

chronic disease notes & reports

National Center for Chronic Disease Prevention and Health Promotion

Volume 14 • Number 2 • Spring/Summer 2001

Special Focus: *Information Resources*

Internet Has Revolutionized How Chronic Disease Data Are Being Used

Before the availability of the Internet, few people outside of public health were aware of CDC's wealth of surveillance data on chronic diseases. Now the data are available to anyone in the world with Internet access. As a result, CDC's chronic disease data are attracting a more diverse audience that includes not only state health departments and policymakers but also researchers, teachers, and the public.

To meet the needs of this diverse group of people, CDC is strengthening its surveillance systems on the Web in several ways. "We are using more consistent standards and formats that will make it easier on users, we're putting more data on the Web, and we're making sure the data are more dynamic so that people can run their own analyses and stratify the data by whatever demographic variables they choose," said CDC epidemiologist Amy Zlot, MPH.

"Having our Youth Risk Behavior Survey data on the Web means a lot more people have access to the data and use them. It's also a huge help to the media—another group of people who can get useful information from these surveys," noted Laura Kann, PhD, a CDC health survey research specialist

who oversees the Youth Risk Behavior Surveillance System (YRBSS). In addition, fewer people are calling CDC to request paper copies of the surveillance reports, she said, because getting the information off the Web is so much faster and easier (see <http://www.cdc.gov/yrbss>).

The Web has also streamlined and improved the efficiency of processing surveillance data, according to CDC health scientist Steven A. Kinchen, BSICS. "The YRBSS has 80 different surveys going on in the field at the same time. A password-protected, technical assistance Web site allows folks who participate in the YRBSS to see at any point the status of each of those 80 surveys. State and local health and education departments can check the status of their own surveys on-line and also request YRBSS handbooks, forms, and software."

The latest development is a new YRBSS Web site that will allow on-the-fly statistical analysis of the raw survey data. "Someone will be able to come to our Web site and make selections about what they want their query to do. They're going to be able to access national, state, and local survey data," explained Mr. Kinchen. "They will be able to pick

Inside

- Searchable Internet-Based Databases Enhance Accessibility and Usefulness of NCCDPHP Data 7
- Using the Web to Share Information on Health Education and Health Promotion..... 11
- Writing for the Web 14
- What Is Public Health Informatics All About? 16
- Women and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality..... 19
- cdnotes 21

U.S. DEPARTMENT
OF HEALTH AND
HUMAN SERVICES
Centers for Disease
Control and Prevention



certain characteristics and do cross-tabulations of several variables. SAS and SUDAAN will be running in the background and cough up the results, but the person doesn't have to know a thing about SAS or SUDAAN to get answers to their queries."

GIS: Cutting Edge in Public Health

In the future, NCCDPHP will be developing more interactive, database-driven systems like the new YRBSS site, noted CDC computer scientist Mike Coss, Internet coordinator for NCCDPHP. The center also has incorporated geographic information systems (GIS) into its Web-based data systems. *Women and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality* is NCCDPHP's first interactive Web site to use GIS, a tool that displays data in the form of maps. Visitors to the Web site can click on a state and view the pattern of heart disease death rates for women, county-by-county, in the racial and ethnic groups they choose. They can zoom in and out to look at rates for women in different regions, and they can use a special tool to display statistics for a particular county (for more information about the atlas, see related article, page 19).

"GIS is really expanding our audience because a lot of people—including the public and policymakers—respond to the visual aspects of maps," said Mr. Coss. "It's also a challenge for us. We're used to interacting with our traditional partners in public health, who are already familiar with the data, but newcomers often need more help understanding and interpreting the data," he explained. "This system has really brought that home to us."

Reporting Data On-line

The Internet is also allowing states to report surveillance data electronically to

NCCDPHP. Only a few CDC surveillance systems collect data on-line. "Security is a big issue with sensitive data," said Mr. Coss. "We have a Secure Data Network that will allow us to encrypt the data and authenticate the data to make sure the senders are who they say they are. Two systems are planning to use this network to submit data on-line—the Pediatric Nutrition Surveillance System (PedNSS) and the Pregnancy Nutrition Surveillance System (PNSS)." Currently, the PedNSS and PNSS data are placed on tapes and mailed to NCCDPHP, or they are submitted via file transfer protocol.

"Moving data transmission and reporting to the Web will actually simplify things for health departments and NCCDPHP," said Mr. Coss. Health departments will be able to access the data sooner, and they will not have to wait for CDC to send them CD-ROMs or hassle with loading special software. "More people will have access. All they will need is a computer, a browser, and an Internet connection."

The Web is also being used to collect some nonsensitive data. When the data are submitted via the Web, "there will be fewer errors because we can put in range checks, and the data won't have to be re-entered, which means fewer opportunities for mistakes," noted Ms. Zlot.

One of the first CDC surveillance systems to collect and edit data on-line is the Water Fluoridation Reporting System (WFRS), developed by CDC in collaboration with the Association of State and Territorial Dental Directors (ASTDD) to monitor fluoridation in the United States. "Since the Environmental Protection Agency does not regulate water fluoridation, most state drinking water programs do not monitor it either. As such, fluoridation monitoring is often left to the oral health programs," explained David M. Apanian, PE, CDC's

national fluoridation engineer responsible for the development of WFRS. “Many of these programs do not have the resources or expertise to develop monitoring programs, so ASTDD asked CDC to do this.”

Since CDC launched WFRS on the Internet in January 2000, 31 states and two tribes have registered to use the system. “Currently, six states and two tribes are entering data each month, and we hope to double this number by the end of the year,” Mr. Apanian said. WFRS allows state and tribal fluoridation managers to go on-line to update basic information—such as populations served, fluoridation status, and contact information— for more than 56,000 community water systems. WFRS also maintains data on the relationships between water systems that buy and sell water to each other. Thus, users can find the fluoride content of a water system and whether the system produces its own water or purchases water from another system.

Users enter monthly data—such as high, low, and average fluoride concentrations—and indicate whether their water systems met the daily fluoride testing requirements. WFRS then automatically determines if the water system provided optimally fluoridated water for the month. Numerous reports, available with a click of the mouse, provide fluoridation managers with the tools they need to monitor the quality of fluoridation. “WFRS reports identify water systems not maintaining optimal levels of fluoride, making it easier for state and tribal fluoridation managers to provide assistance to these systems. Managers also can print reports listing systems that are optimally fluoridating so that awards can be given,” noted Mr. Apanian.

Currently, WFRS data can be accessed by registered users only, but plans

are under way to provide the public with some information—for example, the fluoride content of any community water system. “Then, parents or pediatricians can check the water fluoride level before deciding whether fluoride supplements are appropriate for children,” Mr. Apanian said. In addition, state fluoride managers will have the option of making monthly operational reports for each water system available on-line to the public.

CDC also plans to use GIS to place state- and county-based fluoridation information on-line. Fluoridation maps will be overlaid with other oral health indicators, such as the prevalence of untreated decay and dental sealants. “This will allow public health officials to better target interventions to those areas most in need,” explained Mr. Apanian.

Linking and Sharing Surveillance Data

Like WFRS, other data systems on the Web will have the potential to aid in program evaluations. “We are working to develop the ability to link program activities with surveillance data,” said Mr. Coss. “For example, the Diabetes Management Information System will eventually allow staff in our Division of Diabetes Translation to collect information on what state diabetes control programs are doing—what groups they’re targeting, what types of interventions they’re using, and even staffing information,” said Mr. Coss. “In the future, we should be able to link that information with surveillance data to evaluate these activities and see if they’re working.”

The Internet also is spurring efforts to make data sharing easier between surveillance systems. CDC’s National Electronic Disease Surveillance System (NEDSS) is helping several states to develop surveillance systems that can communicate with CDC surveillance

systems. NEDSS and these states are selecting standard protocols, languages, and tools they will use to ease such communications.

