PUBLIC HEALTH GIS NEWS AND INFORMATION

March 2000 (No. 33)

Dedicated to CDC/ATSDR scientific excellence and advancement in disease control and prevention using GIS

I. Public Health GIS (and related) Events

SPECIAL CDC/ATSDR GIS LECTURES: (1) March 8, 2000, **Interactive Cancer Mortality Mapping on the World Wide Web,** by Dan Grauman, National Cancer Institute, 2:00-3:30 P.M., at the NCHS Auditorium, Hyattsville, MD and (2) March 16, 2000. **Environmental Influences on Vector Borne Diseases**, by Stephen Guptill, Susan Price, and Lee DeCola, US Geological Survey, at the NCHS Auditorium (with Envision), 2:00-3:30 P.M. (Envision available for both March 8 and March 16 programs to offsite CDC/ATSDR locations). Abstracts are included in this edition. Note: Cosponsors to the NCHS Cartography and GIS Guest Lecture Series include CDC's Behavioral and Social Science Working Group and Statistical Advisory Group.

****

☞ 14th Annual Conference on Geographic Information Systems, GIS 2000, March 13-16, 2000, Toronto, Canada [See www.GIS2000.com; cosponsors ASPRS, GITA, URISA]

[Reminder: The International Health Geographics Conference, March 17-19, 2000, Bethesda, MD-See Section II.D. this edition]

☛ The 2000 EIS Conference, Epidemic Intelligence Service, Centers for Disease Control and Prevention, April 10-14, 2000. Decatur, GA [Contact: EIS Office, Division of Applied Public Health Training (MS D-18), CDC, Epidemiology Program Office, Atlanta, GA 30333]

☞ The Fourth Annual Conference for Geographic Information Systems (GIS) and Computer-Assisted Mass Appraisal (CAMA), "Benchmarking best practices in assessment technology!," April 16-19, 2000, Miami Beach, Florida [See http://www.urisa.org/2000cama]

☛ MidAmerica GIS Symposium 2000 (7th Biennial): Solutions for a New Century, May 14-18, 2000, Osage Beach, Missouri [Contact: Ann Peton at voice (515) 281-5140 or email ann.peton@its.state.ia.us or visit http://magicweb.kgs.ukans.edu]

☞ 18th National ASTDHPPHE (Association of State and Territorial Directors of Health Promotion and Public Health Education) Conference on Health Education and Health Promotion and the SOPHE (Society for Public Health Education) 2000 Mid-Year Scientific Conference, "Health Promotion Excellence in the New Century: Ascending New Heights," May 17 - 19, 2000, Denver, CO [See www.astdhpphe.org]

☛ GeoInformatics '2000, International Conference on Geographic Information Science and Technology, June 21-23, 2000, Monterey, CA [See http://www.monterey.edu/geoim2000]

☞ Data Users Conference, National Center for Health Statistics, CDC, July 26-29, 2000, Bethesda, MD [Contact: Pat Drummond at voice (301) 458-4193 or see http://www.cdc.gov/nchswww]

☛ 29th International Geographical Congress of the International Geographical Union (IGU), "Geo-Diversity and Geo-Technology," August 14-18, 2000, Seoul, Korea [See www.geog.snu.ac.kr/igc2000]]

☞ 4th International Conference on Integrating Geographic Information Systems (GIS) and

Environmental Modeling (GIS/EM4), September 2-8, 2000, Banff, Alberta, Canada [See http://www.colorado.edu/research/cires/banff]

II. GIS News

(Please communicate directly with colleagues on any issues)

A. General News and Training Opportunities

1. From **Gerry Rushton**, University of Iowa: Just a note about the crime analysis package supported by the National Justice Department developed by Ned Levine (see *Public Health GIS News and Information*, Nov. 1999 edition). I haven't used it but I have read the description of it and it appears to be very good. One of my graduate students is considering using it in his research project soon. [See: www.ojp.usdoj.gov/cmrc/whatsnew/welcome.html#crimestat; Editor: For interactive crime analysis, we also call your attention to Channel 9 Television, KWTV, Oklahoma City's "Crime Tracker" Web site at http://www3.kwtv.com/television]

2. From **Duane Marble**, The Ohio State University: [More on John Snow] I had forgotten but there is also an extensive discussion of Snow's work contained in Tufte's book *Visual Explanations* in the chapter on "Visual and Statistical Thinking" (pp. 27-37). Here he reproduces some figures from Monmonier showing the impact of different levels of areal aggregation - in one, the two areas with the most deaths do not include the infected pump! Tufte also has some interesting comments on the impact of different forms of temporal aggregation of the data. [Contact: Duane, Center for Mapping, at email marble.1@osu.edu]

3. From **Harvey Miller**, University of Utah: This email is to announce an editorship change at the International Journal of Geographical Information Science (IJGIS). I am now North American Editor of IJGIS, replacing Marc Armstrong. Please submit manuscripts to merather than Marc. I look forward to receiving submissions from UCGIS, and the GIS and Public Health community. [For more information, see http://www.geog.utah. edu/~hmiller/IJGIS]

4. From **Susan McDonald Jampoler**, UCGIS: Readers may be interested in an article in the January 20, 2000 NYTimes Business section on GIS. It is entitled "Turning a Map Into a Layer Cake of Information: Linking Geography and Data Can Help Fight Crime, Find Customers and Protect Nature." The URL is http://www.nytimes.com/library/tech/00/01/circuits/articles/20giss.html [Contact: Suzy, Executive Director, at email execdir@ucgis.org]

5. **Brian Mennecke**, Iowa State University: I am pleased to announce the Mini-track on geographic information systems in business, which is part of AMCIS 2000 (the Americas Conference on Information Systems). This year the conference will be held in Long Beach, California, on August 10-13. This Mini-track invites quality research or research in progress covering topics related to the application of GIS to or management of GIS in business. Research in areas such as (but not limited to) the use of GIS for decision support, electronic commerce, human factors, implementation and management, and inter/intra-organizational collaboration are of interest. A sample of paper topics from previous years include: Modeling spatial data; Intelligent agent access to GIS data; Spatial DSS for retail site location; GIS use in organizations in developing countries; GIS in executive information systems; GIS as a decision support technology, and; GIS and Electronic Commerce. More information about AMCIS 2000 can be found by visiting visit http://www.csulb.edu/conference/ais2000. [Contact: Brian at email mennecke@iastate.edu]

6. From **Baker Perry**, University of Washington: The Department of Geography and Planning at Appalachian State University, Boone, NC, will offer the second annual "GIS in International Health Workshop" June 26-30, 2000, focusing on the applications of geographic information systems (GIS) in International Health. Geographic information systems are powerful tools that can enhance the measurement, monitoring, mapping, and modeling of geographic data. The applications of GIS in international health are far-reaching; topics introduced

in this workshop will include the use of GIS to assess physical access to health care, monitor immunization rates, track the spread of infectious diseases, and assist in health care delivery planning. In addition, the workshop will cover such topics as the importance of a geographic approach in international health initiatives, integration of global positioning system (GPS) and remote sensing technology in a GIS, the acquisition and availability of digital cartographic data in developing countries, database design and management, and map interpretation and mapmaking. Participants will have the opportunity to apply skills and concepts learned during the workshop in a final project. All lab sessions will be held in the Spatial Outreach Laboratory, which features state of the art GIS hardware and software. Information and registration materials are now available. [Contact: Baker at email perrylb@u.washington.edu]

7. From **Ann Peton**, Iowa State [GIS Coordinator]: The MidAmerica GIS Symposium Steering Committee and the Missouri GIS Advisory Committee cordially invite you to participate in the MidAmerica Symposium 2000, "Solutions for a New Century," May 14-18, 2000 in Osage Beach, Missouri. This symposium will be quite a bit different from other GIS conferences you have attended. It is planned as a working meeting where common issues can be identified, solutions shared and problems solved. As part of this approach you will hear GIS professionals from across the region and across the country discuss how they have encountered and solved the problems you are facing today and the ones waiting around the corner! The paper presentations will be used as tools for establishing issues and generating discussion among participants. We start by bringing together individuals who work in the same functional disciplines of the GIS industry like cadastral mapping, natural resources, transportation, and health and social services. A combination of facilitated discussions and paper presentations will serve to identify common and sometimes controversial issues within these groups. Next, we will use the issues identified by these groups to bring together in facilitated work sessions diverse segments of these communities that share the same issues, even though they may work in different segments of the GIS industry. Finally we will create action groups within these segments to generate tasks, goals, and strategies for accomplishing those tasks. [Contact: See Events Part I, this edition]

B. Department of Health and Human Services (DHHS)

Agency for Toxic Substances and Disease Registry

8. From Bill Henriques, GIS Coordinator: Registration for the satellite broadcast entitled "GIS in Public Health: Using Mapping and Spatial Analysis Technologies for Health Protection," May 11, 2000, 12:00-2:30 EST is now available. More information on the course can be obtained at the CDC's Public Health Training Network site, located at: http://www.cdc.gov/phtn/gis/gis.htm [Contact: Bill at email wdh2@cdc.gov]

Centers for Disease Control and Prevention

9. Editor: The National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), in conjunction with the Office for Social Environment and Health Research (OSEHR) at West Virginia University, has produced *Women and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality* [See Web Sites of Interest, this edition]. Dr. Michele Casper, Epidemiologist, Cardiovascular Health Branch, Division of Adult and Community Health, was lead researcher for CDC and Dr. Elizabeth Barnett coordinated OSEHR's collaboration. The atlas provides critical data on geographic, racial, and ethnic inequalities in women's heart disease death rates for the five major racial and ethnic groups. It was released February 16, 2000.

10. From **David Williamson**, EPO: The Program Committee, 2000 Joint Statistical Meetings, would appreciate your assistance in identifying anyone who can make substantial contributions to JSM through computer-oriented, interactive, otherwise technical presentations in the Invited Technical Exhibit (Invited Poster) Session. This session has been well-received in the past and we'd like to continue the tradition of outstanding presentations in the session. The

Committee on Meetings wishes for participation to be based on a competition, so please invite folks with innovative, technically oriented ideas to provide us a paragraph on their proposals. For example, I've asked David Kleinbaum, Emory University, to present his Active Epi computer software during this session in August. David has worked with Paul Velleman and his company to develop Active Epi, an interactive computer module series teaching fundamentals of epidemiology and statistics in the public health setting. It is modeled after Paul's Active Stats software program. [Contact: Please direct all correspondence to email jsm2000@cdc.gov]

11. From **Katharine Witgert**, EPO [CDC staff only-inventory of research on social determinants of heath]: As you are aware, a growing body of research shows an inverse relationship between social factors and health outcomes. Examples of social factors affecting health include poverty, education, income inequality, occupation, employment status, housing quality, social capital, and violence. These social determinants have in the past been largely neglected by public health interventions, but the field now recognizes the importance of the social environment and research into these areas is expanding accordingly.

CDC's Epidemiology Program Office (EPO) recently identified social determinants of health (SDOH) as one of four priority research areas for this CIO. One of our first steps in pursing this area of research is to create an inventory of current SDOH research here at CDC. This and other work on SDOH is being conducted by the Evaluation and Behavioral Science Methods Branch, Division of Prevention Research and Analytic Methods. Our goal is to characterize ongoing research on SDOH that works to elucidate pathways through which social determinants impact health (and thereby to determine entry points for interventions), to identify gaps in research and build a research agenda, and to develop cross-CIO initiatives in this area.

