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## Young Children and the Rural Information Gap

The Weaknesses of Major Data Sources  
for Examining the Well-being of Rural Children

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## Abstract

The devolution of increasing amounts of responsibility for the design and implementation of child and family policy has increased demand for measures of child well-being at lower levels of geography. Currently, however, it is unclear the extent to which commonly used measures of well-being can be estimated for children living in rural areas. To investigate this issue, the authors examined a number of large, national data sets that provide source data for well-being indicators. We find that data confidentiality protocols and small sample sizes limit the extent to which child well-being indicators can be estimated for rural

children. While public-use data can be used to estimate many indicators of child well-being using the imprecise “nonmetropolitan” definition of rural, few indicators can be estimated when rural is defined more precisely (areas with populations of less than 2,500 residents). Gaining access to non-public-use data increases the number of indicators that can be estimated with the more precise definition of rural, but at substantial monetary and administrative costs. The authors conclude this discussion with suggestions for next steps to promote analysis and dissemination of child well-being indicators for rural young children.

## Introduction

Tracking child well-being is essential to ensure that public policies and governmental services are responsive to the complex developmental needs of children. Over the last decade, policymakers, administrators and child advocates have increasingly drawn upon child well-being indicators to help identify areas of need, monitor the impact of legislation, and evaluate the performance of specific programs (Moore, Brown and Scarupa 2003). During that time, the collection and dissemination of data on children in the United States has developed into what experts now call an “indicator system,” containing perhaps the richest and deepest collection of information on children of any nation in the world (Brown and Moore 2003).

For the most part, the published indicators in this system report the dimensions of child well-being at the state or national level. One weakness of the current body of indicators is that it offers a significantly less detailed picture of the socioeconomic, health, and educational status of children at lower levels of geography and in less densely populated areas (U.S. Department of Health and Human Services 2003). This weakness makes it difficult to assess the needs of some children — needs that may be unique to their geographic areas — and thus for policymakers and agency directors to meet these needs.

This information gap is particularly troubling to those concerned with the development of young children in rural areas. In general, rural areas have demographic, economic and social characteristics that differ from national and state averages. Poverty levels, unemployment, and underemployment are often higher in rural areas, while education levels, per capita income, and earnings per job are lower (Whitener, Weber and Duncan 2002). Beyond these characteristics, low population densities mean that health care, social, and educational services can be more difficult to obtain, especially if reliable transportation is unavailable. Given these characteristics, it is clear that promoting child well-being is particularly challenging in rural areas and that existing national and state-level indicators are of limited use for understanding the unique circumstances of rural children.

Currently, the extent to which child well-being indicators can be estimated for rural children is unclear, as are the complexities associated with producing these estimates. To better understand these issues, this paper conducts an examination of a number of nationally representative data sets that provide the source data for commonly cited indicators of child well-being. Each data set is examined to determine whether the necessary elements are present to calculate valid estimates for rural children, and to understand if there are characteristics of the data set that might make the calculation of these estimates more difficult.

Understanding the issues involved with measuring the well-being of rural children is of value to both the research and policy communities. As state and local governments continue to assume greater responsibility for child and family policy and services, there is an increasing need for more geographically specific measures of child well-being (Brown 2001; U.S. Department of Health and Human Services 2002). Understanding the issues involved in measuring the well-being of rural children is the first step in enhancing the existing indicator system to better monitor the well-being of this important subpopulation.

## Methods

### *Universe of indicators examined*

To determine which child well-being indicators can be estimated for rural children and any methodological issues that may be associated with producing these estimates, we began by specifying a universe of indicators to analyze. We first consulted two major sources of child well-being indicators to determine this universe: Trends in the Well-Being of America’s Children and Youth (2003) and the 2004 Kids Count Data Book: State Profiles of Child Well-Being (2004). These two documents are perhaps the most well-known and frequently cited publications of child well-being, and contain a broad and carefully chosen collection of scientifically valid indicators estimated at national and state levels. We chose this method of defining our universe because



of the careful vetting process undertaken by these two publications, both in terms of scientific validity and policy relevance of the indicators. Our universe is by no means a comprehensive collection of child well-being indicators, but does provide a large sample from which to investigate the issues surrounding the estimation of these indicators for rural children.

We selected all of the child well-being estimates reported in these publications that included, but were not necessarily specific to, children under the age of five. For example, an indicator that measured the percentage of children birth to 18 in poverty was selected because the group being analyzed included children under five. To keep the indicators examined to a manageable number, indicators pertaining exclusively to older youth (e.g., substance abuse, television viewing habits, etc.) were excluded. Using this method, the universe for this analysis contains 63 indicators measuring child well-being across seven areas: child demographics; family environment; education; food insecurity; child care enrollment; safety; and, health. The specific indicators are listed by area in Appendix A.

#### *Source data sets*

After creating our universe, we obtained information on the source data used to estimate each well-being indicator in the universe. Ten different sources provide the data for the indicators in our universe:

- Adoption and Foster Care Analysis and Reporting System
- American Housing Survey
- Current Population Survey (Annual Social and Economic March Supplement)
- 1990 Census and Census 2000
- HIV/AIDS Surveillance Report
- National Health Interview Survey
- National Household Education Survey
- National Occupant Protection Use Survey
- National Immunization Survey
- National Vital Statistics System
- Survey of Income and Program Participation

The Survey of Income and Program Participation and the National Survey of America's Families also contain a number of relevant child well-being indicators. These two surveys are analyzed in Text Box 1 in the findings section.

#### *Analytic approach*

For each of these data sets, we obtained information on the most recent publicly available data. Using this information, we examined four characteristics of each data set, which are essential to calculating the well-being indicators for rural children: (1) the number of rural children in the sample; (2) the availability of variables in the data set that allow researchers to identify children living in rural areas; (3) the protocols in place to protect respondent confidentiality; and, (4) the public availability and accessibility of the data.