Data sharing among Web sites will allow more one-stop shopping for people seeking health information on the Internet. People will eventually be able to go to an NCCDPHP Web site and get information on a particular topic from many different databases, not just CDC's data sources, predicted Ms. Zlot. "Our goal is to *not* recreate data sets that already exist. We want our Web sites to be able to draw information from other domains," she said.

Why Reinvent the Wheel?

The National Oral Health Surveillance System (NOHSS), launched in January 2001 by CDC and the Association of State and Territorial Dental Directors, is a good example of a Web-based system that pulls information from different data sources (see <http://www.cdc.gov/nohss>). Some current sources include the Behavioral Risk Factor Surveillance System, National Health and Nutrition Examination Survey, and National Health Interview Survey. NOHSS will continue to grow as new sources of oral health data become available at the state and national levels, and plans are in the works to create a Web site with links to oral health data sites at federal agencies. "The NOHSS Web site has made it possible for people interested in oral health programs to go to one place where state-based data are listed, and they can link to other sites from there," said Laurie K. Barker, MSPH, mathematical statistician at CDC.

The surveillance system is helping public health programs track oral health at the state level so that they can plan and evaluate their activities. "We've heard from some state dental directors that they are using the system to help them

document oral health issues in their states and to track *Healthy People 2010* objectives," said Ms. Barker. "States also are identifying oral health data from other Web sites to use interactively with the NOHSS," added CDC dental officer Stuart Lockwood, DMD, MPH.

Although the Web site's main target audience includes dental directors, "our Web site statistics show that the bulk of visitors are members of the public. They are accessing our site through the major Internet providers rather than from federal and state government domains," Ms. Barker noted. To help new visitors, the Web site has a glossary that defines oral health terms.

"Visitors to the site can choose to view all of the oral health indicators for an individual state or to view one indicator across all states. And for some indicators there are national estimates at different time points," said Ms. Barker. These estimates can be grouped by sociodemographic factors and can be viewed as tables, graphs, or maps. Visitors can choose to compare one state to another or to the nation, overall or by sociodemographic factors."

State profiles are another attractive feature of the NOHSS Web site, noted Dr. Lockwood. "They allow a user to select any state and obtain information on demographics, programmatic activities, and administrative characteristics such as the state oral health program's staffing, budget, and funding sources," he explained.

Delivering Data to Communities

One of NCCDPHP's newest Web sites is devoted to health-related quality of life (HRQOL)—how it can be measured and why it is so vital to a community's health and productivity (see <http://www.cdc.gov/nccdphp/hrqol>). Health

officials are eager to measure HRQOL because the data give them new insights into how they can eliminate health disparities and increase the quality and years of healthy life in their communities—the two major goals of *Healthy People 2010*, according to CDC program analyst David G. Moriarty, BSEE, who has worked for the past decade to develop and test the validity of methods for measuring HRQOL.

The Web site describes CDC's Healthy Days survey questions and index, which are used to track the number of days when a person's physical or mental health were not good or when usual activities were limited during the preceding month. Healthy Days questions are part of the BRFSS survey, and they have been adapted for use in other national and local surveys. Here are some examples of how the data are being used:

- All Disability Prevention States are using Healthy Days measures as part of a standard set of questions for persons with disabilities. They will use their findings to compare health-related quality of life among persons with disabilities with that of the general population.
- The Foundation for Accountability in Portland, Oregon, is using Healthy Days measures to assess health outcomes among patients with diabetes, asthma, and coronary artery disease.
- Healthy Days questions are being used on the HIV/AIDS Survivors Survey and an American Cancer Society survey of cancer patients to assess HRQOL deficits and disparities among these persons.
- Researchers at Case Western Reserve University have used Healthy Days measures to estimate the county-level prevalence of severe work disability.
- The Public Health Foundation and CDC are identifying valid indicators of a community's HRQOL—for example, rates of suicide, alcoholism, divorce, and unemployment—that can be assessed along with the Healthy Days data. By looking at these data together, communities can discover why certain populations have a low health-related quality of life and what can be done to help them.

“Our future plans are to make the HRQOL Web site more comprehensive,” said Mr. Moriarty. “We want to put together separate state- and county-level data sets that include BRFSS HRQOL data, key demographic data, and key risk factor data. We want it to be accessible to researchers, communities, and organizations that are putting together report cards for states and counties. And we want the Web site to be searchable and have more links to other, related Web sites and technical reports, such as CDC's new report, *Measuring Healthy Days: Population Assessment of Health-Related Quality of Life*, which has been successfully disseminated on the Web.”


“The long-term plan is to provide HRQOL data on the Web and to provide a template for states to use to determine the HRQOL of a particular community,” added CDC behavioral scientist Rosemarie Kobau, MPH. For example, a state could use the template to ask: What was the average number of unhealthy days for residents in DeKalb County compared with residents in Clayton County in 1999, and what is it now? Is it getting better or worse over time? “I think it would be helpful for local communities to have a summary measure of community health status that they can track over time. Communities will be able to use the findings to identify areas of need, develop interventions and

policies to eliminate any health disparities that are uncovered, and ultimately track improvements in HRQOL,” she explained. “It’s helpful from a policy standpoint, too—legislators could link improvements in HRQOL to specific social policies.”

Norma Kanarek, PhD, associate scientist at The Johns Hopkins School of Hygiene and Public Health, agrees that communities will be hungry for this information. She has worked with the Public Health Foundation and CDC to identify community HRQOL indicators and has used HRQOL data to prepare the annual *Community Health Status Indicators Reports*, which describe the health status of each U.S. county. “We plan to have data queries on the Web so that counties will be able to run the analyses themselves instantly,” she said. “This will allow counties to interactively poke around and explore their HRQOL data with some pretty sophisticated capabilities.”

Soon, such sophisticated uses of Internet data will become commonplace,

and nearly everyone in the United States will be connected to the Web. “Today, 70% of all people in California have access to the Internet, and where California goes, everyone else follows,” noted Nancy L. Atkinson, PhD, co-director of the Public Health Informatics Research Lab at the University of Maryland, College Park. She said the three fastest growing segments of Internet users in this country are older people, African Americans and Hispanics, and people with household incomes of less than \$30,000.

With such a diverse and expanding audience on the horizon, NCCDPHP will continue to strengthen its Internet sites by making them more interactive, adding tools such as GIS, and encouraging data sharing between systems. But most importantly, the center will strive to help people, especially newcomers, understand the chronic disease data they are viewing on the Internet, said Mr. Coss. “We have to be very responsible for what information we’re putting out there and how it’s interpreted.” 

Searchable Internet-Based Databases Enhance Accessibility and Usefulness of NCCDPHP Data

As the Internet continues to gain popularity as the principal mode of rapid, cost-effective, mass communication and information exchange, NCCDPHP continues to expand its presence on the World Wide Web. Currently, there are more than 3,500 HTML pages directly accessible on the NCCDPHP Web site (a significant increase from the 26 pages that were on-line in 1995). In addition to the HTML pages are brochures, books, surveillance reports, briefing documents, and other publications on the NCCDPHP Web site, which can be viewed, downloaded, or printed. Visitors to the Web site may send electronic comments and inquiries to program personnel—during fiscal year 2000, NCCDPHP received and responded to 58,245 public inquiries over the Internet via the public inquiry E-mail address (ccinfo@cdc.gov). Web site visitors place on-line orders for CD-ROMs, conference registration, and health education materials. Much of the information that used to be exchanged between NCCDPHP and citizens, businesses, employees, and government agencies by telephone, fax, and snail mail is now exchanged via the Internet and E-mail.

