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# **DATA NEEDS FOR MONITORING CHANGES IN MATERNAL AND CHILD HEALTH STATUS IN RURAL COMMUNITIES**

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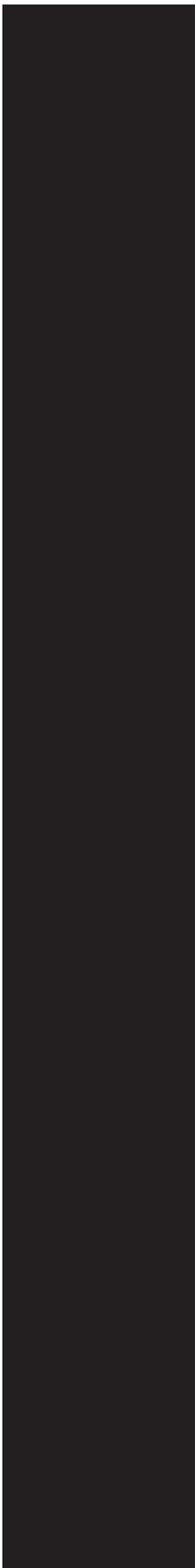
WORKING PAPER SERIES

North Carolina Rural Health Research Program

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# **DATA NEEDS FOR MONITORING CHANGES IN MATERNAL AND CHILD HEALTH STATUS IN RURAL COMMUNITIES**

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## I. INTRODUCTION

After the demise of comprehensive health reform marked by the failure of the President's Health Security Act to pass Congress, Congressional leaders and the President have sought to incrementally improve access to health care and health insurance. Expansion of services to children has become a priority issue, and the Balanced Budget Act of 1997 includes \$24 billion dollars over the next five years to provide insurance for children (Kennedy and Hatch, 8/20/97). Although a large sum, this amount will not cover all of the currently uninsured children. Beginning October 1, 1997, states can qualify for these dollars through either an expansion of Medicaid or by designing their own programs following the guidelines of the Act. Depending on how states choose to qualify for the available federal dollars, there is the potential for creating pressure on rural health care systems and exacerbating or creating new inequities in resource allocation and financing. This paper will identify and discuss the usefulness of currently available data that can be used to monitor the potential and actual effects of this and other policies on rural maternal and child health status. In addition, recommendations will be made on how to better meet the data needs for timely analysis of the effects of policy on rural children and mothers.

Before deciding which datasets are appropriate for tracking the impact of maternal and child health policies on rural populations, important items which should be monitored to make such assessments must be identified. Section II discusses the identification of such items. In Section III, we present the methods we used to find all relevant secondary data sources which contain some of these items. These data sources are reviewed in Section IV, and their strengths and weaknesses for rural maternal and child health policy analysis are discussed. Section V presents an overall discussion of the usefulness and limitations of current data sources and the paper concludes in Section VI with our recommendations, given the available data, on how rural research and policy analysis centers can best be positioned to respond to rural maternal and child health policy analysis requests.

## II. ITEMS TO BE MONITORED

There has been no clear guidance as to which data are most necessary to monitor rural maternal and child health status, and the health policies and programs which affect this segment of the population. The ultimate goal is to be able to determine the health status of rural children and mothers, and to track the impact of specific policies on this population's health status.

The task of defining the optimum indicators that should be collected to be able to address issues related to maternal and child health is not an easy one. In particular, children as a group are relatively healthy; many of the illnesses which were important contributors to morbidity and mortality in the past (e.g. infectious diseases) have become less important with the advent of antibiotics and immunizations. There are emerging morbidities such as asthma, injuries, and behavioral issues, which redefine what constitutes a healthy child. For mothers, there are issues of which indicators are important - those specifically addressing reproductive health or more general health indicators, which impact on reproductive health.

In addition, currently collected indicators are often inadequate as they are defined differently across the states, making cross-state comparisons difficult. National surveys, while offering definitional consistency across the country, do not support analysis at the state level. Also, the task of finding acceptable measures of health status which can be collected without an inordinate amount of expense is a difficult one, due in part to the infrequency of some conditions. To address these problems, the Maternal and Child Health Information Resource Center, located at the Public Health Foundation in Washington, D.C., has received three years of funding from the Bureau of Maternal and Child Health to develop uniform indicators that could be used across all states and localities, urban and rural, for data collection. The Maternal and Child Health Department at the UNC School of Public Health is a subcontractor on this project.

In order to decide which currently available data are relevant for rural policy issues, and in the absence of completed work by the Maternal and

Child Health Resource Center, we have identified a number of indicators that can be monitored to assess the impact of policy on rural mothers and children. These are listed in Table 1. Although we developed this list in consultation with a number of researchers working in the maternal and child health field, it should be regarded as preliminary due to the short time frame available for its development. A more carefully considered, comprehensive list of indicators will be available in the final report due from the Maternal and Child Health Resource Center later this fall.

