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Practicing Public Health by Promoting Personal Health: A Wellness Journey for Indian Health Service Headquarters Employees

"We can make a difference in the lives of our employees and their families, as well as the people we serve, by implementing programs that promote healthy lifestyles," stated Dr. Charles Grim, IHS Director. "Recent evidence has shown that many of the leading causes of death can be prevented through a healthy diet and increased physical activity. I believe the 'Take Charge Challenge' program implemented by IHS Headquarters staff can serve as an effective model for others to emulate in promoting healthy lifestyles."

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Background

The Headquarters office of the Indian Health Service (IHS) established a worksite wellness workgroup in spring 2002. Later that June, President Bush released the Healthier US Workforce initiative requiring government agencies to report health promotion activities available for their employees. As a first step, Headquarters senior management and the Wellness Committee piloted the "Take Charge Challenge" (TCC) during fall 2002 as a means of meeting the President's initiatives.

The design of TCC represents 30 years of trial and error. Earlier design or components of TCC can be found in the Zuni 100 mile

In this Issue…

197 Practicing Public Health by Promoting Personal Health: A Wellness Journey for Indian Health Service Headquarters Employees
203 New Centers for Disease Control and Prevention (CDC) Initiatives for Persons Living with HIV
211 From the NIH Health Services Research Library
212 Cancer Incidence Among Northwest American Indians and Alaskan Natives, 1996–2001
217 IHS Child Health Notes
218 OB/GYN Chief Clinical Consultant's Corner Digest
221 Meetings of Interest
222 Position Vacancies

club, Zuni Fitness Challenge, Zuni Weight Control Program,[1-4] Healthnet's Get Fit New Mexico,[5,6] the CDC's Director's Challenge,[7-9] and the National Coalition for Promoting Physical Activity (NCPPA)'s March into May.[10]

Design

The TCC is a theory-based intervention employing a team management and data collection system, goal setting, stages of change, incentives, and teams designed with an evaluation system that measures outcomes, impact, and an intervention process.

Teams

The TCC is based on the premise that among the integral elements of behavior change is social support and modeling.[11] Peer team leaders facilitate program management, problem solving, contracting, and data collection. The TCC establishes teams from an existing organizational structure in order to promote team building, morale, and increased productivity with increased physical fitness. The TCC team structure stimulates organizational development and attempts to ensure management and organizational commitment to employee health promotion.

Goal Setting

The TCC's ultimate goal is to personally empower participants to become physically active. When individuals are allowed to choose what they do, when they do it, how often they do it, at what intensity they do it, and where they do it, they are more likely to take responsibility for their physical activity behavior change. Goal setting is a critical skill of behavior change and provides individuals with control. TCC participants project the point total each will attempt during the ten-week program in which one point is earned for each ten minutes of physical activity. The point system allows simple tracking to determine goal completion and the amount of physical activity achieved.

Stages of Change

Self-directed behavior change is difficult. Prochaska and DiClemente documented that behavior change is a predictable process that can be measured in stages.[12] DiClemente, et al found that helping people progress through just one stage can double their chances of successful behavioral change in the near future. The TCC uses a modified version of the Transtheoretical Model of Behavior.[9] This model suggests that individuals attempting to change a health behavior move through a series of five stages: pre-contemplation (not intending to make a change); contemplation (considering making a change); preparation (planning to make or making small changes); action (actively engaging in a behavior change made in the past six months); and maintenance (sustaining a behavior change for more than 6 months).

TCC modified the model by adding a sixth stage – sub-action (engaging in vigorous physical activity less than three times a week for 20 minutes or moderate physical activity less than five times a week for 30 minutes). Table 1 shows the six questions used to determine stage of change at baseline and for final assessment. Stages of change provides an inexpensive, scientifically valid, self-reported assessment tool that can track changes over time and provide the opportunity to target information and strategies specific to a participant's needs according to their respective motivation and level of activity.

Table 1. Stages of Change

	Stage	Description
1	Pre-contemplation	I don't exercise or walk regularly now, and I don't plan to start in the near future.
2	Contemplation	I don't exercise or walk regularly, but I've been thinking about starting.
3	Preparation	I am trying to start to exercise or walk, or I exercise or walk infrequently.
4	Sub-action	I'm doing moderate physical activity fewer than 5 times a week or vigorous activity fewer than 3 times a week.
5	Action	I've been doing 30 minutes of moderate physical activity 5 or more times a week, or 20 minutes of vigorous activity at least 3 times a week, for the last 1 to 6 months.
6	Maintenance	I've been doing 30 minutes of moderate physical activity 5 or more times a week, or 20 minutes of vigorous activity at least 3 times a week, for 7 months or longer.

Participant Incentives

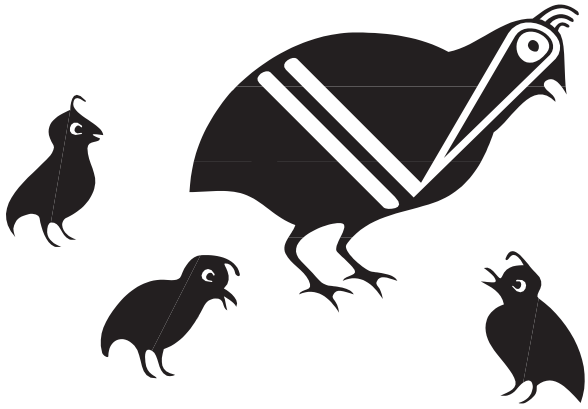
Using a comprehensive win-win incentive system linked to data collection, participants are eligible for incentives at the beginning, middle, and end of the ten-week program. The first incentive is provided for joining and reporting a numeric goal based on time committed to activity and their baseline stage of change. The second incentive is provided for reporting and reaching their numeric midpoint goal. The third award would be earned by reporting their exit stage of change and reaching their final point goal. This reward system accommodates the spectrum of participants from the sedentary to the very active by rewarding intention and individual goal completion, not merely those who do the most or perform the best.

Team Leaders

Team leaders are eligible for two incentives: the first for recruiting at least 50 percent of their respective potential population to join, the second if 75 percent of the participants reached their goal. All rewards in this incentive system require data. Modifying social norms as they relate to physical activity can contribute to sustained behavior change. The TCC operates under the premise that social norms change when a critical mass or fifty percent of the population is problem solving.

Evaluation

Using stages of change provides the opportunity to assess pre- and post-behavior change for outcome measures. Program impact is measured by participation and goal completion. Process evaluation can assess effectiveness of implementation, leadership, incentives, management support, marketing, etc. This standard evaluation allows for tracking individuals, teams, and organizations over time. It also provides the opportunities to add intervention features that will improve participation, goal completion, and behavior change.



Planning

The elements and implementation procedures were presented to IHS senior management and to the Headquarters Wellness Committee with the committee launching the campaign in the beginning of October. The committee reviewed the TCC implementation guide, and training was provided for team captains while allowing about one month for planning and marketing. The consultant delegated the following TCC tasks: marketing, incentives, team formation, data collection, education, activities, and evaluation. Along with members of the Wellness Committee, an Environmental Protection Agency Executive Leadership Program fellow completing her program requirements also assisted with TCC implementation. Named "Your Wellness Journey," the TCC ten-week physical activity behavior change component served as a "call to action," a data collection system, and a way to create an administrative structure for program implementation. The committee set TCC impact objectives at 50 percent participation and 75 percent goal completion.

Management Support

Management support is critical for the implementation of the TCC and for any worksite health promotion initiative. An orientation for IHS management was provided in order to emphasize the necessity of their support and to address any questions or concerns. The ultimate goal of any worksite health promotion initiative is to change the social norms of an organization. It is important to emphasize that the mission of the organization supports employee health. Announcements at management and staff meetings and e-mails expressing the Interim Director's support of the Wellness Journey emphasized that employee health is compatible with the mission of the IHS "to raise the physical, mental, social, and spiritual health of American Indians and Alaska Natives to the highest level."

Team Structure and Team Leader Responsibility

The TCC was presented to the IHS Headquarters staff located in Rockville, Maryland. The staff of 267 people was located in three buildings and worked within three organizational offices: Office of the Director (OD; 53); Office of Public Health (OPH; 112); and Office of Management Support (OMS; 102). The TCC encouraged teams to be formed within the structure of the organization instead of creating volunteer teams. The offices divided into the following number of teams: OD: 2; OPH: 7; and OMS: 9, for a total of 18 teams with an average of about 15 employees on each.

Team leaders either volunteered or were assigned responsibilities. Team captains were responsible for recruiting participants and for reporting participant point goal, baseline stage of change, midpoint goal accumulation, final goal point accumulation, and final stage of change. Captains were encouraged to serve as cheerleaders and physical activity mentors. The team captains were sent an excel data collection

form three times: after enrollment, midpoint, and at the end of the campaign. After a two-week participant recruitment period, the TCC began on October 7, reached midpoint on November 11, and ended on December 16, 2003.

Marketing and Feedback

Wellness Journey TCC posters were created and distributed throughout the respective work spaces of the three offices. Multiple e-mails were sent out by management, the Wellness Committee, and team captains. Wellness Journey TCC was mentioned in every organization-wide staff meeting before and during the program. Progress graphs and charts detailing team and office participation rates and stages of change information were prominently displayed in the three buildings comprising Headquarters work areas. Pie charts representing the baseline stage of change of the participants, team and office participation rates, goal completion rates, and baseline data versus final stages of change were detailed on posters prominently displayed in the work areas and lobby of the main Headquarters building.

Awards and Recognition

The IHS Circular 92-1 specified the appropriate awards policy. Polo shirts were awarded to each of the 18 team captains while all participants completing the final Wellness Journey TCC survey received water bottles with the IHS and Department of Health and Human Services logos. The IHS Circular 02-05 was updated to allow Headquarters employees one half hour per day to engage in physical activity that could be combined with the participant's lunch period. Special individual and team recognition at the January 2003 general staff meeting completed the TCC phase of the Wellness Journey. Some teams awarded their team coaches informally outside the TCC program.

Theoretical Foundation

The TCC incorporates many of the "best intervention processes" that are highly recommended by *The Guide to Community Preventive Services for Promoting Physical Activity*.[13] The following TCC components are among the social and individualized approaches suggested by the guide:

- Goal setting
- Stage of change
- Contracts
- Support groups
- Structured group problem solving
- Role models
- Rewards
- Relapse prevention

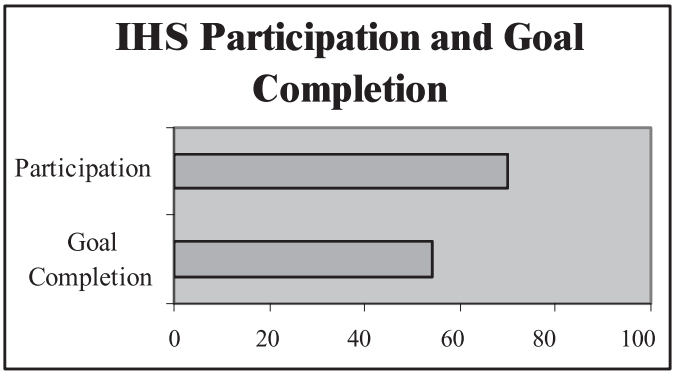
When a community incorporates these features into an intervention, the community, by definition, addresses the unique issues of culture, ownership, and empowerment. Goal setting is an individualized skill that contributes to behavior change. By nurturing goal setting, individuals are empowered to choose the type, the intensity, the location, and the time and frequency of physical activity. Assessing participant's "stage of change" provides the opportunity to tailor information and approaches specific to his/her needs. The community's involvement as team members, team captains, and role models is essential. Contracts are established between participants and their captains when they are held accountable for reaching their respective goals.