We used two methods to collect this information. The first was a review of relevant documentation, including code books and methodological reports. For the most part, these documents were used to understand whether there was a variable present in the data that could be used to identify rural children and how these variables defined "rural." The documents were also used to determine how each data source protected the confidentiality of survey respondents. Where the documentation was unclear, or where relevant information was not included in the survey documentation, we conducted interviews with contact persons for each data source, using a short interview protocol that we created. We also obtained sample sizes of rural children from these sources.<sup>1</sup>

#### *Defining "rural"*

The lack of a consistent definition of rurality often complicates discussions of rural issues. This is true not only in the research literature, but also in the data collection that provides the underlying information for analysis. Therefore, prior to proceeding to the findings of this analysis, it is first important to consider the various definitions of rurality and to articulate how we use the term "rural" in this paper.

<sup>1</sup> In cases where the data were available at the Urban Institute, researchers at the Urban Institute calculated the sample sizes.

Most often when researchers produce findings on the characteristics or conditions of rural areas, they are referring to nonmetropolitan areas. A metropolitan area, as defined by the United States Office of Management and Budget, consists of a core, urbanized area with a population of 50,000 or more inhabitants and adjacent areas that have a high degree of social and economic integration with the core. Metropolitan areas are most often delineated by counties and contain “central counties” that include one or more urbanized areas, as well “outlying counties” that are economically tied to the central county. For an outlying county to be considered part of the metropolitan area, at least 25 percent of workers in that county must commute to the central county to work, or conversely, 25 percent of workers from the central county must “reverse commute” to the outlying county.<sup>2</sup> Using this metropolitan/nonmetropolitan, or metro/nonmetro framework, therefore, rural areas are those residual counties located outside metro areas. Approximately 17 percent of the U.S. population — close to 50 million people — lived in the country’s 2,052 nonmetro counties in 2000.

While most researchers use nonmetro as a proxy for “rural,” the United States Census Bureau defines rural areas with much more precision. According to official U.S. Census Bureau definitions, rural areas are those open country areas and settlements with fewer than 2,500 inhabitants.<sup>3</sup> Under this definition, 21 percent of the U.S. population — more than 59 million people — lived in rural areas in 2000.

The U.S. Census Bureau’s definition of rurality comprises a more intuitive conception of a rural area, and highlights some of the significant drawbacks of the metro/nonmetro definition used in most research.<sup>4</sup> The issue with the metro/nonmetro variable is the incorrect coding of a significant number of rural residents as metro and vice versa. According to calculations by the Economic Research Service (ERS) using Census 2000 data, more than 30 million

residents living in rural areas — more than half of all rural residents (50.8 percent) — also live in counties that are defined as metro. Conversely, residents not living in rural areas are often coded as nonmetro. ERS calculations indicate that 9 percent of the U.S. population living in areas with more than 2,500 residents is coded as living in nonmetro areas.

A third measure of rurality, the rural-urban continuum code, furnishes a more continuous measurement of rurality than the dichotomous metro/nonmetro or rural/nonrural measures. The rural-urban continuum code classifies counties by two dimensions: population size and, for nonmetro areas, adjacency to metro areas. The traditional metro and nonmetro categories are divided into three metro and six nonmetro groupings, resulting in nine different county codes. Two of the nine codes identify completely rural counties (areas with a population of less 2,500 residents). The two rural codes differ in whether the county is adjacent or not adjacent to a metro area.<sup>5</sup> These codes are used in conjunction with the county identifiers on major data sources (when available) to determine rural counties.

In this paper, we examine whether child well-being indicators can be estimated for rural children using both the metro/nonmetro definition of rurality as well as the more precise definition of the U.S. Census Bureau which is included in the two rural categories of the rural-urban continuum codes. Throughout the rest of the paper, we refer to the metro/nonmetro definition as the “less precise” definition of rurality and the U.S. Census Bureau definition as the “precise” definition of rurality.

## Results

Our findings appear in Appendices A and B. The matrix in Appendix A presents the results for each individual child well-being indicator in the universe. For each indicator, we indicate whether it

<sup>2</sup> This definition comes from the Economic Research Service, United States Department of Agriculture. See [www.ers.usda.gov/Briefing/Rurality/WhatisRural/](http://www.ers.usda.gov/Briefing/Rurality/WhatisRural/).

<sup>3</sup> See [www.ers.usda.gov/Briefing/Rurality/WhatisRural/](http://www.ers.usda.gov/Briefing/Rurality/WhatisRural/).

<sup>4</sup> It is important to note that researchers rely on metro/nonmetro definition of rurality because it is often the only distinction made available in public data sets.

<sup>5</sup> It is also important to note that other ways to define and code rural areas also exist, including urban influence codes, county typology codes, and isolated rural areas. These and other definitions are not discussed here because they are outside the scope of this study. For more information on these definitions, see [www.rupri.org/resources/context/rural.html](http://www.rupri.org/resources/context/rural.html).

can be estimated for rural children with public data using both a “precise” and “less precise” definition of rural. In addition, we also report whether it is possible to estimate the indicator for rural children using a precise definition of rural if non-public-use data were used, and whether the non-public-use data can only be accessed at a data center provided by the agency overseeing the data source.

In Appendix B we report the findings by data source. We provide information on the indicators that are available from each source; the availability of variables to identify rural children in both publicly-available and non-public-use data; the confidentiality protocols for each data source; and the sample size of rural children where available. We use the findings contained in these two appendices to discuss the major issues with calculating child well-being estimates for rural children below.