Our list of recommended indicators is divided into two main categories, the “means” and the “end.” Health policies generally are designed to effect change on the health care infrastructure, by focusing on changes to the distribution of health services and resources, or on health financing. The assumption behind policy is that changes to the infrastructure are the means to the ultimate goal or “end” of improved health status. To measure the impact of these policies, the health services researcher can focus on determining if the desired change in “means” has occurred (for example, that more prenatal care is available in rural areas) or whether the change in “end” has happened (an improvement in pregnancy outcomes).

Although when evaluating the impact of a policy it would be ideal to always be able to assess the effect of that policy on health status, health status can be difficult to measure. There are selected indicators that have been used to measure overall health status (such as morbidity and mortality rates), but these indicators actually measure the endpoint of the system, with changes in these endpoints often occurring late in the health care process. Thus, use of these indicators for the evaluation of current policies can introduce a time-lag into the analysis, as current health status will most likely be reflected in rates which are yet to be measured.

Ideally, researchers would like to assess health status indicators early in the process that would identify the potential for health problems later, but these indicators are rare. There are very few indicators of health status where the value of the

indicator today will predict health status at a later point in time. Instead, researchers use a few preventive care markers such as immunization and prenatal care rates, but easily measured markers of preventive care that can be directly and temporally linked to health outcomes are few.

More often, researchers use proxies such as primary care provider supply, which are more readily available data but are less connected both causally and temporally to health status. The availability of certain health services and processes, the “means”, become proxies for the “end”, current health status. Tracking these proxies allows for system adjustment in a more timely fashion if indicators point to a problem. Features of the health service delivery system or health financing are also used as proxies for health status, as they are believed to affect access to services which in turn affects health.

**TABLE 1**

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## Recommended Indicators to Monitor

**A. “Means”**

Changes in health services and resources (access):

- HMO service areas and enrollment data
- Hospital use (by location of hospital)
- Utilization of medical care (primary and specialty care)
- Primary care provider supply, including nurse midwives, obstetricians, and pediatricians
- Hospital resources (beds/population ratios, distance to ER care, OB care, ICU care and other specialty care such as neonatal intensive care)
- Other hospital or clinic needs (family planning, prenatal care, well child, immunization)
- Other support health professionals (dental, social work, family planning)
- CHCs, RHC, and public health department services for mothers and children
- Network inclusion of maternal and child health services
- WIC coverage
- Headstart coverage
- EPSDT coverage

Health financing:

- Block grant programs in HRSA
- State Medicaid policies and payments for MCH
- State programs for insurance coverage for children, including programs funded under the Balanced Budget Act of 1997
- Insurance status of mothers and children
- Coverage of children’s preventative care

**B. “End”**

Early indicators of health status:

- Prenatal care indexes, start of prenatal care
- Immunization rates

Late indicators of health status:

- Infant mortality rates
- Low birth weight rates
- Complications of pregnancy and delivery (morbidity, mortality)
- Teen pregnancy rates
- Abortion rates
- Chronic illnesses for mothers and children
- HIV rates among newborns, teens, and pregnant women
- Incidence of vaccine-preventable disease (reportable diseases with incidence high enough to allow for urban/rural comparison include hepatitis A & B, pertussis, mumps)
- Child mortality—rates and rank order of causes
- Child injury—rates and rank order of causes

### III. METHODS

As a starting point in the identification of data sources, we relied on previously written reviews of datasets as they relate to rural analyses or maternal and child health or both. Due to the enormosity of the task of identifying the universe of datasets with at least some variables which are relevant to maternal and child health issues, we did not try and replicate these reviews. We did use the reviews to help us identify a list of datasets relevant for maternal and child health policy analysis. Further information on each dataset was obtained to determine its usefulness in addressing these issues for rural populations. The reviews we used include:

DeClerque, J.L.; Pedulla, N.M.; Guild, P.A.; Bennett, T.A. Data Sources for Research on Rural Adolescent Pregnancy: An Evaluability Assessment. North Carolina Rural Health Research Program Working Paper Series, No. 41, June 1995.

McManus, M.A.; Melus, S.E.; Norton, C.H.; Brauer, M.F. Guide to National Data on Maternal and Child Health: with special emphasis on financing services for chronically ill children. McManus Health Policy, Inc., Washington, D.C. February 1986.

Neumann, P.J.; Juday, T.R. 'A Review of Databases and Barriers to Data Collection for Measuring Health Outcomes in Rural Racial/Ethnic Population' in: Patient Outcomes and Medical Effectiveness Research in Rural Areas for Racial/Ethnic Population. Deliverable for AHCPR DO#2. University of Washington AHCPR Center for Rural Health Services Research, November 1994.

In addition, the catalog of HCFA public use files, the National Center for Health Statistics Web site, and CDC's catalog of electronic publications were searched and CDC staff were contacted to identify more recent data sources which might not have been picked up in the reviews. Finally, three foundations who focus on maternal and child health, The Children's Defense Fund, The Annie E. Casey Foundation, and The Alan Guttmacher Institute, were contacted to deter-

mine if they had data available to outside researchers. Descriptions of these foundations and their work can be found in Appendix I.