As teams work to assist members reach their respective goals, the team develops strategies that overcome barriers. Teams problem solve through creating walking groups, sharing recipes, and sharing strategies to safely increase activity. Community leaders and participants serve as role models. Communities and participants can determine the rewards that are affordable and motivating. Affordable rewards can include recognition and organizational privileges. As community norms change and the intervention is institutionalized, it is assumed that increased physical activity rates will be sustained and relapse to sedentary behaviors will be prevented.

Participation and Goal Completion

The TCC strives to reach 50 percent participation. The IHS Headquarters significantly surpassed this impact objective with 188 out of the 267 employees, or 70 percent participation. Team participation ranged from a high of 94 percent participation (17 out of 18 employees) to a low of 40 percent (4 out of 10). The final goal completion was 54 percent, with 101 of the 188 participants reaching their final point goal. Two teams had 100 percent goal completion and three teams had less than 25 percent. (Figure 1)

Figure 1. Take Charge Challenge outcomes

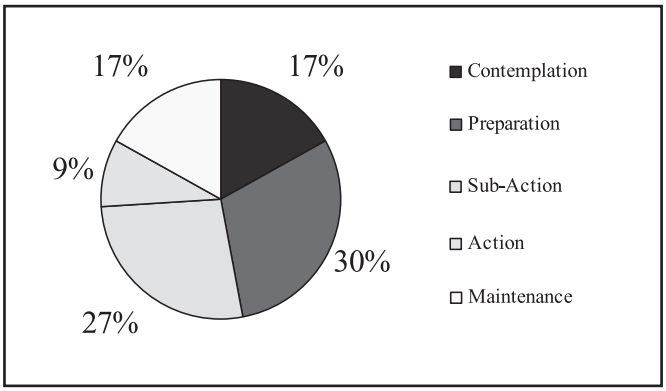


Outcome of Stage of Change

Baseline – Seventy four percent of the participants were less active than the standards set by the Surgeon General's[14] recommendations as well as the level encouraged by the Healthy People 2010 Physical Activity Objectives for the Nation, i.e., five days of 30 minutes of moderate activity.[5] Seventeen percent were sedentary or in the contemplation stage, 30 percent were just starting to be active or in the

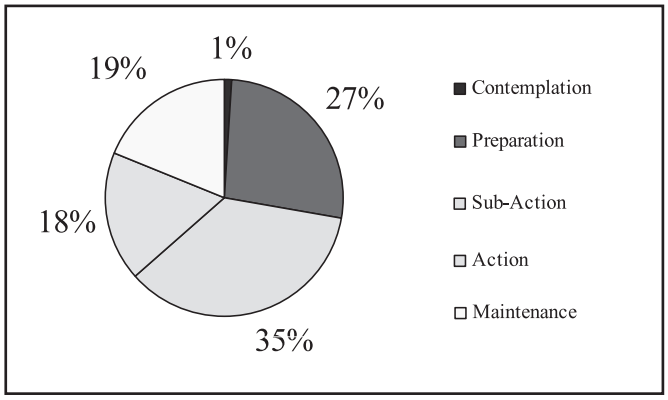
preparation stage, and 27 percent were active on an irregular basis. Twenty six percent were in the active stage, with 17 percent having been at this level for longer than 6 months or in the maintenance stage. (Figure 2)

Figure 2. Baseline stage of change



Results – The percentage of those not meeting the active criteria was reduced from 74 percent to 63 percent. There was a reduction among participants who were sedentary (contemplation) before the campaign from 17 percent to 1 percent. The number of active participants (action/maintenance) grew from 26 percent to 37 percent, with 18 percent in the action stage and 19 percent in the maintenance stage. (Figure 3)

Figure 3. Final stage of change



Discussion

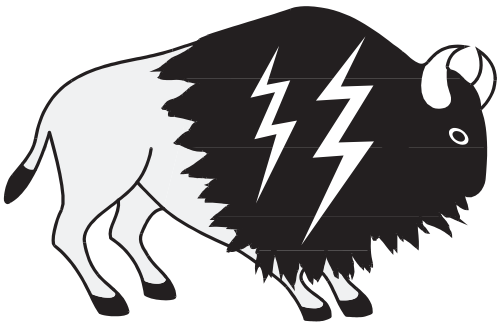
The IHS Headquarters' first wellness program yielded notable results reflecting teamwork and commitment by the Wellness Committee, management support, and Headquarters employee participation. The TCC preliminary process evaluation indicates that behavior can be positively affected and that there is interest in continuing other work environment health activities.

Although the goal of 50 percent participation was exceeded, the 75 percent goal completion level was not reached. The lack of incentives may have contributed to not achieving the completion goal. The Wellness Committee, with the cooperation and support of management, needs to institutionalize an employee health recognition system that will reduce the dependence on material incentives.

Health behaviors can be strongly influenced by observational learning and the changing of social norms. As a fundamental TCC component, team captains serve as peer role models and mentors. Appropriate training, support, and communication should improve team captain performance and ultimately the health of all participants. An organized support group for captains and participants can empower personal and group control and program ownership. The team captain structure may also provide an opportunity for the organization to stimulate and foster nascent leadership skills.

However, it must also be noted that the TCC design based on establishing teams and team captains depends on data to produce impact and outcome results. Captains and participants were not immediately accustomed to tracking and reporting behaviors. The difficulty captains experienced collecting data may have resulted from the newness of the procedure, many employees being involved with extensive travel, and the TCC program extending into the holiday season from late November to mid-December. Some of the data collection problems might have been avoided if the challenge had ended before Thanksgiving. In addition, the October sniper shootings, colder weather, and lack of a physical workout facility presented some barriers to participating in outdoor physical activity

The Take Charge Challenge model has significant potential for dissemination throughout Indian country, not only as a social system intervention, but as a community campaign. It has a standard evaluation system that allows comparisons from system to system and community to community. It provides the opportunity for long term tracking, including risk factors such as weight, blood pressure, blood sugar, and cholesterol. There are several other TCC behavioral modules including the consumption of fruits, vegetables and, fat; and stress reduction that could be implemented based on interest.



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New Centers for Disease Control and Prevention (CDC) Initiatives for Persons Living with HIV

The United States Public Health Service Indian Health Service (IHS) National Epidemiology Program has been collaborating with a task force from the National Network of Sexually Transmitted Diseases (STD)/HIV Prevention Training Centers (PTCs) to address STD training needs among providers working at IHS, tribal, and urban sites. As part of this collaboration, the IHS/PTC task force provides articles with STD/HIV-related updates in The IHS Provider. *The first article, which was included in the June 2003 issue, gave an overview of the CDC 2002 STD Treatment Guidelines. This edition's article will address the new CDC initiative on advancing HIV prevention, highlighting the role of health care providers, as discussed in the July 18th, 2003 MMWR article entitled "Incorporating HIV Prevention into the Medical Care of Persons Living with HIV." The tables accompanying this article are taken directly from the July 18th 2003 MMWR. The entire content of this MMWR issue can be found at* http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5212a1.htm.

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Background

The Centers for Disease Control and Prevention (CDC) has developed a new initiative to minimize the spread of HIV infections in the United States. This new initiative, called *Advancing HIV Prevention*, is informed by recent epidemiological trends in HIV, and research studies about behavioral and medical aspects that relate to HIV transmission.

The CDC estimates that 40,000 new HIV infections occur in the United States annually, a number that has remained essentially unchanged for many years. Increased rates of syphilis infections and other sexually transmitted diseases (STDs), particularly among men who have sex with men (MSM), suggest that unsafe sexual behaviors are on the rise among this population. Rising STD rates are of great concern because STDs have a synergistic effect on HIV transmission. Additionally, nearly one-fourth of the almost one million persons with HIV infection in the United States are unaware of their positive serostatus.

The New Initiative: Advancing HIV Prevention

Until now, HIV prevention efforts in the United States have concentrated on strategies to help uninfected persons at risk to remain uninfected. The *Advancing HIV Prevention* initiative places new emphasis on preventing transmission by supporting and working with HIV-infected persons in protecting their partners. The initiative aims to reduce barriers to HIV diagnosis and utilization of medical care, and to work effectively with people living with HIV and their partners to decrease HIV transmission. Four core strategies are identified:

1. Make HIV testing a routine part of medical care whenever and wherever patients go for care.
2. Use new models for diagnosing HIV infection outside of traditional medical settings.
3. Prevent new infections by working with people diagnosed with HIV and their partners.
4. Continue to decrease mother-to-child transmission.

Medical care providers can play a crucial role in each of these strategies. In particular, clinicians who provide care for HIV-infected patients can work effectively with these individuals to prevent HIV transmission. This approach to HIV prevention is known as Prevention with Positives (PWP).

Incorporating HIV Prevention Into Medical Care

The multifaceted role that medical providers can play in helping their HIV-positive patients reduce HIV transmission is addressed at length in the July 18, 2003 *Morbidity and Mortality Weekly Report (MMWR)* article entitled "Incorporating HIV Prevention into the Medical Care of Persons Living with HIV." This document was developed by experts from the CDC, Health Resources and Services Administration (HRSA), National Institutes of Health (NIH), and the HIV Medicine Association of the Infectious Disease Society of America, using an evidence-based approach, and it includes an explanation of the rating system used to evaluate the evidence. These recommendations are intended for physicians, nurse practitioners, nurses, and physician assistants who provide medical care to HIV-infected persons, and may also be useful for others who deliver prevention messages (e.g., case managers, social workers, and health educators).

This report acknowledges that persons who are aware of their HIV infection tend to reduce their risky behaviors (sexual and drug use), but that these changes are difficult to maintain. The report recommends that all clinicians incorporate HIV prevention into the care of their HIV-infected adults and adolescents, regardless of age, gender, or race/ethnicity. Three major areas of recommendations are covered:

1. screening for HIV risk behaviors and STDs;
2. providing brief behavioral risk-reduction interventions in the office setting, or referring for additional services;
3. facilitating notification and counseling of sex and needle-sharing partners.

These three areas of recommendations are discussed in detail below.

Risk Screening

A brief assessment of factors associated with HIV transmission should be incorporated by the clinician into routine patient visits. This screening can be done by a variety of methods, including self-administered written questionnaires and individualized discussions. Studies suggest that patients' confidence in their provider increases when they are asked about their sexual history. Clinicians often want, and can benefit from training in interviewing and counseling skills. Free training on these topics can be obtained through the regional STD/HIV Prevention Training Centers (*http://www.stdhivpreventiontraining.org*) or AIDS Education and Training Centers (*http://www.aids-ed.org*).