### *Major issues in producing child well-being indicators for rural children*

Two primary issues either impede or preclude the calculation of many child well-being indicators for rural children: (1) the protocols governing the release of public-use data, which are designed to protect the confidentiality of respondents; and, (2) the size of the sample of rural respondents.

Implications of data confidentiality protocols. All reputable survey research firms and agencies that collect data on human subjects have as their paramount concern the protection of the individuals from whom data are collected. As such, strict data dissemination rules control the types of information that are released to the public, particularly around variables that could play a role in identifying individual respondents. In addition to the more obvious personal identifiers that are not released — names, social security numbers and addresses — variables that place respondents in small geographic areas are also suppressed in many cases. These variables may be used in conjunction with other variables to identify specific respondents in the data set. Therefore, variables that identify specific geographic areas like neighborhood, city, county, and even state of residence may be suppressed. Accordingly, variables

that simply identify whether or not a respondent lives in a rural area are often not released to ensure that this variable is not used in conjunction with other variables to identify specific respondents.

The implications of these rules are clear in the results of our examination of the major data sources. Due to respondent confidentiality concerns, the U.S. Census Bureau and most other agencies in control of the data sources examined here do not release variables that allow researchers to identify respondents in areas with a population of less than 100,000 residents. In terms of the variables that are available to identify rural respondents, therefore, many of the major public-use files only contain a variable that distinguishes whether a respondent lives within or outside a metropolitan statistical area (MSA). The major data sources administered by the U.S. Census Bureau — the Current Population Survey (CPS), Census 2000, and the Survey of Income and Program Participation (SIPP) — as well as the National Vital Statistics System (NVSS) only release this less precise measure of rurality.

There are two important issues to note about this finding. First, as discussed in the methods section, the inside/outside MSA distinction is a poor measure of rurality. In addition, many of the important indicators in our universe, including health insurance coverage among children, child poverty, parental employment characteristics, the demographics of immigrant children, food insecurity, and other child health indicators, are derived from these data sources.

Another potential way to indicate whether a respondent lives in a rural area would be to identify the county in which the respondent lives and then access the rural-urban continuum code for that county. Data confidentiality rules, however, also affect the extent to which county identifiers are released in the public-use data. Most of the data sources examined include Federal Information Processing Standards (FIPS) codes, which identify the state and county in which the respondent lives. However, in the public-use files that contain these codes, values are omitted for respondents who live in counties of less than 100,000 residents.

Depending on the sensitivity of the information, public-use files may be more or less restrictive in the

geographic information they contain. For example, the National Health Interview Survey, which collects and disseminates sensitive information on the health status and limiting conditions of children, does not release any variables that indicate urban, rural or county locations. In contrast, the National Household Education Survey and the American Housing Survey, which provide data on less sensitive issues like neighborhood quality, housing fuel costs, school readiness skills, and child care use, do release variables that allow researchers to subset the data for respondents living in rural areas, precisely defined.

Using non-public-use data to estimate child well-being indicators for rural children. In most cases, the organizations and agencies that maintain non-public datasets with information about rurality do allow researchers to use the datasets, but the process to gain access can be burdensome and costly. For example, to access the non-public-use data collected by the U.S. Census Bureau, researchers must submit a proposal explaining the nature of the project, its benefits to the Census Bureau, the types of analyses that will be run, and how the results will be used. In addition, the analyses must be conducted at one of a number of data centers across the country, which can cost more than \$35,000 per year to use. Finally, there are also numerous limitations on the types of results that can be reported when analyzing non-public-use data.

Sample size issues. Another potentially limiting factor in estimating child well-being indicators for rural children, for public- and non-public-use files, is the sample size of rural respondents. Most of the indicators in our universe come from nationally representative probability samples of the U.S. population. In order to accurately estimate child well-being indicators for any distinct group of children using these probability samples, there must be a sufficient number of observations. Therefore, we examined to the extent possible the sample sizes of rural children

in the data sources to determine if they were large enough to estimate child well-being indicators for rural children.<sup>6</sup>

Among the survey-based data sources for which sample size data are available, it appears that the samples of children are large enough to estimate national child well-being indicators for rural children using the less precise measure of rural.<sup>7</sup> The Current Population Survey, Census 2000, the American Housing Survey, and the National Household Education Survey all have well over 1000 children under 18 in nonmetro areas in the sample — a more than sufficient number to produce national estimates.

Given the large samples sizes of Census 2000 and American Housing Survey data sets, the well-being indicators for these two data sources can be estimated at much lower levels of geography, and for specific age groups of children (e.g., birth to five) in those lower geographic levels. Even with the Current Population Survey and the National Household Education Survey, the samples sizes seem to indicate that their child well-being indicators can be estimated for all children under 18 in some large states using the less precise definition of rural.

In some cases, the samples from these surveys are also large enough to estimate child well-being indicators using the more precise definition of rural (data confidentiality issues notwithstanding). While it is more difficult to assess the sample size issues for this definition of rural because we did not have access to the non-public data, it appears that the samples of children in the Census 2000, American Housing Survey, and National Household Education Survey are large enough to estimate national child well-being indicators for rural children using the less precise measure of rural. This is most likely the case for the Current Population Survey as well. Both the Census 2000 and the American Housing Survey also appear to have a large enough sample to estimate their well-being indicators for lower levels of geography, and for specific age groups of children.

<sup>6</sup> It is important to note that power calculations were not conducted to determine the robustness of the estimates of child well-being for each survey. The intent of this analysis is simply to get a broad sense, where possible, of the size of the rural sample in each of the data sources.

<sup>7</sup> It is important to note that sample size is only one element contributing to the precision of a child well-being estimate. The variance of the well-being estimate and the sampling design of the survey are two other factors that also contribute to how robust the estimate is. Therefore, the results in this section must be interpreted with caution.