Because CDC does not maintain a centralized system for reporting ongoing research projects, we are writing to you directly to ask for your help in developing this inventory. This is an opportunity to tell us about research you are conducting into social determinants of health by completing a brief survey. It is anticipated that you will need approximately 15 minutes to complete the survey. To obtain a copy of this survey, please visit the CDC Intranet site http://intranet.cdc.gov/epo/survey.htm. Results of this survey will be made available to all respondents in order to build networks of social determinants of health researchers at CDC. [Contact: at email kmw6@cdc.gov]

12. From **Harvey Lipman**, EPO: CDC's Statistical Advisory Group maintains a web site which contains a list of announcements and a calendar of events which might be of interest to everyone involved with data analysis at CDC. If you haven't visited it recently, why don't you take a few minutes and do so? If there any announcements or events that you would like to see added to the web site, just fill out the New Event for Inclusion form. Any and all suggestions for improvement are welcome. Just send them to Wayne Johnson at NCHS. The Statistical Events Calendar URL is http://www.cdc.gov/sag/, or you can visit the CDC home page at http://www.cdc.gov, click on "Announcements," and then click on the "CDC Calendar of Statistical Events." [Contact: Wayne at wxj0@cdc.gov]

13. From **Iris Shimizu**, NCHS: (1) ASA short course: "Introduction to Bayesian Methods in Biostatistics," by Dr. Dalene Stangl, Institute for Statistics and Decision Science, Duke University March 31, 2000, Chevy Chase, MD. Overview: Sponsored by the ASA LearnSTAT program, the course will be taught through presentation of examples from clinical and community trials, epidemiology, and health policy. Designed for persons who work as applied statisticians, the course assumes no previous knowledge of Bayesian theory or methods. Attendees need only be familiar with the concept of probability distribution and enthusiastic about examining statistics from a different perspective. [See ASA's web site at: http://www.amstat.org/education/learnstat.html or contact: patricia@amstat.org

(2)Washington Statistical Society Short Course

Announcement: "Statistical Data Mining," by Dr. Edward J. Wegman, George Mason University to be held April 11- 12, 2000, Washington, D.C. Overview: Data Mining is an extension of exploratory data analysis and has basically the same goals, the discovery of unknown and unanticipated structure in the data. The chief distinction between the two topics resides in the size and dimensionality of the data sets involved. Data mining in general deals with much more massive data sets for which highly interactive analysis is not fully feasible. In this course we shall discuss the scales of data set sizes and the limits of feasibility for the various data set sizes. We will introduce some visualization tools and indicate how they may be used to accomplish data mining tasks. We shall review some structure finding algorithms including: Density estimation and bump hunting; Clustering and classification; Visual clustering strategies; CART and related methods; Time domain time series methods; Nonparametric regression including convolution, LOESS and ridges and skeletons methods will be illustrated with application to several data sets. [Contact: Robin Lee at (202) 327-7575]

14. From **Vishnu-Priya Sneller**, National Immunization Program: On March 7th we have an opportunity to meet with a representative from Scientific Technologies Corporation (SCT), a vendor who has developed a product called MapDesigner. MapDesigner is a geographic information systems GIS prototype to integrate desktop and internet/Intranet GISs, for immunization services at the local and state level, incorporating patient confidentiality issues. SCT has considerable expertise with immunization registries and has developed a platform for immunization applications based on ArcView-GIS. They specialize in integrating the GIS ArcView package into custom databases to provide "MAP friendly" tools for management information systems based on GIS. They can also develop menu-driven applications to do spatial analysis to identify pockets-of-need. To date, they have provided solutions including web-enabled data collection applications to: the Arizona Department of Health, Bernallio county, New Mexico, and several counties in Michigan.

SCT developed their product with CDC funding under phase I of the Small Business Innovation Research program (SBIR) and is looking to us to develop applications that can be used for Phase II funding of the SBIR program. The purpose of the seminar is to become familiar with the product prototype and to suggest development of applications that would meet the needs of several users in NIP. A follow-up meeting to discuss specific projects with STC has been arranged at Corporate Square, Building 10, Room 1304, between 2:30pm and 3:30pm. [Contact: Dr. Sneller at email vbs6@cdc.gov]

15. See selected NCHS data availability related to American Indian and Alaska Natives, Appendix, this edition.

Health Care and Financing Administration

16. See selected HCFA data availability related to American Indian and Alaska Natives, Appendix, this edition.

Agency for Health Care Policy and Research

[Now Agency for Healthcare Research and Quality]

17. See selected AHRQ data availability related to American Indian and Alaska Natives, Appendix, this edition.

National Institutes of Health

18. Editor: NIH is currently holding a competition for applications to look at changes in the environment and public health, as reported by the Ecology of Infectious Diseases (EID) working group at the January 27, 2000 Meeting of the Committee on International Science, Engineering, and Technology (CISET). There has been an overwhelming response (200 letters of intent) with 40-100 applications expected. [Contact: Amar Bhat at email abhat@nih.gov]

19. See selected NCI data availability related to American Indian and Alaska Natives, Appendix, this edition.

Indian Health Service

20. See **Appendix**, this edition on (1) Data Sets Containing American Indian/Alaska Native Respondents; (2) Review of Problems with Datasets Containing American Indians/Alaska Natives, and (3) Other Resources for Secondary Data Analyses on Native Health.

21. Editor: It was brought to my attention that Indian reservation GIS boundary files are offered free of charge or royalty at http://www.mapdata.net/free/free.html. These boundaries cover the entire U.S. in both MapInfo and ArcView file formats. They have been converted from various US government databases and reprojected to Lat/Lon NAD83. This should be useful to our Public Health GIS Users as many have inquired of digital Indian reservation files in the past. A variety of other national digital databases (unrelated to the preceding) also are available for free download.

C. Historical Black Colleges and Universities (HBCUs) and Minority Programs

22. From **Paula R. Skedsvold**, NIH: The Office of Behavioral and Social Science Research (OBSSR), National Institutes of Health (NIH), is launching a web-based project to increase the number of minority scientists in the behavioral and social sciences. We will work through the Institutes in using an established NIH mechanism-the Research Supplements for Underrepresented Minorities program. This is how the project works: NIH grantees who are interested in mentoring minority students are encouraged to visit the web site, and add their name and information on their research program to our database. Once we have an adequate number of PI's in the database, we'll invite minority students to search the site for potential mentors. Minority applicants will then have an opportunity to submit an application directly to a mentor via the site. PI's will then contact the Institutes awarding their grant to see if an administrative supplement is possible. We are excited about this program, and hope you will assist us at this early stage in locating PI's who would be interested in being included in our database. For more information, please visit the site at http://www4.od.nih.gov/research/. [Contact: Paula, Science Policy Officer, OBSSR, at voice (301) 435-6780 or email skedsvop@od.nih.gov]

23. From **Cynthia Warrick**, Howard University: I was in Los Angeles visiting with researchers at the Charles R. Drew University of Medicine & Science. They have a Research Center in Minority Institutions (RCMI), and through the work of Senait Teklehaimanot, a biostatistician/epidemiologist, they have established a GIS Lab in their Office of Research. [Contact: Cynthia at email cwarrick@howard.edu]

24. Editor: *MMWR* Weekly Report, Volume 49, No. 5. Age-Specific Excess Deaths Associated with Stroke Among Racial/Ethnic Minority Populations-United States, 1997. [See Section V. this edition]

25. Editor: *MMWR* Weekly Report, Volume 49, No. 4. Prevalence of Selected Risk Factors for Chronic Disease and Injury Among American Indians and Alaska Natives-United States, 1995-1998. [See Section V. this edition]

26. Editor: *Women and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality* [See Web Sites of Interest for this Edition]

27. Editor: March 8, 2000 presentation at NCHS, "Interactive Cancer Mortality Mapping on the World Wide Web," by Dan Grauman, NCI, NIH [See Section V., this edition]

D. Other Related Agency or Business GIS News

28. From **Milo Robinson**, Federal Geographic Data Committee (FGDC): MetroGIS Framework Project Presentation and Discussion-Special Meeting Sponsored by the FGDC, Main Interior Building, Room 7000A, 1849 C Street NW, Washington DC, 9:00 to Noon, **March 6**, 2000. Each year, the extraordinary flexibility of Geographic Information System (GIS) technology is becoming more widely used and integrated into the operations of county and all other forms of government. This rapid increase in the use of GIS brings with it considerable opportunity for collaboration and, conversely, considerable potential for costly duplication of effort. MetroGIS,

whose stakeholders include the 250+ local units of government and state and federal agencies that serve the seven county Minneapolis-St. Paul Metropolitan Area, was launched in 1996 to capture these efficiencies of collaboration.

How can GIS technology benefit the operation of my county? Who else is using GIS and what needs do we have in common? What is our fair share of data sharing support expenses? Are our data access policies consistent with the electronic age? What organizational change is needed to accomplish effective data sharing? If you answered yes, this meeting will be of interest. MetroGIS has learned a great deal about these and other matters, experience that we believe is transferable to others. Presenters: Victoria Reinhardt, Chairperson, MetroGIS Policy Board and Ramsey County Commissioner; Randall Johnson, MetroGIS Staff Coordinator and MetroGIS Policy Board staff, and; William J. Craig, Associate Director, CURA at University of Minnesota, Member MetroGIS Coordinating Committee, and Manager of the 1999 MetroGIS Benefits Study. [Contact: Milo at voice (703) 648-5162 or email mrobinson@usgs.gov]

29. The U.S. Environmental Protection Agency's National Center for Environmental Research and Quality Assurance promotes and advances environmental science in the United States by competitively awarding grants for research focusing on reduction of risks to human health and ecosystems and on reduction of uncertainty associated with risk assessment. [To get the latest information about program deadlines, to view the latest announcements, and to download text and forms, see website http://www.epa.gov/ncerqa]

30. From **Michael Murphy**, ROK Technologies: ROK Technologies, Inc. will be holding a two day class in Developing Applications with MapObjects 2.0 and Visual Basic 6.0 in Jacksonville, FL March 6-7 and in Charleston, SC March 9-10. We are scheduling a second class for each city for late March/early April. This course includes introductory as well as advanced topics and is designed around building practical GIS applications. Solutions to many obstacles (building and editing legends, interactive map layouts, generating reports, etc.) using MapObjects will be covered. It will be of great benefit to both beginner and experienced developers. Registration information can be obtained from our web site at www.roktech.net. Click on Services and then Training. Follow the links to the MapObjects training page. [Contact: Mike at email mmurphy@roktech.net]

31. From **Gail Hobbs**, Pierce College: Attend a Free Two-Week Workshop on "GIS and Active Learning"- GIS Access is funded by a National Science Foundation Grant and managed by Cypress College, California. The objective of the grant is to provide educators with an in-depth, intensive, hands-on learning experience in GIS using Active Learning Pedagogy. Each institute will be limited to a maximum of 20 participants and be led by two educators with extensive experience in teaching and using GIS. Institute instructors will model Active Learning techniques using modules to teach GIS fundamentals with each participant creating a GIS Project in their area of interest using ESRI's ArcView GIS. Labs will have the latest ArcView software and extensions with some labs also having access to ArcInfo 8. Participants will receive materials including a GIS Lab book and written modules that they can use in their classroom. These institutes are designed to accommodate a wide range of experience in GIS-from those with no knowledge to those with intermediate levels of GIS expertise. Participants with little prior GIS experience will receive a copy of Getting To Know ArcView (which includes a PC compatible CD with data and GIS exercises) when their application has been approved. They will be required to read the first 6 chapters and complete 6 exercises in the Getting to Know ArcView text prior to the start of their workshop. Institutes will also have various opportunities for field trips to enhance the GIS learning experience.

It is planned that the participants at the Pierce workshop will spend one day at the International GIS in Education Conference at Cal State University, San Bernardino, and present the projects they have developed along with the Active Learning modules.

Six workshop locations with dates are: San Jacinto Community College, Houston, Texas (June 4-16); Oregon State University, Corvallis, Oregon (June 18-30); Pierce College, Woodland Hills, California (Southern)(July 9-22); California State University, Chico, California (Northern)(July 9-21); Macalester College, St. Paul, Minnesota (July 9-21), and; Roane State Community College, Oak Ridge, Tennessee (July 24-August 4). Teachers from middle and high schools, colleges and universities are eligible to attend. There is a maximum of 120 slots for participants. [Contact: Gail at gail.hobbs@csun.edu]

32. From **Dawn Wright**, Oregon State University: The University Consortium for Geographic Information Science (UCGIS): Request for Proposals: Evaluation of FGDC's NSDI Grants Program. The Research Projects Committee of UCGIS has issued a new Request for Proposals to evaluate FGDC's NSDI grants program. FGDC, the sponsor of this proposal, intends to make one award at the level of $55,000. Important dates: Optional letters of intent: February 28, 2000; Proposals: March 10, 2000; Anticipated project start date: April 1, 2000. Details can be found at http://www.spatial.maine.edu/~max/UCGIS/0001RFP.html. [Contact: **Max Egenhofer**, University of Maine, Chair, UCGIS Research Projects Committee at email max@spatial.maine.edu]

33. From **Lance McKee**, Open GIS Consortium, Inc. (OpenGis Standard Enables Automatic Web Map Overlays): At its February 11, 2000 meeting, the Open GIS Consortium, Inc. (OGC) adopted a new web map server interface specification which has extraordinary implications for e-commerce and e-government. It enables automatic overlay, in ordinary web browsers, of map images obtained from multiple dissimilar map servers. This dramatic breakthrough ushers in the long-awaited integration of "where" information into information systems. Hundreds of billions of dollars worth of digital maps and earth images, which until now could not be accessed and used without special skills and software, are suddenly a much more significant part of the Information Infrastructure. Such maps and images show, for example: land use, ownership, zoning, watersheds, elevation (being measured with great accuracy over 70% of the Earth in the next ten days by the NASA/NIMA Shuttle Radar Topography Mission), population density, vegetation type, average income, aerial photos, cell phone coverages, pipelines, etc. Much of this data is developed and stored in powerful geoprocessing systems: Geographic Information Systems (GIS), earth imaging systems, spatially enabled database systems, and systems for navigation, digital cartography, and facilities management.

In coming months, vendors of these systems will implement the OpenGIS Web Map Server Interface Specification and other OpenGIS standards in software upgrades and new software (prior OpenGIS Specifications have already been implemented in commercial products). Map and imagery suppliers will make their data available over the Web through these vendors' OpenGIS-conformant servers. Then Web users will easily find, view, overlay, and combine different thematic maps for a given region. It will no longer matter that the web map servers are from different vendors, or that they vary widely in terms of processing capabilities and data type, or that the data layers use different Earth coordinate systems.

