Director's Corner: Welcome to *Inside NCHS*

I celebrated a milestone recently—I have been an employee of the federal government for 35 years. For the last 16 of those years, I have been Director of NCHS. It has been an astonishing tenure, to say the least; full of change, challenge, and progress.

A substantial need for timely, accurate data existed when I joined NCHS, and that need is even greater today. So far this year, we've published 16 Data Briefs covering as many different health topics; several significant, in-depth reports; journal articles; and our annual *Health, United States*. By year's end, we will have published more than 100 scientific reports, public-use data files, and many other examples of state-of-the-art research. To me, that is a breathtaking level of productivity.

We research and report on nearly all aspects of American health from beginning to end, with an ever-growing number of stops in between. We emphasize exploring new methods for maximizing the scientific value of our population-based surveys through data linkage, and embrace the latest technological advances to develop new research and reporting tools.

Which brings us to this, our newest publication. *Inside NCHS* is an opportunity for us to report on what goes on behind the research and reporting. It's designed to go beyond the numbers to provide insights into the work we do, the collaborations that make it possible, the people that make it happen, and the issues that confront us in the course of fulfilling our mission.

Each issue will feature articles that discuss the stories behind noteworthy reports, the processes by which we collect our data, what the experts have to say, and the challenges we overcome to get this vitally important information out to our stakeholders. We will keep you up-to-date on our people—the milestones they reach, the honors they receive, and the changes that inevitably occur.

Inside NCHS will also provide a forum to inform you about the important issues that we face, with topics ranging from the annual budget to ensuring confidentiality in an increasingly insecure world.

Perhaps most importantly, *Inside NCHS* gives you an opportunity to let us know *your* thoughts. What articles would you like to read? What reports are vital to you? What topics interest you the most? How can we improve our products, including this newsletter?

I hope you enjoy this first issue of *Inside NCHS*, and I look forward to your comments.

Edward J. Sondik, Ph.D.
Director, National Center for Health Statistics

Connecting Surveys to Administrative Records: Data Linkage Opens Doors to New Longitudinal Research

A Valuable Resource for Researchers

NCHS's record linkage program is designed to maximize the scientific value of the Center's population-based surveys. Linked data files enable researchers to take the "long view" and examine the factors that influence disability, chronic disease, health care utilization, morbidity, and mortality.

Producing Results Through Collaboration

One of NCHS's major linkage projects combines various NCHS surveys with enrollment and claims data from the Centers for Medicare & Medicaid Services (CMS), and Retirement, Survivor, and Disability Insurance and Supplemental Security Income benefit data from the Social Security Administration (SSA). In other words, for NCHS survey respondents enrolled in one or more of these programs, either at the time of the survey, and in some cases prior to or after the survey, their survey responses are linked to their information from these administrative records.

Making the right connections between the various data sets involves many players and many moving parts. To produce the linked data files, it takes the full cooperation of NCHS, the Office of the Assistant Secretary for Planning and Evaluation, SSA, and CMS.

Through these many collaborative efforts, a number of reports have been published using linked CMS and SSA files. A few recent examples give an idea of the broad scope of research being undertaken:

- "Health Service Use Among the Previously Uninsured: Is Subsidized Health Insurance Enough?" Sandra L. Decker, Jalpa A. Doshi, Amy E. Knaup, and Daniel Polsky. The study used Medicare claims data linked to two different surveys – the National Health Interview Survey and the Health and Retirement Study (Institute for Social Research, University of Michigan) to describe the relationship between insurance status before age 65 and the use of Medicare-covered services beginning at age 65. The authors found that persons who were uninsured before age 65 have 16% fewer visits to office-based physicians than those who were previously insured, but make 18% (previously uninsured) and 43% (previously insured) more visits to hospital emergency and outpatient departments. The authors noted that a key question for the future may be why the previously uninsured continue to use the health care system differently from the previously insured – especially important as health coverage expansions are implemented. (Published in *Health Economics*, 2011)