### **The National Survey of America's Families: Another Important Data Set Containing Child Well-Being Indicators**

The National Survey of America's Families (NSAF) is another important data source for child well-being indicators. The NSAF, fielded in 1997, 1999 and 2002, is a national survey of over 40,000 families and is representative of the non institutionalized, civilian population of persons under age 65. The survey oversamples the low-income population (those families with incomes below 200 percent of the federal poverty level) and contains representative data for 13 states. The survey contains information on a number of different areas important to the well-being of children, including health care, income support, social services, parental engagement and stress, school engagement and child care.

The survey does not publicly release variables that allow researchers to identify geographic areas of less than 250,000 people. Moreover, there are no public use variables to identify rural respondents. Non-public-use files contain Federal Information Processing Standards (FIPS) codes, which identify the state and county in which the respondent lives, and can be used in conjunction with the Economic Research Service's rural-urban continuum codes to identify children living in rural areas. In addition, the non-public-use file also contains a variable that indicates whether a respondent lives inside or outside a metropolitan statistical area.

The sample size of rural children for a single year, using the less precise metro/metro definition, is large enough to calculate child well-being estimates nationally and for a number of states. Multiple years of the NSAF can be combined to increase the number of states where child well-being indicators can be estimated. For example, the sample size of a three year combined sample in Mississippi contains over 1,200 children younger than five using the less precise definition of rural. Furthermore, while it is difficult to assess the sample sizes using the precise definition of rural, it appears that the single-year sample sizes in the National Survey of America's Families are also large enough to estimate the well-being indicators nationally and for some states. Similarly, combining the three years of the sample increases the number of states where one can estimate the well-being of rural children using the precise definition of rural.

Interestingly, we find what appears to be an inverse relationship between the number of child well-being indicators contained in a given data source and the size of its rural sample. This is the case because for survey-based methods of data collection, cost and administrative burden are largely defined by the amount of time it takes to administer the questionnaire (determined mostly by the number and complexity of questions asked) and the number of respondents to whom the questionnaire is administered. Therefore, financial and administrative constraints create a trade-off between sample size and the number of indicators.

The comparison of Census 2000 data and the 2003 Current Population Survey provides an excellent example of this phenomenon. Sample size is not an issue when using the Census 2000 data, even at the lowest levels of geography. However, this data source only contains basic demographic information on children. The Current Population Survey, in contrast, contains a wealth of indicator information, but contains significantly smaller samples. As such, the indicators derived from Current Population Survey data cannot be applied to lower levels of geography in most cases.

Finally, it is also important to note that the child well-being indicators obtained from administrative data do not share the same sample size limitations as those indicators derived from probability samples. Indeed, administrative data sources like the National Vital Statistics System or Adoption and Foster Care Analysis and Reporting System have a record of every occurrence of the event, behavior, or activity that is measured in the data file. For example, the National Vital Statistics System consists of data files that contain records of all births, fetal deaths, and child and youth deaths in the United States each year. Similarly, the Adoption and Foster Care Analysis and Reporting System includes case-level information on all children in foster care and who are adopted under the auspices of state public child welfare agencies.

Implications for estimating child well-being indicators for rural children. So how do the data confidentiality and sample size issues affect our ability to estimate child well-being indicators for rural

children? Of the indicators in our universe, 51 out of 61 (with missing data for one indicator) cannot be estimated for rural children using public-use data and a precise definition of rurality. Only the seven indicators from the National Household Education Survey, the three indicators from the Adoption and Foster Care Analysis Reporting System, and the single indicator from the American Housing Survey can be estimated for rural children nationally in this way. (See Appendix A.) Using the less precise “non-metro” definition of rurality, however, 55 of the 61 indicators can be estimated with public-use data for children nationally. Only the two indicators from the HIV/AIDS Surveillance Report, the three indicators from the National Health Interview Survey, and the single indicator from the National Occupant Protection Use Survey could not be estimated.

Of the 51 indicators that could not be estimated for rural children using a precise definition of rurality and public-use data, 45 can be estimated using non-public-use data. For the most part, these indicators can only be estimated for rural children under 18 nationally and in some larger states. Only the indicators from the National Immunization Survey, the HIV/AIDS Surveillance Report, and the National Occupant Protection Use Survey could not be estimated at all using non-public-use data.

## Conclusion

While the data available to track child well-being at the national level is extensive, data confidentiality and sample size issues tend to make it more difficult to measure the well-being of children in rural areas. Survey-based and administrative data sources have similar limitations around identifying respondents living in areas of less than 2,500 residents, while the sample size issues are primarily a concern with the survey-based data sources.

Data confidentiality and sample size are less of a concern when the nonmetropolitan definition of rurality is used. Most of the indicators examined here can be estimated at the national level, and in many states and localities, using public-use data and this definition of rurality. This is clearly why the nonmetro definition of rural is used almost exclusively in research concerning rural children and

families.

Far fewer indicators can be measured easily with public-use data when rurality is defined more precisely as areas of less than 2,500 residents. However, numerous indicators can be measured at the national, state, and local levels using this definition with non-public-use data. While it is more difficult and expensive to work with non-public-use data, it is important to note that these data do exist and can be used to estimate the well-being indicators for rural children, at least at the national level.

However, it is clear from this study that more needs to be done to promote the analysis and dissemination of child well-being indicators for rural children. Indeed, with millions of children living in rural areas across the country, more must be done to ensure that public policy anticipates the needs of these children. This is especially important given the extra challenges that long distances pose for services to rural children and their families, and given the greater role that state and local governments play in child and family policy.