The OpenGIS Web Map Server Interface Specification works with catalog services defined in the OpenGIS Catalog Services Specification. This enables creation of "spatial search engines" for queries of thousands of map layers for which data providers have provided [Federal Geographic Data Committee (FGDC)] "metadata" (data about the data). These specifications will give current users of geoprocessing systems faster, better data discovery and access, and will bring the graphic communication power of maps to more web pages. They will also boost the utility and commercial value of location-aware, Internet-connected cell phones, laptops, and car computers. Such devices will access spatial data on the Internet to provide directions and travel advisories and also information about nearby goods and services.[Contact: Lance at voice (508) 655-5858 or email lmckee@opengis.org; Information about OGC and its OpenGIS Specifications can be found at http://

www.opengis.org]

34. From **Omar Khan** and **Ric Skinner**, Conference Co-chairs: The International Health Geographics Conference, March 17-19, 2000, will bring together people from many different disciplines who share a common foundation: the geographic aspects of health. Pre-Conference Morning Workshops (Friday March 17) include "Instructional Modules for Teaching Spatial Epidemiology on the WWW" with facilitators Geoff Jacquez and Andy Long, Biomedware Inc. Objective: This workshop will familiarize participants with web-based instructional modules for teaching spatial epidemiology. The objective of the workshop is to provide sufficient introduction to these materials to enable: (a) Continued distance-based learning by participants so they may continue to absorb the course materials after the workshop is over, and (b) Incorporation of the modules into courses offered at the participants' institution. These modules were developed in collaboration by BioMedware and The University of Michigan, and are the basis of the graduate-level course "Spatial Analysis of Disease Pattern and Process."

Participants in the workshop will be given a tour of the website, including all of the available course modules, and an overview of how the modules are being used at the University of Michigan. They will then step through a lecture and its corresponding lab. Participants will learn: How to access the web-based course tools; How to incorporate the modules into their own courses; The educational philosophy underlying these tools; and, How to download and access software used in the modules for the analysis of spatial disease patterns.

The second morning workshop is "Spatial Statistics for the Rest of Us: What to do When No Statistician is Around"; with Facilitator Richard Hoskins, Washington State Department of Health. This workshop is for public health practitioners who are interested in incorporating geography and some spatial statistics into their assessment and surveillance activities, especially when no statistician is around. Just what do you need to know and do? How can GIS be used? What spatial statistical models or tests are right to use and what needs to be left aside, especially when (spatial) statistical help is far away? We will talk about disease rate mapping and about a cancer cluster that was investigated using satellite images, GIS, census data, a cancer registry, spatial scan statistics and more. We will talk about the details and answer questions you have wanted to ask about how to get started with GIS and spatial statistics. Finally, we will talk about the resources and help the practitioner can get from the Internet. There is more out there than one might imagine.

Pre-Conference Afternoon Workshops include "Effective Use of GIS in Public Health Organizations" with facilitator William Hoffman, Public Health Research Laboratories. Objective: GIS technology promises much, yet often delivers moderate value for many public health organizations. When critically examined the GIS expenditures of many organizations cannot be rationalized in light of results obtained. However, some organizations use GIS with great effectiveness and efficiency. Savings and cost reductions are possible when GIS is used properly. This workshop explores the most effective ways of implementing and using GIS within health organizations.

The fourth workshop is "Epi Info/Epi Map 2000" with facilitator Andrew Dean, Centers for Disease Control and Prevention. Objective: This workshop is intended for members of the public health community who are interested in using public domain software from CDC for analyzing and mapping their public health data. Epi Info 2000 and Epi Map 2000 for Windows 95/98/NT are public domain programs from CDC. Epi Map 2000 is built around Map Objects 2, from ESRI, and is compatible with other popular GIS software and file formats. The 3-hour workshop will provide an introduction to data entry and analysis in Epi Info 2000 and to GIS techniques using Epi Map 2000. Topics covered: Rapid tour of Epi Info 2000; Creating questionnaire views and data tables; Data analysis in Epi Info 2000; Importing files from various formats using Analysis; Tour of Epi Map 2000; Mapping resources on the Internet; Alabama NETSS data exercise; Mapping NETSS data downloaded from the CDC Website; John

Snow exercise; Mapping mortality data on a local street map; and, Using Epi Info and Epi Map in combination with Microsoft Access, Microsoft Word and other programs. [Registration for workshops is online at http://www.jhsph.edu/ihgc]

35. From **John Moeller**, Staff Director-Federal Geographic Data Committee [To members of the GeoData community and other interested parties; Subject-Invitation to Participate in the GeoData Organizational Initiative]: I invite you to participate in a national effort to create an innovative organizational structure for the geospatial data community. This organizational initiative was launched at the 1999 National GeoData Forum. Dee Hock and The Chaordic Alliance will guide our community through a process they have used in similar organizational development initiatives [See Section VI. this edition, for details]. The purpose of this interest announcement is to assemble a Drafting Team of diverse individuals representative of the geospatial data community as a whole. The Drafting Team will meet for three full days on the following dates: March 27–29, 2000, in Washington, D.C.; May 8–10, 2000, in Denver, Colorado; July 11–13, 2000, in Denver, Colorado; September 6–8, 2000, in Washington, D.C.

If you are committed to working in the best interest of the entire GeoData community, I encourage you to submit an application. This initiative to create an innovative, new organizational structure promises to be an exciting, demanding, and intellectually stimulating experience. Please share this invitation with your friends and colleagues. [Contact: Kathy Covert, FGDC, USGS at email klcovert@usgs.gov]

III. GIS Outreach

(Editor: All requests for Public Health GIS User Group assistance are welcome; please note that the use of trade names and commercial sources that may appear in *Public Health GIS News and Information* is for identification only and does not imply endorsement by CDC or ATSDR)

☎ From **Debby Cartwright**, Baton Rouge Capital Area Human Services District: [Editor- I requested a brief description of Debby's GIS mapping project in Baton Rouge and encourage other GIS Users to interact with her]: The infant mortality rate (based on 1997 data) for Baton Rouge, LA, was 11.4, with an overall state infant mortality rate for 1997 of 9.5. As a result, the Regional Office of Public Health and partners applied to CitiMatCH for a grant to support a project entitled "Geomapping of Prenatal Care Correlated to Birth Outcomes by Neighborhood in the City of Baton Rouge." We were one of 10 cities selected to participate in CitiMatCH's Data Use Institute for 1999/2000, and are receiving training and technical assistance for the project. For the mapping process we are securing several pieces of data: the prenatal and birth record data, environmental data from EPA, economic demographics, birth intervention data from hospital records, and drug/alcohol related arrest site data. Thank you for your interest in our project. Please let me know if I can be of assistance. If there are others of your readers who have done a similar project, I would be very pleased to hear from them. [Contact: Debby, Healthy Communities Coordinator, at voice (225) 9254093 or email dbcartwr@dhhmail.dhh. state.la.us]

☎ From **Dorothy Myers**, Ohio Department of Health: I am responsible for building a GIS center to serve the Ohio Department of Health and integrating that center with our data warehouse. I would love to have any special advice for a "start-up" GIS operation, especially recommendations for a "must do" training or conference opportunity to books, articles that help build a good foundation in GIS. [Contact: Dorothy, Chief, Health Data Resources, at voice (614) 728-2702 or email dmyers@gw.odh.state.oh.us]

☎ From **Nilka Rios**, NCCDPHP CDC: I'm the project officer on a study to do diabetes surveillance among American Indians using "BRFSS-like" methods. Mark Veazie, from the University of Arizona, is the PI on this project. He's working with the AZ Dept of Health Services to come up with an alternate sampling plan that would increase the number of AIs in the AZ BRFSS. His question: How to map phone numbers by census tracts? In other words, how do you come up with a sampling frame of phone numbers by census tracts? [Contact: Nilka at email nmr0@cdc.gov]

Early response from **Fred Broome**, Census

Bureau: That is not an easy one. The reasons are- 1. Some numbers are not listed, thus biasing the sample; 2. The source of the telephone numbers may not give the actual location of the telephone, thereby bringing into question the value of using a fine grained geographic unit; 3. Some households have multiple lines, thereby biasing the sample; 4. Some households have no telephone, but use a public phone, say in the hall of an apartment house, again biasing the sample, and 5. Some households have cell phones and land lines, again biasing the sample, particularly if the phones are in different names of the same household members. Personally, I would not use telephone as a sample frame unless the thing I was sampling was people with a telephone. Then I would still have the problem of address vs. location vs. non-listing bias to contend with. Frankly, a telephone is just one means of locating a person; nothing else. In the past, some investigators have used the telephone as an indication of economic or social status, but this was arrived at by asking the people if they had a phone; not calling them to ask if they had a phone! Given that, how to set it up? Well, the easy answer is to address code the telephone address to the tract level. Then, if desired, using the tract statistics, weight the results by population characteristics (or whatever), and draw the sample. After that, just use good sampling techniques. Hope this helps. [Contact: Fred at email fbroome@geo.census.gov]

☎ From **J.M.Correia da Costa**: I have read in the WHO technical report 849 from 1995 something about GIS applications in fasciolosis. What is it and how we can get it? Thank you. [Contact: José at email jmc.parasit.irj@mail.telepac.pt]

☎ From **Ann C. McClellan**, Medical College of Georgia: I am a PhD student at the Medical College of Georgia. I plan to map episodes of domestic violence and link them to census tract data. I am especially interested in information on geocoding, issues of confidentiality, and use of linking GIS information to census data. I would appreciate any information from GIS Users who would like to provide me their experience in this area. [Contact: Ann at email Annmclell@aol.com]

☎ From **Lee De Cola**, USGS: I was wondering where in CDC I could locate state Lyme disease cases 1982-1999. I believe I got them from a CDC public site in the past but can't remember where. [Contact: Lee at email ldecola@usgs.gov]

☎ From **Robert Kelly**, Johns Hopkins University: I'm starting work on HIV dataset from east Africa linked with GPS data. I'm curious if people know of any work or applications of spatial analysis with HIV or STDs. I know of the Baltimore STD study, but I have seen much other than that. Any ideas would be greatly appreciated. [Contact: Robert, School of Public Health, at email rkelly@jhsph.edu]

☎ From **Andrew Curtis**, Louisiana State University: I was wondering if any GIS Users could give me some guidance as to potential grant funding sources. I am a medical geographer working at LSU. I have developed a new form of spatial analysis within a GIS to identify "holes" in a disease surveillance surface. My article describing the technique was published in the November issue of the Journal of Emerging Infectious Diseases. I would like to test the technique on three data sets (rabies surveillance for Kentucky, Tennessee and New York State) with a goal of a: suggesting appropriate cartographic visualization methods for this type of analysis b: providing an in-depth analysis of surveillance data for these states and c: identifying pre and post epizootic surveillance conditions (for New York State). I have the data (other states have also promised data), so I only need a grant to cover typical academic summer funding, student funding, and minimal equipment. Total grant period should be approximately one year, and total expenditure should be less than $100,000. I would like to commence work on the analysis in May, so I am interested in a quick turn around, small $ grant. Do you have any suggestions? [Contact: Andy at email acurti1@lsu.edu]

IV. Special Reports

The GIS for Long Island Breast Cancer Studies Moves Forward

by **Linda Anderson**, Director of Communications, Long Island Breast Cancer Study Project, NCI, and **Ellen Heineman**, Project Officer, GIS-H, NCI [Editor: I requested of Linda and Ellen if they would consider writing updates, or special topics, about the uses of GIS to study breast cancer in Long Island, NY and this is their initial article. I am appreciative they are sharing information on this timely and somewhat groundbreaking use of GIS to better understand long-term environmental exposures and breast cancer outcomes. All of us with an interest in GIS and public health will want to keep up with this important study]

Development of the geographic information system (GIS-H) for breast cancer studies on Long Island is off to a great start. Town meetings were hosted in October [1999] to gather historical information from the residents about environmental contaminations, the GIS team is busily acquiring and evaluating datasets, and the Oversight Committee has been established and holds its first meeting in March [2000].

In May 1999, the National Cancer Institute (NCI) awarded a contract to AverStar, Inc., of Vienna, VA, to develop and implement a prototype GIS-H for breast cancer studies as part of the Long Island Breast Cancer Study Project (LIBCSP). Phase I (two years) is to develop and deliver the system, and Phase 2 (three option years) is for system maintenance and data expansion to respond to research needs (See *Public Health GIS News and Information*, July 1999, No. 29). The LIBCSP is a multistudy effort to investigate whether environmental factors are responsible for breast cancer in Suffolk, Nassau, and Schoharie counties, N.Y., and in Tolland County, Conn. The investigation began in response to Public Law 103-43, which includes development of a GIS for Long Island (Suffolk and Nassau counties). The "H" in GIS-H stands for health and emphasizes its health application.

Town Meetings. Fifty datasets were slated for inclusion in the GIS. These datasets come from federal state, and local government sources, as well as private sources. In addition, the GIS-H team held seven town meetings over four days in four locations on Long Island to hear from residents about sources of environmental pollution and past land use that may not be in existing records. The community played a key role in determining the dates and locations of the meetings, and helping to publicize them. Ellen Heineman, NCI Project Officer; Roger Crystal, Project Director,AverStar, Inc. and Iris Obrams, Epidemiology and Genetics Research Program, NCI, along with other members of the team, traveled to listen and learn from residents about the history of Long Island and its environment.