- "The Predicted Effects of Chronic Obesity in Middle Age on Medicare Costs and Mortality." Liming Cai, James Lubitz, Katherine M. Flegal, and Elsie R. Pamuk. The authors found that obese 45-year-olds had a smaller chance of surviving to age 65 and, if they did, incurred significantly higher average lifetime Medicare costs than normal-weight 45-year-olds. They concluded that Medicare costs may rise substantially in the future to meet the health care needs of today's obese middle-aged population, and that active engagement by both the private and public sectors to prevent and reduce obesity are critically needed. (Published in *Medical Care*, Vol. 48, No. 6, June 2010)
- National Health Statistics Report No. 53, "Health Characteristics of Medicare Traditional Fee-for-Service and Medicare Advantage Enrollees: 1999-2004 National Health and Nutrition Examination Survey Linked to 2007 Medicare Data ." Lisa B. Mirel, Division of Health and Nutrition Examination Surveys, and Gloria Wheatcroft, Jennifer D. Parker, and Diane M. Makuc, Office of Analysis and Epidemiology. This recent National Health Statistics Report examines measured and reported health characteristics of Medicare enrollees and is the first full NCHS report analyzing data from the 1999-2004 National Health and Nutrition Examination Survey linked to the 2007 Medicare enrollment data. (Published in May 2012 and available for download from the NCHS website)

Insuring Confidentiality

With a regulatory and legislative mandate to protect the privacy of those who participate in our programs, NCHS takes extraordinary measures to ensure confidentiality and prevent the disclosure of personal information.

Confidentiality is also an integral part of the proposal process. All requests to conduct research using the data linkage files are carefully scrutinized for potential disclosure risks. Proposals are also reviewed for technical feasibility, appropriateness, availability of the data, and public health benefits. Researchers are granted access only to the restricted variables necessary to undertake their work through the Research Data Center.

Looking to the Future

Linked files shed valuable light to help us understand new correlations. Program participation and utilization data expand the picture beyond the self-reported information collected in our surveys, just as survey information–individual and family socioeconomic status measures, self-reported limitations and health conditions, employment status, and more–add needed context to records data from CMS and SSA.

However, it is the additional ability to delve into the longitudinal aspect–to explore both the prospective and retrospective views–that enables researchers to provide the necessary framework for directing health policy.

Special Projects Branch analysts Cordell Golden and Donna Miller contributed to this article. They also make significant contributions to the successful execution of the data linkage program.

For more information on data linkage, including how to submit research proposals, contact Dr. Jennifer Parker, Special Projects Branch Chief, at datalinkage@cdc.gov.

A session entitled "Linked NCHS–CMS Data: Analytic Methods and Research Examples," will take place at the National Conference on Health Statistics, Tuesday, August 7, 10:30 a.m.-12:00 p.m Visit the Conference page to register.

On the Path to Understanding Autism

Data Brief 97, "Diagnostic History and Treatment of School-aged Children with Autism Spectrum Disorder and Special Health Care Needs," published in May 2012, is available for download from the NCHS website.

A collaborative effort between NCHS, the National Institute of Mental Health (NIMH), and the federal Maternal and Child Health Bureau (MCHB) has provided the first detailed look at the process of diagnosis and the treatment of autism spectrum disorder (ASD), intellectual disability, and developmental delay. The project has its origins in something completely unexpected—and, until all the data are analyzed, inexplicable, according to Stephen J. Blumberg, Ph.D.

Dr. Blumberg is one of the authors of a recent *NCHS Data Brief*, "Diagnostic History and Treatment of School-aged Children with Autism Spectrum Disorder and Special Health Care Needs." This data brief is the first of several reports that the research team will publish addressing autism spectrum disorder and children with special health care needs (CSHCN).

According to Dr. Blumberg, the seeds of research into the diagnosis and treatment of ASD were planted by a 2007 NCHS survey. That survey—National Survey of Children's Health—included questions about ASD that were used by MCHB and CDC to generate a prevalence estimate of parent-reported autism. The results, says Dr. Blumberg, were very consistent with CDC's Autism and Developmental Disabilities Monitoring (ADDM) Network's data, long considered the gold standard for autism research.

But the results also revealed something no one had seen before: A considerable number of parents who said that their children once had autism—but didn't have it anymore.

"That," Dr. Blumberg says, "was completely unexpected."

That unusual finding caught the attention of NIMH, which wanted to know more about these children who seemed to lose the diagnosis. NIMH approached NCHS and MCHB to collaborate on a survey to study this finding, and diagnosis and treatment generally.

Funding for the project was provided by NIMH from American Recovery and Reinvestment Act grants. NCHS, NIMH, MCHB, and a team of external advisers developed the resulting survey, Survey of Pathways to Diagnosis and Services, known generally as the Pathways Survey.