The final list of datasets contains only those data sources that are available on a national basis. Although many states collect maternal and child health indicators for their own purposes, we did not feel that data which are only available for one state, and are idiosyncratic in nature, suit the purpose of being able to track the effects of national policy over time. Another problem with state-collected data is that the methods used for collecting data, and the way that indicators are defined varies from state to state, making aggregation into a national dataset problematic. For an exhaustive description of state databases, see the working paper by DeClerque, et al, 1995.

### IV. REVIEW OF DATA SOURCES

There are a number of national surveys and/or data collection efforts which contain maternal and child health indicators. This section will discuss the most important of these data sources. A tabular description of these datasets can be found in Appendix II. For each data source the table shows the types of variables it contains and the sample frame, the frequency with which data are updated, the cost of purchasing the data, what rural indicators come with the data set and, if the indicators are not adequate for rural health policy research, how one might make the data usable, including the need for requests for special geographic identifiers. In addition, Appendix II includes a summary table that relates the indicators in Table 1 to the datasets in which they can be found.

The best single source of the health status indicators listed in Table 1 is the Centers for Disease Control and Prevention (CDC), which routinely collects a number of relevant statistics from health departments and states, including the incidence of sexually transmitted diseases (STDs) and infectious diseases (which include vaccine preventable diseases). Unfortunately, these data are not available for analysis by researchers outside of the CDC, and released statistics tend to be quite summary in nature and do not explore urban-rural differences beyond simple metropoli-

tan/nonmetropolitan comparisons. Other sources of maternal and child health status indicators include the National Survey of Family Growth (NSFG), the National Health Interview Survey (NHIS), Linked Birth and Infant Death data, and the National Health and Nutrition Examination Study (NHANES). State-level data on some health status indicators are also available (and are summarized in the Annie E. Casey KIDS COUNT data book), but it was beyond the scope of this project to query every state to obtain details regarding the data they collect.

Indicators which can be used to monitor changes in health services and resources as they pertain to rural maternal and child health can be found in a number of different data sources. These indicators fall into two distinct groups: those that are specific to the health and/or health care of mothers and children (such as supply of nurse-midwives, pediatricians, and obstetricians, or Headstart, Special Supplemental Nutrition Program for Women, Infants and Children (WIC) and Early and Periodic Screening Diagnosis and Treatment (EPSDT) coverage), and those which have an impact on mothers and children but are also relevant to other populations (such as HMO enrollment). For many of the indicators specific to maternal and child health (such as WIC, Headstart, and EPSDT coverage) we could find no readily available source of data. Data on HMO service area and enrollment are also not easily accessed, as they are either only for the Medicare population, or are prohibitively expensive because they must be purchased through the private sector. Other indicators are available, but are each found in different datasets, making access to all of them time consuming and costly. Provider supply data can be obtained from the Area Resource File (ARF), although there is a time lag (the 1997 ARF contains provider supply by specialty and by county for 1995).

Although data on hospital resources and use are available and affordable, these data are of limited value for children in particular, because this population is infrequently hospitalized. Hospital resource data can be obtained from the American Hospital Association's annual survey of hospitals. Information on hospital use can be obtained from

the National Hospital Discharge Survey, while utilization of primary care data can be found in the National Hospital Ambulatory Medical Care Survey, the National Health Interview Survey, the National Ambulatory Medical Care Survey and the Medical Expenditure Panel Survey.

Data which address the health financing issues listed in Table 1, with the exception of rates of the uninsured (discussed below), are not available in any secondary dataset. These data reflect state programs and policies, and would need to be collected on a state-by-state basis. There are two national surveys which could be used to estimate the rate of uninsured mothers and children, the Current Population Survey and the Medical Expenditure Panel Survey. However, neither of these datasets have sampling frames that are designed to generate estimates below the national level; although a simple metropolitan/nonmetropolitan breakdown might be feasible, when further subsetting to only mothers and children it is possible that generated estimates would not be valid.

The use of all the national surveys listed above and in Appendix II is subject to the same general set of limitations. With the exception of the few datasets which contain the universe of available observations (ARF, AHA), use of national survey data requires a significant investment in time to understand the sampling frame and the appropriate use of survey weights. For all survey data, there is a time lag between date of collection, and date of release to researchers. As described in Appendix II, many public use surveys do not come with geographic indicators beyond whether a county is metropolitan or non-metropolitan. While for some surveys geographic indicators such as county can be requested, these requests typically add significantly to the time and cost necessary to acquire the data, and sometimes can only be obtained by losing other identifiers in the data.

The National Health Interview Survey (NHIS) and the National Survey of Family Growth (NSFG) cannot be released with geographic units below the four census regions. To facilitate analysis at smaller geographic units, the National Center for Health Statistics (NCHS) is

starting a pilot program, Analytic Programming Services, which will allow for merging on ecological data for analysis by NCHS staff, although there are still constraints of money, location, and the staff will “monitor output for possible confidentiality problems.” It is too early to know how well this service will work, both in terms of expense and timeliness of job completion.