In recent years, NCCDPHP has expanded its use of on-line databases to make vast amounts of information available to Web site visitors. According to Mike Coss, CDC computer scientist, NCCDPHP is making information available through on-line databases because “on-line databases allow us to publish large amounts of data or other structured information more efficiently. Data can automatically populate a predefined template based on user-selected options,

streamlining what could otherwise take many thousands of Web pages. Data can be added or modified very quickly without the need to create additional HTML pages. And they can allow users to view the data in ways that best meet their needs.” For example, the Interactive State Maps in the Heart Disease Mortality Among Women Database, which uses CDC’s Geographical Information System, allow users to display data for a particular state, categorized by race/ethnicity. Users can look at aggregate data for a particular question in the Behavioral Risk Factor Surveillance System Online Prevalence database, or they can view data grouped by education, income, or gender. The National Oral Health Surveillance System allows users to choose to display data graphically or in tables. NCCDPHP currently provides direct, free, searchable Internet-based access to more than ten on-line databases through the NCCDPHP Web site, and several more Internet-based databases are under development.

The newest addition to NCCDPHP’s collection of on-line databases, the *Chronic Disease Prevention (CDP) Databases*, will be available on the Internet soon. These bibliographic databases aim to provide relevant and current information to health professionals who are responsible for supporting, planning, developing, implementing, and evaluating disease prevention and risk reduction activities. Reba Norman, CDC technical information specialist, explained the reasons for the increased volume of Internet-based technical information services: “We are moving to the Web in an attempt to keep up with the growing demand for up-to-the-minute, easy, free access to our databases. Today,

The following databases can be accessed through the NCCDPHP Web site:

- Assisted Reproductive Technology Report—<http://www.cdc.gov/nccdphp/drh/art98>
- BRFSS Prevalence Data—<http://www.cdc.gov/nccdphp/brfss>
- BRFSS State Publications—<http://www.cdc.gov/nccdphp/brfss/stateinfo.htm>
- Cancer Legislation—<http://www.cdc.gov/cancer/legislat.htm>
- Healthy Youth Funding Database—<http://www.cdc.gov/nccdphp/dash/funding.htm>
- Heart Disease Mortality Among Women—<http://www.cdc.gov/nccdphp/cvd/womensatlas/statemaps.htm>
- National Oral Health Surveillance System—<http://www.cdc.gov/nohss>
- Smoking and Health Database—<http://www.cdc.gov/tobacco/search>
- STATE System—<http://www.cdc.gov/tobacco/stat-nat-data.htm>
- Tobacco Industry Documents Database—<http://www.cdc.gov/tobacco/industrydocs>

many people have access to the Internet, and they can save time and money by researching from their computers at home or work.”

Five NCCDPHP-produced databases comprise the *CDP Databases*.

- The *Health Promotion and Education Database*.
- The *Cancer Prevention and Control Database*.
- The *Prenatal Smoking Cessation Database*.
- The *Epilepsy Education and Prevention Activities Database*.
- The *NCCDPHP Publications Database*.

The *Health Promotion and Education Database (HPED)* contains more than 30,000 bibliographic records for journal articles, books and book chapters, reports, monographs, proceedings, manuals, and other documents related to health promotion and education, risk reduction, and

chronic disease prevention. Also included in this database are more than 5,000 descriptions of community intervention, health promotion, and health education programs; these program records are updated annually. Items from 1980 through the present are included in this database.

The *Cancer Prevention and Control Database (CPCD)* contains more than 5,100 bibliographic records of journal articles, book chapters, monographs, educational materials, policy documents, papers, information packages, and other materials related to early detection and control of breast, cervical, colorectal, and skin cancer. Materials included in this database cover topics such as screening, surveillance, professional training and education, public information and education, evaluation, and research. Descriptions of national, state, and local cancer prevention programs and risk reduction activities are also included in this database, which catalogs materials from 1988 through the present.

Entries on effective prenatal smoking cessation activities and risk reduction efforts comprise the *Prenatal Smoking Cessation Database (PSCD)*. This database contains almost 2,300 bibliographic citations and abstracts for journal articles, book chapters, technical reports, proceedings, papers, policy documents, and other published and unpublished documents and program descriptions dated from 1980 through the present. Some of the major subject areas included in this database are smoking cessation methodology, surveillance, evaluation, public education, professional training and education, relapse, economic issues, and special populations.

The *Epilepsy Education and Prevention Activities Database (EEPAD)* contains more than 2,600 records related to effective epilepsy early detection and control, education, and prevention activities. Bibliographic citations and abstracts and international, national, state, and local

program descriptions from 1980 through the present are included in this database. The major subject areas covered in this database are early detection and control methodology, quality of life, surveillance, consumer and provider education, treatment compliance, special populations, and legislation.

The *NCCDPHP Publications Database* contains bibliographic records describing publications produced by NCCDPHP or authored by NCCDPHP staff. Currently, this database contains almost 2,000 records for journal articles, monographs, technical reports, proceedings, book chapters, papers, policy documents, and fact sheets, all of which were published from 1988 through the present.

All five databases included in the *CDP Databases* provide sources and availability information for all materials so that users may obtain the materials directly. The databases are maintained by CDC and are updated with new references added quarterly; in the future, the databases will be updated monthly. Technical assistance is available to users via an Internet-based "Contact Us" feature. *CDP Databases*, previously distributed only via CD-ROM, will use a new Web interface that allows for easy user searches. A new and important feature of the *CDP Databases* is that users will be able to access full-text electronic versions of some of the documents: "We have always offered citation and abstract information, but now we are able to offer full text of selected journal articles in our databases," Ms. Norman said. "Links are also provided to selected full-text documents that are already available elsewhere on the Internet."

Four of the databases included in *CDP Databases* (*HPED*, *CPCD*, *PSCD*, and *EEPAD*) are also accessible through the *Combined Health Information Database (CHID) Online*, located at <http://www.chid.nih.gov>. *CHID Online* is produced by CDC, the National Institutes of Health, and the Health Resources and

On-line Tobacco Information Databases

The Smoking and Health Database has been available for searching on the CDC Web site since November 1997. Started in the late 1960s after the release of the first *Surgeon General's Report on Smoking and Health*, the database contains over 63,000 abstracts of published articles and other published materials on tobacco control and smoking and health issues. It is updated quarterly, with about 1,800 items added each year. One of the most popular pages on the CDC's Tobacco Information and Prevention Web site, the database is accessed by 6,000 to 7,000 Internet users each month. According to Paulette Murphy, CDC technical information specialist, "We decided to put it on the Web to increase its accessibility both domestically and globally. The Web helped solve our problems of accessibility to government-developed databases." The Smoking and Health Database can be accessed at <http://www.cdc.gov/tobacco/search/index.htm>.

A second database, the Tobacco Industry Documents Database, was added to the CDC Web site in the fall of 1999 (accessible at <http://www.cdc.gov/tobacco/industrydocs>). Work on this database was initiated after former President Clinton issued an executive order on July 17, 1998, to increase accessibility and availability of documents released as the result of lawsuits with the tobacco companies. Four components comprise the Tobacco Industry Documents Database:

- **Links to other Internet sites**, mostly maintained by tobacco companies, that contain tobacco industry documents.
- A merged searchable version of the **4B Index**, which was provided by the tobacco company defendants as a systematic way to access the documents released in the Minnesota litigation.
- The **Minnesota Select Set**, a subset of approximately 380,000 pages of the total 27 million pages made available during the Minnesota litigation.
- The **Guildford-British American Tobacco Documents Subset**, approximately 7,000 British American Tobacco Company documents obtained during the Minnesota litigation. These documents were selected by attorneys during the Minnesota litigation out of a collection of several million British American Tobacco Company documents stored at the Guilford, England, depository. These documents have particular significance for those working in global tobacco control.