Major behavioral risk factors include unprotected sex or sharing equipment for injection drug use. Non-injection drug use has also been associated with high-risk sexual behaviors. Discussing the patient's own sex behaviors and drug-use behaviors can lead to a realistic, individualized plan for risk reduction. Several models for assessing risk have been developed, and include the following:

Screening for behavioral risk factors: To assess for sexual risk, inquiries should be made about:

- whether the patient is sexually active;
- number and gender of partners;
- partners' HIV status (infected, not infected, unknown);
- types of sexual activity (vaginal, anal, oral);
- patterns of condom use;
- barriers to abstinence or correct condom use.

In addition, female patients should be asked about pregnancy or their contraceptive plans.

To assess for injection drug-related risk, it is important to inquire whether the patient injects drugs and, if so, to discuss whether needles, syringes, or other injection equipment are shared, and, if so:

- how many persons the patient has shared needles with;
- needle-sharing partners' HIV status (infected, not infected, unknown);
- patterns of needle-sharing or bleaching;
- barriers to ceasing drug use; if patient is unable to cease drug use, discuss adopting safer injection practices.

Examples of screening questions that clinicians can adapt and use during the medical history are given in Box 1. Figure 1 gives examples of tailoring questions about a patient's condom use. Alternatively, behavioral risk screening can be accomplished via a self-administered or computer-assisted questionnaire, or via interview by ancillary clinical staff.

Box 1. Examples of screening strategies to elicit patient-reported risk for human immunodeficiency virus (HIV) transmission*

Open-ended question by clinician, similar to one of the following:

"What are you doing now that you think may be a risk for transmitting HIV to a partner?"
"Tell me about the people you've had sex with recently."
"Tell me about your sex life."

Screening questions (checklist) for use with a self-administered questionnaire; computer-, audio-, or video-assisted questionnaire; or a face-to-face interview:†§

"Since your last checkup here," or, if first visit, "Since you found out you were infected with HIV,":

"Have you been sexually active; that is, have you had vaginal, anal, or oral sex with a partner?"

If yes

– "Have you had vaginal or anal intercourse without a condom with anyone?"

If yes

– "Were any of these people HIV-negative, or are you unsure about their HIV status?"

– "Have you had oral sex with someone?"

If yes

– (For a male patient) "Did you ejaculate into your partner's mouth?"

"Have you had a genital sore or discharge, discomfort when you urinate, or anal burning or itching?"

"Have you been diagnosed or treated for a sexually transmitted disease (STD), or do you know if any of your sex partners have been diagnosed or treated for an STD?"

"Have you shared drug-injection equipment (needles, syringes, cotton, cooker, water) with others?"

If yes

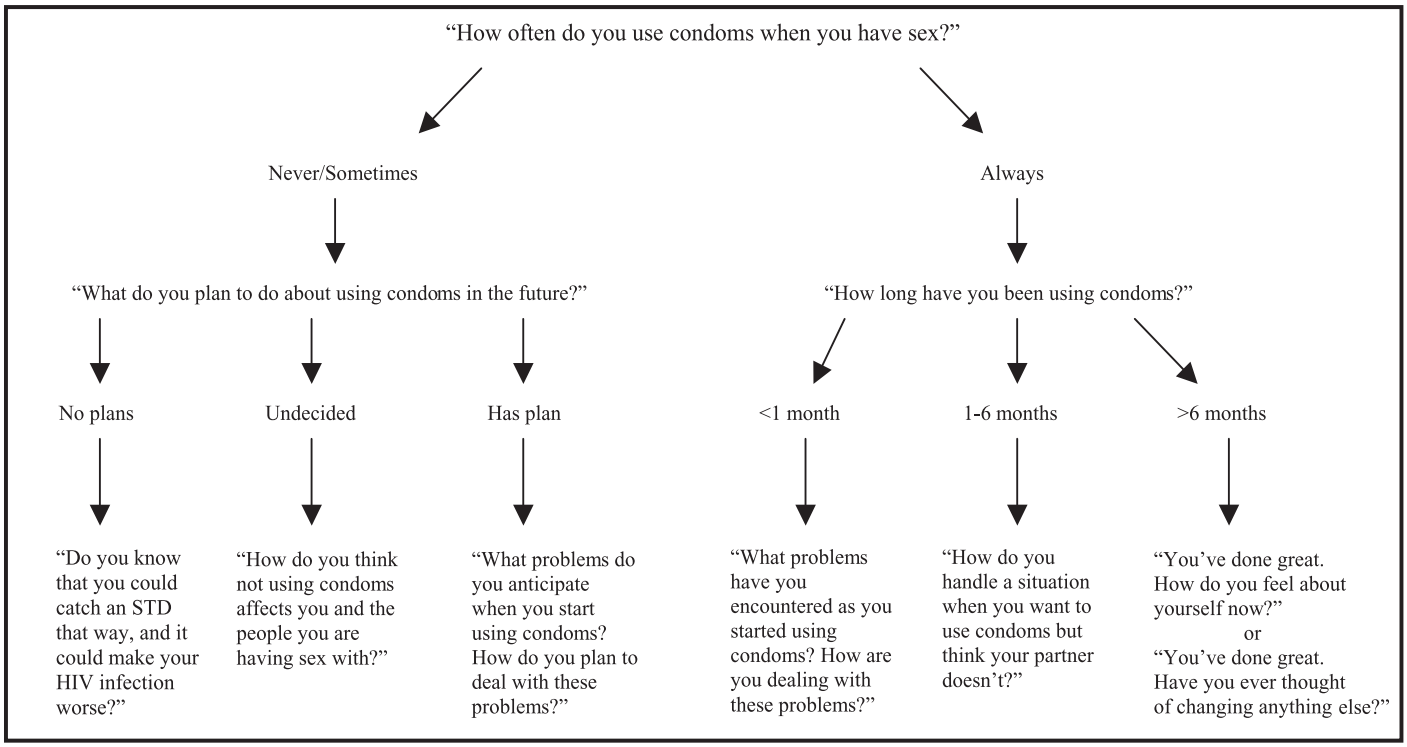
– "Were any of these people HIV-negative, or are you unsure about their HIV status?"

*Source: Adapted from Centers for Disease Control and Prevention (CDC). Revised guidelines for HIV counseling, testing, and referral. MMWR 2001: 50 (No. RR-19).

†This checklist can be administered by the patient or clinician and should take approximately 4 minutes.

§A positive response to any of the screening questions should cue the clinician to have a more in-depth discussion to ensure that specific risks are clearly understood.

Figure 1. Example of tailoring messages regarding condom use for sexually active, HIV-infected persons*



*This is an example, not a comprehensive list of all questions that could be asked.

Screening for clinical risk factors: STD screening, diagnosis, and treatment are significant HIV prevention activities, as co-infection with HIV and ulcerative STDs (herpes, syphilis, chancroid) or inflammatory STDs (gonorrhea, chlamydia) increases infectiousness of and susceptibility to HIV by two- to five-fold.

STD screening recommendations have been given in previous documents issued by CDC such as the *MMWR* 47 (RR 12); 1-24, 07/31/98, "HIV Prevention through Early Detection and Treatment of Other Sexually Transmitted Diseases – U.S. Recommendations of the Advisory Committee for HIV and STD Prevention," as well as in other guidelines. Briefly, routine screening for common bacterial STDs, including syphilis, gonorrhea, chlamydia, and, in women, trichomoniasis, is recommended at intake and annually, or more frequently with ongoing risk. Screening at intake and afterwards as needed is recommended for viral STDs. This includes testing for Hepatitis A, B, and C, with vaccination of susceptible persons for Hepatitis A and B; and screening for herpes simplex virus (HSV)-2 infection by clinical history (i.e., typical recurrent symptoms) or by type-specific serologic tests. Box 2 summarizes recommended STD screening strategies.

Clinicians should also ask their HIV-infected patients at every visit about signs and symptoms that might indicate an STD. These include urethral or vaginal discharge; dysuria; intermenstrual bleeding; genital or anal ulcers or other lesions; anal pain, pruritis, burning, discharge, or bleeding; and, for women, lower abdominal pain with or without fever. When signs or symptoms are present, the appropriate diagnostic STD testing should be performed (see Table 1). Women of childbearing age should be asked routinely about their pregnancy or contraceptive plans.

Behavioral Interventions

Behavioral interventions aim to help people change their knowledge, attitudes, behaviors, or practices in order to reduce their personal health risk or their risk of transmitting HIV to others. Behavior change occurs over time, and often in incremental steps. Avoiding exposure remains the most effective way to prevent HIV transmission. Simple, printed materials explaining the transmission risks and prevention strategies for HIV and STDs should be given on intake to all HIV-infected patients. Condoms should be readily accessible on site.

The *MMWR* details information to assist clinicians in providing behavioral risk-reduction interventions in their clinic or office settings, or by making an effective referral, as summarized here:

Interventions delivered on site:

1. Prevention messages for all patients:

   Prevention messages emphasize to patients the importance of protecting their own health and the health of their sex and needle-sharing partners.

Box 2. Examples of laboratory screening strategies to detect asymptomatic sexually transmitted diseases*

First Visit

For all patients

Test for syphilis: nontreponemal serologic test (e.g., rapid plasma reagin [RPR] or Venereal Disease Research Laboratory [VDRL] test).

Consider testing for urogenital gonorrhea: urethral (men) or cervical (women) specimen for culture, or urethral/cervical specimen or first-catch urine† (men and women) nucleic acid amplification test (NAAT) for *Neisseria gonorrhoeae*§

Consider testing for urogenital chlamydial infection: urethral (men) or cervical (women) specimen or first-catch urine† (men and women) specimen for NAAT for *Chlamydia trachomatis*.§

For women

Test for trichomoniasis: wet-mount examination or culture of vaginal secretions for *Trichomonas vaginalis.*

Test for urogenital chlamydia: cervical specimen for NAAT for *C. trachomatis*§ for all sexually active women aged ≤25 years and other women at increased risk, even if asymptomatic.

For patients reporting receptive anal sex

Test for rectal gonorrhea: anal swab culture for *N. gonorrhoeae*§

Test for rectal chlamydia: anal swab culture for *C. trachomatis*§ if available.

For patients reporting receptive oral sex

Test for pharyngeal gonococcal infection: culture for *N. gonorrhoeae*§

Subsequent Routine Visits

The tests described here should be repeated periodically (i.e., at least annually) for all patients who are sexually active. More frequent periodic screening (e.g., at 3-month to 6-month intervals) may be indicated for asymptomatic persons at higher risk. Presence of any of the following factors may support more frequent than annual periodic screenings: 1) multiple or anonymous sex partners; 2) past history of any STD; 3) identification of other behaviors associated with transmission of HIV and other STDs; 4) sex or needle-sharing partner(s) with any of the above-mentioned risks; 5) developmental changes in life that may lead to behavioral change with increased risky behaviors (e.g., dissolution of a relationship); or 6) high prevalence of STDs in the area or in the patient population.

* These recommendations apply to persons without symptoms or signs of STDs. Patients with symptoms (e.g., urethral or vaginal discharge; dysuria; intermenstrual bleeding; genital or anal lesions; anal pruritis, burning, or discharge; and lower abdominal pain with or without fever) or known exposure should have appropriate diagnostic testing regardless of reported sexual behavior or other risk factors.