One final source of data that could be used to address a variety of maternal and child health policy issues is Medicaid claims and enrollment data. However, for a number of reasons, these data are not useful for short turnaround policy analysis. First, as more and more states implement Medicaid managed care programs, the availability of encounter data will diminish. Second, attaining data is either very time consuming, costly, or both. Although technically researchers could acquire data directly from the states, experience has shown that there are long delays (up to several years) in getting the data, when the data finally arrive they are often in incorrect form, and programming to make the data usable to researchers is difficult. Claims and encounter data are now marketed by the Health Care Financing Administration as State Medicaid Research Files (SMRF). These files, which are created nine months after the end of the calendar year, are not available for all states. The files do contain many important maternal and child health variables including: neonate indicator, delivery indicator, FIPS county code, ZIP code, basis for eligibility and other insurance, HMO enrollment, EPSDT program status (eligible and number of months in program), type of service (including EPSDT, family planning, rural health services), primary diagnosis, and place of service. Unfortunately, although the files come in a form ready for analysis, they are quite expensive; one year of data can range from \$5,000-\$32,000 per state, depending on the number of enrollees.

## V. DISCUSSION

There are clearly a large number of datasets which are potentially useful for addressing rural MCH issues. Unfortunately, different indicators of rural maternal and child health status are found in different datasets, so to be able to provide a

quick response to the breadth of potential policy questions would require the maintenance and familiarity with a number of surveys. Although the cost of acquiring many of these datasets in CD form is quite low, the less expensive, readily available public use form of many of these surveys does not contain geographic indicators in sufficient detail as to allow analysis beyond the metropolitan/nonmetropolitan distinction. In addition, there is a substantial labor investment which must be made, both in programming and in understanding the sampling issues unique to each survey, for each survey that is to be kept in-house and ready for ‘quick response’ analysis: most surveys cannot be used to make any kind of projections to sub-groups (such as non-metro populations, or populations residing in adjacent counties) without the analyst having a thorough understanding of the sampling methodology and the sample weights. It is therefore not practical to keep a number of these surveys in house, up-to-date, and ready to produce summary statistics or projections at a moments notice unless the Federal Office of Rural Health Policy (FORHP) wishes to make a substantial investment in rural maternal and child health issues.

Another difficulty with using large national surveys is that the sampling frame is usually designed to produce reliable estimates for the nation as a whole. The surveys are not generally designed to produce estimates for sub-populations. While some surveys can probably be used for urban/rural comparisons, further classification of rural areas by population size and/or adjacency is likely not feasible when one is already only looking at a subset of the full sample, namely the mothers and children.

Secondary datasets which were perfectly adequate for the analysis of health issues ten years ago are no longer adequate—this applies for all sorts of analyses, not just rural. By their very nature, large federal surveys have a substantial time lag between the time of data collection and the time that data becomes available to independent researchers. This time lag is increased when it becomes necessary to apply for permission to use ‘confidential identifiers’ such as ZIP or county FIPS codes, which are often necessary for the

conduct of rural health research. Because the health care environment is now changing so rapidly, analysis of data that is several years old becomes a problem, as delivery systems may have completely changed in those few years.

## VI. RECOMMENDATIONS

The “wish list” of indicators currently being developed by the Maternal and Child Health Information Resource Center is not yet reality. In the meantime, given the time and expense of collecting new data, the top priority should be to work cooperatively with federal agencies who collect data on health and health care, such as the National Center for Health Statistics and other CDC divisions, to gain access to data which facilitate rural health analyses by qualified rural health researchers. There are two ways that data which are already collected can be made more usable or “rural friendly.” First, access to preliminary county-level vital events, morbidity, and mortality incidence and prevalence data could be shared. The vast majority of these data, and certainly the data that are available in a relatively short period of time after being collected, are collected by the CDC. Some analyses, usually stratifying on metropolitan/nonmetropolitan are presented in the Advance Data reports published by the CDC. However, much more information could likely be gleaned from these data if they were available to rural health researchers. The FORHP should therefore consider working cooperatively with the CDC, either to encourage that agency to conduct enhanced analyses of their data, or facilitate release of county-level data to the Rural Health Research or Policy Analysis Centers.

Similarly, a cooperative agreement between FORHP and the National Center for Health Statistics, a division of the CDC, could greatly speed the ability for relevant analysis of survey data, if a mechanism could be created whereby confidential identifiers could be released to the Rural Centers for conduct of FORHP-sponsored research. In the same vein, any way that FORHP can facilitate the release of geographic identifiers for large national datasets collected by other federal agencies, would allow for much more timely

analysis of data, and for a quicker response to requests for information.

In the long run, FORHP should push for the inclusion of more rural-relevant variables on public release files. Examples of these include whether or not the respondent’s county of residence is a whole or part county HPSA, or whether a nonmetropolitan county is adjacent to a metropolitan one. The FORHP could also ask for agencies which collect data to increase the sample size of populations of interest, and design sampling frame so that projections can be made for sub-populations of interest. However, due to great expense involved it is unlikely that this particular avenue will be successful.

