currently seeking energetic and collegial internists for our new hospitalist program. The hospitalists care for all adult inpatients previously taken care of by family medicine and internal medicine physicians, and provide consultation services. We have seven FTEs for hospitalists, and while we are still growing, we enjoy further inpatient staffing support

from internal medicine and family medicine.

GIMC is a 99-bed hospital in Gallup, New Mexico, on the border of the Navajo Reservation. Clinical specialties at GIMC include internal medicine, family medicine, critical care, cardiology, neurology, orthopedics, ENT, radiology, OB/GYN, general surgery, ophthalmology, pathology, pediatrics, emergency medicine, and anesthesiology. The hospitalists' daily census is approximately 25 - 30. There is a six bed ICU. Our patient population includes Navajos, Zunis, and others living nearby, as well referrals from smaller clinics and hospitals.

Gallup has a diverse community and is very livable, offering a thriving art scene, excellent outdoor activities (biking, hiking, rock climbing, cross-country skiing), safe neighborhoods, diverse restaurants, national chains and local shops, and multiple public and parochial school options. The medical community is highly collegial, is committed to continuing education, has an on-going collaboration with Brigham and Women's Hospital, and has a high retention rate.

For more information, contact Eileen Barrett, MD, at (505) 722-1577 or e-mail *eileen.barrett@ihs.gov*. Or please consider faxing your CV to (505) 726-8557. (2/13)

Clinical Director, Family Medicine Physician
Kodiak Area Native Association; Kodiak, Alaska

The Kodiak Area Native Association (KANA) is searching for an adventurous, highly motivated physician to lead our team that is committed to patient-centered care, customer service, quality improvement, and stewardship. KANA is celebrating its 47th year of providing patient and family focused health care and social services to Alaska Natives and other beneficiaries of KANA throughout Kodiak Island. KANA's award winning medical staff is comprised of four physicians who work in conjunction with two mid-level providers, dedicated nurse case managers, and ancillary staff to deliver the highest quality, team based health care to an active user population of 2800 patients. Integrated behavioral health and pharmacy services within the primary care setting also facilitate an advanced support system to ensure our patients' needs are met.

The spectacular scenic beauty of Kodiak Island offers a backdrop for an abundance of outdoor and family activities, including world-class fishing, hunting, wildlife viewing, kayaking, and hiking just minutes from your door. Its sometimes harsh climate is balanced by mild temperatures and unparalleled wilderness splendor that provide Kodiak's residents with a unique lifestyle in a relaxed island paradise.

KANA offers competitive compensation and an excellent employee benefits package, including medical, dental, vision, flexible spending accounts, short term disability insurance, life insurance, accidental death and dismemberment insurance, 401k with employer contribution, fitness membership, and paid time off.

If you're interested in hearing more about how you can start your journey to an adventure of a lifetime, please visit our website at www.kanaweb.org, give Lindsey Howell, Human Resources Manager, a call at (907) 486-9880, or contact our HR Department at *hr@kanaweb.org*. Alaska's Emerald Isle awaits you! (2/13)

Pediatrician
Blackfeet Community Hospital; Browning, Montana

This hospital-based government practice is seeking a BC/BE pediatrician to work with another pediatrician and a pediatric nurse practitioner. Practice true primary care pediatrics with inpatient, outpatient, and newborn hospital care. Attractive call and rounding schedule. Competitive salary with federal government benefits. The area provides a wide variety of outdoor recreational activities, being only 12 miles from Glacier National Park. For more information, please contact Dr. Tom Herr at *thomas.herr@ihs.gov* or call (406) 338-6372. (1/13)

Director, Health and Human Services
Ysleta Del Sur Pueblo; El Paso, Texas

The Ysleta Del Sur Pueblo (YDSP) Health and Human Services Department is a team of health care professionals and staff fully committed to their patients' physical, emotional, and spiritual wellbeing, offering a comprehensive range of health and human services that ensure a safe environment, quality service, and accessible health care in an atmosphere of respect, dignity, professionalism, and cultural sensitivity.

YDSP's HHS department is seeking a Director. This person has responsibility and accountability for the development and implementation of a plan to bring HHS to an ongoing operating success. The Director will need the flexibility to make quick and efficient business decisions, while at the same time assuring that operations respect the broad guidelines and, more importantly, the service standards expected by tribal members and tribal leadership. To get more information or to apply, contact Jason S. Booth, CEO, Ishpi, Inc., telephone (651) 308-1023; or e-mail *jason@ishpi.biz*. (1/13)

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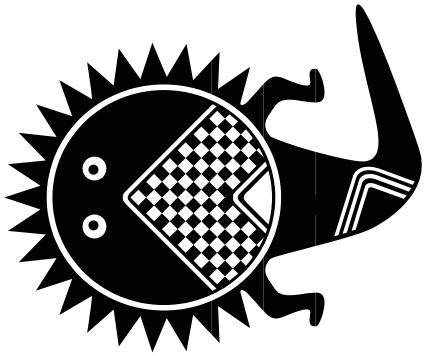

THE IHS PRIMARY CARE PROVIDER

A journal for health professionals working with American Indians and Alaska Natives

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