For more information about the Smoking and Health Database and the Tobacco Industry Documents Database, contact Paulette Murphy at 770/488-5849, E-mail pmurphy@cdc.gov or Sarah Gregory at 770/488-5748, E-mail sgregory@cdc.gov.

CDP File CD-ROM


The *Chronic Disease Prevention (CDP) Databases*, available soon on the Web, are also available on CD-ROM as *CDP File*. Updated quarterly, the *CDP File* CD-ROM, like the Web-based *CDP Databases*, provides references to sources of information about health education and promotion, early detection, disease prevention and control, and other health-related activities.

In addition to the five databases that are accessible on the Web—the Health Promotion and Education Database, the Cancer Prevention and Control Database, the Prenatal Smoking Cessation Database, the Epilepsy Education and Prevention Activities Database, and the NCCDPHP Publications Database—*CDP File* on CD-ROM includes three additional databases:

- The **State Profile Programs Database** enables users to search by states and quickly locate state-specific program descriptions and contacts contained in the Health Promotion and Education, Cancer Prevention and Control, Prenatal Smoking Cessation, and Epilepsy Education and Prevention Activities databases.
- The **Smoking and Health Database** contains bibliographic records for information about smoking and tobacco use.
- The **Chronic Disease Prevention Directory** includes the names and addresses of people and organizations working in health promotion and disease prevention. It is updated annually and can be used to locate contact information for specific individuals or organizations or to generate mailing lists and labels.

Since 1992, updates of the *CDP File* have been distributed quarterly to a site in each state; these state sites have agreed to make the CD-ROM accessible to all state health department staff. *CDP File* is also routinely distributed to schools of public health, NCCDPHP cancer prevention and prenatal smoking cessation cooperative agreement partners, and National Association of Epilepsy Centers and Epilepsy Foundation of America affiliates. Others can purchase the *CDP File* CD-ROM and updates from the Superintendent of Documents, Government Printing Office. Call 202/512-1800 for ordering information (stock no. 717-145-00000-3).

Services Administration through a cooperative effort. *CHID Online*, which encompasses 16 topical databases, is updated four times a year and has been available to the public free of charge on the *CHID Online* Web site since March 1997.

For more information about *CDP Databases*, contact Reba Norman at 770/488-5080, E-mail rnorman@cdc.gov. For more information about *CHID Online*, E-mail the CHID Technical Coordinator at chid@aerie.com. 

Using the Web to Share Information on Health Education and Health Promotion

The Internet can be a powerful tool for state health departments that want to communicate quickly with, and provide comprehensive information to, health care professionals and local health departments. Three states—Washington, Alaska, and Ohio—that are using the Internet effectively to share materials and information on health education and health promotion with health educators throughout their states are profiled below.

Washington State

In 1995 the Office of Health Promotion in the Washington State Department of Health completed a study on how it could best serve health educators and health promoters throughout the state. “We did focus groups with Department program staff and division managers and four regional focus groups with local health department staff, which represented about two-thirds of Washington’s 34 local jurisdictions,” said Donald Martin, Health Educator, Office of Health Promotion. “Over and over again, people said they wanted a central clearinghouse of resources that would be a place to find out what colleagues are doing, get information about the latest research results, and share community projects and materials.”

“It was fortuitous that just then, we learned about grants available from CDC for this type of clearinghouse,” continued Mr. Martin. “We applied, got the funds, and used them as seed money to develop our Internet site. We call it *H.E.R.E.* [Health Education Resource Exchange] in Washington.”

Before *H.E.R.E.* went live on the Internet, potential users tested a prototype. “We asked them what they liked and didn’t like,” said Mr. Martin. “And they showed us how they wanted to navigate the site and how the pages should be laid out.

They even told us which colors they preferred. We listened and tried to follow their guidance as much as possible.” (See box for an outline of the contents of *H.E.R.E.*)

The site has been well-received by the health education professionals in Washington. “Two areas of the site, in particular, help me a great deal: *Training and Events* and *Health Educator’s Tool Box*,” said James Lanz, Public Health Nurse, Southwest Washington Health District. “For example, I learned about a class on social marketing through *Training and Events*. It was a great class. I took it, and several people in my office took it, but there’s a good chance we wouldn’t have known about it without *H.E.R.E.* The other area is the *Tool Box*. From there I can download all sorts of materials—such as the *Guidelines for Developing Easy-to-Read Health Education Materials*—that help me with my job. And the beauty of the site is that all those materials are free, user-friendly, and easily accessible. I really like *H.E.R.E.*”

The site is primarily a networking tool. Local health offices and their community partners are invited to provide information on projects and materials they have developed. “We’ve had calls from health educators all around the state wanting information on our projects and copies of our materials,” said Mr. Lanz. “And not only health educators in Washington call,” Mr. Lanz continued. “I’ve had calls from health educators outside the state for our materials. For example, the School of Public Health at the University of Missouri wanted a video called *TB Plain and Simple*. That video was originally produced in English and Spanish. However, with permission from the producers, we had the soundtrack translated into Russian, Vietnamese, and Bosnian. Nurses say the video increases patients’ compliance with doc-

Washington State's Web site (<http://www.doh.wa.gov/HERE/>) has six main sections:

- **Community Projects** has information on almost 200 public health education and health promotion projects throughout the state with the name, address, and telephone number of who to contact for more information.
- **Educational Materials** is a searchable database of Washington Department of Health publications. This section also has a feature called **Materials Exchange**, where county health departments can post descriptions of publications they have produced or adapted. More than 300 publications—categorized by topic—are described, each with a name to contact for more information.
- **Health Educator's Tool Box** is a series of 4- to 12-page guides on various aspects of health education practice. These materials help people in local health departments who are not trained as health educators to function in that capacity.
- **Making Connections** is a searchable database of health education and health promotion professionals in Washington. The database can be searched by name or by topic, of which there are 27 (e.g., alcohol and drugs, injury prevention, nutrition, youth issues). It can also be searched by the type of skill the user needs help with (e.g., curriculum design, grant writing, patient education, research).
- **Training and Events** is a calendar of activities of interest to health educators.
- **Health Educator's Bookshelf** has brief reviews and ordering information for books of interest to health educators.

tors' orders. We're really pleased that it's getting widespread use."

Washington recently evaluated the Web site to see if it was meeting users' needs. "We found plenty to be pleased about," said Mr. Martin. "And we also got a lot of ideas about how to improve the site. One important finding is that local health staff feel overwhelmed by the amount of information available on the Internet. They have become more sophisticated and now want projects and materials to be rated and peer-reviewed so they can make more informed decisions about which to

select. We are trying to see how we can meet that need."

One improvement already in place is a monthly newsletter, which is sent via E-mail to all users to tell them about the new features and new information added to the Web site. It's a marketing tool that reminds users to revisit the site, and it helps the *H.E.R.E.* staff maintain current information on people in the databases.

"We have other improvements planned also," said Mr. Martin. "For example, we plan to make available camera-ready health education materials as PDF files. And we're looking into setting up an E-mail discussion group exclusively for local public health staff who work in health education."

Several other states started work on Internet sites similar to Washington State's *H.E.R.E.*, but most have now dropped by the wayside. "Our site is still very much alive mainly because we included the responsibility for administering, marketing, expanding, and evaluating the Web site in the job descriptions of three staff members," said Mr. Martin. "*H.E.R.E.* is not something they work on when they have a free moment. It's an integral part of their job and takes up about 25% of their time."

Alaska

Modeled after Washington's *H.E.R.E.*, Alaska's Health Education Library Project (AHELP) [<http://www.ahelp.org/>] is a clearinghouse of health promotion and health education resources available in Alaska. "In our state, the Internet really helps with communication because distances are so vast and roads are so few," said Patty Owen, Health Program Manager at Alaska's Division of Public Health. "In addition, travel in Alaska is expensive, so public health educators save both time and money by having access to this electronic database of projects and materials that have already been used successfully in our state."