† First-catch urine (i.e., the first 10 - 30 mL of urine voided after initiating the stream) should be used.

§ The yield of testing for *N. gonorrhoeae* and *C. trachomatis* is likely to vary, and screening for these pathogens should be based on consideration of patient's risk behaviors, local epidemiology of these infections, availability of tests (e.g., culture for *C. trachomatis*), and cost. Appropriate diagnostic tests for different pathogens causing STDs are described (Table 3).

Note: Testing or vaccination for hepatitis, pneumococcal disease, influenza, and other infectious diseases (e.g., screening pregnant women for syphilis, gonorrhea, chlamydia, and hepatitis B surface antigen) should be incorporated into the routine care of HIV-infected persons as recommended elsewhere (for original citations, see *MMWR* 2003: 52, RR 12).

Note: Symptomatic and asymptomatic herpes simplex virus (HSV) infection, especially with HSV type 2 , is prevalent among HIV-infected persons and might increase the risk of transmitting and acquiring HIV. Therefore, some HIV specialists recommend routine type-specific serologic testing for HSV-2. Patients with positive results should be informed of the increased risk of transmitting HIV and counseled regarding recognition of associated symptoms (for original citations, see *MMWR* 2003: 52, RR 12). Only tests for detection of HSV glycoprotein G are truly type-specific and suitable for HSV-2 serologic screening.

Note: Local and state health departments have reporting requirements for HIV and other STDs, which vary among states. Clinicians should be aware of and comply with requirements for the areas in which they practice. Information on reporting requirements can be obtained from health departments.

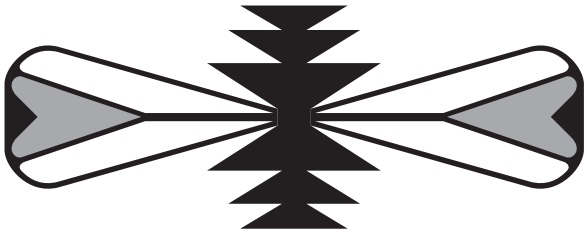


Table 1. Available diagnostic testing for decection of STDs*

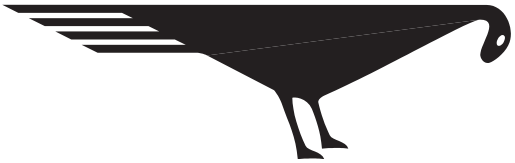
STD	Diagnostic test†
Syphilis	Dark-field examination or direct fluorescent antibody test of exudate of lesion. Serum nontreponemal tests, rapid plasma reagin (RPR), or Venereal Disease Research Laboratory (VDRL) forscreening followed by serum treponemal tests (e.g., fluorescent treponemal antibody absorbed [FTA-ABS] or *Treponema pallidum* particle agglutination [TP-PA]
Trichomoniasis	Microscopic examination of wet mount or culture of vaginal secretions
Herpes	Viral culture of genital or other mucocutaneous ulcers Herpes simplex virus type-specific serologic tests
Gonorrhea Female genitourinary (GU) tract	Culture of endocervical swab specimen Nucleic acid amplification tests (NAAT) of endocervical swab specimen NAAT of urine §
Male GU tract	Culture of intraurethral swab NAAT of intraurethral swab NAAT of urine §
Rectum/pharynx specimen	Culture of rectal or pharyngeal swab specimen with selective medium
Chlamydia Female GU tract	NAAT of endocervical swab specimen NAAT of urine § Unamplified nucleic acid hybridization test, enzyme immunoassay , or direct fluorescent antibody test of endocervical swab specimen Culture of endocervical swab specimen
Male GU tract	NAATof intraurethral swab specimen NAAT of urine § Non-NAAT or culture of intraurethral swab specimen
Rectum/pharynx	Culture of rectal or pharyngeal swab specimen ¶ Direct fluorescent antibody test performed on rectal or pharyngeal swab specimen ¶

***Source:** CDC. Sexually transmitted diseases treatment guidelines - 2002. *MMWR* 2002: 51 (No. RR-6). CDC Screening tests to detect *Chlamydia trachomatis* and *Neisseria gonorrhoeae* infections, 2002. *MMWR* 2002: 51 (No. RR-15).

† Diagnostic tests are listed in order of preference for recommendation, with the most highly recommended test listed first. Alternative tests should be performed if a specimen cannot be obtained or if the preferred test is not available.

§ NAAT of urine is less sensitive than that of an endocervical or intraurethral swab specimen.

¶ *Chlamydia trachomatis*-major outer membrane protein (MOMP) -specific stain should be used.



Prevention messages delivered by clinicians have been effective in regard to a number of health issues, including smoking cessation, weight loss, and exercise. These messages can encourage patients to reduce risky behaviors or to maintain safer behaviors already undertaken. Short interventions (one or two sessions), as well as longer, multi-session interventions delivered in an individualized, client-centered manner, have proved successful in helping clients to adopt safer sex and drug-use behaviors.

2. Identifying and correcting misconceptions:

Clinicians can also identify and correct misconceptions regarding the degree of transmission risk associated with various sex acts, and can encourage patients to adopt lower-risk behaviors (i.e., use of condoms) or to choose less risky sex acts (e.g., oral versus anal or vaginal sex).

- *Risk for HIV transmission associated with specific sexual behaviors:*
  Studies indicate that certain sexual behaviors carry a lower per-act risk of HIV transmission than do others (see Table 2).
- *Effect of antiretroviral therapy on HIV transmission:*
  Various studies point to the possibility that a low or undetectable HIV viral load may decrease a patient's infectiousness. However, the clinician and the patient should assume that the patient can transmit the virus despite effective highly active antiretroviral treatment (HAART), because of factors such as fluctuations in viral load with inconsistent

Table 2. Estimated per-act relative risk for a person without human immunodeficiency virus (HIV) infection acquiring HIV infection, based on sex act* and condom use†

Risk factor	Relative risk for a person without HIV infection acquiring HIV infection
Sex act	
Insertive fellatio§	1
Receptive fellatio §	2
Insertive vaginal sex ¶	10
Receptive vaginal sex ¶	20
Insertive anal sex ¶	13
Receptive anal sex ¶	100
Condom use	
Yes**	1
No**	20

Note: This table quantifies the relative risk forHIV transmission in a way that can compare the effects of a person's choices of sex act and condom use. It is presented from the point of view of a person without HIV infection and should be used to educate the HIV-infected patient regarding risks of transmission to partners who are not HIV-infected or have unknown HIV serostatus. These risks are estimated from available data. Risks can vary, depending on several factors, including presence of STDs in either partner, and the HIV-infected partner's viral load. In addition, the relative frequency of performance of higher- and lower-risk sex acts will affect risk for transmission (see Prevention Messages for All Patients).

Note: The risks of these choices are multiplicative. Compared with the lowest relative risk (performing insertive fellatio using a condom; referent group, RR=1), the overall relative risk increases to 2,000 when perfoming receptive anal sex (RR=100) without a condom (RR=20).

* Data regarding risk of transmission from sharing drug injection equipment are too limited to be included in this table.

† **Source:** Varghese B, Maher JE, Peterman TA, Branson BM, Steketee RW. Reducing the risk of sexual HIV transmission: quantifying the per-act risk for HIV infection based on choice of partner, sex act, and condom use. Sex Transm Dis 2002; 29: 38-43.

§ Best-guess estimate, from Varghese et al.

¶ **Source:** European Study Group. Comparison of female-to-male and male-to-female transmission of HIV in 563 stable couples. BMJ 1992; 304: 809-813.

** **Source:** Macaluso JM, Kelaghan J, Artz L, et al. Mechanical failure of the latex condom in a cohort of women at high STD risk. Sex Transm Dis 1999; 26: 450-458.

adherence to the medication regimen, and detectable virus in genital secretions, even in patients with undetectable serum viral loads.

- *Effectiveness of post-exposure prophylaxis for non-occupational exposure to HIV:* Post-exposure prophylaxis using antiretroviral drugs after a sexual or needle-sharing exposure may be effective in preventing HIV acquisition. However, the available data regarding this strategy are limited.

3. Tailored interventions for patients at high risk for transmitting HIV:

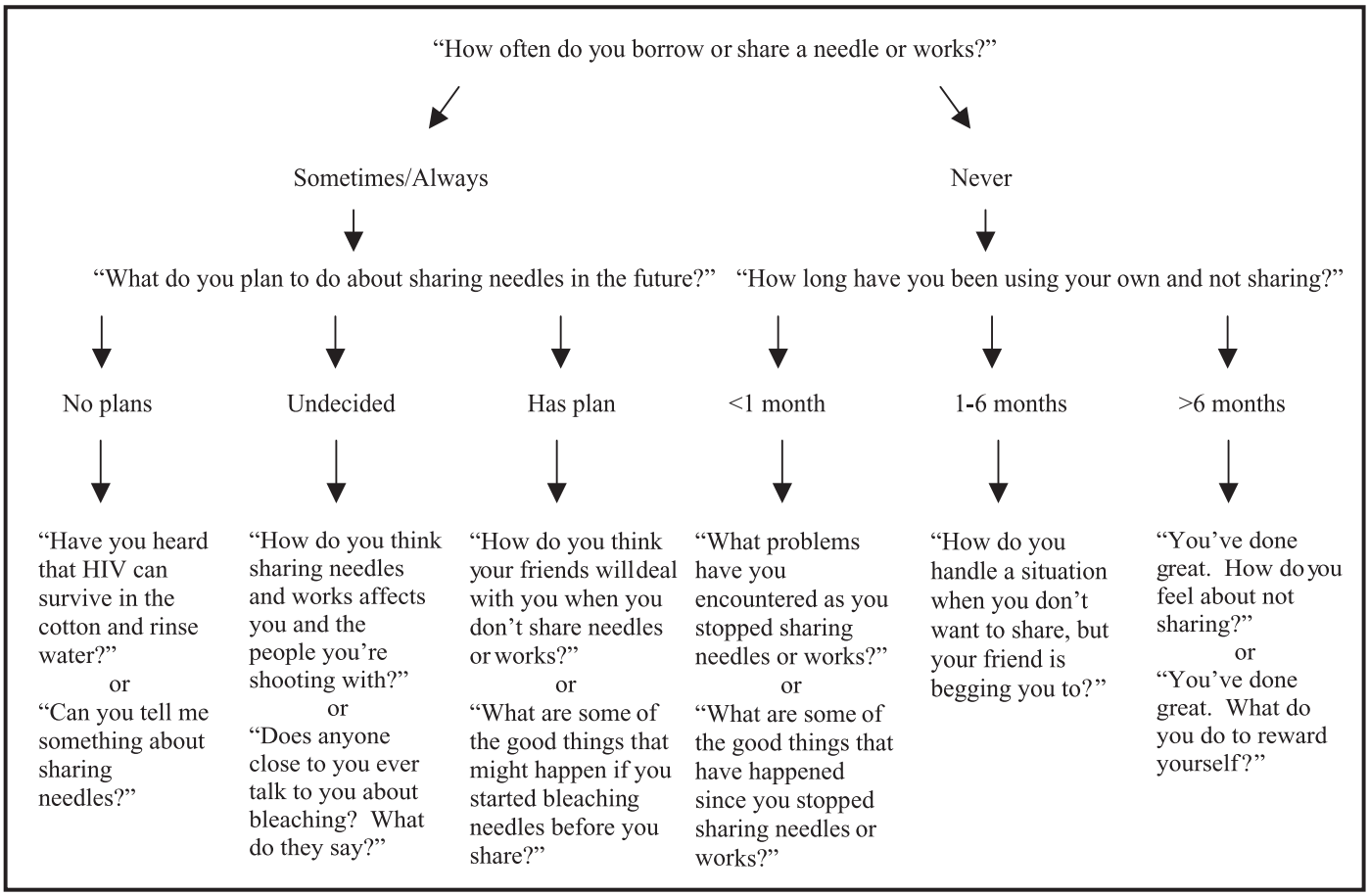
   Those patients who are at higher risk for transmitting HIV or for acquiring/transmitting STDs may benefit from interventions tailored to their particular needs. The patient should be clearly informed of the risk of continuing current sex or drug-injection practices that may lead to transmission. An appropriate referral should be made whenever possible (see *Referrals for additional prevention interventions and other services*, below). Patients should be reminded that abstinence or sex with partners who are themselves HIV-infected are the only certain ways of preventing HIV transmission. Patients have a responsibility to disclose their HIV status to their partners. For those with partners of unknown or discordant serostatus, condoms have been shown to substantially reduce the risk of transmission. Some sex acts carry relatively lower transmission risk than do others (Table 2).