The residents' most frequently discussed environmental concerns focused on contaminated water, and exposures to pesticides, industrial chemicals, radiation, and electromagnetic fields (EMFs). One Suffolk County resident shared a county government map of sewage treatment plants on which she had hand drawn an overlay showing the location of waterways closed to shellfish fishing and with high coliform counts (bacteria associated with pollution). Another map pinpointed the location of plumes seeping from a hazardous waste site at different time periods.

A resident mentioned water contamination in a local swimming hole. Another mentioned a factory that had a large fire, and had changed names over several decades, and therefore might not appear in databases of industrial sites. Someone recollected that as children they considered the soil near power right-of-ways "magic dirt" because nothing grew in it, presumably because of heavy herbicide use. Other community members mentioned the locations of old agricultural records, underground storage tanks, chemical spills, and other sources of pollutants. Residents provided leads to obtain information on crops from farmers' loan applications, on land use from aerial photographs and doctoral dissertations, animal toxicology from wildlife biologists' reports, sources of data and locations of underground storage tanks and leaks, and on business or industrial sites that may be sources of contamination.

The amount of work the community members put into trying to track potential environmental

hazards, and the interest they showed by coming forward to tell what they knew was impressive. The GIS-H team is reviewing the contributions made with an eye toward using the information to identify and perhaps fill gaps in the system. The residents' information can be used as leads to looking for other datasets, and to compare with datasets from published sources and assess their completeness.

Personal recollections about environmental pollution have proved helpful in the past in formulating hypothesis about possible reasons for geographic differences in cancer risk. When NCI prepared the first U.S. cancer mortality atlas in the 1970s, and some apparent "hot spots" were seen, it was through personal observations that researchers became aware that many lung cancer "hot spots" were port cities with shipbuilding industries. Research then confirmed the excess lung cancer risk in counties with high employment in the shipbuilding industry and suggested that asbestos exposure from the industry was causing the cancer.

Community members expressed interest in being able to access the system and utilize it for research. The GIS-H is to have at least 10 levels of access aimed at ensuring the confidentiality of individuals.

Initial Datasets: The 50 datasets initially listed for inclusion in the GIS-H cover four types of information:

-Geospatial data that include base maps for Nassau and Suffolk counties with information on roads, railroads, parks, lakes, schools, county and town boundaries and other geographic features; hydrology (water supply, rivers, streams); and aerial photography and satellite imagery, which will permit looking at land use over time.

-Demographic data that include data from the U.S. Census Bureau on population counts; age, race, sex, and income groupings; and information on type and age of housing, source of drinking water; and whether located in an urban or rural setting.

-Health outcome and health care data that include information from hospital discharge data, New York State Cancer Registry statistics on breast cancer incidence and mortality, and mammography facility and hospital data.

-Environmental data that include information on land use and land cover, utilities, transportation; hazardous waste materials storage, distribution, and disposal; pesticide use/contamination; industrial releases of chemicals into air, water, and soil; air and water monitoring results; water use; weather and climatic information; and results of surveys of chemicals in people.

The GIS-H team has been reviewing the datasets for quality, accuracy, comprehensiveness, and relevance, and contributions from the community. Its findings and recommendations will go to the Oversight Committee for consideration.

GIS Oversight Committee: The newly constituted Oversight Committee will advise NCI and AverStar on key issues, including overseeing the creation of the GIS-H, reviewing the data to be included and the research proposals for use of the system, and offering advice on strategies for protecting the confidentiality of data. It meets for the first time in March and will focus on review of the GIS-H team's findings on the datasets, recommendations for substitutions and additions, prioritization of datasets, and integration of community-based information.

The committee includes experts in environmental epidemiology and exposure assessment, environmental sciences, geography, spatial statistics, bioethics, breast cancer, and community concerns. There are representatives from federal, state, and local government, academia, and the community. The members are: Gerry Akland, Research Triangle Institute, Research Triangle Park, NC; Larry Alber, GIS Project Manager, New York State (NYS) Department of Environmental Conservation, Albany, NY; Barbara Balaban, community representative, Copiague, NY; Frederick Broome, Geospatial Research and Standards Staff, Geography Division, U.S. Bureau of the Census, Washington, DC; William Henriques, Agency for Toxic Substances and Disease Registry, Atlanta, GA.; Jeffrey Kahn, Center for Bioethics, University of Minnesota, Minneapolis, MN.; Martin Kulldorff, Division of Biostatistics, University of Connecticut School of Medicine, Farmington, CT.; Sarah Meyland, community

representative, Farmingdale, NY; Karen Miller, community representative, Melville, NY; and Linda Pickle, Surveillance Research Program, Division of Cancer Control and Population Sciences, NCI, Bethesda, MD.

Other members are: Peggy Reynolds, Environmental Epidemiology and Geographic Information Section, Environmental Health Investigations Branch, California Department of Health Services, Oakland, CA; Martha Rogers, community representative, Southampton, NY; Gerard Rushton, Department of Geography, University of Iowa, Iowa City, IO; Catherine Schairer, Environmental Epidemiology Branch, Division of Cancer Epidemiology and Genetics (DCEG), NCI, Bethesda, MD.; Tom Talbot, Geographic Research and Analysis Section, NYS Department of Health, Bureau of Occupational and Environmental Epidemiology, Troy, NY; Mary Ward, Occupational Epidemiology Branch, DCEG, NCI, Bethesda, MD.; and Victoria White, community representative, Hempstead, NY. The chair is Gerard Rushton.

Note: The chief types of environmental exposures discussed at the GIS-H town meetings were: A) Contaminated water. Drinking water contamination was of considerable concern. Specific contaminants mentioned included trihalomethanes, tetrachloroethylene, volatile organic chemicals, nitrates, prescription drugs, radionuclides, and aircraft fuel dumping. Water contamination was also of concern for local bodies of water used for swimming. B) Pesticides. Use in farming, home and lawn care, golf course maintenance, mosquito control, weed and grass control around power and railroad lines, and hazardous waste and industrial/commercial sites were mentioned. C) Other chemicals. Exposures of concern included from industrial/commercial and hazardous waste sites, spills, leaks and dumping, incinerators, and aircraft fuel dumping. D) Radiation exposure. Exposures of concern included from Brookhaven National Laboratory (BNL) and nuclear reactors in New York and surrounding states, and E) Electromagnetic fields (EMFs). Exposures of concern included those from power lines, railroads, and from the general environment (e.g., residential exposure]

The GIS-H team continues to invite community input by writing to: LIBCSP-GIS c/o NOVA Research Company, 4600 East-West Highway, Suite 700 Bethesda, Md. 20814-3415. Individuals may also visit the GIS-H Web site to learn about its progress at http://www.healthgis-li.com.

****

UCGIS Winter Meeting 2000: Tuesday, February 8, Showcase of GIScience Research Projects

Project personnel from six selected projects involving UCGIS universities presented highlight talks in the morning on GI science research or demonstration projects [See http://www.ucgis.org/winter00/wintalks.html#sdsu]. These included "The Tijuana River Watershed Project," by Richard Wright, Geography, San Diego State and Nina Garfield, NOAA; "Optimal Police Enforcement Allocation: A Socio-Economic Model of Criminal Behavior," by Rajan Batta and Christopher Rump, SUNY-Buffalo; "Spatial Similarity Searching," by Max Egenhofer, Spatial Information Engineering, Univ of Maine; "Urban Risks-Urban Solutions," by Lyna Wiggins, Rutgers University; "Lake Superior Decision Support System," by George Host, Natural Resources Research Institute, University of Minnesota-Duluth, and; "Gigalopolis: Urban Growth Predictions at Regional, Continental, and Global Scales," by Keith Clarke, Geography, University of California-Santa Barbara.

In the afternoon, representatives from six federal government agencies presented a brief overview of their agency organization and mission e.g., how funded university research has helped advance the mission currently funding projects in GIS, and, related sciences future funding opportunities. These included K. Thirumalai, U.S. Department of Transportation (www.rspa.dot.gov/dra); Richard Berg, National Imagery and Mapping Agency (www.nima.mil/poc/contracts/contracts.html); John Kelmelis, U.S. Geological Survey (mapping.usgs.gov); Nina Lam, National Science Foundation (www.nsf.gov/home /grants.htm); Victor Ruben and David Nystrom, Department of Housing and Urban Development (www. oup.org); and, Linda Pickle, National Cancer Institute, National Institutes of Health (grants.nih.gov/ grants/oer.htm).

V. GIS and Related Presentations and Literature

(This section may include literature citations, abstracts, syntheses, etc., and submissions are open)

NCHS Cartography and GIS Guest Lecture Series

March 8, 2000: March 8, 2000, **"Interactive Cancer Mortality Mapping on the World Wide Web,"** by Dan Grauman, National Cancer Institute, 2:00-3:30 P.M., at the NCHS Auditorium, Hyattsville, MD. **Abstract** (See January 2000 edition of *Public Health GIS News and Information* for full abstract; snow storm conditions in Hyattsville, MD resulted in the rescheduling of this presentation to March 8): Two Web sites associated with the atlas will be demonstrated (see http://www.nci.nih.gov/atlas). The first, a static Web site, enables the user to view the entire contents of the atlas, as well as to download graphic images and data used to generate the maps. The second Web site is dynamic, and allows the user to change the number of ranges and ranging method. The user can also focus on a specific geographic region. [Contact: Dan at voice (301) 496-8105 or email dan_grauman@nih.gov]

March 16, 2000. **"Environmental Influences on Vector Borne Diseases,"** by Stephen Guptill, Susan Price, and Lee DeCola, US Geological Survey, at the NCHS Auditorium (with Envision), 2:00-3:30 P.M. **Abstract**: For many hundreds of years people have been intuitively aware of the relationships between human health and the environment. Today, geographic information systems, remote sensing satellites and other technologies are providing scientists with the tools and the data to make clear the geographic relationships between environmental habitats of disease vectors and agents and the occurrence of disease. While health professionals can effectively analyze the incidence and direct cause of illness, they may lack the information and expertise to relate the occurrences of diseases with the environment. USGS scientists are working with the health community to fill this knowledge gap and establish the linkages between the environment and human health.

It is well known that environmental sources of pathogens and toxins, including insect, rodent, and algal populations, often respond rapidly to environmental changes. USGS has the technology and data to assess outbreaks of diseases, pathogens, and environmental contaminants that adversely affect human health and monitor and model environmental and habitat changes, such as altered land use patterns and urban growth, that increase the rate of human exposure to zoonotic or vector borne infections.

One project is studying outbreaks of three vector borne diseases in the United States and the relationship of these outbreaks to environmental factors. The diseases being studied are Lyme disease, plague, and LaCrosse encephalitis. This project is being conducted in collaboration with the Division of Vector Borne Diseases, National Center for Infectious Diseases, Centers for Disease Control and Prevention. Occurrences of these diseases are affected by physical and biological components of our environment. Infective agents and their vector organisms are sensitive to factors such as surface water, temperature, and land characteristics. USGS scientists are investigating the specific environmental influences on these vector borne diseases and modeling the extent and/or degree of disease occurrence. Such investigations in landscape epidemiology have the potential to enable not only the identification and location of populations at risk of exposure at various pathogenic sites, but also the prediction of when and where outbreaks of infectious disease might occur. [Contact: Steve at voice (703) 648-4520 or email sguptill@usgs.gov]

Emerging Infectious Diseases

The January-February 2000 issue of CDC's journal, *Emerging Infectious Diseases* (EID), is now available at http://www.cdc.gov/eid. Selected articles include (titles only): Could a Tuberculosis Epidemic Occur in London?; Immunization Control of Japanese Encephalitis in Korea; Coccidioidomycosis in New York State, and; Dengue Surveillance in Florida, 1997-1998.

Morbidity and Mortality Weekly Report

Selected articles from CDC's *Morbidity and Mortality Weekly Report* (MMWR):Vol. **49** , No. **7**- Motor-Vehicle Occupant Fatalities and Restraint Use Among Children Aged 4-8 Years United States, 1994-1998;

Notice to Readers-Xth International Symposium on Viral Hepatitis and Liver Disease; Notice to Readers-Fourth Decennial International Conference on Nosocomial and Healthcare-Associated Infections; Volume **49**, No. **6**- Information Needs and Uses of the Public Health Workforce-Washington, 1997-1998; Notice to Readers: Availability of Draft of Updated Guidelines for Evaluating Surveillance Systems; Volume **49**, No. **5**- Age-Specific Excess Deaths Associated with Stroke Among Racial/Ethnic Minority Populations- United States, 1997; Vaccination Coverage Among Adolescents 1 Year Before the Institution of a Seventh Grade School Entry Vaccination Requirement-San Diego, California, 1998; Notice to Readers: Revision of Infection Control Guidelines; Vol. **49**, No. **4**- Outbreaks of Salmonella Serotype Enteritidis Infection Associated with Eating Raw or Undercooked Shell Eggs-United States, 1996--1998; Prevalence of Selected Risk Factors for Chronic Disease and Injury Among American Indians and Alaska Natives-United States, 1995--1998; Vol. **48**, **Supplement**-Global Disease Elimination and Eradication as Public Health Strategies; Vol. **49** , No. **3**- Tobacco Use Among Middle and High School Students- United States, 1999; Update: Influenza Activity- United States, 1999-2000 Season; Progress Toward Poliomyelitis Eradication-Chad, 1996-1999; Vol. **49**, No. **2**- Guidelines for Surveillance, Prevention, and Control of West Nile Virus Infection-United States; Update: Raccoon Rabies Epizootic-United States and Canada, 1999; Notice to Readers: Recommended Childhood Immunization Schedule-United States, 2000; Notice to Readers: Conference on Vaccine Research; Vol. **49**, No. **1**- Neural Tube Defect Surveillance and Folic Acid Intervention-Texas-Mexico Border, 1993-1998; Hypothermia-Related Deaths -Alaska, October 1998-April 1999, and Trends in the United States, 1979-1996.