## Potential Next Steps

Those interested in the health and development of rural children can take two different approaches to improving the information collected and analyzed on this population. The first approach would be to work within the current data collection system to better utilize and apply existing data to the study of rural children. This could be accomplished by working more closely with the organizations and agencies that collect and disseminate the data used to create child well-being indicators. The rural early childhood community could work to increase awareness of rural child well-being issues among the relevant governmental agencies, and request that they produce reports that focus on rural children. Given that it can be difficult for researchers outside these agencies to produce estimates on rural children, convincing U.S. Census Bureau branch chiefs, directors at the Centers for Disease Control, and others with access to the non-public-use data of the demand for information on rural children may prove fruitful. For governmental agencies like the U.S. Census Bureau and Centers for Disease Control, the most efficient

and persuasive way to increase their awareness of the demand for information on rural children would be through Congressional requests for information. Congressional requests are generally put on a separate “track” within these agencies and receive higher-level attention than other requests.

In some cases, it appears that outside organizations can contract directly with the Centers for Disease Control Research Data Centers to produce data runs using non-public-use data.<sup>8</sup> This approach would be particularly relevant for those organizations that want to publish reports on rural children, but cannot access the non-public-use data under the purview of the Centers for Disease Control. While the U.S. Census Bureau does not contract with outside organizations, those organizations interested in producing well-being indicators for rural children can provide grants to researchers to examine the non-public-use data at the various Census Research Data Centers.

For non-governmental agencies like the Urban Institute, Child Trends, and other research organizations that also collect and disseminate data on children, the process of producing reports on the well-being of rural children is more straightforward. These organizations can simply be hired to conduct studies of rural child well-being.

The second approach to improving the information collected and analyzed on rural children would be to devise new data collection strategies. For example, one could initiate a new large data collection effort designed to produce nationally representative samples of children in rural areas, as well as rural children at lower levels of geography. Perhaps more realistically, existing surveys like the Current Population Survey or the Survey of Income and Program Participation could be augmented to include more child well-being indicators and a larger rural sample. In addition, the rural early childhood community could work with states, perhaps through organizations like the National Governors Association, to encourage additional data collection efforts on rural children at the state level.

There are advantages and disadvantages to working within and outside the existing data collecting system. Two distinct advantages of working within

the current indicator system are that it is less expensive and the reports can be produced faster. On the other hand, the reports are limited by the indicators that have already been collected, and by the other methodological issues discussed in this paper.

A distinct advantage of working outside the current system is that one could design a survey to meet the specific informational needs of those who study, and are concerned about, rural children. In addition, the survey questions could be specifically designed and cognitively tested to increase the likelihood that respondents in rural areas understand the questions and offer valid responses. The disadvantages to this approach are quite obvious. Such a data collection effort would be extremely expensive, laborious and time-consuming. Indeed, federal efforts to improve data collection on rural children would most likely require a legislative mandate. In addition, there could be a lag of three years or longer from the time of the decision to implement a new data collection effort to the production of the first report.

Finally, it will also be important to foster new research technologies to study the well-being of rural children. One promising new avenue of research employs mapping software to map demographic and socio-economic information in specific rural locations. Such software allows policymakers and advocates to visually recognize areas of need. The Rural Early Childhood Mapping Project, a pilot project of the National Center for Rural Early Childhood Learning Initiatives and the Rural Policy Research Institute, will map demographic and other child-well-being indicators to bring a greater focus to rural children. More should be done to encourage and support such new methodologies, particularly those that attempt to improve the quality and to increase the breadth of data that are used to support such applications.

<sup>8</sup> See <http://www.cdc.gov/nchs/r&d/rdc.htm>

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**Appendix A:  
Estimating Child Well-being Indicators for Rural Children: Findings by Indicator**

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
<b>Child Care and Early Childhood Education</b>							
Percentage distribution of child care arrangements of children under age 5 with employed mothers: Selected years, 1985-1999	U.S. Dept. of Health and Human Services. (2003). Trends in the Well-being of America's Children and Youth. Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau. (2000). <i>Current Population Reports</i> , P70-70.	Survey of Income and Program Participation	No	Yes	Yes	No

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural? <sup>2</sup>	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural? <sup>3</sup>	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural? <sup>4</sup>	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Percentage of 3- to 5-year old children enrolled in center-based programs or kindergarten: Selected years, 1991-1999	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Department of Education, National Center for Education Statistics. (1999). <i>National Household Education Survey, Parent and Family Involvement in Education</i> .	National Household Education Survey	Yes	Yes	NA	NA

1 Child Well-Being Indicators in the 2004 *Kids Count Data Book* and *Trends in the Well-Being of America's Children* were pulled from a number of different reports and publications. This column provides the original citation for the well-being indicator.

2 Precise definition is defined here as being able to use the ERS Rural-Urban Continuum codes to identify children in areas with populations of less than 2,500 residents.

3 "Less precise" is defined as being able to use an inside/outside MSA variable to identify children outside of metropolitan statistical areas (MSAs).

4 Researchers wishing to access non-public data may sometimes do so by using the data within a data center provided by the agency administering the data source.