   Patients who continue injection-drug use should be informed of the risk of sharing needles and equipment, and should be given treatment referrals and information about obtaining clean needles. Figure 2 gives examples for tailoring messages to specific injection-drug risks.

4. Ongoing delivery of prevention messages:

   Prevention messages can be reinforced at subsequent visits by the clinician or other members of the clinical team, such as nurses, mental health workers, social workers, or health educators. Such a multidisciplinary approach

Figure 2. Examples of tailoring messages regarding needle-sharing for HIV-infected persons who continue to inject drugs



allows the patient to connect with the staff member with whom he/she feels most comfortable, as well as for flexibility for the staff.

Referrals for additional prevention interventions and other services:

Referrals for enhanced counseling or further treatment are often necessary in such cases as drug abuse or mental illness. Social service referrals may be needed to assist with housing, food needs, or child care. In a busy office practice, it is helpful to make in-office referrals to ancillary staff, such as health workers, counselors, or social workers, who can spend time with patients to address such nonmedical needs.

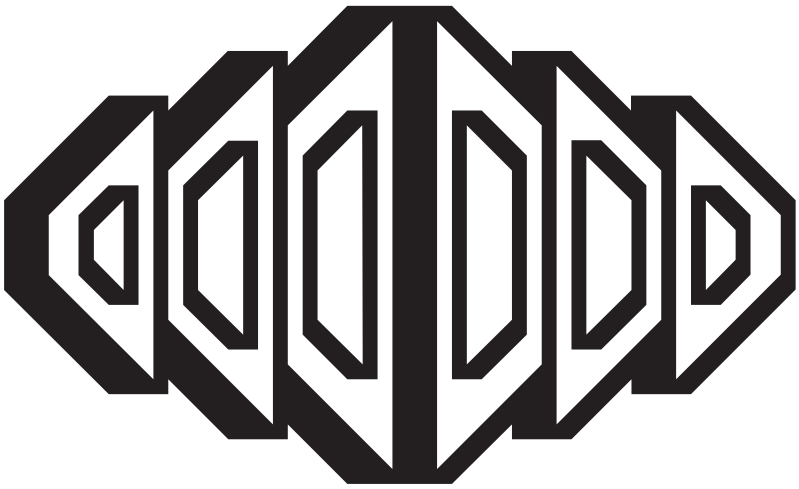
Written lists of up-to-date community referral sources should be kept handy for clinicians to provide to their patients. Clinicians, understandably, may be unfamiliar with available community resources. Information can be obtained through local Ryan White CARE Act-supported services in local or state health departments or social service departments. At subsequent visits, the patient should be asked about his/her progress toward obtaining services through any referrals given previously.

1. Referrals for injection drug users:
   Referral for substance abuse treatment — in particular, methadone maintenance — can have a positive effect on HIV-transmission risk behaviors. For patients not willing or able to stop injecting drugs altogether, referrals utilizing a harm-reduction approach, such as needle-exchange programs, are encouraged.
2. Engaging the patient in the referral process:
   Referral for services that the patient identifies as desired or needed tend to be most successful. Services should be appropriate to the patient's culture, language, gender, sexual orientation, age, and developmental level (e.g., adolescents). Presence of and solutions to practical barriers such as lack of transportation or child care that might prohibit follow-through on the referral should be discussed. If possible, the patient should be assisted in making the initial appointment if he/she so desires.

Partner Counseling and Referral Services (PCRS), Including Partner Notification

Most states have laws or regulations related to informing partners of an HIV exposure; clinicians should be familiar with the requirements in their area. The responsibility for partner notification can be assumed by the patient, by the clinician in the private sector, or by referral to the local health department.

Special services are available through most local public health programs to assist HIV-infected patients in informing their sex and needle-sharing partners of possible exposure, and to assure that exposed persons have access to counseling and testing (PCRS). PCRS staff persons have special training and expertise in patient interviewing, partner elicitation and notification, and assisting exposed persons in obtaining counseling and testing. PCRS services are always confidential and are voluntary in most jurisdictions.



FROM THE NIH HEALTH SERVICES RESEARCH LIBRARY ☐

Editor's Note: This new column is about healthcare information and tips on how to get it. Diane Cooper is our biomedical librarian/Informationist.

Where to Go for Evidence-Based Medicine

"What's the evidence?" More and more, that question turns up in hospitals and clinician offices. If you want to find the evidence base (if any) for a procedure or a treatment, the drug company that provides free pens, pizza, and pamphlets may not be the most credible place to start. So, where does the conscientious clinician turn for evidence-based medicine (EBM)? You probably already know about the Cochrane Library; if not, we'll review that in an upcoming column. But for now, here are some suggestions, all Internet, all free.

Bandolier Knowledge ***(www.ebandolier.com)***

Your first question might be, "What's a bandolier?" Picture the bandits seen in old Western movies. They might have a leather belt with slots for bullets draped over one shoulder. That's a bandolier, or bandoleer: a place where bullets are kept. The word is derived from Spanish, and ultimately comes from the word for a member of a band of men. Bandolier Knowledge (BK) took the name because it's a journal that summarizes evidence-related articles in to-the-point bullets.

Started by Oxford scientists, BK now has a printed subscription service and a free Internet service. The Internet service lags a few months behind the print version. BK searches PubMed and the Cochrane Library monthly, and produces bulleted summaries of new research studies that pass their credibility criteria. A plus is the useful glossary of EBM-related terms.

We test-drove BK by asking it about treating restless leg syndrome (RLS). The results provided some interesting background information (15% of the adult population has RLS) and good evidence that pergolide, a dopamine agonist, is more effective than l-dopa or benzodiazepines.

Some spelling and drug names may be unfamiliar — BK is produced in England — but it is a favorite EBM site.

DARE ***(www.york.ac.uk/inst/crd/darehp.htm)***

DARE stands for Database of Abstracts of Reviews of Effects. It's one of the Cochrane databases. DARE online may be more current than the Cochrane Library version. It contains summaries of systematic reviews that have met strict quality criteria. It also contains authoritative commentaries.

We searched DARE for RLS treatment and found a 1999 review article (a little old). But, to demonstrate DARE's usefulness, we did find a recent review of H2 receptor agonists vs. proton pump inhibitors (PPIs) in eradicating *H. pylori*. When used with antibiotics, there was no evidence of a difference in effectiveness. The original review article was written in German, but DARE provided its own summary in English.

TRIP ***(www.tripdatabase.com)***

TRIP is the acronym for Turning Research into Practice. Formerly two versions, it is now egalitarian; the free version has all the features of the previous subscription version. For non-subscribers, the number of searches you can do is limited, currently five a week. TRIP uses "validated and respected search filters," sophisticated algorithms, to find EBM articles in MEDLINE and other sources. It is updated monthly. You can search using TripLine, an approach that attempts to focus your search and eliminate unwanted citations.

We test-drove TRIP with our RLS search. We found an article newer than those on Bandolier, but it was a single study that demonstrated superiority of gabapentin over placebo. TRIP's appropriate commentary was the study "does not provide sufficient evidence" to inform clinicians, and gabapentin should not be the first choice for treatment on the basis of this study.

These EBM sites have access to work not listed in MEDLINE, such as government studies. Each cross-links the others, so the best idea may be to pick one and become comfortable searching with it.

Diane Cooper is a biomedical librarian/Informationist at the Health Services Research Library, a branch of the National Institutes of Health Library, Bethesda, MD. Her e-mail is cooperd@mail.nih.gov.

Cancer Incidence Among Northwest American Indians and Alaskan Natives, 1996–2001

Emily Puukka, MS; Paul Stehr-Green, DrPH, MPH; and Tom Becker, MD, PhD, all from the Northwest Tribal Epidemiology Center, Northwest Portland Area Indian Health Board, Portland, Oregon

Introduction

In many public health data sets, including state cancer registries, the misclassification of American Indian and Alaska Native (AI/AN) race leads to the underestimation of disease burden. We conducted record linkage studies with the cancer registries of Idaho, Oregon, and Washington to determine more complete estimates of cancer incidence among AI/ANs in those states.

Background

The Northwest Tribal Epidemiology Center is a tribally operated program administered by the Northwest Portland Area Indian Health Board (NPAIHB). It was established in 1997 with the mission of providing Northwest tribes with timely, accurate, and useful health status information. A key part of this effort is the Northwest Tribal Registry Project that was started in January 1999. The goal of the Registry Project is to improve the accuracy of health data for AI/ANs by linking the Northwest Tribal Registry with a variety of public health data sets. These data sets contain health data for Northwest AI/ANs, but may have incomplete or inaccurate racial identifiers.

The Tribal Registry is an enumeration of AI/ANs primarily from Idaho, Oregon, and Washington. Source data for the Tribal Registry come from the Portland Area Indian Health Service (IHS) Area Patient File, a compilation of patient demographic data from Indian health care facilities that use the Resource and Patient Management System (RPMS) and export patient data to the Portland Area IHS Office. RPMS data represent individuals who received services from Northwest Indian health care facilities from the mid-1980s to the present. All individuals in the Tribal Registry are of proven AI/AN ancestry and have accessed health services from an IHS or tribal health care facility during this time period.

We received approval to conduct this linkage study from both the Portland Area IHS Institutional Review Board (IRB) and the IHS Headquarters - Albuquerque Area Combined IRB.

Methods

The Tribal Registry is comprised of 168,614 AI/ANs, including approximately 11,600 (6.9%) duplicate records that we retained in an effort to increase the likelihood of a match. We also obtained data for the years 1996-2001 from the Cancer Data Registry of Idaho, and the Oregon and Washington State Cancer Registries.