It is not feasible for the FORHP or one of its rural centers to conduct their own primary data collection for the purpose of maintaining a readily available source of information on the impact of any policy affecting mothers and children. The broad range of issues which could potentially arise preclude the prospective collecting of data. What could be considered is to create connections with a number of sample communities, following the lead of the Robert Wood Johnson Foundation Health Tracking initiative. Through regular contact with leaders in these communities, rural centers could ‘take the pulse’ of rural areas, and receive much more immediate feedback on the impact of Maternal and Child Health policies than would ever be possible waiting for secondary data to become available.

Finally, it is important that as FORHP becomes aware of projects such as the Maternal and Child Health Information Resource Center’s ‘MCH Model Indicators’ project (which may well form the backbone of data collection efforts of the near future), efforts are made to educate the staff of these projects to the need to include important rural variables in their recommendations.

## APPENDIX I

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### Foundations Which Focus on Maternal and Child Health

#### **Children's Defense Fund**

The Children's Defense Fund has a 'Child Health Information Project', an E-mail service that sends out information (both data and legislative information) on uninsured children, MCH, immunizations and Medicaid.

#### **The Alan Guttmacher Institute**

This independent not-for-profit institute focuses on maternal issues such as sexual activity, contraception, abortion, and childbearing. In addition to collecting and analyzing government data, they also conduct their own surveys.

#### **The Annie E. Casey Foundation**

The Annie E. Casey Foundation is a 'private charitable organization dedicated to helping build better futures for disadvantaged children in the United States.' This foundation has a project called 'KIDS COUNT', which is 'a national and state-by-state effort to track the status of children in the United States. By providing policy makers and citizens with benchmark of child well-being,

KIDS COUNT seeks to enrich local, state, and national discussions concerning ways to secure better futures for children.' KIDS COUNT collects and compiles data at both the state and national level. They produce a yearly national data book, and states also produce databooks. The problem of time lag in secondary data is evident in these books—the 1997 'KIDS COUNT DATA BOOK' only contains data from 1994. This is a project whose sole focus is to track changes in data which are relevant to child health, so there is no reason to think a research center could be any more timely using secondary data.

The foundation does not have the county level data. However, they feel that the KIDS COUNT states have it, but would need to be contacted individually. Data provided by the states include statistics on neighborhood environment, school performance indicators, family structure, crime, birth and death. There is likely considerable variation across states in terms of how these data are collected, and with what vigor.

## **APPENDIX II**

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Descriptions of National Surveys

<b>Dataset name:</b>	<b>National Survey of Family Growth (NSFG)</b>	<b>National Health Interview Survey (NHIS)</b>	<b>National Survey of Ambulatory Surgery (NSAS)</b>	<b>National Hospital Discharge Survey (NHDS)</b>
<b>Collecting agency:</b>	CDC-NCHS	CDC-NCHS	CDC-NCHS	CDC-NCHS
<b>Contact name and telephone:</b>	Joyce Abma, Anjani Chandra, William Mosher, Linda Peterson, or Linda Piccinino, 301-436-8731	Division of Health Interview Statistics, 301-436-7089	Maria Owings, 301-436-7125	Maria Owings (Tapes) or Charles Dennison (Diskettes) 301-436-7125
	<a href="http://www.cdc.gov/nchswww/products/catalogs/subject/nsfg/nsfg.htm">http://www.cdc.gov/nchswww/products/catalogs/subject/nsfg/nsfg.htm</a>	<a href="http://www.cdc.gov/nchswww/products/catalogs/subject/nhis/nhis.htm">http://www.cdc.gov/nchswww/products/catalogs/subject/nhis/nhis.htm</a>	<a href="http://www.cdc.gov/nchswww/products/catalogs/subject/nsas/nsas.htm">http://www.cdc.gov/nchswww/products/catalogs/subject/nsas/nsas.htm</a>	<a href="http://www.cdc.gov/nchswww/products/catalogs/subject/nhds/nhds.htm">http://www.cdc.gov/nchswww/products/catalogs/subject/nhds/nhds.htm</a>
<b>Brief description:</b>	Provides current information on pregnancy, childbearing, contraception, and related aspects of maternal and child health. There have been five rounds of data collection, each based on a nationally representative sample of women aged 15-44, interviewed in	Continuing nationwide survey of the U.S. civilian noninstitutionalized population conducted in households. Supplementants include: Access to Care, Year 2000 Objectives, Health Insurance, Teenage Attitudes & Practices, Immunization. Sample designed to produce	Patient data, Diagnostic and procedure codes abstracted from sampled medical records of ambulatory surgery visits in hospitals and freestanding ambulatory surgery centers.	Continuous nationwide survey of inpatient utilization of short-stay hospitals. Survey data are abstracted from sampled medical records.
<b>Relevant information included in data set:</b>	Provides current information on pregnancy, childbearing, contraception, and related aspects of maternal and child health.	Person, health and utilization variables, Selected data from supplements, Person conditions, Household, Conditions, Doctor visits, Hospital	Patient data, Diagnostic and procedure codes, Facility data	Patient data, Diagnostic and procedure codes, Hospital data
<b>Years of data collection:</b>	1973, 1976, 1982, 1988--with a followup survey in 1990, and 1995.	Annually since 1973	1994-1996 no repeat planned so far	Since 1970
<b>Next expected year of collection:</b>	2000	Annually	None	Annually
<b>Sample size and type:</b>	8,000-11,000, depending upon the year. Cross-sectional survey, Complex survey design.	36,000 to 47,000 households, including 92,000 to 125,000 persons, depending upon the year. Cross-sectional survey, Complex survey design.	117,000 sampled medical records of ambulatory surgery visits in hospitals and freestanding ambulatory surgery centers.	200,000 sampled medical records of inpatients from 529 hospitals in HIS PSUs.
<b>Cost of purchasing the data:</b>	CD \$16-\$22	CD \$15-\$21	Tape \$265	CD \$40, Tape \$300
<b>Time lag between data collection and data availability:</b>	1995 forthcoming	2-3 Years	1994 data available	1995 forthcoming
<b>Geographic identifiers that come with the public use data set:</b>	Analysis can be done for the four major census regions (Northeast, Midwest, South, West) and for metropolitan and nonmetropolitan areas. Estimates cannot be made for States or smaller areas.	Region of residence. If the sample person lived in one of the larger standard metropolitan statistical areas (SMSAs) that was selected for the sample with certainty, the SMSA is identified for data years 1969-84. MSA /	NSAS is a nationwide survey that allows analysis at the U.S. Bureau of Census region level.	The NHDS is a nationwide survey that allows analysis at the U.S. Bureau of the Census region level (division level before 1988). Zip Codes.
<b>Restricted geographic identifier that can be obtained by special request:</b>	See attachment "Analytic Programming Services" - County Level	See attachment "Analytic Programming Services" - County Level	Requests for more detailed data must be in writing.	Requests for more detailed data must be in writing.