Annals of Epidemiology

Selected articles from Vol. 10, No. 1, January 25, 2000: On the Spatial Pattern of Casualties in Earthquakes (1-4), by David Alexander; GIS Mapping of Earthquake-Related Deaths and Hospital Admissions from the 1994 Northridge, California, Earthquake (5-13), by Corinne Peek-Asa, Marizen R. Ramirez, Kim Shoaf, Hope Seligson, and Jess F. Kraus, and; Breast Cancer and Electromagnetic Fields-A Review (31-44), by Lee S. Caplan, Elinor R. Schoenfeld, Erin S. O'Leary, M.Cristina Leske.

VI. Related Census, DHHS and Other Federal Developments

Summary of Recent Congressional Activity, prepared by the Office of Planning, Budget and Legislation, NCHS- Excerpts from the January 2000 Report on Legislative Activities: The Senate report advocated the development of a public health index to illustrate the overall progress of the Nation's health. Specifically, the Committee asked **NCHS** to begin feasibility studies on the establishment of such an index, including possible methodologies, potential data, applicability to the states and other national health systems, and cost estimates. A report is due in six months on the feasibility of such measures.

HEALTH INSURANCE: A Census Bureau report highlighting the increasing numbers of Americans without health insurance coverage brought much hand-wringing from the Congress, but no consensus on how to deal with the problem. In the only substantive action on this issue to date, the House has passed a package of tax provisions intended to improve access to health insurance, including expanding medical savings accounts. In the House, particularly among House leaders, there is some interest in moving away from employer-based health insurance and providing tax credits to individuals to purchase their own health insurance; but this approach has yet to receive the widespread support that would be needed to actually make such a drastic change.

A few bills have been proposed to deal with specific segments of the uninsured population. For example, several bills have been proposed to give states the authority to extend the State Children's Health Insurance Program (SCHIP) to low-income pregnant women and their newborns. No action has been taken on these bills. The expansion of SCHIP is certain to receive more attention in the new Congress, however. The Administration, as part of its FY 2001 budget, is poised to request funding to make it easier

for states to enroll children in SCHIP and to allow states to expand SCHIP and Medicaid to cover 19-and 20-year-olds.

HEALTH CARE QUALITY: **AHCPR** [Agency for Health Care Policy and Research] got a five-year reauthorization, a new name, and some new responsibilities in the waning days of the congressional session. The new name- the **Agency for Healthcare Research and Quality (AHRQ)**- underscores the agency's focus on quality of care. New responsibilities include: a requirement for an annual report to Congress on disparities in healthcare delivery related to racial and socioeconomic factors in priority populations; creation of an Office of Priority Populations to ensure that agency research addresses the needs of these populations (defined as the low-income, minorities, children, women, the elderly, and individuals with special health care needs); expansion of the Medical Expenditure Panel Survey to include a focus on quality; and an increased emphasis on patient safety. The law also contains a new provision authorizing the imposition of civil money penalties for violations of the **AHRQ** confidentiality statute.

The Congress is promising action in the wake of a recent IOM report estimating that a surprisingly high number of Americans die each year due to medical errors. The Senate has already held one hearing and another is likely, with legislative proposals to follow. The IOM report recommended establishing a Center for Patient Safety within **AHRQ** as well as a nationwide public reporting system for tracking medical errors that cause death or serious harm. Under this proposal, errors that did not seriously harm a patient would not be included in this public reporting system, but would be contained in a confidential, voluntary system to allow physicians and facilities to learn from them.

YOUTH VIOLENCE: Conferees were unable to resolve major differences between the Senate and House juvenile justice bills prior to adjournment. The main sticking point is gun control; the Senate bill includes several gun control provisions but the House bill does not and neither side has been willing to compromise on this key issue.

Other bills have weighed in on the youth violence problem also. A Senate bill would give **SAMHSA** additional authority for community-based services, including assisting local communities in developing ways to help children and adolescents in dealing with violence. The Senate has passed this bill and sent it to the House for action. Also, **CDC's** FY 2000 appropriations included youth violence prevention funding-$10M for national academic centers of excellence on youth violence and $2.5M for a national youth violence resource center. And the Senate Appropriations Committee report encouraged **CDC** to evaluate violence prevention strategies and programs and disseminate the findings and fund a national surveillance system to collect data and monitor injuries, deaths, and behavioral risk factors associated with school and community violence.

OTHER HEALTH PROMOTION ISSUES: The House appropriations report focused on other health promotion issues as well. It highlighted the "safe motherhood" issue, encouraging CDC to enhance its research on risk factors, prevention strategies, and the role of health care providers, the family and the community in promoting safe maternal outcomes, with particular focus on the higher rates of maternal mortality among minority populations.

The report also addressed the problem of obesity and it encouraged **CDC** to continue its efforts to make the problem of obesity a public health priority. Obesity has also been the focus of a House bill which would authorize specific programs to reduce the number of overweight and obese individuals. No action has been taken on this bill.

Finally, the House appropriations bill highlighted the problem of asthma and asked **CDC** to consider ways to improve surveillance of this growing problem. In addition to the appropriations action, bills on asthma have been introduced in both chambers. These bills would make grants available under the maternal and child health block grant program to provide asthma treatment services. In awarding grants priority would be given to areas that have a high prevalence of children with asthma or high childhood mortality associated with asthma. The bills would also require **CDC** to conduct asthma surveillance activities, including telephone surveys and facility specific

surveillance, and annually publish data on the prevalence of children in each state with asthma and the childhood mortality rate associated with asthma in each state and nationally. No action has been taken on these bills.

Rep. Bilirakis (R-FL) has introduced a far-reaching bill designed to improve a variety of children's health services. Bilirakis is the Chair of the Health and Environment Subcommittee/House Commerce Committee - the subcommittee responsible for most **CDC** programs in the House. This bill would expand research and prevention programs related to immunizations, poison control centers, lead poisoning, autism, birth defects, safe motherhood, asthma, diabetes, and childhood arthritis. There has been no action on this bill.

Bills have also been proposed to address disparities in health. Introduced in both bodies of Congress, these bills would expand minority health research activities at **NIH**, including creating a new center to deal with this issue, and would direct **AHRQ** to study the causes of health disparities for minority populations and how to improve health care quality and outcomes for minority populations. The bills also would require the National Academy of Sciences to conduct a study of **HHS** data collection systems related to race and ethnicity including assessing whether these systems obtain the information necessary to monitor disparities in health and minority populations' access to and quality of health care.

PRIVACY AND CONFIDENTIALITY: Action on the medical privacy issue has shifted to the regulatory arena. The Congress was not able to come to agreement on a medical privacy law by its self-imposed deadline of August 21; so, on November 3rd a Notice of Proposed Rulemaking (NPRM) on standards for the privacy of individually identifiable health information was published in the Federal Register. Comments are due by February 17. The policies outlined in this NPRM are consistent with the privacy recommendations that the Secretary submitted to the Congress in September of 1997. The scope of these protections is limited by law, however, and would apply only to electronic records.

Specifically, the NPRM covers identifiable health information transmitted or maintained electronically by health providers, health plans, and health clearinghouses (referred to as "covered entities"). Since **NCHS** is not a covered entity we are not directly affected by the proposed standards; we could be affected indirectly, however, because we obtain information from covered entities who will be required to comply with new requirements related to disclosure of identifiable information.

Meanwhile, the Congress has one additional bill to consider, the Medical Privacy in the Age of New Technologies Act, introduced by Rep. McDermott (D-WA) in September. McDermott introduced a similar bill in the last Congress. This bill is consistent with the other privacy bills under consideration in that it would give individuals the right to access information about themselves and would restrict disclosures unless they are authorized by the individual or fall into one of the categories for which authorization is not required. However, the bill also includes additional restrictions on access to information for research purposes. It would mandate special procedures for researchers seeking access to protected health information far in excess of those required under current regulations or by other bills. It also would limit access to nonidentifiable information and Social Security Numbers. No action has occurred on this bill. Finally, a Senate-passed bill reauthorizing SAMHSA's general authorities includes new confidentiality language for that agency that is almost identical to NCHS' confidentiality authority.

CENSUS 2000: The conflict over whether the Census Bureau can use statistical sampling to compensate for undercounting of certain population groups was largely absent from this year's funding debate. Moreover, after a bit of uncertainty, the Census Bureau received all the FY 2000 funding it had requested - although it was declared "emergency" spending to avoid violating the funding caps. This will allow Census to produce both a traditional headcount and a count supplemented by sampling-an approach the Administration opted for after the Supreme Court ruled that sampling could not be used to apportion congressional seats among the states, but could be used for other purposes such as developing population

counts for redistricting within states and determining the distribution of federal funds.

OTHER DATA ISSUES: Lots of data-related issues are in the works in this Congress. Recently enacted appropriations laws include two provisions of interest: The **HHS** funding law includes a provision carried over from last year stating that there can be no unique health identifier unless Congress explicitly approves it. In October the House passed H.R. 2885, the Statistical Efficiency Act, sponsored by Rep. Horn (R-CA). This bill would designate eight statistical agencies -including NCHS - as statistical data centers and allow these agencies to share data with each other and obtain data from other agencies for statistical purposes. The bill mandates strict confidentiality protections in conjunction with the data sharing. The bill also includes a provision sought by **NCHS** which would allow **NCHS** to designate agents who could come into the Center and analyze **NCHS** data subject to **NCHS** confidentiality constraints. This bill has been sent to the Senate where House staff hope to convince their Senate counterparts to move the House language in lieu of a competing bill sponsored by Senator Moynihan (D-NY). Moynihan's bill includes the data sharing language but also contains a proposal for a commission to study the federal statistical system to determine if it would benefit from consolidation. No Senate action has occurred on this measure yet. [[If you would like additional information on any of these issues, please contact Kathy Moss, NCHS, who is the author, at email kgm0@cdc.gov]

****

Excerpts of testimony from Jeffrey P. Kaplan, M.D., M.P.H., Director, CDC presented on February 10, 2000 to the House Appropriations Subcommittee on Labor, Health and Human Services, and Education, chaired by Representative John Edward Porter: Thank you for the opportunity to appear before you today on behalf of the Centers for Disease Control and Prevention (CDC). With your permission, I would like to submit for the record a comprehensive written statement in support of CDC's FY 2001 budget request. In the next few minutes, I will briefly summarize some of our efforts and the highlights of our budget request, and then will turn to issues that have been raised regarding CDC's fiscal responsibilities.

During 1999, CDC responded to more than 700 public health emergency requests from state and local health departments and from around the world. These emergencies and epidemics ranged from Hurricane Floyd, to the West Nile encephalitis outbreak in New York City, to racial and ethnic disparities in heart disease deaths among women in the United States.

For FY 2001, we are requesting $3.5 billion this year, an increase of $195 million over our FY 2000 appropriation. Our request will position CDC to begin preparing the public health system for the health challenges of the 21St. century. That preparation must take place in states and communities throughout the country and at the national level. Together we can work toward: eliminating syphilis; preventing HIV both in the U.S. and internationally; preventing tobacco use among youth; stopping violence against women; expanding worker safety research; and improving the Nation's infectious disease control.

All of these health challenges require CDC to be able to conduct state-of-the-art scientific research to support our public health partners. The major investment you are making in building state-of-the-art facilities for CDC is truly an investment in the future of this Nation. For FY 2001, we have requested a total of $127 million to continue the next phase of CDC's building and facilities plan.

CDC's thousands of scientists and program leaders strive every day to protect America's health and safety by promoting health and preventing injuries. To do that, we rely on the trust of the United States Congress and the American people. Thus, I am deeply concerned about the issues raised about CDC's chronic fatigue syndrome and Hantavirus programs.

In 1993, CDC was called upon to discover quickly what was causing previously healthy young people in the southwestern United States to die from acute respiratory failure. Within a few weeks, CDC discovered the cause, how it was spread, and worked with state and local health agencies and communities to control the outbreak and prevent future cases of this deadly disease.