We used a probabilistic linkage software program (Integrity© Version 11.0, Ascential Software) to link the Tribal Registry to these state cancer files. This program is designed to link records in two different data files for individuals for whom data on selected personal and demographic characteristics are contained in both files. A unique feature of the program is its ability to identify not only exact matches (i.e., records for which selected fields are identical) but also to calculate the probability of a correct match where there are minor differences between records in the two data files (e.g., transposed digits in a social security number).

We reviewed all probable matches to distinguish true matches from false matches. We then combined this list of matched records with cases from the state registries that indicated AI/AN race, but did not match with the Tribal Registry. Finally, we removed all personal identifiers from this file, which we used for all subsequent data analyses.

We used the National Center for Health Statistics (NCHS) Bridged-Race Population Estimates for 1996-2001 for Idaho, Oregon, and Washington[1] as population-at-risk denominators. These estimates are based on the 2000 U.S. Census enumeration, and include individuals who self-selected more than one race.

Results

The linkages identified a total of 2,400 incident AI/AN cancer cases during the six-year period. We excluded 150 *in situ* cases from all subsequent analyses (with the exception of stage-at-diagnosis comparisons). Thus, by virtue of the linkage with the Tribal Registry, we identified a total of 2,250 AI/AN cases for analysis; 1,449 cases for which an individual was listed in both the Tribal Registry and the state cancer registry (i.e., "matched" AI/AN cases) and 801 cases for which the individual was coded as AI/AN in the state cancer registry, but for which there was no matching record in the Tribal Registry. For comparison, we also obtained non-identified data for all cancer cases diagnosed during the same period (1996-2001) among the White population from each state cancer registry. After the exclusion of 27,346 *in situ* cases among Whites, a total of 263,216 cases remained for analysis.

An annual average of 375 AI/AN cancer cases occurred throughout the six-year period, ranging from a low of 324 in

1996 to a high of 424 in 2001. There was a general increase in the annual number of diagnosed cases throughout the time period, and this temporal trend was similar to that for cancer cases among Whites in the three states over the same six years (Figure 1). Of the 2,250 AI/AN cases, 1,199 (53.3%) were among women, compared with 131,149 (49.8%) for Whites. The median age at diagnosis for AI/ANs was 62 years, compared with 68 years for Whites, and 1,716 (76.3%) AI/AN cancer cases were among persons 50 years of age or older, compared with 224,917 (85.4%) for Whites. Blood quantum data were available for 1,193 of the 1,449 (82.3%) matched records (or 53.0% of the total 2,250 AI/AN cancer cases); of these, 651 (54.6%) had at least 50% AI/AN ancestry.

The leading cancer site, by number of cases, was lung/bronchus for AI/ANs, and breast for Whites. The top four sites, though ordered differently, were the same for AI/ANs and Whites, with breast, lung/bronchus, colon/rectum, and prostate cancers comprising 57.2% (1,286) and 62.8% (165,461) of all diagnosed cases among AI/ANs and Whites, respectively.

The post-linkage all-sites average annual age-adjusted rate for 1996-2001, both sexes combined, was 389.3 per 100,000 (95% CI = 345.0 – 433.6) for AI/ANs, compared with 460.5 (95% CI = 456.1 – 464.8) for Whites; furthermore, the annual rates were an average of 18% higher for Whites compared with AI/ANs throughout the study period. The all-sites rate for males (Table 1) was higher than the rate for females (Table 2) for both AI/ANs and Whites. Similar to historical estimates of AI/AN cancer burden, rates for AI/ANs were lower than those for the White population for most sites; however, they surpassed estimates for Whites for cancers of the colon or rectum (both sexes), and lung cancer (females).

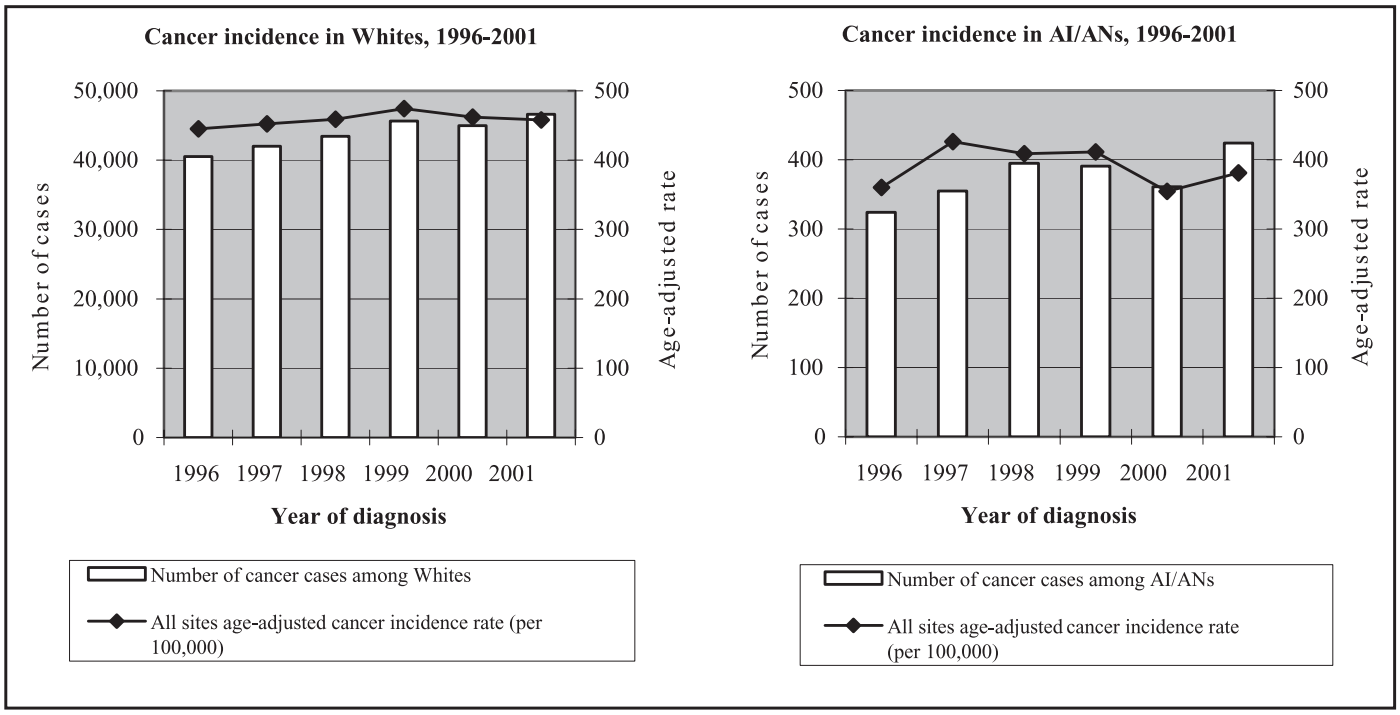
Rates differed widely by state; however, it should be noted that due to the relatively small annual number of cancer cases among AI/ANs, especially in Idaho, year-to-year variations might appear erratic and may not be statistically significant – or even practically meaningful. Therefore, any such comparisons must be made with caution.

Also of note were differences in distributions of stage-at-diagnosis for cancer cases among the AI/AN and White populations during this time period. Only 39.3% of all AI/AN cases were diagnosed during early stages (*in situ* or local), compared with 49.4% of the White cases. For screenable cancers, including breast, prostate, and colorectal, results were similar, suggesting that AI/ANs are being diagnosed at later stages.

Discussion

Our report documents the rates of cancer among Northwest AI/ANs for all sites combined and for most cancer sites for which the data are adequate to make comparisons.

Figure 1. Annual number and age-adjusted cancer incidence rates by race in Idaho, Oregon and Washington, 1996-2000



NOTE: Whereas the magnitude and range of values in the right-hand axes representing the age-adjusted cancer rates are exactly the same for Whites and AI/AN, the left-hand axes representing the absolute number of cases are different — with that for Whites being two orders of magnitude higher. Also, all rates were adjusted to the 2000 U.S. Standard Population and exclude all *in situ* cases.

Table 1. Age-adjusted cancer incidence rates* for northwest males, AI/AN versus white, 1996-2001

Cancer Site	AI/ANs	Whites
Prostate	102.2 (65.0, 139.3)	158.7 (154.9, 162.5)
Lung/Bronchus	79.6 (48.1, 112.2)	83.2 (80.4, 85.9)
Colon-Rectum	65.2 (34.2, 96.3)	57.7 (55.4, 60.0)
All	435.6 (360.1, 511.1)	516.3 (509.4, 523.1)

*Age-adjusted rate per 100,000, (95% confidence interval), adjusted to 2000 U.S. standard population; excludes all in *situ* cases

Table 2. Age-adjusted cancer incidence rates* for northwest females, AI/AN versus white, 1996-2001

Cancer Site	AI/ANs	Whites
Breast	95.5 (69.0, 122.1)	141.5 (138.2, 144.8)
Lung/Bronchus	60.1 (36.5, 83.6)	57.9 (55.8, 60.0)
Colon-Rectum	45.1 (24.8, 65.5)	42.2 (40.4, 43.9)
All	363.7 (308.9, 418.4)	423.8 (418.2, 429.5)

*Age-adjusted rate per 100,000, (95% confidence interval), adjusted to 2000 U.S. standard population; excludes all in *situ* cases

Our data show that breast, lung, colorectal, and prostate cancer were the most frequently diagnosed cancers among AI/ANs in Idaho, Oregon, and Washington. Lastly, our data show higher cancer rates compared to those that we had previously published from the Northwest,[2] reflecting in part our use of a different, census-based denominator for rate calculations, and inclusion of cancer cases that occurred among Northwest AI/ANs who do not exclusively use IHS-related facilities.

Any comparisons of cancer incidence rates across populations must consider the methods of counting of cases, methods for determination of rate denominators, as well as the standards used for rate adjustment. Given these caveats, our results for AI/ANs in the Northwest during the period from 1996 through 2001 suggest that the cancer rate for all sites combined was comparable to recently published rates for other tribal groups in the US (specifically, in Minnesota and Alaska), substantially higher than rates for New Mexico and California AI/ANs, but lower compared to those for Whites in the Northwest. Cancer incidence estimates based on IHS hospital discharge data for AI/ANs in the Northwest suggest low rates for all sites combined, compared with AI/AN people in other regions of the nation.[3] Cancer mortality data, furthermore, show lower rates in Northwest AI/ANs compared with US all races, and compared with cancer mortality data from most other IHS administrative areas nationwide.[4-5] Our inclusion of AI/AN people who do not use IHS clinics (including some urban AI/AN people) probably accounts, at least in part, for the higher rates compared with the IHS user-restricted data, although differences in rate adjustment and in methods of data collection may also affect these rate comparisons.