<b>Dataset name:</b>	<b>Nativity Data, Public use data file</b>	<b>National Ambulatory Medical Care Survey (NAMCS)</b>	<b>National Maternal and Infant Health Survey (NMIHS)</b>	<b>Linked Birth and Infant Death (LBIDF)</b>
<b>Collecting agency:</b>	CDC-NCHS	CDC-NCHS	CDC-NCHS	CDC-NCHS
<b>Contact name and telephone:</b>	Kenneth G. Keppel, Stephanie Ventura, 301-436-8954	Susan M. Schappert, 301-436-7132, ext. 172, sds0@cdc.gov	Jim Weid, Reproductive Statistics Branch, 301-436-8954 X 110	Marian MacDorman, Ph.D., Reproductive Statistics Branch, 301-436-8954 X171
	<a href="http://www.cdc.gov/nchswww/products/catalogs/subject/nativity/nativity.htm">http://www.cdc.gov/nchswww/products/catalogs/subject/nativity/nativity.htm</a>	<a href="http://www.cdc.gov/nchswww/products/catalogs/subject/namcs/namcs.htm">http://www.cdc.gov/nchswww/products/catalogs/subject/namcs/namcs.htm</a>	<a href="http://www.cdc.gov/nchswww/products/catalogs/subject/mihs/mihs.htm">http://www.cdc.gov/nchswww/products/catalogs/subject/mihs/mihs.htm</a>	<a href="http://www.cdc.gov/nchswww/products/catalogs/subject/linkedbd/linkedbd.htm">http://www.cdc.gov/nchswww/products/catalogs/subject/linkedbd/linkedbd.htm</a>
<b>Brief description:</b>	Includes all births occurring within the United States. Births occurring to U.S. citizens outside the United States are not included. Data are obtained from certificates filed for births occurring in each State.	Sample representative of all ambulatory office visits to physician who are engaged in patient care in an office setting. During a randomly assigned 7-day period, data for a systemic random sample of visits were recorded by the physicians or their staff.	The NMIHS data file consists of three independent national files of live births, fetal deaths, and infant deaths.	The birth cohort linked file of live births and infant deaths (numerator) and includes linked vital records for births and deaths that occurred in the United States to U.S. residents and to U.S. nonresidents.
<b>Relevant information included in data set:</b>	Data from Birth Certificates	Health problems of ambulatory patients and the treatment given to them by office based physicians. Drug data, Physician data, Patient data.	NMIHS vital records are linked with Mothers' Questionnaires, Birth and Death Certificates, Fetal Death Report	Linked vital records for infants born in a given year who died in that year or the next year before their first birthday.
<b>Years of data collection:</b>	Annually since 1968	1973-81, 1985, 1989. Annually, from January through December, with weekly interviewing	1988, Longitudinal Followup 1991	1983-1991, 1995
<b>Next expected year of collection:</b>	Annually	Annually	1999 Birth Cohort possibly.	Annually
<b>Sample size and type:</b>	All births	Approximately 37,000 records from 1,500-3,500 office-based physicians whose offices are located in a subset of the 1980 design NHIS PSUs. Weekly samples of approximately 67 physicians.	9,953 women who had live births, 3,309 women who had late fetal deaths, and 5,332 women who had infant deaths.	All infant births and deaths
<b>Cost of purchasing the data:</b>	CD \$15-\$60	CD \$15-\$20, Tape \$265	Tape \$645	CD \$60
<b>Time lag between data collection and data availability:</b>	1995 forthcoming	1995 data available, 1996 data available within the next few months.	1995 available on tape, CD forthcoming.	1995 expected to be available in Sept 97
<b>Geographic identifiers that come with the public use data set:</b>	For data years 1968-78, cities of 250,000 persons or more are classified. Beginning with 1979, cities of 100,000 persons or more are classified. State.	Data are available for the United States as a whole and for the four geographic regions. MSA / non-MSA. Sample is not appropriate for producing state-level estimates.	The NMIHS covers the United States, with vital records sampled from each State and independent registration area. Collection includes State, MSA/non-MSA.	Counties of 250,000 persons or more and cities of 250,000 persons or more are classified in the linked data set. Geographic classification for the linked data set is based on the 1980 census enumeration.
<b>Restricted geographic identifier that can be obtained by special request:</b>	Additional tapes for 1989-95 are sold directly by NCHS to researchers whose data needs cannot be met by the detailed file. Requests for more detailed data must be in writing.	If the user provides a list of states which may have certain regulations versus states which do not have them, we can add a "0/1" value to each record.	Additional tapes for 1989-95 are sold directly by NCHS to researchers whose data needs cannot be met by the detailed file.	