Before setting up the Web site, which was launched just last December, the Alaska Division of Public Health did a needs assessment and found that health care professionals (both public and private) needed a convenient, easy way to find reliable, culturally appropriate, and up-to-date health education materials. AHELP answers that need. "We also answer the need for a source for program ideas, news about workshops and training opportunities, and ways to contact other people engaged in health education," said Ms. Owen.

Alaska's site has five main components: *Projects, Materials, People, Calendar, and Resources*. "Most of the information about the projects comes from health educators around the state," said Ms. Owen. "We invite them to tell us about programs they've developed so health educators in other parts of the state can use those programs also."

The *Materials* section contains pamphlets, posters, publications, audiovisuals, and curricula useful to health educators and health promoters. "We also invite local and regional health educators to add their materials to this database," said Ms. Owen. "They can provide downloadable (PDF) copies so that other health educators can use the materials immediately or they can describe the materials briefly and give information on how to order copies."

The *People* section has the names and contact information of many health educators in Alaska; it also has information on Alaska's E-mail discussion group. *Calendar* lists events of interest to health educators in the state.

"Our site is new, so we are currently marketing it aggressively to our target audience," said Ms. Owen. "We also plan to evaluate the site soon and make improvements based on that evaluation."

At least one health educator, however, has already pronounced the site a success. "It's a boon to health educators in rural Alaska," said Shannon Linebarger, Health

Education Program Manager of the Maniiloq Association in Kotzebue, Alaska. "We're located 60 miles above the Arctic Circle and the only way in and out of here is by plane. Computers and the Internet are extremely important to us. We get on the AHELP site to look for projects that are going on around the state, especially those that are working well in rural areas."

Most of the people in Kotzebue are Inuipaq Eskimos, and most read at less than a 6th grade level. "We've developed some culturally appropriate brochures on various topics, such as diabetes and asthma," continued Ms. Linebarger. "And we plan to put them on to the AHELP site so other health educators can use them. They're written at a first- to fourth-grade level."

"We credit our success in getting our Web site up and running—and keeping it running—in large part to collaboration," said Ms. Owen. "We work with, and get input from, the University of Alaska and several state agencies, Health Sciences Information Services, and several state agencies and native health organizations. We also contracted with an expert to design and produce a great-looking Web site."

Ohio

Ohio's health education Internet site [<http://www.odh.state.oh.us/resources/educ1.htm>] is somewhat different from Alaska's or Washington's. Its main component is the on-line catalog of the Public Health and Health Promotion Library, which has 2,000 items (including 650 videos) of value to health educators.


Library materials can be borrowed by registered customers, and any resident of Ohio who is a public health professional or a health educator can register. "We define *health educator* broadly," said Jan York, Librarian, Ohio Department of Health. "We lend material to professional health educators but also to school teachers, doctors, nurses, and people who work at

community organizations with programs to improve the health of Ohio citizens.”

Customers may also get research help and obtain the latest technologic information. “We have access to databases such as Medline, CD-ROMs such as CHID [Combined Health Information Data], and E-journals such as Ebsco’s *Health Source*,” said Ms. York.

The second option for users of this Web site is the *Clearinghouse*, which has booklets, newsletters, reports, and educational materials on a wide variety of topics related to health promotion. “And most of them are free,” said Ms. York. “Our customers can search the clearinghouse database by topic or by title.”

To keep users up to date on new acquisitions and new services, the health department mails a newsletter twice a year to its 3,000 registered users. “We mail the newsletter because, as yet, not all library members have access to the Internet,” said Ms. York. “Indeed, because we’re a library, users often come here to access the Internet. That’s another one of our services.” Ms. York also conducts training sessions at health education conferences for those who want to learn how to find health information on the Internet and how to use the library’s services.

To pay for the upkeep of the site, Ohio uses its funds from CDC’s Preventive Health and Health Services Block Grant. 

Writing for the Web

It’s somewhat overwhelming to consider that nearly every publication your organization—and every other organization—produces could be posted on the World Wide Web. (Sometimes it seems that all of them are there already.) Certainly material originally published in print should be made accessible on the Web. But usability experts suggest that editing material destined for the Web can greatly improve its effectiveness.

Because the Web makes demands on readers that print does not, print material needs to be adapted to the medium. To understand the differences, think about how you might decide whether to read a print document. You might glance at the table of contents or the index, flip through the pages, or read the introduction. Visitors to your Web site lack such options. They will see your site and every document on it one screen at a time. The job of a Web content editor is to help users make the many decisions involved in reading on-line.

Reading on-line is not as easy as reading printed text. Today’s monitors have a fairly low resolution; our eyes must work harder to distinguish type from the background, so users tire quickly and read more slowly on-line. Furthermore, using the Web demands more activity than reading a printed text. Both eyes and text move as we scroll through a document. On-line, users “drive” their mice; they determine the speed of scrolling and constantly decide when to switch views or sites, when to print. All this activity means that users are more likely than readers to scan texts. As a result, anything that helps users scan documents quickly also improves readability.

The following tips for editing Web content suggest steps you can take to make it easier for visitors to your Web site to use the information they find there. For more information, visit the sites listed under Suggested Reading.

Be concise. The length of the material needs to be adjusted to the purpose of the

document. Usability expert Jakob Nielsen estimates that users read about 25% slower than readers of print. To compensate, reduce the content by half if possible. If you can't edit the sentences to make them simpler, make the paragraphs shorter.

Move the bottom line to the top. An important principle of Web editing is to put the most important information first—in the sentence, in the paragraph, and in the document. In other words, start each page with the conclusion, assuring that users see the most important ideas. This structure is also called a summary lead (one that briefly summarizes the point or key finding of the document). Once the document is organized according to the principles just described, edit by cutting from the bottom.

Clearly, this means that many of the documents that pass through the hands of a content editor will need to be reorganized. Web editor Merry Bruns, who teaches courses on editing for the Web, suggests analyzing the content of a document you need to post before considering the proper format. “If you're editing something verbose, tease out the raw information from the text and sort it by topic,” she explained. She uses 3x5 notecards for this process. The point: be guided by the material you want to present and the needs of the user, not by the document's original form or appearance.

Formatting helps users scan. Headings and subheadings help users find information quickly. Don't be cryptic; headings should give an accurate picture of the text that follows.

Use boldface to highlight key phrases in documents and as a substitute for headings in shorter documents. Remember, users are scanning for key words that signal that your document contains the information they seek. Bulleted lists therefore can be used more frequently than in print.

Provide an overview. Letting users know what's on a page before they click is very important. Even a single sentence of summary can prevent unwanted detours.

Tips for Editing Web Documents

1. Write, edit, and design from the user's perspective. What can you do to make it easy for users to find the information they need? Merry Bruns recommends that editors break out the most useful parts of a document and construct a Q and A. This format makes it easy for the reader to scan the document and skip irrelevant parts and unnecessary transitions.
2. Be concise. Paragraphs should be short, and topic sentences are more important than in print.
3. Use headings that clearly tell readers what the following paragraphs contain.
4. Forget indents; separating paragraphs with a line space works better on-line. White space helps the reader find headings and paragraphs and scan them quickly. For the same reason, use left justification consistently.
5. Break up large articles. Long articles are hard to scan and take time to scroll. You can help by breaking the article up into manageable chunks, intelligently linked.
6. Provide an overview or summary. You can help the reader decide whether to click or keep scanning by clearly describing what is in the document. Each piece of the article should link to the overview.

Suggested Reading

<http://www.sciencesitescom.com/>. Accessed June 14, 2001. Merry Bruns's site offers a “web editor's toolkit” with many useful links.