We also compared post-linkage invasive cancer incidence rates by cancer site among Northwest AI/ANs with data from published reports on cancer in AI/ANs in New Mexico, Alaska, California, Minnesota, and Northwest Whites.[6-9] Because of the small numbers of cases for most cancer sites among AI/ANs in the Northwest, we could not meaningfully analyze data for each site. For female breast cancer, however, our data were adequate to allow comparisons with those data from AI/ANs in other geographic areas. The post-linkage rates we calculated for breast cancer were higher than for California, New Mexico, and Minnesota AI/ANs, were substantially lower than for Alaskan Natives (ANs), and were only three-fourths the rate for Northwest Whites. The prevalence of major risk factors for breast cancer has not been assessed among AI/AN women in

the Northwest. Some risk factors for breast cancer in AI/AN women (including obesity, which is related to post-menopausal breast cancer) appear to be more prevalent in AI/ANs than in non-AI/ANs.[10,11] Mammography is not available in most AI/AN health clinics in the Northwest, and the observed lower rates (compared with Whites) may be related to less access to screening, resulting in under-ascertainment. Northwest Tribal Behavioral Risk Factor Surveillance System (BRFSS) data suggest that about 62% of Northwest AI/AN women in the tribes participating in the 2003 survey underwent mammography in the previous two-year period.[11]

In a similar way, the lack of availability of sigmoidoscopy and colonoscopy in most Northwest AI/AN health care facilities likely affects case ascertainment for colorectal cancer. BRFSS data collected among seven tribes in 2003 on colorectal cancer screening in AI/ANs in the Northwest suggested that only 27% of adults underwent sigmoidoscopic screening in the past five-year period, raising further concerns about case ascertainment.[11] IHS hospital discharge data from 1980-87 suggested low colorectal cancer rates for Northwest AI/ANs (19.7 per 100,000).[3] Based on our data, it appears that Northwest AI/ANs had rates comparable to Whites in the three Northwest states, and higher than rates in AI/AN populations in New Mexico, Minnesota, and California.

In contrast, among ANs, colorectal cancer is a major public health concern, with rates far exceeding those for Whites — particularly for colon cancers among Aleuts and Eskimos.[3,12] Risk factors and their prevalence for this disease have not been comprehensively assessed in the native population of the Northwest. We do not have data to suggest that dietary fat consumption is lower in Northwest than in other native communities, that dietary fiber intake is higher, or that levels of exercise are higher among tribal people than among non-AI/ANs. In fact, Northwest tribal BRFSS data suggest that all of these parameters may be unfavorable for Northwest tribal people.[11] The high prevalence of obesity in some of the tribes[10,11] further argues in the direction of higher risk for AI/ANs in the Northwest. Similarly, genetic information related to colorectal cancer risk is also completely lacking in this population.

Prostate cancer was among the most commonly reported cancers for Northwest AI/AN males, consistent with published data from several other AI/AN groups,[3,6,9] although the rate was approximately two-thirds the rate for Northwest Whites. Screening programs for prostate cancer need to be carefully evaluated for each AI/AN community and clinic in the Northwest, as screening practices appear to vary widely in the diverse AI/AN health centers in the three states[13] and underascertainment of prostate cancer cases is likely to partially explain the low rates. BRFSS data collected in seven Northwest tribes in 2003 suggested that only 54% of AI/ANs in the Northwest ever had prostate screening with prostate-specific antigen (PSA) tests.[11] Ongoing efforts by the NPAIHB are aimed at assessment of knowledge, attitudes, and screening practices for prostate cancer among AI/AN men. Relevant risk factor information, now lacking, will also emerge from these surveys.

Lung cancer incidence rates in Northwest AI/ANs were intermediate compared with most published data for AI/AN groups, and were similar to those for Northwest Whites. This finding was somewhat surprising given the very high prevalence of cigarette use among tribal members as assessed by surveys in Northwest tribes[10,11]: in 1989, 45% of Washington male AI/ANs reported current smoking. About half of all AI/ANs in that survey who were current smokers reported smoking half a pack a day or more. In one report, smoking prevalence among tribal women in the Northwest was 54% — higher than for men.[10] In the 2003 BRFSS, 42% of AI/ANs reported smoking cigarettes.[11] These new lung cancer rate findings differ from our earlier report based on users of IHS facilities (only); in that report, lung cancer rates were lower for Northwest AI/ANs than for Whites.[2] Data collected through the Surveillance, Epidemiology, and End Results cancer registry in New Mexico show that New Mexico AI/ANs had a lower lung cancer rate than Northwest AI/ANs in our linkage study (16.6 per 100,000 for males, 6.6 per 100,000 females). The prevalence of cigarette use among AI/ANs in New Mexico is low, and among smokers, the numbers of cigarettes smoked per day is also low.[14] In contrast, for ANs the prevalence of cigarette use is very high, and the rate of lung cancer parallels the common use of cigarettes among ANs.[3,15] We lack complete information on occupational factors that may influence the occurrence of this cancer in tribal people of the three Northwest states. Perhaps more importantly, we do not have data on the prevalence of cigarette smoking 15 to 20 years ago, when exposures may have occurred that would be more relevant to development of recently diagnosed lung cancer cases.

Conclusion

Our findings add to the overall picture of cancer incidence among AI/ANs nationwide, and further show that rates for all sites combined, and for specific cancer sites, are heterogeneous among tribes in diverse geographic areas in the US — differences that are likely to persist despite differences in case ascertainment methods used in these different studies. We hope that this report will lead to a more comprehensive and periodic assessment of the burden of cancer in AI/ANs in the Northwest, serving as a baseline for which future comparisons can be made about cancer occurrence in tribal people of the region. Ongoing linkage studies with state cancer registries can expand the descriptive epidemiology of cancer among AI/ANs nationwide, and provide a more detailed examination of cancer rates and patterns among tribal people in different geographic areas.

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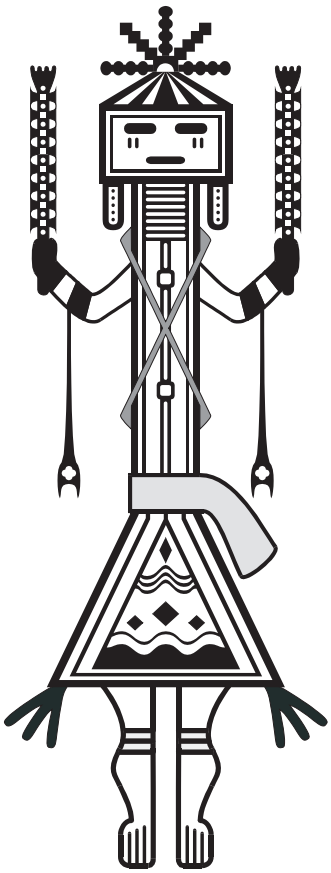

This is a page for sharing "what works" as seen in the published literature as well as what is being done at sites that care for American Indian/Alaskan Native children. If you have any suggestions, comments, or questions please contact Steve Holve, MD, Chief Clinical Consultant in Pediatrics at sholve@tcimc.ihs.gov.

IHS Child Health Notes

Quote of the month

"*Progress might have been all right once, but it has gone on too long.*" Ogden Nash

Articles of Interest

Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* April 30, 2004. *http://www.cdc.gov/mmwr/preview/mmwrhtml/rr53e430a1.htm*.

Recommendations for Influenza Immunization of Children: Committee on Infectious Diseases, AAP. *Pediatrics* Vol. 113 No. 5 May 2004, pp. 1441-1447. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=retrieve&db=pubmed&list_uids=15121970&dopt=Abstract*.

- Recognition that hospitalization and complications from influenza in children < 2 years are as high as the elderly > 65 years.
- New recommendation that all healthy children aged 6 – 23 months and their household contacts receive the influenza vaccination this fall.
- The influenza vaccine should be offered to all children 6 months and older who have chronic cardiopulmonary conditions such as asthma.
- The influenza vaccine may be offered to any healthy child > 6 months of age whose parents desire vaccine protection.

Editorial Comment

The new recommendations for flu vaccination promise significant benefits to our patients while posing logistical challenges to our practices. We need to deliver flu vaccine to many children in a short window between late October and early January. Maximal success may be achieved by adopting some of the following:

- Mail reminder postcards to all children 6 – 23 months and to high risk children.
- Give the flu vaccine at well child visits.
- Schedule specific times with a dedicated nurse to provide flu vaccinations.

It is also important to remember that children < 36 months of age need only 0.25 ml per dose and children > 36 months need 0.5 ml per dose. The first year a child < 9 years is vaccinated they also need 2 doses of vaccine 1 month apart for adequate protection. The trivalent influenza vaccine is available with trace amounts of thimerasol marketed as *Fluzone.* The live attenuated influenza vaccine, *Flumist*, is licensed only for patients > 5 years and < 49 years and is far more expensive. The trivalent influenza vaccine is available via the Vaccines for Children Program and is the preferred choice for children.

Recent Literature on American Indian/Alaskan Native Health

Hepatitis A incidence and hepatitis A vaccination among American Indians and Alaska Natives, 1990-2001. *Am J Public Health*. 2004 Jun;94(6):996-1001. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15249305*.

- Say it again: "Vaccines really work."Native Americans had some of the highest rates of vaccination for hepatitis A and the most dramatic decline in disease rates. The risk of hepatitis A for Native Americans is not genetic but environmental. All AI/AN children who live on, or visit, reservation communities should be vaccinated against hepatitis A.

Asthma Prevalence and Control Characteristics by Race/Ethnicity —- United States, 2002 *MMWR*. February 27, 2004. *http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5307a1.htm*

- AI/AN had a prevalence rate of asthma of 11%, giving them the second highest rate of any ethnic group in the US. These rates were for adults, and not children but suggest an area in which we need to pay attention.

Meetings of Interest for Child Health

Join the American Academy of Pediatrics and the Canadian Paediatric Society, in cooperation with the Indian Health Service, for the first International Meeting on Inuit and Native American Child Health, April 29 - May 1, 2005, in Seattle, Washington. Pediatricians, family physicians, residents, other health care professionals, clinical researchers, state and federal public health employees, child advocates, and other professionals and family representatives dedicated to working with First Nations, Inuit, and American Indian/Alaska Native (AI/AN) children should attend. Participants will have the opportunity to share ideas on culturally effective health care delivery models, present research findings, and dialogue about strategies to improve the health of First Nations, Inuit, and AI/AN children and communities. For more information, go to *http://www.aap.org/nach/InternationalMeeting.htm*.

This is the first international meeting on Indian/Inuit health with sponsorship by both countries' pediatric societies. It should be an excellent forum for education and sharing of ideas.

Editor's Note: The following is a digest of the monthly Obstetrics and Gynecology Chief Clinical Consultant's Newsletter (Volume 2, No. 8, August 2004) available on the Internet at http://www.ihs.gov/MedicalPrograms/MCH/M/OBGYN01.cfm. *We want to make our readers aware of this resource, and encourage those who are interested to use it on a regular basis. You may also subscribe to a listserv to receive reminders about this service. If you have any questions, please contact Dr. Neil Murphy, Chief Clinical Consultant in Obstetrics and Gynecology, at* nmurphy@anmc.org.

OB/GYN Chief Clinical Consultant's Corner Digest

From your colleagues:

From Chuck North, Albuquerque

Number needed to treat (NNT); number needed to screen (NNS). It has been suggested by some experts in clinical preventive services that we use numbers needed to screen (NNS) to explain the value of clinical prevention to our patients. The USPSTF uses these statistics in several of their summaries. Number needed to treat (NNT) is recommended for randomized controlled trials, and number needed to harm (NNH) is a companion statistic to evaluate the downside of treatment modalities. The Bandolier website in Oxford, England, *www.ebandolier.com* (see Knowledge Library, NNT), has an explanation and several calculation aids. We will probably see more use of these statistics in future recommendations from the USPSTF and others.