<b>Dataset name:</b>	<b>National Hospital Ambulatory Medical Care Survey</b>	<b>Fetal Death Data</b>	<b>Health and Nutrition Examination Study (HANES)</b>	<b>Consumer Expenditure Survey</b>
<b>Collecting agency:</b>	CDC-NCHS	CDC-NCHS	CDC-NCHS	BLS, Division of Consumer Expenditure Surveys
<b>Contact name and telephone:</b>	Susan M. Schappert, 301-436-7132, ext. 172, sds0@cdc.gov	Reproductive Statistics Branch, 301-436-8954 X134, or Nicholas F. Pace, 301-436-8900 ext. 124	Shannon Wiser, 301-436-8425, ext. 152	202-606-6870 X202
	<a href="http://www.cdc.gov/nchswww/products/catalogs/subject/nhamcs/nhamcs.htm">http://www.cdc.gov/nchswww/products/catalogs/subject/nhamcs/nhamcs.htm</a>	<a href="http://www.cdc.gov/nchswww/products/catalogs/subject/fetdeath/fetdeath.htm">http://www.cdc.gov/nchswww/products/catalogs/subject/fetdeath/fetdeath.htm</a>	<a href="http://www.cdc.gov/nchswww/products/catalogs/subject/nhanes3/nhanes3.htm">http://www.cdc.gov/nchswww/products/catalogs/subject/nhanes3/nhanes3.htm</a>	<a href="http://stats.bls.gov/csxovr.htm">http://stats.bls.gov/csxovr.htm</a>
<b>Brief description:</b>	Collect data on the utilization and provision of ambulatory care services in hospital emergency and outpatient departments. National sample of visits to the emergency departments and outpatient departments of noninstitutional general and short-stay hospit	File contains all fetal deaths occurring in the United States and the District of Columbia. Beginning in 1994, fetal deaths for Puerto Rico, Virgin Islands, and Guam are included.	Designed to obtain nationally representative information on the health and nutritional status of the population of the United States through interviews and direct physical examinations.	Data collected in independent quarterly Interview and weekly Diary surveys of approximately 5,000 sample households. Each survey has its own independent sample.
<b>Relevant information included in data set:</b>	Outpatient department visit file, Emergency department visit file.	Demographic and socioeconomic data for infant and parents.	Variety of demographic, socioeconomic, health behavior and utilization variables.	Information on the buying habits of American consumers, including data on their expenditures, income, and consumer unit (families and single consumers) characteristics.
<b>Years of data collection:</b>	Data collection began in 1992. Annually.	annually since 1982	NHANES III (1988-94), NHANES II (1976-80), NHANES I (1971-1975)	1980, 1984-present
<b>Next expected year of collection:</b>	Annually	Annually	No set schedule	Quarterly and Annually
<b>Sample size and type:</b>	Annual sample of 70,000 visits to 440-600 hospitals. Data are abstracted from medical records.	All fetal deaths	Nationwide probability sample of 27,000-33,000 persons from 6 months to 74 years of age.	National probability sample of 5,000 households
<b>Cost of purchasing the data:</b>	CD \$20, Tape \$265, downloadable	Tape \$265	CD \$60	CD \$150, Tape \$135-\$270, downloadable
<b>Time lag between data collection and data availability:</b>	1995 data available on tape, 1996 available soon.	1994 available	1988-94 data available	1995 data available - <2yrs
<b>Geographic identifiers that come with the public use data set:</b>	Data are available for the United States as a whole and for four geographic regions.	Detail files (89-95) include County, City (only for 100,000+ population) otherwise state only and MSA / non-MSA.	Census regions, rural/urban, MSA/non-MSA	
<b>Restricted geographic identifier that can be obtained by special request:</b>	If the user provides a list of states which may have certain regulations versus states which do not have them, we can add a "0/1" value to each record.		Have to go through confidentiality office - very unlikely.	