<http://www.useit.com/>. Accessed June 14, 2001. Jakob Nielsen is the world's foremost usability expert. See his Alertbox columns for brief, well-supported advice about making Web site content user-friendly.


E-What? A Guide to the Quirks of New Media Style and Usage. By Editors of EEI Press. Alexandria, VA: EEI Press; 2000. An excellent guide to maintaining consistency in style, spelling, and many other issues involved in on-line editing.

<http://www.eeicommunications.com/eye/links.html>. Accessed June 14, 2001. EEI's Web site contains many articles on usability and writing for Web users.

http://www.usability.gov/methods/collecting_writing.html. Accessed June 14, 2001. This government site follows its own advice: make content easy to use.

Describe what the user will learn: Travel costs. Where to stay. How to get around. The best restaurants in Kentucky. Each piece of the article should link to the overview or abstract.

Use hypertext links. Another way to break up lengthy text is to use hypertext links. Obviously, links work best to point users to the main parts of a document. There are many ways to use links. You might use links to list all the parts of a document following the title and a brief description of the piece. Be sure that the

word or phrase you select gives the user a clear idea of what will be found by following the link. List the remaining links at the bottom of each linked section. Essentially each part of the document should give the reader ways to enter other parts. Strong links require active verbs to let users know what you want them to do: "Register for this year's conference," rather than "Conference Registration." Use links judiciously. Too many links will confuse and frustrate the user. 

What Is Public Health Informatics All About?

Consider the name *Informatics*. With the possible exception of internal medicine, has ever a health-related discipline been lumbered with so inexpressive, so unexciting a label? We know what surgeons do, or proctologists, or biochemists, but informaticians?"

– Milton Corn, M.D., *Computing*

Public health systems have improved people's health and longevity in the last two centuries by creating safer water and sewage disposal systems, controlling disease-bearing insects and rodents, immunizing large populations, responding quickly to disease outbreaks, and establishing and enforcing safe food processing and handling practices. Implementing these kinds of public health improvements depends on having accurate, comparable, and timely information, so the public health system's ability to collect, analyze, use, and communicate health-related information is critically important. Enter the field of public health informatics, a broad and interdisciplinary science that promotes the sharing and use of health information.

Informatics has been used in the medical field for about 30 years, but the public health community has embraced it only recently. Since the early 1990s, CDC has been working with other federal health agencies, state and local governments,

professional associations, and the health care informatics community to advance its use. Examples of informatics activities include **integration** (linking together a wide variety of surveillance activities), **standardization** (developing and using detailed standards for data elements required to support public health surveillance), and **information dissemination** (using the Internet to dynamically generate and disseminate information). Each of these strategies improves the timeliness, completeness, and accessibility of public health data.

Computer technology gives us the tools to develop and implement systems—informatics addresses such issues as the impact computerization will have on data collection, analysis, information dissemination, and communication, and even on our understanding of public health issues. The use of the Internet is an example of how informatics differs from computer science. Internet technology is a powerful tool, but informaticians must be employed in deciding how this tool should be used to better meet the goals of public health.

"The application of public health informatics is essential for developing, evaluating, and implementing new public health surveillance and information

systems and for adapting and supporting existing ones,” said CDC epidemiologist Amy Zlot, MPH. She describes some examples, as well as the challenges, of public health informatics as

- Accessing and using nontraditional and diverse sources of data for public health surveillance. In addition to health-related data, these might include administrative, law enforcement, transportation, and workforce data.
- Improving the timeliness and quality of data while also reducing the burden of collecting data.
- Ensuring the privacy and confidentiality of information about individuals.

The public health informatics community is working with national and global organizations to develop standards for diverse sources. Data standards are needed for identifiers, diagnostic codes, procedure codes, and medical vocabularies. Standard data formats and protocols must be developed for collecting and transmitting data. Opportunities exist to link a wide variety of surveillance data and to integrate information systems activities. Such informatics undertakings can improve the timeliness and quality of data and reduce the burden of collecting data by discouraging the development of isolated, stand-alone systems.

“I like to think of public health informatics as more than the sum of its parts,” said Ms. Zlot, discussing why people often have difficulty understanding what it involves and why it is important. She explained that public health informatics combines various disciplines—public health science, computer science, information technology, cognitive science, education, management, economics, and even political science and anthropology—to ensure that public health data are easy to access, analyze, and communicate, and are used appropriately.

Timothy J. Carney, MPH, an informatics specialist at CDC, says that even though the field is often associated

with applications and programs, packages, or tools, it actually encompasses a larger process of what he calls the “data progression pathway.” This pathway represents the process of moving from data to information, information to knowledge, knowledge to decisions, and decisions to outcomes.

“The movement along this pathway, whether by individuals or organizations, gives rise to many actions that create a juncture between the business process and information technology. It is at this juncture of the technology and the processes that we find informatics. Informatics examines ways that information technology can be used to improve business processes that will more efficiently and effectively meet the organization’s missions goals, and objectives.”

Examples of Applied Public Health Informatics

Informatics was brought to bear on a public health policy issue when the Office of Management and Budget (OMB) revised Directive 15, which defines standards for federal statistics and reporting on race and ethnicity, to reflect the growing multiracial population in the United States. The revised Directive includes new categories for race and ethnicity and allows individuals to check more than one racial category. Users will be able to more accurately indicate their racial and ethnic background(s), but researchers may find it challenging to compare new surveillance data on race and ethnicity with those collected in previous years. A public health informatics perspective includes understanding the impact that collecting and reporting racial and ethnic data will have on public health information and surveillance systems. Therefore, informaticians are involved in studying how surveillance systems are implementing the new OMB Directive 15 on race and ethnicity.

Informatics is being used at the national level to streamline the health care administration process and protect confidential

Training in Public Health Informatics

Because of the growing importance of public health informatics, CDC and its sister agency, ATSDR, established a Public Health Informatics Fellowship Program. This program, administered by CDC's Epidemiology Program Office, provides a unique training opportunity for professionals interested in this evolving field. Fellowship participants are trained in both informatics and public health. They are assigned to project teams involved in both research and development of informatics systems and concepts that are crucial to support CDC/ATSDR's mission of preventing disease and injury. As a result of their training, fellows in this program enjoy a unique cross-disciplinary experience that results in a new way of thinking about the practice of public health.

For additional information about this CDC fellowship program, visit the Epidemiology Program Office Web site at <http://www.cdc.gov/epo/dphs/informat.htm>.

Other programs also train professionals for careers in public health informatics, as well as in the related disciplines of medical, nursing, and dental informatics. Currently, schools of public health across the country are adding courses to their curriculum in these areas. The Rollins School of Public Health at Emory University now offers a master's degree in public health informatics (<http://www.sph.emory.edu/bios/phi.html>). And, in collaboration with 12 major U.S. medical schools, the National Library of Medicine has instituted an informatics fellowship-training program for physicians (http://www.nlm.nih.gov/ep/curr_inst_grantees.html).

The American Medical Informatics Association (AMIA) helps foster education and training opportunities in the area of medical informatics. Annual AMIA conferences bring informatics professionals together to share experiences and research. This year's conference is dedicated to public health informatics, demonstrating the growing interest in the field. It also underscores the importance of public health informatics in the cooperative efforts of public health, private health, and academic professionals to promote the understanding of informatics (<http://www.amia.org/>).

health care information under the Health Insurance Portability and Accountability Act (HIPAA). CDC's strategies in this area include adopting or creating standards for collecting, managing, analyzing, accessing, and disseminating information.

Although the methods for conducting public health surveillance may differ considerably by program and disease, surveillance activities share many common practices. The National Electronic Disease Surveillance System (NEDSS) was created to electronically integrate and link public health surveillance activities. Upon its completion, NEDSS will include data standards, an Internet-based communications infrastructure built on industry standards, and policy-level agreements on data access, sharing, burden reduction, and confidentiality protection.