Preliminary analyses of our FY 1999 expenditures indicate that while we have continued to support the Hantavirus program, some of the funds appropriated for Hantavirus have been used to combat other life-threatening infectious diseases, such as Bola and Nipah virus. **Responding to these issues is my highest administrative priority.**

CDC's services and research are delivered by talented staff with considerable expertise and commitment to improving the nation's health--a commitment that occasionally puts their own health in jeopardy as they respond to the threats of deadly and unknown disease. However, our fiscal management capability has not kept pace with the growth in our scientific responsibilities. Our goal is to make sure CDC always fulfills both its obligation to protect the public's health and its obligation to be accountable to Congress. We are working diligently to put in place the systems that will help us have more precise reporting and accountability in the future. Believe me, I wish it could be a quick fix, but genuine changes in the system will take some time. If any additional problems arise, I will act on them immediately.

I want to express my thanks for your understanding and support for CDC, in particular, and public health in general. Your leadership will yield long-term benefits to the health of the American people. [Source: Office of the Director, CDC, Announcements, February 10, 2000]

****

National Science Foundation: National Science Board Recommends $1 Billion Increase in Environmental Research Spending (February 4, 2000 NSF PR 00-4)

The National Science Board (NTB) has adopted a report recommending that the National Science Foundation (NSF) spend an additional $1 billion over the next five years to increase its support for environmental research and education. Meeting in Irvine Calif., the Board unanimously approved the report of its Task Force on the Environment, which contains a series of recommendations for bolstering what the board describes as NSF's strong existing portfolio of environmental research and education programs. Noting that NSF "is one of the largest supporters of environmental research in the federal government and the major supporter of environmental research conducted by the academic community," the report calls for more than doubling NSF's current funding level of roughly $600 million annually on environmental research to $1.6 billion.

"This report reflects the NTB's strong support of the role NSF is already playing in environmental research -but also a desire to see that role grow," said NTB chair Eamon Kelly. "There is no more important national issue than this. We are on the edge of profound discoveries, and NSF leadership is needed to direct these discoveries for the good of the nation." NSF Director Rita Colwell emphasized that an investment in environmental research "is necessary to gain a better understanding of the complexities of the world we live in, and the intricate workings of nature, in order to make wise use of our resources."

The report notes that NSF's activities should neither duplicate or replace, but rather complement and enhance, the existing portfolio of federal environmental research programs. The report recommendations address research, environmental education, scientific assessment, and infrastructure. For example, the Board also recommends that NSF: significantly increase its investments in long-term research programs and establish new support mechanisms for additional long term research; encourage proposals that capitalize on student interest in environmental areas while supporting significantly more environmental education efforts through informal vehicles; significantly increase its research on the methods and models used in scientific assessment; give high priority to enhancing infrastructure for environmental observations and collections as well as new information networking capacity; and "vigorously" support research on environmental technologies, including those that can help both the public and private sectors wisely utilize natural resources. For a copy of the report, Environmental Science and Engineering for the 21st Century, see: http://www.nsf.gov/nsb/tfe/start.htm. [Contacts: Bill Noxon or Peter West at email wnoxon@nsf.gov or pwest@nsf.gov]

****

National Atlas of the United States: Update

New and exciting changes have been made to the National Atlas of the United States (see: http://www.nationalatlas.gov/index.html). The latest products and services, to be added since July, 1999, include:

NEW MAP: Shaded Relief of North America

NEW DATA AND METADATA SETS IN THE ONLINE MAPPER THAT ARE ALSO AVAILABLE FOR PUBLIC DOWNLOAD: Census: Metropolitan Areas; NRC: Nuclear Sites; USGS: Geomagnetism - Declination Component for the Epoch 1995.0; USGS: Zebra Mussel Distribution; USGS: Significant Earthquakes; USGS: Routes of the Breeding Bird Survey of North America; USGS: Public Lands Survey System

NEW DATA SETS IN THE MAPPER ONLY: USGS: Index to Digital Orthophoto Quadrangles; USGS: Index to Topographic Maps

UPDATED DATA AND METADATA: CDC: Human Mortality; EPA: Envirofacts; OSMRE: Abandoned Mines*; USACOE: Dams*; USGS: Realtime Streamflow Stations*; USGS: States; USGS: Counties; USGS: Surface Water Features; USGS: Roads; USGS: 1990 County (moth and butterfly distribution data base use this)

USGS: Zebra Mussels*

[*= updated to include consistent State, County, and FIPS fields];

DATA SETS IN PROGRESS: BJS: Aggravated Assaults; BJS: Arsons; BJS: Burglaries; BJS: Forcible Rapes; BJS: Larcenies; BJS: Motor Vehicle Thefts; BJS: Murders; BJS: Robberies; NASS: Farms; NASS: Farms by Value of Sales; NASS: Harvested Cropland (Acres); NASS: Harvested Cropland (Farms); NASS: Land in Farms; NASS: Total Cropland; NOAA: Night lights; USGS: Geology; USGS: Calderas; USGS: Facies Metamorphism Areas; USGS: Glacial Limit; USGS: Impact Structures; USGS: Avian Botulism; USGS: Avian Cholera; USGS: Avian Lead Poisoning; USGS: Avian OP/Carbamate Poisoning; USGS: Mineral Resource Data System; USGS: Geomagnetism-Magnetic Field (International Geomagnetic Reference Field); USGS: Geomagnetism- Horizontal Component of the Total Field Intensity; USGS: Geomagnetism-Inclination; USGS: Geomagnetism-Secular Variation of the Declination Component; USGS: Geomagnetism-Secular Variation of the Horizontal Intensity Component; USGS: Geomagnetism-Secular Variation of the Inclination Component; USGS: Geomagnetism-Secular Variation of the Total Field Intensity; USGS: Geomagnetism-Secular Variation of the Vertical Intensity Component; USGS: Geomagnetism-Total Field Intensity; USGS: Geomagnetism-Vertical Component of the Total Field Intensity

NEW SOFTWARE CAPABILITIES: Select and view USGS topographic map or digital orthophotoquad using an index; Select and view USGS topographic map or digital orthophotoquad using geographic names; Label counties and states; Improved map layers search function [Editor: National Atlas of the United States and The National Atlas of the United States of America are trademarks of the United States Geological Survey. I want to recognize the outstanding direction provided for this ambitious undertaking by colleague **Jay Donnelly** of the U.S. Geological Survey. Jay welcomes the submission of national data sets from all agencies for inclusion in the atlas. Contact Jay at voice (703) 648-5395 or email jpdonnelly@usgs.gov]

Federal Geographic Data Committee (FGDC)

[The Federal Geographic Data Committee (FGDC) is an interagency committee, organized in 1990 under OMB Circular A-16, that promotes the coordinated use, sharing, and dissemination of geospatial data on a national basis. The FGDC is composed of representatives from seventeen Cabinet level and independent federal agencies. The FGDC coordinates the development of the National Spatial Data Infrastructure (NSDI). The NSDI encompasses policies, standards, and procedures for organizations to cooperatively produce and share geographic data. The 17 federal agencies that make up the FGDC are developing the NSDI in cooperation with organizations from state, local and tribal governments, the academic community, and the private sector. See http://www.fgdc.gov]

GeoData Organizational Initiative Under Way, February 22, 2000

Intense work by an ad hoc team of geodata professionals is leading to a streamlined approach to

distributing authority and responsibilities throughout the broad community of individuals and organizations most involved with creating, distributing, and effectively using geospatial data and information.

Evolution of a New Geo Data Approach: Inspired by the experiences and words of VISA International CEO Emeritus Dee Hock at a 1999 National GeoData Forum meeting, a group of more than four-dozen geodata professionals have striven to fashion a proven "bottom-to-top" means of best meeting economic, social, and environmental needs from digital geospatial technologies. Building from Hock's parallel experiences in establishing an international credit system needing to serve diverse interests, the group contemplated new and pioneering organizational concepts, all designed at more equitably spreading responsibilities and authorities...yet all aimed at serving unmet needs and responding to emerging opportunities.

With guidance and counseling from The Chaordic Alliance- the nonprofit organization founded by Hock, capturing the concepts of both "chaos" and of "order"-participants at a fall 1999 follow-up meeting outlined how best to proceed in an expeditious yet inclusive way. A de facto "Stewardship Team" did preliminary planning on fund raising and development, organizational and staffing needs, and general governance matters.

An initial concern identified by numerous participants involved the challenges associated with a two-year developmental stage leading up to the new effort's becoming fully operational. In consultation with The Chaordic Alliance, geodata leaders now have fashioned a more streamlined approach, retaining fundamental aspects of the "chaordic" organizational structure pioneered by Hock and VISA International.

New Directions: Plans now call for formation of a ten-member "Working Group" to meet four times over the next several months to prepare formal organizational materials and documents, which will be considered by a newly established "Drafting Team" in officially launching the new "GeoData Organizational Initiative." Over the next eight months, the Drafting Team will approve statements of purpose, principles, and operational procedures for the new geodata governance structure. Individuals with a wide range of professional experience and interest in geospatial community are encouraged to apply by **March 6, 2000**, to assist in developing these materials. The application form is available online at http://www.fgdc.gov/GeoAll/. Meetings of the Drafting Team are scheduled for March 27-29; May 8-10; July 11-13; and September 6-8.

Organizers of the new initiative are also planning for a series of informal "open house" town-meetings to keep geodata interests and others apprised of plans and progress in better meeting needs of spatial data providers and users. Specific plans and schedules for those sessions will be posted online at http://www.fgdc.gov/GeoAll/. With a strong push from diverse participants throughout the broad geospatial community since the 1999 GeoData Forum, project leaders now envision an ambitious eight-month schedule for fashioning and implementing ways to meet the burgeoning needs of geospatial data community. [For additional information, visit www.fgdc.gov/GeoAll/, or contact Kathy Covert at (703) 648-4144 or via the Internet at klcovert@usgs.gov]

FGDC 1999 Reports on NSDI Implementation

The 1999 reports submitted on behalf of FGDC Subcommittees, Working Groups, federal agencies, and recognized stakeholder groups may be found at http://www.fgdc.gov/99_nsdi_reports/nsdi_reports.html. These reports document 1999 accomplishments in implementing the NSDI. The composition of FGDC includes:

Subcommittees: Subcommittee on Base Cartographic Data; Bathymetric Subcommittee; Subcommittee for Cadastral Data; Subcommittee on Cultural & Demographic Data; Federal Geodetic Control Subcommittee; Geologic Data Subcommittee; Ground Transportation Subcommittee; Subcommittee on International Boundaries & Sovereignty; Soils Subcommittee; Vegetation Subcommittee; Subcommittee on Spatial Water Data, and; Wetlands Subcommittee.

Working Groups: Biological Data Working Group; Clearinghouse Working Group;

Communications and Education Working Group; Earth Cover Working Group; Facilities Working Group; Historical Data Working Group; Metadata Ad Hoc Working Group; SIMNRE Working Group, and; Standards Working Group.

FGDC Member Agencies: Department of Agriculture (Forestry Service; Natural Resources Conservation Services); Department of Commerce; Department of Defense (Corps of Engineers and Defense Logistics); Department of Energy; Department of Housing and Urban Development; Department of the Interior (US Geological Survey; Fish and Wildlife Services); Department of State; Department of Transportation; Environmental Protection Agency; Federal Emergency Management Agency; Library of Congress; National Archives and Records Administration; National Aeronautics and Space Administration; National Oceanic and Atmospheric Administration (Coastal Services Center); National Science Foundation; Tennessee Valley Authority. [Note: Official DHHS membership awaits Secretary Donna Shalala's approval]

FGDC Recognized Stakeholder Groups: International City/County Management Association; National Academy of Science-Mapping Science Committee; National Association of Counties; National League of Cities; National State Geographic Information Council; OpenGIS Consortium, and; University Consortium for Geographic Information Science.