The Pathways Survey was conducted via the State and Local Area Integrated Telephone Survey (SLAITS). SLAITS has been fielding children's health care surveys sponsored by MCHB since 2001, but this was the first time that SLAITS fielded a follow-up survey to investigate a question that arose from an earlier survey.

The recent *NCHS Data Brief*, Dr. Blumberg says, looks generally at diagnostic history and treatment. Subsequent reports will look at intellectual disabilities and developmental delays, and, of course, the group of children whose parents report that they no longer have ASD.

Dr. Blumberg cites pediatric health care researchers and policy makers as the target audience for the reports but notes that pediatricians are a key audience as well, since they are among the first to recognize developmental disabilities. The data may also be used by the Department of Health and Human Services' Interagency Autism Coordinating Committee, which facilitates and provides advice on prioritizing departmental autism-related activities.

Dr. Blumberg notes that, in contrast to the usual difficulties recruiting participants for telephone surveys, the Pathways Survey was remarkably easy to field. "Parents of these children were happy to talk with us," he says. "They were excited to have an opportunity to share their stories, and they were pleased that CDC was taking an interest in their children."

Dr. Blumberg will discuss "Autism, Autism Spectrum Disorder, and Other Developmental Delays: The Survey of Pathways to Diagnosis and Services" at the National Conference on Health Statistics, Tuesday, August 7, 1:30-3:00 p.m. Visit the Conference page to register.

National Leaders in Health Research to Address National Conference on Health Statistics

Three nationally recognized leaders in the fields of health care research, statistics, and policy will deliver keynote addresses to the 2012 National Conference on Health Statistics, held August 6-8, at the Renaissance Hotel in Washington, D.C. The Conference is a biennial event produced by NCHS.

Dr. Harold Luft, of the Palo Alto Medical Foundation Research Institute, will address Tuesday morning's plenary session. Dr. Luft, a senior investigator who previously served as the Institute's Director, is also the Caldwell B. Esselstyn Professor Emeritus of Health Policy and Health Economics at the Philip R. Lee Institute for Health Policy Studies at the University of California, San Francisco. His most recent book, "Total Cure: The Antidote to the Health Care Crisis," was published in 2008 by Harvard University Press.

Dr. Lisa A. Simpson and Dr. Mohammad N. Akhter will address the Wednesday morning plenary session. Dr. Simpson is president and CEO of AcademyHealth. Her research focuses on improving the performance of the health care system, and includes studies of the quality and safety of care, the role of health information technology in improving the quality of care, health and health care disparities, and the health policy and system response to childhood obesity. She is the recipient of numerous awards, including the 2010 Public Policy and Advocacy award from the Academic Pediatrics Association.

Dr. Akhter is Director of the D.C. Department of Health and former Executive Director of the American Public Health Association. His top priorities at the Department include implementation of health care reform, expansion of HIV services and making them available on demand, supporting training programs for D.C. residents to qualify for jobs in health care, and improving access to quality care across the District. Dr. Akhter is the recipient of the 2007 Sedwick Memorial Medal for Distinguished Service in Public Health.

"We are very fortunate to have Drs. Luft, Simpson, and Akhter as our keynote speakers," said Dr. Edward Sondik, Director of NCHS. "Each is, in his or her own right, a powerful advocate for using statistical research to develop policies and plans for improving our nation's health."

For more information and to register for the Conference, visit the 2012 National Conference on Health Statistics website or call (301) 989-9000. Registration closes July 23, 2012.

Ask the Expert: Dr. Brady Hamilton

Data Brief 89, "Birth Rates for U.S. Teenagers Reach Historic Lows for All Age and Ethnic Groups," published in April 2012, is available for download from the NCHS website. Take a closer look at teenage birth rates by state in our Closer Look section.

Birth rates for U.S. teenagers have reached historic lows for all age and ethnic groups, according to a recent *NCHS Data Brief*. We spoke with Brady Hamilton, Ph.D., one of NCHS's natality experts, about tracking teen births, what's new in the report, and a surprising trend.

How long have you been keeping track of births among U.S. teenagers?

We've tracked births by age of the mother for quite some time. We look at birth data for all ages, not just teens. It gives us a very detailed picture of what's happening in the country in terms of fertility and childbearing patterns.