Components of NEDSS include

- CIPHER (Common Information for Public Health Electronic Reporting)—detailed standards for data elements.
- Public Health Conceptual Data Model (PHCDM)—a framework for organizing data standards and guidelines.
- User interface guide—for Windows and Web-based applications.
- Secure Data Network (SDN)—to exchange sensitive data over the Internet.

NCCDPHP's Pregnancy and Pediatric Nutrition Surveillance Systems were pilot projects for the Secure Data Network. These systems will enhance the collection and application of pregnancy and pediatric nutrition surveillance information through electronic data transfer using the secure network.


The field of informatics also promotes better access to information. The Internet has been a very effective tool for disseminating information, and more specifically,

interactive Web sites have enabled users to customize how the data are displayed. For example, the growing use of NCCDPHP's Behavioral Risk Factor Surveillance System (BRFSS) Web site shows the need to access dynamically driven data over the Internet. Users are allowed to query the system by indicator (i.e., diabetes, exercise, nutrition), by demographic category (i.e., age, race, sex), and by year. Since 1998, when the dynamic portion of BRFSS was added, the number of hits the site receives has increased from 300 per month to more than 7,000 per month.

In addition, an informatics approach can facilitate information sharing and improve knowledge about programs within NCCDPHP. Systems are being developed that capture a wide range of information about prevention programs and research activities. For example, the Diabetes Management Information System enables project officers to share information about objectives, target populations, progress

reports, and collaborations, as well as other activities. The system will provide a systematic method of collecting information from individual diabetes control programs and standardize the content of this information. Other systems are also being developed to capture information on research programs. These systems will record and organize research findings as well as any evidence showing how these findings contributed to changes in public health policy and practice. Users worldwide will be able to submit customized queries and retrieve information that is relevant for guiding their work.

Informatics promotes the use of these tools and helps to develop, document, and evaluate systems that can support our public health programs.

For more information about the NCCDPHP informatics initiatives, contact Amy Zlot (azlot@cdc.gov) or Tim Carney (tcarney@cdc.gov) or call 770/488-5700. 

Women and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality

CDC's Pioneering Effort Examines the Role of Geographic and Social Disparities in Cardiovascular Health

Death rates for heart disease among women are higher than for all forms of cancer combined. Approximately 373,000 women die of heart disease each year. During the past 40 years, public health research has documented persistent geographic disparities in deaths from heart disease in the United States. However, even though heart disease is the leading cause of death among women, many of these studies have reported findings only for men.

Women and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality,

released in December 1999, provides essential information for identifying populations of women at greatest risk for heart disease and in greatest need of prevention efforts. Data for the atlas came from the National Center for Health Statistics and the Bureau of the Census. Developed through a cooperative agreement between West Virginia University and NCCDPHP, the atlas presents an extensive series of national and state maps that show local variation in heart disease death rates for all women, American Indian and Alaska Native women, Asian

and Pacific Islander women, black women, Hispanic women, and white women from 1990 through 1995.

Local geographic disparities in the burden of heart disease among women are likely to reflect underlying inequalities in local environments that make some communities more health-promoting than others. For example, several studies have shown that communities with low levels of economic resources had higher rates of death from heart disease than communities that were comparatively more prosperous. Thus, the atlas also contains national maps of local indicators of the social environment, including the geographic distribution of the population by race and ethnicity, the availability of local economic resources, the social isolation of elderly women, and the availability of medical care resources.


Geographic information systems (GIS), integrated systems of computer hardware, software, and data that create, manage, and report geographic data, were used to combine the census data and health statistics on which the maps are based. According to CDC Epidemiologist Michele Casper, PhD, the ability of GIS to handle large amounts of geo-referenced data from multiple sources was critical to the development of an atlas of this scope. "Although GIS has been integrated into many other disciplines, the atlas is one of the pioneers in the application of GIS to chronic disease data," said Dr. Casper.

In addition to the printed version, the atlas is also available on the Internet. A

GIS application called GATHER, developed by ATSDR, is used to power the Web site. According to Dr. Casper, this powerful and flexible application supports a variety of interactive Web sites. The women's atlas was the ATSDR team's first live Internet application and the first NCCDPHP Web application to use GIS. Mike Coss, CDC computer scientist, anticipates that the women's atlas will serve as a model for other NCCDPHP Web applications and for applications from other centers, institutes, and offices within CDC. "This is an exciting new use of technology to increase our understanding of the factors underlying health disparities," he said.

Unlike the printed version of the atlas, the Web site allows users to access county-level data by clicking on a particular county. This feature allows the atlas to be used by state health departments to identify communities at highest risk and greatest need for preventive efforts and by researchers to understand determinants of geographical disparities in heart disease.

Men and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality was developed by NCCDPHP and West Virginia University. It was released both in hard copy and on the Internet this summer in a format very similar to that of the women's atlas.

For more information, contact Michele Casper at 770/488-2571 or E-mail mcasper@cdc.gov. 

cdnotes cdnotes cdnotes cdnotes cdnotes cdnotes

Conferences

American Association of Diabetes Educators 28th Annual Meeting and Exhibition

The American Association of Diabetes Educators (AADE) annual meeting will take place August 15–19, 2001, at the Kentucky International Convention Center. The theme of this year's AADE conference is "Win the Race with Diabetes Educators," appropriate to meeting location Louisville, Kentucky, home of the Kentucky Derby. The conference will feature renowned speakers and diabetes experts. Attendees may select any of the numerous general, concurrent, and research sessions and workshops, and participate in *Dilemmas in Diabetes Education* discussions. More than 200 exhibits will house information and products related to diabetes care and education. For more information, visit http://www.aadenet.org/annual_frame.html.

First National CDC Prevention Conference on Heart Disease and Stroke

CDC, the American Heart Association, and the National Heart, Lung, and Blood Institute are co-sponsoring the First National CDC Prevention Conference on Heart Disease and Stroke to be held August 22–24, 2001, in Atlanta, Georgia, at the Westin Peachtree Plaza. The goal of the conference is to increase knowledge and provide opportunities for information sharing, networking, and skill building for state health department staff and cardiovascular health (CVH) partners to build and expand comprehensive CVH state programs. More information about the conference is available at <http://www.cdc.gov/nccdphp/cvd/>.

2001 Cancer Conference

CDC's 2001 Cancer Conference will be held September 4–7, 2001, in Atlanta, Georgia, at the Marriott Marquis Hotel. The theme is "Using Science to Build Comprehensive Cancer Programs: A 2001 Odyssey." The conference will explore evidence-based science and how it applies in a public health setting. Short courses will be held September 4 as part of the preconference activities. To be added to the mailing list for the conference, write Laura Shelton at PSA, 2957 Clairmont Road, Suite 480, Atlanta, GA 30349, E-mail l_shelton@psava.com, or call 404/633-6869, extension 214. For more information, contact Kathleen Carey, Conference Co-Chair, at kcarey@cdc.gov or visit <http://www.cdc.gov/cancer/conference2001>.

Seventh Annual Maternal and Child Health Epidemiology (MCH EPI) Conference

The 2001 Maternal and Child Health Epidemiology Conference will be held December 12–13 in Clearwater Beach, Florida, at the Sheraton Sand Key Hotel. The theme is "Enhancing Competencies for Informed Decision Making in Maternal and Child Health Outcomes," and the conference is hosted by the Lawton and Rhea Chiles Center for Healthy Mothers and Babies. The annual Maternal and Child Health (MCH) epidemiology conference brings together health professionals who work with MCH data, programs, and policies. For more information, visit <http://www.publichealth.usf.edu/conted/mchepi01.html> or contact Ms. Jenni Genz at 813/974-6695.