Here are some evidence-based resources with good explanations of NNT and NNH:

Number needed to treat

- Excessive vaginal bleeding: Progesterone Intrauterine System vs control
- First stage of labor pain
- Breech presentation

http://www.cebm.utoronto.ca/glossary/nnts/og.htm#top.

Nuovo J, Melnikow J, Chang D. Reporting number needed to treat and absolute risk reduction in randomized controlled trials. *JAMA*. 2002 Jun 5;287(21):2813-4. Conclusion: Despite CONSORT recommendations, few authors expressed their findings in terms of NNT or ARR. Consideration should be given to including these values in reports of RCTs. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12038920*

Rembold CM. Number needed to screen: development of a statistic for disease screening. *BMJ*. 1998 Aug 1;317(7154):307-12. Conclusion: These data allow the clinician to prioritize screening strategies. Of the screening strategies evaluated, screening for, and treatment of, dyslipidemia and hypertension seem to produce the largest clinical benefit. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=9685274*.

This is probably the best explanation of 'framing' that I have found: *http://www.jr2.ox.ac.uk/bandolier/booth/glossary/framing.html*.

Screening for Breast Cancer: Case Study. *http://www.aafp.org/afp/20021215/putting.html*.

From Ty Reidhead, Whiteriver

Online access to all of the online journals that are available at the Parklawn Library. Does everyone know that we have online access to all of the online journals that are available at the Parklawn Library? This includes *NEJM*, *JAMA*, *Lancet* and many others. *http://np4kn9vl8d.search.serialssolutions.com/*.

From Katy H. Ciacco-Palatianos

1. Free e-mailed *NEJM* weekly Table of Contents. Concise summaries of each edition's highlights, abstracts, and some complete articles (of particular public health or international significance) are available to non-subscribers.
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From Lois Steele, Sells

Is there an actual policy for Group B strep in pregnancy? We recommend use of these 2002 CDC based guidelines: *http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5111a1.htm*.

Here are some frequently asked questions and clinical pearls: *http://www.ihs.gov/MedicalPrograms/MCH/M/DP46.asp#top*.

Here is a free CME/CEU module from IHS on the topic: *http://www.ihs.gov/MedicalPrograms/MCH/M/DP41.asp#top*.

Hot Topics

Obstetrics

Pregnancy rates for the United States decreased by 10% in 10 years. This report presents pregnancy rates for 1990–2000, by age, race, Hispanic origin, outcome, and by marital status. The data in this report, together with previously published pregnancy rates for earlier years, provide a consistent series of rates for the United States for 1976–2000. In 2000 an estimated 6,401,000 pregnancies resulted in 4.06 million live births, 1.31 million induced abortions, and 1.03 million fetal losses. The 2000 pregnancy rate of 104.0 pregnancies per 1,000 women aged 15–44 years is 10 percent lower than the 1990 peak of 115.6. *http://www.cdc.gov/nchs/data/nvsr/nvsr52/nvsr52_23.pdf.*

OB/GYN CCC Editorial Comment:

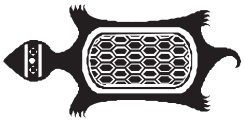
Are your facilities' delivery statistics down? Feeling some competition for deliveries? If so, you are not alone. Obstetric delivery and immediate newborn care can be very helpful to the bottom line of any hospital, whether private, tribal, or IHS. This significant decline in delivery numbers in the US, all races, is reflected in the Indian health system statistics as well. Our patients have many excellent options. For patient autonomy, and perhaps the ultimate financial well being of our own facility, you should be brainstorming with your colleagues about how you can provide the most user-friendly and highest quality obstetric delivery care in your area.

In next month's CCC Corner and on the MCH web page, I will post how far our Indian health delivery numbers are down, as just presented at the August 2004 Biennial Indian Women's Health Meeting in Albuquerque.

Gynecology

Despite Guidelines, Pap Smears in Women Without a Cervix Very Common. Sirovich BE, Welch HG. Cervical cancer screening among women without a cervix. *JAMA*. 2004 Jun 23;291(24):2990-3. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15213211*. Conclusions: Many US women are undergoing Pap smear screening even though they are not at risk of cervical cancer. The US Preventive Services Task Force recommendations either have not been heard or have been ignored.

The Visit Before the Morning After. Karasz, Alison, et al. The visit before the morning after: barriers to preprescribing emergency contraception. *Annals of Family Medicine*. 2:345-350 (2004). *http://www.annfammed.org/cgi/content/abstract/2/4/345*. Conclusion: Findings suggest that even when attitudes towards EC are generally favorable, some physicians and patients have substantial reservations about advance prescription. Education and dialogue are needed to overcome these reservations.



Child Health

Educate the educators, er . . . providers. Education that focuses on improving the delivery of adolescent preventive services needs to focus not only on increasing knowledge and skill but also on increasing clinicians' confidence that they can effectively use the skills. Ozer EM, et al. Provider self-efficacy and the screening of adolescents for risky health behaviors. *J Adolesc Health*. 2004 Aug;35(2):101-7. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15261638*

Anogenital warts in children: sexual abuse or not? Child sexual abuse is a problem that affects many Americans. The diagnosis of sexual abuse is typically made on the basis of the child's history. Objective evidence of sexual abuse, including abnormal physical findings noted on physical examination or the presence of a sexually transmitted disease, are rare. Anogenital warts are one of the most common sexually transmitted diseases found in adults. However, is the presence of anogenital warts in children evidence of sexual abuse? The link between anogenital warts and child sexual abuse requires an understanding of wart transmission and incubation period to properly interpret their significance. Anogenital warts in children have serious medical, social, and legal implications. It is important that primary care providers have an understanding of the appearance, mode of transmission, and incubation period of human papilloma virus in children. Implications for practice will provide guidance for diagnosing, evaluating, and properly managing anogenital warts in children. Hornor G. Anogenital warts in children: Sexual abuse or not? *J Pediatr Health Care*. 2004 Jul-Aug;18(4):165-70. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15224040*.

Chronic Disease and Illness

Overview of the WISEWOMAN Projects: Health Promotion for Disadvantaged Women-Features Alaska's Tribal Southcentral Foundation among other recipients. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15257848*.

The Supplement contains 15 scientific articles written by more than 50 CDC and collaborating scientists. The articles offer valuable insights into the WISEWOMAN projects, health disparities issues, "lessons learned," and how-to guidance on programmatic issues such as cultural adaptation of materials, cost-effectiveness evaluations, staff morale, and partnering. Conclusions: The WISEWOMAN demonstration projects have been successful at reaching financially disadvantaged and minority women who are at high risk for chronic diseases. These projects face challenges because they are generally implemented by safety net providers who have limited resources and staff to conduct research and evaluation. On the other hand, the findings from these projects will be especially

informative in reducing health disparities because they are conducted in those settings where the most socially and medically vulnerable women receive care. Will JC, et al. Health promotion interventions for disadvantaged women: overview of the WISEWOMAN projects. *J Womens Health (Larchmt*). 2004 Jun;13(5):484-502. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15257842*.

ACOG

Nonmedical Use of Obstetric Ultrasonography. ACOG Committee Opinion Number 297, August 2004. Abstract: The American College of Obstetricians and Gynecologists (ACOG) has endorsed the "prudent Use" statement from the American Institute of Ultrasound in Medicine (AIUM) discouraging the use of obstetric ultrasonography for nonmedical purposes (e.g., solely to create keepsake photographs or videos). The ACOG Committee on Ethics provides reasons in addition to those offered by AIUM for discouraging this practice.

Breastfeeding

Seeking to support breastfeeding (breastpump procurement) at your area or service unit? From Liz Flight at National Naval medical center, a grant proposal: You could cut and paste from the Executive Summary, if you are seeking to support breastfeeding (breastpump procurement) at your Area or service unit. Pass this on or discuss with your MCH groups. Good for either contract or grant. If you have other questions, you could e-mail Judith Thierry, (HQE) *Judith.Thierry@ihs.gov* or Liz Flight at NNMC, *EIFlight@Bethesda.med.navy.mil*.

International Health Update

The Health Canada's First Nations and Inuit Health Branch is interested in partnering with US Indian health and tribal groups to improve the care of Native peoples. For more information, go to *http://www.hc-sc.gc.ca/fnihb/*. Below are some of the programs they are highlighting: FAS Program details, Community Projects, funding, and publications National Aboriginal Health Organization Aboriginal Healing Foundation: Residential Schools and issues of abuse Aboriginal Peoples Television Network

DHHS Afghan Family Health Book Launch Invitation

The U.S. Department of Health and Human Services (DHHS) is committed to assisting the government of Afghanistan in ensuring the health and well being of the Afghan people. As part of this commitment, DHHS has worked with Leapfrog Enterprises Inc., a leading developer, designer, and manufacturer of technology-based educational products, to create a unique health education program for use in Afghan health clinics and communities throughout the country. The first product is the Afghan Family Health Book dealing with women and children's health issues. A team of DHHS multidisciplinary health care professionals developed the content of the book, which is culturally and linguistically appropriate and has been field tested in Afghanistan. Focusing on health promotion and disease prevention, the book contains useful and practical information for the people of Afghanistan. The Afghan Family Health Book expands personal knowledge about the ability to practice healthy behaviors to ensure wellness and reduce risk of disease. DHHS plans to distribute the books across Afghanistan via hospitals, clinics, women's health centers, and individual homes. To receive further information, call Maria-Stella Gatzoulis at (202) 691-4188 or send an e-mail to Jillian Frumkin at *mep@wwic.si.edu*. *http://wwics.si.edu/index.cfm?fuseaction=events.event&event_id=87159*.

Primary Care Discussion Forum

November 1, 2004: Violence against Native women; moderator: Terry Cullen.

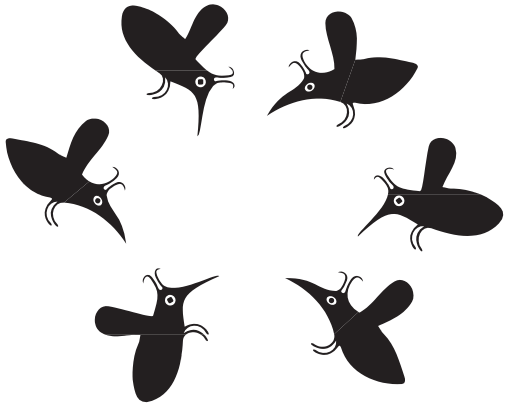
This discussion will include the scope of violence against Native women, tools for patient evaluation, best practice policies and procedures, plus ideas about available resources.

N.B.: To subscribe to the Primary Care Discussion Forum, please go the site below and click the word 'subscribe' in the first paragraph: *www.ihs.gov/MedicalPrograms/MCH/M/MCHdiscuss.asp or* contact me, *nmurphy@anmc.org*.

Save the dates

20th Annual Midwinter Conference

This is a meeting for providers caring for Native women and children. It will be held February 25 - 27, 2005 in Telluride, Colorado. For more information, go to *http://www.ihs.gov/MedicalPrograms/MCH/M/ConfDnlds/Tellurideagenda10-2004.doc* or contact Alan Waxman at *awaxman@salud.unm.edu*.



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

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