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Percentage of 3- to 5-year old children not yet enrolled in kindergarten with specific school-readiness skills, by selected child and family characteristics: 1993, 1999, and 2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Department of Education, National Center for Education Statistics. (2001). <i>National Household Education Survey, Early Childhood Program Participation</i> .	National Household Education Survey	Yes	Yes	NA	NA
Percentage of 3- to 5-year olds who have participated in literacy activities with a family member, by child and family characteristics: Selected years, 1993-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Federal Interagency Forum on Child and Family Statistics. (2003). <i>America's Children: Key National Indicators of Well-Being, 2003</i> . Washington, DC: U.S. Government Printing Office.	National Household Education Survey	Yes	Yes	NA	NA

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural? <sup>2</sup>	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural? <sup>3</sup>	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural? <sup>4</sup>	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Percentage of 3- to 5-year-olds enrolled in center-based programs, by child and family characteristics: Selected years, 1991-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Federal Interagency Forum on Child and Family Statistics. (2003). <i>America's Children: Key National Indicators of Well-Being, 2003</i> . Washington, DC: U.S. Government Printing Office.	National Household Education Survey	Yes	Yes	NA	NA
Percentage of children ages 3 to 5 who are enrolled in center-based early childhood care and education programs, by child and family characteristics: Selected years, 1991-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Federal Interagency Forum on Child and Family Statistics. (2003). <i>America's Children: Key National Indicators of Well-Being, 2003</i> . Washington, DC: U.S. Government Printing Office.	National Household Education Survey	Yes	Yes	NA	NA

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Percentage of children ages 3 to 5 who are enrolled in center-based early childhood care and education programs, by race and Hispanic origin: 1991-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Federal Interagency Forum on Child and Family Statistics. (2002). <i>America's Children: Key National Indicators of Well-Being 2002</i> . Washington, DC: U.S. Government Printing Office.	National Household Education Survey	Yes	Yes	NA	NA

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
<b>Demographics of Child Population</b>							
Age of the foreign-born population and percent distribution by age: Selected years, 1960-2002 (ages under 15)	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	The Foreign-Born Population in the United States: March 2002. <i>Current Population Reports</i> , P20-539; U.S. Census Bureau. (2003). <i>Current Population Reports</i> , PPL-160; U.S. Census Bureau.	Current Population Survey (2002 Data)	No	Yes	Yes	No

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Children (ages 0-17) as a percentage of the dependent population	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	National Population Estimates, Characteristics. [Online]. <a href="http://eire.census.gov/popest/data/national/totals/asro/US-EST2001-ASRO-01.php">http://eire.census.gov/popest/data/national/totals/asro/US-EST2001-ASRO-01.php</a> ; <i>Statistical Abstract of the United States</i> , 2001; U.S. Census Bureau. (1996). <i>Current Population Reports</i> , P25-1130; U.S. Census Bureau. (1982).	Census 2000 Projections	No	Yes	Yes	No

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Number and percentage distribution of children under age 18, by race and Hispanic origin: Selected years, 1980-2000, and projected, 2010 and 2020	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Federal Interagency Forum on Child and Family Statistics. (2003). <i>America's Children: Key National Indicators of Well-Being, 2003</i> . U.S. Census Bureau. (2002). <i>Statistical Abstract of the United States, 2001</i> . Current Population Reports P20-537 and P25-1130.	1980, 1990, 2002 Census and Projections, U.S. Census Bureau. Current Population Survey, U.S. Census Bureau.	No	Yes	Yes	No
Number of children and young adults: 2002	The Annie E. Casey Foundation. (2004). <i>Kids Count Data Book 2004: State Profiles of Child Well-being</i> . Baltimore, MD: The Annie E. Casey Foundation.	State Characteristics Population Estimates File, 2001, accessed online at: <a href="http://census.gov/popest/data/states/files/STC/H-6R.txt">census.gov/popest/data/states/files/STC/H-6R.txt</a> (November 21, 2003)	State Characteristics Population Estimates File (Census Data), U.S. Census Bureau	No	Yes	Yes	No



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Number of children under age 18: selected years, 1950-2001, and projected, 2010 and 2020	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Unpublished estimates and projections; U.S. Census Bureau. (1996). Current Population Reports. P25-1130; U.S. Census Bureau. (1982).	Census Data and Current Population Survey	No	Yes	Yes	No
Percent distribution of families by number of own children under 18 years old, type of family and nativity of household: 2000	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Profile of the Foreign-Born Population in the United States: 2000. <i>Current Population Reports</i> , P23-206.	Current Population Survey	No	Yes	Yes	No

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Percent of children of at least one foreign-born parent by nativity of child and parents, poverty status, parents education and presence of parents: selected years, 1944-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Federal Interagency Forum on Child and Family Statistics. (2003). <i>America's Children: Key National Indicators of Well-Being 2003</i> . Washington, DC: U.S. Government Printing Office.	Current Population Survey	No	Yes	Yes	No
Persons ages 0-17 as a percentage of the total U.S. population	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	National Population Estimates, Characteristics. [Online]. <a href="http://cire.census.gov/popest/data/national/totals/asro/US-EST2001-ASRO-01.php">http://cire.census.gov/popest/data/national/totals/asro/US-EST2001-ASRO-01.php</a> ; <i>Statistical Abstract of the United States</i> , 2001; U.S. Census Bureau. (1996). <i>Current Population Reports</i> , P25-1130; U.S. Census Bureau. (1982).	Census Data and Current Population Survey	No	Yes	Yes	No

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
<b>Family Environment</b>							
Number and rate of children living in foster care: selected years, 1982- 2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Department of Health and Human Services. (2003). <i>Preliminary FY 2002 and revised FY 1998-2001 estimates</i> . Unpublished. U.S. House of Representatives, Committee on Ways and Means. (2002). <i>The Green Book: 2000</i> , U.S. Census Bureau. (2002). <i>Statistical Abstract of the United States, 2001</i> .	Voluntary Cooperative Information System (until 1996) and Adoption and Foster Care Analysis and Reporting System (AFCARS)	Yes	Yes	NA	NA
Percent of families with children headed by a single parent: 1996-2001	The Annie E. Casey Foundation. (2004). <i>Kids Count Data Book 2004: State Profiles of Child Well-being</i> . Baltimore, MD: The Annie E. Casey Foundation.	www.bls.census.gov/cps/tp/tp63/htm, U.S. Bureau of Labor Statistics and U.S. Census Bureau	Current Population Survey	No	Yes	Yes	No