Healthy Kids, Healthy Communities: Integrating Health and Education

CDC's 2002 National Leadership Conference will convene February 10–13, 2002, at the Renaissance Hotel in Washington, D.C. Each year this conference offers an outstanding opportunity for learning and networking among dedicated professionals in the fields of HIV/AIDS prevention and school health, including those from state and local education, health and social service agencies, national nongovernmental organizations, federal agencies, colleges and universities, and philanthropic organizations. Information about the 2001 Leadership Conference and the program for the 2002 Leadership Conference will be posted in the coming months at <http://www.cdc.gov/nccdphp/dash> or for more information, contact CDC health education specialist Holly Conner at hconner@cdc.gov.

cdnotes cdnotes cdnotes cdnotes cdnotes cdnotes

13th Annual Art and Science of Health Promotion Conference

The 13th Annual Art and Science of Health Promotion Conference will take place February 25–March 1, 2002, at Harveys Resort in Lake Tahoe, Nevada. This year's theme is "Creating a New Vision for Health Promotion." The conference is a collaborative effort involving a wide range of professional associations that represent key health promotion disciplines including exercise physiologists, health educators, nurses, nutritionists, physicians, and psychologists. For more information or to register, call 248/682-0707, E-mail inquiries@healthpromotionjournal.com, or visit <http://www.healthpromotionconference.org>.

16th National Conference on Chronic Disease Prevention and Control

NCCDPHP will host its 16th annual conference February 27–March 1, 2002, at the Sheraton Atlanta Hotel in Atlanta, Georgia. Participants will learn about emerging chronic disease issues, data applications, and intervention research; network with health and other professionals; develop new working relationships; and discover what others are doing in communications, training, policy, and partnerships. For more information, contact Dale Wilson at dwilson@cdc.gov or visit <http://www.cdc.gov/nccdphp/conference>.

Information Sources

National Oral Health Surveillance System Now Available

The National Oral Health Surveillance System (NOHSS) is a new policy resource available on-line. The NOHSS Web site is designed to provide national and state information on oral health indicators including the percentage of the adult population reporting a dental visit during the past year, the percentage of adults who had their teeth cleaned during the past year, the percentage of the senior population with complete tooth loss, and the percentage of a state's population on a community water system whose water is fluoridated. NOHSS also includes selected information from the Synopses of State Oral Health Programs, which contain state-specific information on demographics, as well as oral health infrastructure, administration, and program activities. Additional oral health data will be added each year as they become available. For more information, visit <http://www.cdc.gov/nohss>.

Sample Medicaid Dental Purchasing Specifications

Sample Purchasing Specifications for Medicaid Pediatric Dental and Oral Health Services are now available. These specifications describe comprehensive oral health care services for children and adolescents and are especially useful for State Medicaid agencies, State Children's Health Insurance Programs (SCHIPs), and insurance providers that develop contracts for dental services for low-income children. To learn more about these specifications, visit <http://www.gwu.edu/~chsrp/sps/dental>.

NCCDPHP News

School Lands Award for Participation in Walk to School Day

Robert Lewis Stevenson Elementary School in Burbank, California, was awarded the "Outstanding Unit for Parent Involvement Award of Honor" for its participation in Walk to School Day 2000. Colleen Wright, parent and PTA member, and Nancy Pierce, PTA President, accepted the award on behalf of the school at the Annual California State PTA Convention for coordination of the event. The event included 250 children plus parents, teachers, local police, and fire officials. Local merchants donated food and beverages for a breakfast that

cdnotes cdnotes cdnotes cdnotes cdnotes cdnotes

followed the walk to school. Contests were held and the classroom that had the most participation won packs of colored pencils.

“I couldn’t have done it without the *KidsWalk-to-School Guide*,” said parent coordinator Colleen Wright. “It was so thorough and took me through all the steps I needed to get groups organized. I wish I had had it the first year I tried to plan the event.”

“Walk to School Day is a great way to promote walking to school year-long,” said William H. Dietz, MD, PhD, Director of CDC’s Division of Nutrition and Physical Activity, which developed the *KidsWalk-to-School Guide*. “Whether you walk to promote more active children, safer streets, or cleaner air, Walk to School Day events are aimed at creating permanent change to encourage a more walkable America, one community at a time.”

Last year children, parents, teachers, and community leaders in 47 states joined 2 million walkers around the world to celebrate the first International Walk to School Day. This year’s event, scheduled for Tuesday, October 2, 2001, promises to be even bigger and more exciting. Click on <http://www.walktoschool.org> to register to be part of the 2001 activities, receive E-mail updates, and access resources. To learn more about what’s happening in other countries, visit <http://www.iwalktoschool.org>. For help in planning a walk-to-school program throughout the school year, visit the CDC Web site and download or order a free copy of the KidsWalk-to-School program at <http://www.cdc.gov/nccdphp/dnpa/kidswalk.htm>.

Diabetes Stamp

The United States Postal Service has issued a *Diabetes* stamp to encourage everyone to “Know More About Diabetes” and to promote awareness about the need for early detection and for continued research to find a cure for this devastating disease. Designed by James Steinberg, the stamp includes two elements associated with diabetes testing and research—a microscope and a test tube containing blood. To see an image of the *Diabetes* stamp, visit the CDC Diabetes Public Health Resource Web page at <http://www.cdc.gov/diabetes>. For more information, call toll-free 1-877-CDC-DIAB.

Asthma: 10 Million School Days Lost Each Year

Asthma, a chronic condition that is triggered by allergens or irritants in the environment, is a major health problem of increasing concern in the United States. Between 1980 and 1994, the prevalence of asthma increased 75% overall and 74% among children aged 5–14 years. “Today asthma affects 15 million people, including nearly 5 million under the age of 18, and it accounts for an estimated 10 million lost school days annually,” said CDC Medical Officer Mary Vernon-Smiley, MD, MPH. Of special concern, she added, is the impact of asthma on minority children. Death from asthma is 2 to 6 times more likely among African Americans than in the general population.

In an effort to enable the nation’s schools to prevent asthma attacks and absences, CDC has launched a pilot effort involving four local education agencies serving large, urban school districts and capable of targeting racial or ethnic minority groups. A manual for Asthma Management in Schools is in development and will become available in about 15 months. In the interim, a helpful resource is the Environmental Protection Agency’s publication, *IAQ Tools for Schools: Managing Asthma in the School Environment* (Publication EPA 402-K-00-003; to view on-line or to order, go to <http://www.epa.gov/iaq/schools/incentiv.html>).

Chronic Disease Notes & Reports is published by the National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, Atlanta, Georgia. The contents are in the public domain.

Director, Centers for Disease Control and Prevention

Jeffrey P. Koplan, MD, MPH

Director, National Center for Chronic Disease Prevention and Health Promotion

James S. Marks, MD, MPH

Managing Editor

Teresa Ramsey

Staff Writers

Linda Elsner

Helen McClintock

Valerie Johnson

Teresa Ramsey

Suzanne Johnson-DeLeon

Diana Toomer

Guest Writer

Layout & Design

Linda Orgain

Herman Surles

Copy Editor

Suzanne Johnson-DeLeon

Address correspondence to Managing Editor, *Chronic Disease Notes & Reports*, Centers for Disease Control and Prevention, Mail Stop K-11, 4770 Buford Highway, NE, Atlanta, GA 30341-3717; 770/488-5050, fax 770/488-5095

E-mail: ccdinfo@cdc.gov

NCCDPHP Internet Web site:

<http://www.cdc.gov/nccdphp>

**DEPARTMENT OF
HEALTH AND HUMAN SERVICES**

Centers for Disease Control and Prevention

Mail Stop K-11

Atlanta, Georgia 30341-3717

Official Business

Penalty for Private Use \$300

Return Service Requested

FIRST-CLASS MAIL
POSTAGE & FEES PAID
PHS/CDC
Permit No. G-284