<b>Dataset name:</b>	<b>Current Population Survey (CPS)</b>	<b>Survey of Income and Program Participation (SIPP)</b>	<b>Medical Expenditure Panel Survey (MEPS)</b>
<b>Collecting agency:</b>	Bureau of the Census	Bureau of the Census	AHCPR, Center for Cost and Finance
<b>Contact name and telephone:</b>	301-457-3806	Judy Eargle, 301-763-8375	Kelly Carper 301-594-1400
	<a href="http://www.bls.census.gov/cps/">http://www.bls.census.gov/cps/</a>	<a href="http://www.census.gov/ftp/pub/hhes/www/sippdesc.html">http://www.census.gov/ftp/pub/hhes/www/sippdesc.html</a>	<a href="http://www.meps.ahcpr.gov/">http://www.meps.ahcpr.gov/</a>
<b>Brief description:</b>	Independent samples for the 50 states and the District of Columbia. Each month's sample is composed of eight panels that rotate on a schedule of 4 months in, 8 months out, 4 months in so that only 25 percent of the households differ between consecutive months.	Household survey of about 8,000 housing units per month, interviewed at four-month intervals over a period of 3 years, to assess the effect of proposed changes in program regulations and benefit levels on the economic situation of households and persons.	Nationally representative survey of health care use, expenditures, sources of payment, and insurance coverage to estimate the level and distribution of health care use and expenditures and monitor the dynamics of the health care delivery and insurance systems.
<b>Relevant information included in data set:</b>	Estimates of (un-)employment, work experience, income, migration and school enrollment of the labor force, population as a whole, and of various population subgroups.	Social and demographic characteristics, labor force activity, types and amounts of income received, and participation status in various entitlement programs.	Estimate level and distribution of health care use and expenditures, dynamics of the health care delivery and insurance systems, health care policy implications.
<b>Years of data collection:</b>	Collected monthly.		1977 NMES-1, 1987 NMES-2, 1996 MEPS
<b>Next expected year of collection:</b>	Monthly	Continuously	Continuous annual survey with largest sample sizes at 5-year intervals.
<b>Sample size and type:</b>	71,000 households per month located in 729 PSUs.	Each SIPP panel has a sample size of 20,000 households, is four years long, covers twelve interviews (waves), and is non-overlapping with other panels.	9,500 families. 25,000 individuals.
<b>Cost of purchasing the data:</b>	CD \$150-\$175	Downloadable	Free
<b>Time lag between data collection and data availability:</b>	6-12 months	n.a.	3-18 months
<b>Geographic identifiers that come with the public use data set:</b>	State	Region	Region, MSA / non-MSA
<b>Restricted geographic identifier that can be obtained by special request:</b>	Probably lower than state, possibly Zip	Not suitable for state-level estimates.	

	NSFG	NHIS	NSAS	NHDS	Nativity	NAMCS	NMIHS	LBAID
<b>A. "Means"</b>								
HMO enrollment data								
Hospital use	x	x		x	x	x	x	
Utilization of medical care	x	x	x			x	x	
Primary care provider supply								
Hospital Resources		(ID)		x				
Family planning etc								
Other health professionals		x						
PH Dept services								
Network inclusion of MCH								
WIC							x	
Headstart								
EPSDT								
Payer/Insurance	x	x	x	x		x	x	
Other						Physician Data		
<b>B. "Ends"</b>								
<b>Early Indicators</b>								
Prenatal Care	x				x	x	x	x
Immunization rates								
Breast Feeding	x						x	
<b>Late Indicators</b>								
Infant Mortality					x			x
Low Birth Weight	x				x			x
Complications				x	x			x
Teen Pregnancies			(x)	x	x			x
Abortions	History				History		History	
Chronic Illnesses / Disabilities		x	(x)		x	x		
Substance Abuse		x			x	x	x	x
HIV	Testing, Risk Behavior							(x)
Vaccine-Preventable Dis.								
Child Mortality	x				x		x	x
Child Injury					x	x		x
History of Pregancies	x				x		x	x
Other							Barriers to prenatal care	Medical risk factors

	NHAMCS	Fetal D.	CES	CPS	SIPP	MEPS
<b>A. "Means"</b>						
HMO enrollment data						
Hospital use	ER					
Utilization of medical care	x					
Primary care provider supply						
Hospital Resources	(ID)					
Family planning etc						
Other health professionals						
PH Dept services						
Network inclusion of MCH						
WIC					x	
Headstart						
EPSDT						
Payer/Insurance	x			x		
Other			Total Health Care Exp		AFDC, Child support	
<b>B. "Ends"</b>						
<b>Early Indicators</b>						
Prenatal Care		x				
Immunization rates						
Breast Feeding						
<b>Late Indicators</b>						
Infant Mortality						
Low Birth Weight		x				
Complications		x				
Teen Pregnancies	(x)	x				
Abortions						
Chronic Illnesses / Disabilities				x		x
Substance Abuse	x	x				
HIV	x					
Vaccine-Preventable Dis.						
Child Mortality						
Child Injury	x					
History of Pregnancies		x				
Other		Medical risk factors				Work Status