FGDC Releases Shoreline Metadata Profile Standard for Public Review

The FGDC has released the Shoreline Metadata Profile for a period of public review ending May 31, 2000. This public review provides software vendors and data users and producers in all segments of the geospatial community with an opportunity to comment on this standard in order to ensure that it meets their needs. The Shoreline Metadata Profile was developed by the FGDC Bathymetric Subcommittee. This standard is a profile of Content Standard for Digital Geospatial Metadata (version 2.0), FGDC-STD-001-1998. This standard provides terms and Metadata elements for documenting shoreline data and reaching a common understanding of the shoreline for mapping and geospatial and Geographic Information Systems (GIS) applications, including coastal zone management, environmental monitoring, resource developments, legal land jurisdictional issues, ocean and meteorological modeling, engineering, construction, and planning. Metadata produced using this standard will be important for clearinghouse activities to locate potential data sets and to indicate the fitness for use and accuracy of a given data set. You may review the standard at http://www.fgdc. gov/whatsnew/ whatsnew.html. Reviewers may send their comments to gdc-shoreline@www.fgdc.gov. [For other information about the public review, please contact **Julie Binder Maitra**, FGDC Standards Coordinator, at voice (703) 648-4627 or email jmaitra@usgs.gov]

Web Site(s) of Interest for this Edition

1. *Women and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality* (http://www.cdc.gov/ nccdphp/cvd/womensatlas) was developed by the Office for Social Environment and Health Research at West Virginia University and the Cardiovascular Health Branch at CDC to provide critical data on geographic, racial, and ethnic inequalities in women's heart disease death rates for the five major racial and ethnic groups. The Atlas includes more than 200 national and state maps of heart disease mortality. The maps in the Atlas highlight the geographic, racial, and ethnic inequalities in heart disease mortality among women and provide government agencies and their partners at the local, state, and national levels with information to tailor heart-healthy programs and policies to the communities of women with the greatest burden of heart disease. The atlas is structured as follows: National Maps and Related Text- National maps of mortality, population distributions, local economic resources, social isolation among elderly women and medical care resources. Interactive State Maps- User specifies state to obtain county-by-county heart disease mortality maps for women. Methodological and Technical Notes- Explains methods e.g., rate adjustment and smoothing, the definitions of terms, identification of sources, and

more. The complete atlas may be downloaded. [Editor: Interactive state maps, by county, include heart disease mortality rates for American Indian and Alaskan Native women. Other data sources for American Indian and Alaska Natives are shown below and in the Appendix, this edition]

2. Web sites for databases, background and other useful general information on selected American Indian and Alaska Native datasets: Native American elder population, detailed 1990 population estimates by age, sex, state for American Indians at http://www.aoa.dhhs.gov/AIN/naepop90.html; Inter-university consortium for political and social research (ICPSR) at University of Michigan. Includes downloadable NCHS datasets with full documentation including SAIAN, NHDS, NHANES 1, 2, and 3 at http://www.icpsr.umich.edu/archive1.html; CDC/NCHS at http://www.cdc.gov/nchs/html; HCFA at http://www.hcfa.gov/audience/resrch.htm; and, SEER at http://www-seer.ims.nci.nih.gov.

Final Thought(s): "Our" National Atlas and Census 2000-NSDI Building Blocks

There are many important events that signify the arrival of the National Spatial Data Infrastructure (NSDI) but none are more important than the digital National Atlas of the United States of America (National Atlas), and Census 2000. I begin with what I consider to be our National Atlas.

There is little question that the National Atlas is fast becoming a major portal and hub of interactive mapping activity. On a monthly basis, more than 56,000 individuals visit and use the many mapping products while an average 2.3 million requests are processed. This is a major Internet gateway to mapable data and a key reason why I feel it is emerging as our National Atlas. Access is open to the public and the online (www.nationalatlas.gov) interactive mapping system includes easy-to-use tools to explore more than 130 (and growing) map layers (one of which is NCHS mortality data). These maps can be downloaded at no cost using file transfer protocol; as of January 31, 2000, nearly 112,000 digital map layers had been downloaded. Data also can be ordered on CD-ROM and all data are documented in accordance with Federal Geographic Data Committee (FGDC) metadata guidelines. Our National Atlas node of the FGDC Clearinghouse now is active.

Another reason for this feeling of collective ownership is that it provides a much needed location for data from all federal agencies as well as links to over 700 web sites with additional maps and timely information. Our National Atlas represents an attempt to "step back" and represent America as a whole. National Atlas data typically are one-kilometer for raster products and 1:2 million scale for vector, but will probably evolve to include higher resolution data e.g., 1:1 million, and 1:100,000-scale vector or 30-meter raster. All agencies are encouraged to generate and maintain national data sets in our National Atlas. Information needed to prepare or contribute data, and metadata, may be found at the website (In fact, USGS staff will gladly assist any contributor through the metadata documentation process if requested). In those cases where national coverages are not available, such as State or local areas, partial data coverage can be offered by linking to an agency's website. This is a useful way to gain national exposure for your mapable data, regardless of scale. I also should add that the 106th Congressional District boundary file has been received recently from the Census Bureau and will be posted in the near future.

Our National Atlas continues to earn outstanding recognition and awards. It is the recipient of the Vice President's Hammer Award, *Government Executive* Magazine's Government Technology Leadership Award, the Federal Laboratory Consortium for Technology Transfer Award of Achievement, the YAHOO! Site of the Week, and others. If you haven't done so already, I believe you will enjoy exploring OUR online digital National Atlas. I also encourage you to become a real friend of our National Atlas and provide some user feedback once you have sampled some of the mapable products. [Contacts: For additional information, please contact **Hedy Rossmeissel**, Senior Program Advisor for Earth Science Information Management and Delivery, at email

hjrossmeissl@usgs.gov or **Jay Donnelly**, our National Atlas Project Director, at email jpdonnelly@usgs.gov]

Finally, let me convey some timely information about Census 2000 which will be based on the 106th Congressional Districts. The official Census Day of April 1, 2000, is close upon us. It's hard to believe but some 860,000 persons will be hired for the occasion mostly to retrieve forms when not returned. Each Congressional District houses a minimum of one local Census office, of which there are a total 520. The projected population on April 1 is about 275 million people and housing units will total nearly 118 million. Questionnaires will be scanned (new technology), compiled in four regional centers, and ultimately sent to headquarters in Bowie, MD. Most people will receive the short form (seven questions) and one in six will receive the detailed form.

The Census Bureau is required by law to deliver State Apportionment totals to the President by December 31, 2000. These determine Congressional Apportionment and are the basis for State redistricting. On April 1, 2001, the Census Bureau delivers voting age population data.

There are changes that will affect us in the use of these data. There is a change in the racial category so that now a respondent may indicate more than one choice, e.g., going from seven to 63 possible combinations of race. Census Tracts and their rural counterpart, Block Numbering Areas (BNAs), will now combine into one program of Census Tracts. Census Designated Places (CDP) will require no minimum population, just that they be closely settled or named. For example, *colonias* containing migrant workers could be considered CDPs. A ZIP Code will be assigned to every Census block and a new entity, ZIP Code Tabulation Areas (ZCTAs), has been defined. New concepts for Metropolitan Areas (MA) are under review such that more areas will qualify for smaller MAs and name changes will occur. Census 2000 TIGER/Line files will be revised by early 2001. Lastly, all block level maps will include American Indian Reservations based on two geographic constructs including Nation status (as done for all Census areas) and American Indian Area (AI Area-CT-Block). Access to Census 2000 information will be largely accomplished through the Internet and the Census Bureau's new American FactFinder interface. [Contact: Tim Trainor, Census Bureau, at email ttrainor@geo.census.gov]

Charles M. Croner, Ph.D., Editor, ***PUBLIC HEALTH GIS NEWS AND INFORMATION***, Office of Research and Methodology, National Center for Health Statistics <cmc2@cdc.gov>.

Please join us at NCHS for our March 8 and March 16 GIS Presentations

APPENDIX

(1) Data Sets Containing American Indian/Alaska Native Respondents; (2) Review of Problems with Datasets Containing American Indians/Alaska Natives; (3) Other Resources for Secondary Data Analyses on Native Health [Source: Developed by Resource Center for Minority Aging Research, University of Colorado, and distributed by Nathaniel Cobb, MD, Principal Chronic Disease Epidemiologist, Indian Health Service, Albuquerque, NM at voice (505)248-4132 or email nathaniel.cobb@mail.ihs.gov; Note- this list is not to be considered comprehensive]

Data Sets Containing American Indian/Alaska Native Respondents

The selected data sets below are categorized according to whether respondents are exclusively American Indian and/or Alaska Native (AI/AN) or not. The potential utility of these data sets must be viewed critically and examined in the unique context of the AI/AN population. Many of the researchers and agencies that support the data sets are currently engaged in activities to improve the classification and identification of Native people. Thus, it is difficult to determine how many AI/AN respondents each data set contains, what proportion comprise Native people relative to other ethnic/racial groups, how accurately AI/AN status is classified, if tribes are identified individually and if so, how accurately, and finally, if variables appropriate to addressing health disparities by race/ethnicity are available.

A. Data Sets with Exclusively Native Respondents

1. Service Utilization, Psychiatric Epidemiology, Risk and Protective Factors Project (SUPERPFP)

In 1995 the National Institute of Mental Health awarded Drs. Spero Manson and Jan Beals, UCHSC Division of American Indian and Alaska Native Programs, a $7.2 million, 5-year grant to conduct the first fully community-based study of alcohol, drug, and mental (ADM) disorders and related service utilization among AIs. The study was designed to: a) establish both current (past 12 months) and lifetime prevalence of ADM disorders and related symptomatology; b) identify the mediating effects of risk (e.g., traumas, physical health problems, inadequate social and economic resources) as well as protective factors (e.g., cultural identity, social support, spirituality, mastery, self-efficacy) on the onset, severity, and duration of ADM disorders; c) determine both the nature and extent of current (past 12 months) and lifetime use of biomedical (e.g., Indian Health Service (IHS), VA, private sector) and non-biomedical (e.g., traditional ceremonials, naturopathic alternatives, Native American Church) health care options; d) examine the interactions among ADM status, risk and protective factors, and service utilization patterns, with special emphasis on predicting the latter; and e) compare our findings with several national studies (e.g., National Comorbidity Study, Toronto Study).

The study was conducted among 2 Northern Plains tribes and 1 Southwestern tribe, the same communities that participating in the Veteran's Project (#2). Participants range from 15 to 54 years of age and were drawn randomly from tribal rolls by age/sex replicates. Because of restricted funds, the target population for these samples were limited to tribal members currently living on or near their reservations. Eligibility status was established for all potential respondents. Participation rates varied from 72% to 78% by site. The individual tribal samples are substantial in size (~1,000 each). The interview was administered via laptop computer by a highly trained tribal staff coordinated through local field offices. Ten percent of the sample, equally distributed across the Northern Plains and Southwest sites, was selected, based upon current diagnostic status (e.g., Major Depressive Disorder, Post-Traumatic Stress Disorder (PTSD), for clinical reinterview employing the Structured Clinical Interview for Diagnosis. Two additional substudies include extensive ethnographic inquiry into the cultural construction of illness and help-seeking behavior among individuals completing both sets of interviews. The second substudy involved matching study respondents from the first interview with the service unit from which they receive their primary health care, and comparing self-reported service utilization to that documented through the local IHS

patient information systems. Data collection is complete; the data have been subjected to computer editing and are available for analysis.

2. American Indian Vietnam Veterans Project (AIVVP)
The American Indian Vietnam Veterans Project (AIVVP) was mandated by Public Law 101-507 that directed the VA's National Center for PTSD to supervise the conduct of an epidemiologic study of AI and Asian-Pacific Islander Vietnam Veterans. These populations had not been sampled in the National Vietnam Veterans Readjustment Study conducted in the late 1980's. The NCAIANMHR was selected to conduct the American Indian portion of the Congressionally-mandated study. Drs. Spero Manson and Jan Beals, UCHSC Division of American Indian and Alaska Native Programs, were responsible for the oversight of this effort. AIVVP was conducted from 1991 to 1995. A final report was submitted to Congress in July, 1996.

The AIVVP was conducted in 2 of the larger AI tribes in the United States, one Northern Plains and the other Southwest tribe. The primary sampling frame was tribal rolls or the official list of tribal membership; therefore, in this case, eligibility was based on blood quantum. The samples were restricted to men since the number of women veterans was insufficient for accurate statistical comparisons. For cost reasons the samples were further limited to those veterans currently living on or near their reservations. Veteran status was determined by secondary data sources as well as face-to-face contact with men sampled from the rolls. In the Northern Plains all male Vietnam veterans were sampled while in the Southwest the sample represents a 1 in 5 selection of the native Vietnam veteran population. Overall response rates were in excess of 80% for both samples and in total 621 men completed the lay interview. PTSD and all other psychiatric disorders were assessed in the lay interview using the Composite International Diagnostic Interview. In addition the data set contains an extensive assessment of risk factors including child, premilitary, military, and postmilitary factors, and current physical health; and service utilization history.

3. Navajo Health and Nutrition Survey (NHHS)
The NHNS is a cross-sectional random sample survey of 1,000 Navajo living on the reservation. The survey was conducted in 1991-1992 and included both sexes and all ages over 12. The NHNS is modeled after the National Center for Health Statistics (NCHS) National Health and Nutrition Examination Survey (NHANES) protocol. As such the NHNS involves in-person interviews and collects health and nutritional information based on self-report. Further, physical examinations and selected laboratory testing are performed to generate clinical disease diagnoses. Basic prevalence rates have been published using the NHNS; more detailed analysis of this rich data set is certainly warranted. As distinct from the Strong Heart Study (see below) the NHNS does not include a longitudinal component. Since no follow-up has been conducted in this population, disease incidence has not been calculated. We are working with staff at the NHNS to initiate a passive mortality follow-up using an National Death Index search that will allow calculation of cause-specific mortality rates as the cohort ages.

4. Strong Heart Study (SHS)
The Strong Heart Study, is a prospective longitudinal cohort study of cardiovascular disease among American Indians. The objective of the study was to determine cardiovascular disease rates and the prevalence of risk factors among members of 13 tribal groups in South Dakota/North Dakota, southeastern Oklahoma, and Arizona. From 1989 to 1992, 4,549 tribal members of both sexes and aged 45-74 years (62% of eligible participants) were surveyed and examined for cardiovascular disease and its risk factors. Following the initial baseline prevalence examination (cycle 1) two sequent follow-up visits have been conducted with the cohort (cycles 2 and 3). A fourth cycle examination is planned that will expand the SHS by collecting family data to investigate the genetic

epidemiology of cardiovascular disease in Native Americans.