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Percentage distribution of children under age 18 in two-parent, one-parent, or no-parent families, by age, race and Hispanic origin: 1996	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau. (1996). <i>Current Population Reports</i> , P20-491 and P20-484.	Current Population Survey	No	Yes	Yes	No
Percentage distribution of living arrangements of children by presence of parents in household, race and Hispanic origin: selected years, 1970-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau. (2003). <i>Children's Living Arrangements and Characteristics. Current Population Reports</i> , P20-547.	Current Population Survey	No	Yes	Yes	No

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Percentage of children entering foster care, by race and Hispanic origin, sex and age: 1998-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Department of Health and Human Services. (2003). <i>Preliminary FY 2002 and revised FY 1998-2001 estimates</i> . Unpublished.	Voluntary Cooperative Information System (until 1996) and Adoption and Foster Care Analysis and Reporting System (done by ACF)	Yes	Yes	NA	NA
Percentage of children in foster care, by race and Hispanic origin, sex and age: 1998-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office	U.S. Department of Health and Human Services. (2003). <i>Preliminary FY 2002 and revised FY 1998-2001 estimates</i> . Unpublished.	Voluntary Cooperative Information System (until 1996) and Adoption and Foster Care Analysis and Reporting System (done by ACF)	Yes	Yes	NA	NA

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Percentage of children under age 18 who have moved within the last year, by age, race and Hispanic origin: 1990-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	<i>Geographic Mobility: March 2000 to March 2001, General Mobility by Race, Hispanic Origin, Sex, and Age</i> . [On-line]. Available: <a href="http://www.census.gov/prod/www/abs/mobility.html">http://www.census.gov/prod/www/abs/mobility.html</a> ; U.S. Census Bureau. (2000). <i>Current Population Reports</i> , P20-520.	Current Population Survey	No	Yes	Yes	No
Percentage of households with children under age 18 having selected housing problems: all households and very low income renter households: Selected years, 1978- 2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Federal Interagency Forum on Child and Family Statistics. (2003). <i>America's Children: Key National Indicators of Well-Being 2003</i> . Washington, DC: U.S. Government Printing Office.	American Housing Survey 1999	Yes	Yes	NA	NA

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<b>Safety</b>							
Percentage of children under age 18 in food-insecure households, by poverty status and presence of hunger: Selected years, 1995-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Nord, Andrews, & Carlson. (2003). <i>Household Food Security in the United States, 2002</i> . Washington, DC: Economic Research Service.	Current Population Survey	No	Yes	Yes	No
Percentage of children under age 18 living in families receiving AFDC, TANF and in households receiving Food Stamps: 1980-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Department of Health and Human Services. (2004). <i>Indicators of Welfare Dependence: Annual Report to Congress, 2002</i> . Forthcoming.	Current Population Survey	No	Yes	Yes	No
Percentage of children under age 6 in 1987 receiving and AFDC benefit, by number of years and race: 1987-1996	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Department of Health and Human Services. (2002). <i>Indicators of Welfare Dependence: Annual Report to Congress, 2002</i> . Washington, DC: Government Printing Office.	Current Population Survey	No	Yes	Yes	No

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Health 2-year-olds who were immunized: 2002	The Annie E. Casey Foundation. (2004). <i>Kids Count Data Book 2004: State Profiles of Child Well-being</i> . Baltimore, MD: The Annie E. Casey Foundation.	Centers for Disease Control and Prevention, "National, State, and Urban Area Vaccination Levels Among Children Aged 19-35 Months - United States, 2002," <i>Morbidity and Mortality Weekly Report</i> , Vol. 52, No. 31 (August 8, 2003), pp. 728-732	National Immunization Survey	No	Yes	No	No



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Child and youth mortality rates by age group, sex, race and Hispanic origin: Selected years, 1960-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	<i>National Vital Statistics Reports</i> , National Center for Health Statistics, Centers for Disease Control and Prevention. <i>Monthly Vital Statistics Reports</i> , National Center for Health Statistics, CDC.	National Vital Statistics System	No	Yes	Yes	Yes <sup>5</sup>
<sup>5</sup> Under some circumstances, non-public use variables can be used outside of the Research Data Center.							
Child death rate: 1996-2001	The Annie E. Casey Foundation. (2004). <i>Kids Count Data Book 2004: State Profiles of Child Well-being</i> . Baltimore, MD: The Annie E. Casey Foundation.	Death Statistics: "Deaths by 10-Year Age Groups: United States and Each State, 2001." Population Statistics: State Characteristics Population Estimates File, 2001, accessed online at: <a href="http://www.cdc.gov/nchs/data/dvs/VS00100.TABL E23B_2000.pdf">www.cdc.gov/nchs/data/dvs/VS00100.TABL E23B_2000.pdf</a>	National Vital Statistics System	No	Yes	Yes	Yes

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Children without health insurance: 2001	The Annie E. Casey Foundation. (2004). <i>Kids Count Data Book 2004: State Profiles of Child Well-being</i> . Baltimore, MD: The Annie E. Casey Foundation.	Population Reference Bureau, analysis of data from the U.S. Census Bureau	Current Population Survey	No	Yes	Yes	No
Diagnosed perinatally acquired AIDS cases among children under age 13: 1985-2000	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Centers for Disease Control and Prevention. (2002). <i>Pediatric AIDS Surveillance, 1-262 slide series (through 2001)</i> . U.S. Department of Health and Human Services.	HIV/AIDS Surveillance Report	No	No	No	No