There's a lot of interest in births to teens because it is a crucial time in their lives. They're preparing to enter the work force and/or continue with their education. And that, of course, can have a substantial impact on the country as a whole.

Where do the data come from?

The data come from state birth certificates, which tell us a lot—age of mother, gestational age, birth weight, smoking patterns of the mother, and so on. What the data from birth certificates does not tell us, of course, is why. What were the parents thinking? What decisions were they making, or not? For that, we rely on the National Survey of Family Growth. We also count on that for information on contraceptive use and changes in sexual behavior.

This latest data brief on teen births includes information you've never included before. Can you describe it?

We included a couple of new things. First, we've provided a detailed geographical breakdown, state by state, of teen birth rates. This was in response to regional interest in teen birth data, and has been welcomed by state officials as well as the general public.

We've also been able to turn the abstract into the concrete, and project the births to teens that did not occur. If teens had continued to give birth at 1991 rates, there would be an estimated 3.4 million additional total births to teenagers from 1992 through 2010.

What agencies do you collaborate with in creating these reports?

First and foremost, we work with the states, independent reporting areas, and U.S. territories to collect birth certificate data and produce the national statistics. Their state data are the source of our national data. We also work with a number of other federal agencies, in particular the U.S. Census Bureau, which provides us with the populations used to compute the birth and fertility rates in our reports.

Any new trends you'd like to let us in on?

I think the one to watch is the cesarean delivery rate. Currently, about a third of all births in the United States are delivered by cesarean. That is astounding. Cesarean delivery rate had been rising steadily from 1996, when about a fifth of births were delivered by cesarean. However, in 2010 the cesarean delivery rate declined for the first time since 1996. That is noteworthy.

Dr. Hamilton will discuss "Results of the 2010 Census: Impact on Trends and Variations in Population and Health Statistics" at the National Conference on Health Statistics, Tuesday, August 7, from 10:30 a.m. to 12:00 p.m. Visit the Conference page to register.

In the News

The New York Times Looks at Children and Sugar

The New York Times highlighted the work of senior epidemiologist Dr. Cynthia L. Ogden and her team in their coverage of children and sugar consumption. The March 19 article, “Added Sugars Pile Up on Children’s Plates,” covers data and findings from Data Brief 87, *Consumption of Added Sugar Among U.S. Children and Adolescents, 2005-2008* (March 2012). Among the surprising findings highlighted: Young people obtained only 40 percent of sugar calories from soft drinks, and they got most of their sugar at home. Dr. Ogden also recently discussed the issue of obesity as part of a keynote panel at a plenary session of the CDC’s “Weight of the Nation” Conference in Washington, D.C.

JET Sets Sights on Unwed Mothers

An article in the April 16, 2012, issue of JET magazine on children born out of wedlock, “Baby Boom,” featured an illustrative graph created from data excerpted from the November 2011 *National Vital Statistics Report*, Vol. 60, No. 1. The graph, “Percent of Births to Unmarried Women by Race and Ethnicity, 1990-2009,” cited the report’s authors: Joyce A. Martin, Brady E. Hamilton, Stephanie J. Ventura, Michelle J.K. Osterman, Sharon Kirmeyer, T.J. Mathews, and Elizabeth C. Wilson. The graph first appeared in a November 2011 *Child Trends Research Brief*.

Milestones and Honors

Dr. Nathaniel Schenker Elected American Statistical Association 2014 President

The American Statistical Association (ASA), the world's largest community of statisticians, has elected NCHS's Dr. Nathaniel Schenker to serve as ASA's 109th president. Dr. Schenker will serve as president-elect in 2013 and become president on January 1, 2014. He formerly served as the association's vice president.

Dr. Schenker is NCHS's Associate Director for Research and Methodology and received NCHS's Elijah White Outstanding Scientist Award in 2010. He is also an Adjunct Professor in the Joint Program in Survey Methodology at the University of Maryland. Dr. Schenker has also been honored by ASA, which awarded him the Roger Herriott Award for Innovation in Federal Statistics in 2006 and its prestigious Founders Award for distinguished service in 2011.

Dr. Schenker will serve a 3-year term on ASA's Board of Directors in 2013-2015, with 1 year each as President-Elect, President, and Past President.

Congratulations, Dr. Schenker!