The SHS data set is perhaps the finest resource in the world to characterize the physical health of a population-based sample of AI/AN. Through the NERC/RCMAR, Drs. Dorrie Rhoades and Jeff Henderson obtained copies of these data that pertained to analyses of risk of cardiovascular disease and polypharmacy, and subsequently participated in SHS publications relevant to their interests. The SHS Steering Committee has agreed to permit NERC/RCMAR Native Investigators access to these data; this arrangement is on a case-by-case basis, and is specifically a part of the NERC/RCMAR Investigator Development Core. Dr. Thomas Welty, the SHS Principal Investigator/Dakota Center, is a member of the UCHSC faculty, serves on the NERC/RCMAR Advisory Panel, and participates as a Core Faculty member.

5. Seattle Indian Health Board Data sets

Native Elders Project: The Seattle Indian Health Board (SIHB) is the major source of health care for the ~18,000 AI/ANs (representing ~250 tribes) who live in King County. Employing the SIHB's computerized patient information system, a list was generated of all AI/ANs +/- 50 years of age seen at least once between 6/1994 and 6/1995. The medical records were abstracted for information on age, gender, tribal affiliation, blood quantum, marital status, number of household members, educational level, employment status, and insurance type. Other data included whether patients smoked, used alcohol or other substances, and listings of all medical and psychological problems (as documented in the charts, typically in providers notes or problem lists), and all current medications. Lastly, information was collected on 18 preventive measures such as mammography, cholesterol levels, fall prevention, and the management of several medical problems including diabetes and hypertension. This data set is limited by its retrospective nature and the fact that it was conducted at a single urban setting.

Health Survey: Between 4/1995 and 5/1996 individuals 18 years of age who had appointments in the medical, dental, community health, or WIC programs, were asked to complete a 59-item self-report survey. Sociodemographic data was collected on the age, gender, blood, quantum, tribal affiliation, marital and employment status, income, education, household membership, migration patterns of the participant, and use of traditional health practices. Other questions addressed smoking, depression, victimization, and trauma, the presence of diverse self-reported health conditions, and satisfaction with their care at SIHB. The 6-item General Health Survey (SF-6) was used to assess physical, role, and social functioning, psychological distress, current health perceptions, and pain. Alcohol abuse and depression were determined using a validated screener. The medical records of all 754 (100%) participants were abstracted in regard to patient diagnoses and current medications. A limitation of these data is the fact that it was conducted at a single urban setting.

6. Survey of American Indians and Alaska Natives (SAIAN)

As part of a supplement to the National Medical Expenditure Survey II (NMES) in 1987 the NCHS conducted a special survey of 6,500 AIANs (2,000 households) living on reservations or near Native communities who received their health care from the IHS. SAIAN was itself a targeted oversampling of AIANs that employed a household survey format in which each family was interviewed 3 times at 5-6 month intervals. Information was obtained on based on self-report of major health conditions and health care utilization during 1987. Several items on language fluency, cultural activities, and use of traditional medicine practitioners were added to the core NMES interview. Funded by the IHS, the survey was designed to provide comprehensive information on the use and sources of payment for health services, as well as insurance coverage, of the civilian non-institutionalized population eligible for IHS care. Both Drs. Dorrie Rhoades and Jeff Henderson, former NERC/RCMAR Native Investigators, and members of the UCHSC faculty, have extensively employed the SAIAN data in their work and

are publishing manuscripts based on these data. This is one of the largest population-based samples of AI/AN and is a rich, if somewhat dated, resource for further analysis of service utilization among AIANs living on the reservation.

7. Northwest Portland Area Indian Health Board (NPAIHB)
In conjunction with the NCHS/Centers for Disease Control and Prevention (CDC), the NPAIHB completed a demonstration project to determine the feasibility of developing and implementing a comprehensive registry of enrolled members of 40 tribes in Washington, Oregon, and Idaho, based on enrollment records. The critical aspect of this data set is the careful attempt to define a population-based denominator of AIAN's that was not limited to the reservation or based on the census. Another aspect of this project was to link this database with existing data such as vital statistics and disease registries in these states. The final data set contains information from the 19 tribes that eventually participated.

8. Indian Health Service

RPMS
RPMS or data from medical encounters, both in-patient and out-patient, are available from the IHS database. This data permits assessment of ICD diagnoses for patients seen at IHS facilities. The data are available for multiple years and permits time trend analyses and estimation of the health care utilization on or near reservation lands. As is typical of medical encounter data collected for administrative purposes little is known regarding the accuracy or completeness of the diagnostic information.

AUDIT
In an effort to improve the quality of care for AI/ANs with diabetes the IHS Diabetes Program developed their own "Standards of Care for Patients with Type 2 Diabetes in IHS," based on the American Diabetes Association standards of care. The IHS standards include a number of recommendations for routine preventative care such as yearly foot exams, eye exams, dental exams and routine blood tests and immunizations. Adherence to these standards is monitored through the annual IHS Diabetes Audit.

The IHS Diabetes Audit is an annual medical record review in a representative sample of participating facilities (> 140) to determine adherence rates with the IHS standards of diabetes care. Data have been gathered since 1986 on up to 87 quality indicators of diabetes care that are based on the program's "Standards of Care for Patients with Diabetes in IHS". These indicators include demographic data, process and outcome indicators of care, and some basic facility data. Results are summarized by facility, IHS Area and nationally, and are used by the program to monitor the care of diabetes in the Indian health system over time. In a review of these data in fiscal year 1992, rates of adherence to standards, which included preventive examinations, laboratory tests and immunizations, ranged from 25% to 85%, with the highest rates for blood pressure, blood glucose and weight measurements at each visit, and yearly urinalysis, creatinine, cholesterol and triglyceride measurements. The rates for foot, eye and dental exams were much lower. However, a longitudinal study of this data from 1987 to 1994 showed significant improvements in many of these indicators such as rates of foot examinations, pneumococcal vaccines, and the percentage of patients with uncontrolled hypertension. While the results for many of the indicators either equal or exceed the results for the general U.S. population, the quality of diabetes care still shows room for improvement. Dr. Yvette Roubideaux, a former NERC/RCMAR Native Investigator, and a proposed Project Leader in this application, has worked extensively with the IHS Diabetes Audit data set, in collaboration with the IHS.

Cancer Mortality

These data, available through Dr. Nat Cobb at IHS, are probably the best source of cancer data in Indian country. The Aberdeen Area (North Dakota, South Dakota, Nebraska, Iowa) databases are of particularly high quality with nearly complete case ascertainment.

B. Data Sets That Include American Indian and Alaska Native Respondents

9. Centers for Disease Control and Prevention/National Center for Health Statistics

National Health and Nutrition Examination Survey (NHANES)

As part of the cross-sectional NHANES 1, 2, and 3, data are collected on the non-reservation based AIAN population, though this group is not oversampled. The sample of AIAN is approximately 200 individuals in each cycle of the NHANES. The full NHANES protocols including the nutritional assessment, clinical examinations, and lab tests are all available on the standard data public use data files. These data sets are unique because they have the potential to examine physical health indicators in the urban AIAN population across the 3 cycles of NHANES which date from the mid-1970's to the late 1990's. However, using the NHANES to attempt to make prevalence estimates of the health of AIANs would likely be statistically unreliable give the small sample sizes.

Behavioral Risk Factor Survey Surveillance (BRFSS), 1985-1998

One of the most extensively used databases to assess the health of AIANs is the CDC state administered BRFSS. The BRFSS is a yearly cross-sectional telephone interview of health habits in each of the states (dating back to as early as 1987 in some states) that can be aggregated for an overall assessment of behavioral risk factors in the population. Typically to generate stable prevalence estimates for the AIAN sample, multiple data collection years are aggregated together. Limitations of this data set include the limited battery of self-reported health conditions. Further, the use of a telephone survey methodology may systematically under-represent AIANs who live on or near reservations since this group has the lowest rate of telephone accessibility in the U.S.

Mortality Statistics and the National Death Index (NDI)

Mortality data files with cause of death includes a specification for race as AI/AN. Coverage is for the total US and when combined with appropriate census denominators for the AIAN population it is possible to derive age, sex, region, and cause-specific mortality rates. Time trends in mortality can be evaluated since data are available for multiple years. There are well known difficulties in AIAN racial classification on the census and death certificates. The lack of comparability in the racial classification in the numerator and denominator makes estimation of mortality rates problematic. Nonetheless, the NDI is an extremely valuable tool for passive mortality tracing of AIAN cohorts such as of the SHS and the NHNS.

10. Agency for Health Care Policy and Research (AHCPR)

Medical Expenditure Panel Survey (MEPS)

The MEPS is a nationally representative survey from AHCPR focused on the financing and utilization of medical care in the United States. It is composed of 4 parts: the Household Component, the Medical Provider Component, the Insurance Component, and the Nursing Home Component. It is designed to yield comprehensive data that estimate the level and distribution of health care use and expenditures, monitor the dynamics of the health care delivery and insurance systems, and assess health care policy implications. It has been used to estimate the impact of changes in insurance coverage on different populations including racial and ethnic minority groups.

11. Health Care Finance Administration (HCFA)

Hospital Discharge Data

HCFA maintains in-patient computerized databases that can be used for analysis of the AIAN population. The bulk of the in-patient data relates to patients age 65 years of age. Based on the MEDPAR files of in-patient hospital records for eligible Medicare beneficiaries, it is possible to examine ICD coded diagnoses for hospitalizations among AIANs. However, a specific category for AIAN was not included in the HCFA data files until 1994 and is seriously underestimated compared to the census. Recently, the IHS enrollment files have been used to "re-populate" the HCFA beneficiary files which should augment the number of AIANs.

Out-patient Data

HCFA has maintained computerized out-patient records with ICD diagnostic and procedure information since 1993 on all beneficiaries. This data is of questionable validity and is subject to the same problems as indicated above with regard to the identification of AIANs.

End Stage Renal Disease (ESRD) Data

Also maintained by HCFA is a national database for the ESRD program that is not limited to ages +/-65. These data provide information on the use of dialysis amongst AIANs throughout the U.S. who are eligible under provisions of Medicare. This database is maintained separately from HCFA's inpatient and out-patient files and has had specified racial codes for AIAN for more than a decade.

12. National Cancer Institute (NCI)

The NCI's Surveillance, Epidemiology, End Results (SEER) Program provide public use databases on site specific cancer incidence. These are available from the NCI SEER system that collects detailed data on histologically confirmed cancers in 10 regional sites in the U.S. and includes racial coding for AIAN. The data have been collected for more than a decade at all current SEER sites and some go back many years longer. The New Mexico and Washington sites are of particular importance because of the relatively high proportion AI/ANs residing in these states. Identification of appropriate AIAN denominators for the cases identified from the SEER sites is an issue that must be accounted for any analysis of these data.

C. Other Resources for Secondary Data Analyses on Native Health

Selected Papers Using Secondary Data For Studies on AIAN Health {The following are a highly selected sample of publications using currently available databases that include AI/ANs):

Overview of Current Status of Data Problems

Sugarman JR, et al. Improving health data among American Indians and Alaska Natives: an approach from the Pacific Northwest. In: *Health Care and Information Ethics: Protecting Fundamental Human Rights.* Chapman AR, ed. Sheed & Ward, Kansas City, 1997, pp 88-113.

Mortality Studies

Hayward MD, Heron M. Racial inequality in active life among adult Americans. *Demography* 1999;36:77-91.

Cancer Incidence Studies

Nutting PA, et al. Cancer incidence among American Indians and Alaska Natives, 1980 through 1987. *Am J Public Health* 1993;83:1589-1598.

Frost F, et al. Racial misclassification of Native Americans in a SEER cancer registry. *JNCI* 1992;84:957-962.

Health Habits and Health Status
Will JC, et al. Trends in body weight among American Indians: findings from a telephone survey, 1985 through 1996. *Am J Public Health* 1999;89:395-398.

Coughlin SS, et al. Breast and cervical cancer screening practices among American Indian and Alaska Native women in the United States, 1992-1997. *Prev Med* 1999;29;287-295.

Grossman DC, et al. Health status of urban American Indians and Alaska Natives. A population-based study. *JAMA* 1994;271:845-50.

Diabetes
CDC. Prevalence of diagnosed diabetes among American Indians/Alaskan Natives-United States, 1996. *MMWR* 1998;47:901-904.

Injury
Compas-Outcalt D, et al. Motor-vehicle crash fatalities among American Indians and non-Indians in Arizona, 1979 through 1988. *Am J Pub Health* 1997;87:282-285.

Sullivan M, Grossman DC. Hospitalization for motor vehicle injuries among American Indians and Alaska Natives in Washington. *Am J Prev Med* 1999;17:38-42.

Strong Heart and Navajo Health and Nutrition Survey
Howard B, et al. Rising tide of cardiovascular disease in American Indians: Strong Heart Study. *Circulation* 1999;99:2389-2395.

Byers T, Hubbard J. Findings and implications of the Navajo health and nutrition survey. *J Nutrit* 1997;127:2075S-2135S.