NCHS Takes Top Poster Honors at Population Association of America Event

Dr. Gladys Martinez and Dr. Casey Copen turned their family research into a prize-winning poster this May at the 2012 Annual Meeting of the Population Association of America in San Francisco. The poster, entitled, "The Weakening Link: The Sequencing of First Sex, First Marriage, and First Births Among Women in the U.S.: National Survey of Family Growth 1988-2010," received first-place honors at one of the meeting's poster sessions.

The poster looked at how the sequencing of first sex, first marriage, and first birth vary by Hispanic origin and race, and how these patterns have changed over time. Data came from four cycles of the National Survey of Family Growth between 1988 and 2010. Specifically, the poster (below) highlighted:

- Trends over time in the sequencing of first sex, first marriage, and first birth, and differences by race
- Trends over time in the cumulative age at first sex, first marriage, and first birth, and differences by race

- Predictors of factors that increased the likelihood that a woman who had a premarital pregnancy would marry before the child was born

The study found that, during 2006-2010, the most common path for women was premarital first sex followed by marriage at some point in time. The second most common path was premarital sex followed by premarital birth. The percentage of women following this path grew from 13% in 1988 to 28% for 2006-2010—more than double.

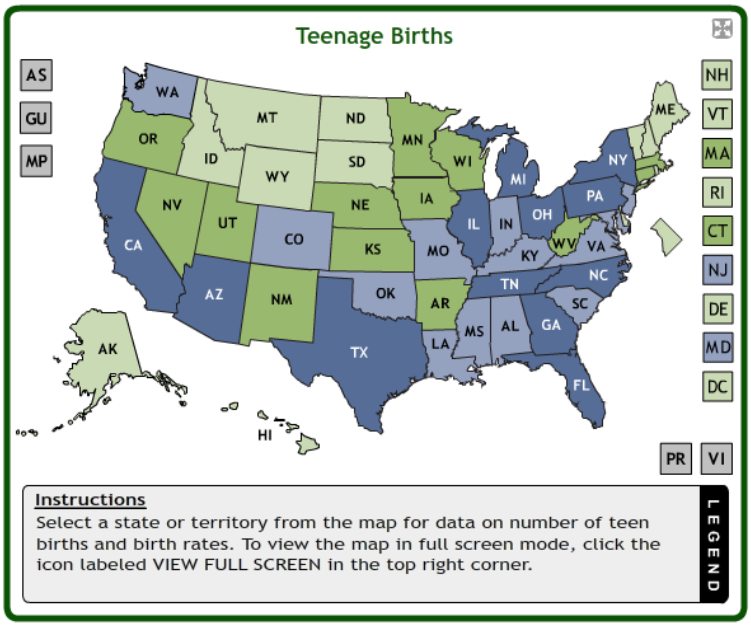
The poster will be displayed as an entrant in the poster sessions at this year's National Conference on Health Statistics, August 6-8, in Washington, DC.

Congratulations, Dr. Martinez and Dr. Copen!

Closer Look: Teenage Births

Teen birth rates declined in all but three states from 2007 through 2010. Rates tended to be highest in the South and Southwest and lowest in the Northeast and Upper Midwest, a pattern that has persisted for many years. Mississippi had the highest rate of teen births in both 2007 and 2010, yet it still saw a 21% drop during that span. Arizona had the biggest teen birth rate decline – 29%.

Note: Additional functionality available in the online version of Inside NCHS



NOTE: Data for 2010 are preliminary. Data for 2007 are final.

Source: Data Brief 89, data table for number of births and birth rates for teenagers aged 15–19 by state, 2007 and 2010, and percent change in rates, 2007–2010

Data from Data Brief 89, "Birth Rates for U.S. Teenagers Reach Historic Lows for All Age and Ethnic Groups," by Brady E. Hamilton, Ph.D., and Stephanie J. Ventura, M.A.

The report contains data from the NVSS Natality Data File. Natality files are available from Vital Statistics Online. Data for 2009 and earlier years may also be accessed from the interactive data access tool, VitalStats.

Birth rates for 2010 are based on preliminary data. Population data for computing birth rates for 2010 were provided by the U.S. Census Bureau and are based on the April 1, 2010, census. Rates for 2007 have been revised on the basis of population estimates based on the 2000 and 2010 censuses, which provide more accurate data for the years since 2000. Rates by state shown here may differ from rates computed on the basis of other population estimates.