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Infant mortality rate: 1996 to 2001	The Annie E. Casey Foundation. (2004). <i>Kids Count Data Book 2004: State Profiles of Child Well-being</i> . Baltimore, MD: The Annie E. Casey Foundation.	"Deaths: Final Data for 2001", <i>National Vital Statistics Reports</i> , Vol. 52, No. 3 (September 18, 2003), Table 33.	National Vital Statistics System	No	Yes	Yes	Yes
Infant mortality rates by birthweight and by race and Hispanic origin: Selected years, 1983-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office	Mathews, Menacker, and MacDorman. (2003). Infant Mortality Statistics from the 2001 Period Linked Birth/Death Set. <i>National Vital Statistics Report</i> , U.S. Department of Health and Human Services, National Center for Health Statistics.	National Vital Statistics System	No	Yes	Yes	Yes

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Infant, neonatal, and postnatal mortality rates by race and Hispanic origin: 1960-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Mathews, Menacker, and MacDorman. (2003). Infant Mortality Statistics from the 2001 Period Linked Birth/Death Set. <i>National Vital Statistics Report</i> , U.S. Department of Health and Human Services, National Center for Health Statistics.	National Vital Statistics System	No	Yes	Yes	Yes
Low birth weight infants as a percentage of all infants by race and Hispanic origin of mother and by age: Selected years, 1970-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	<i>National Vital Statistics Reports</i> , National Center for Health Statistics, Centers for Disease Control and Prevention. <i>Monthly Vital Statistics Reports</i> , National Center for Health Statistics.	National Vital Statistics System	No	Yes	Yes	Yes

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Number of AIDS deaths among youth under age 15, by sex, race and Hispanic origin: 1987-2000	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Centers for Disease Control and Prevention. (2001). <i>HIV/AIDS Surveillance Report, 2001</i> . (and preceding years)	HIV/AIDS Surveillance Report	No	No	No	No
Percent low-birthweight babies: 1996 to 2001	The Annie E. Casey Foundation. (2004). <i>Kids Count Data Book 2004: State Profiles of Child Well-being</i> . Baltimore, MD: The Annie E. Casey Foundation.	"Births: Final Data for 2001," <i>National Vital Statistics Reports</i> , Vol. 51, No. 2, (December 18, 2002), Table 46.	National Vital Statistics System	No	Yes	Yes	Yes

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural? <sup>2</sup>	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural? <sup>3</sup>	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural? <sup>4</sup>	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Percentage of children ages 19 months to 35 months who have received routinely recommended vaccinations, by poverty status, race and Hispanic origin: 1955-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Centers for Disease Control and Prevention. (2003). <i>National Immunization Survey</i> . Unpublished work. National Center for Health Statistics and National Immunization Program.	National Immunization Survey	No	Yes	No	No
Percentage of children under age 18 who are covered by health insurance, by type of insurance, age, race and Hispanic origin: Selected years, 1987-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau. (2003). <i>Current Population Reports</i> , P60-223; Federal Interagency Forum on Child and Family Statistics, <i>America's Children: Key National Indicators of Well-Being, 2003</i> .	Current Population Survey	No	Yes	Yes	No

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Percentage of children under age 18 who are covered by Medicaid, by age, race and Hispanic origin: Selected years, 1987-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau, (2003). <i>Current Population Reports</i> , P60-223.	Current Population Survey	No	Yes	Yes	No
Percentage of children under age 18 who are reported by their parents to be in very good or excellent health, by age, race and Hispanic origin, poverty status: Selected years, 1985-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Federal Interagency Forum on Child and Family Statistics. (2003). <i>America's Children: Key National Indicators of Well-Being, 2003</i> . Washington, DC: U.S. Government Printing Office.	National Health Interview Survey	No	No* (data were available for 1997-2001 but not for the most recent data files)	Yes	No

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural? <sup>2</sup>	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural? <sup>3</sup>	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural? <sup>4</sup>	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Percentage of children under age 18 with any activity limitation due to a chronic condition, by age, sex, poverty status, race and Hispanic origin: Selected years, 1985-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Federal Interagency Forum on Child and Family Statistics. (2003). <i>America's Children: Key National Indicators of Well-Being 2003</i> . National Center for Health Statistics. (2003). Current Estimates from the National Health Interview Survey, 1995. <i>Vital Health Statistics</i> , 10.	National Health Interview Survey	No	No* (data were available for 1997-2001 but not for the most recent data files)	Yes	No
Percentage of children with selected health conditions, by sex, age, race and Hispanic origin, 1997-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	National Center for Health Statistics. (2003). Unpublished work. Summary Health Statistics for U.S. Children. (1999). <i>Vital Health Statistics</i> .	National Health Interview Survey	No	No* (data were available for 1997-2001 but not for the most recent data files)	Yes	No



Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural <sup>4</sup> ?
Percentage of poor children under age 18 who are covered by health insurance, by type of insurance, age, race and Hispanic origin: 2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau, (2003). <i>Current Population Reports</i> , P60-223.	Current Population Survey	No	Yes	Yes	No
Very low birthweight infants as a percentage of all infants by race and Hispanic origin of mother and by age: Selected years, 1970-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	<i>National Vital Statistics Reports</i> , National Center for Health Statistics, Centers for Disease Control and Prevention. <i>Monthly Vital Statistics Reports</i> , National Center for Health Statistics.	National Vital Statistics System	No	Yes	Yes	Yes

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
<b>Income Security</b>							
Children in extreme poverty: 2001	The Annie E. Casey Foundation. (2004). <i>Kids Count Data Book 2004: State Profiles of Child Well-being</i> . Baltimore, MD: The Annie E. Casey Foundation.	Population Reference Bureau, analysis of data from the U.S. Census Bureau	Current Population Survey	No	Yes	Yes	No
Female-headed families receiving child-support or alimony: 2001	The Annie E. Casey Foundation. (2004). <i>Kids Count Data Book 2004: State Profiles of Child Well-being</i> . Baltimore, MD: The Annie E. Casey Foundation.	Population Reference Bureau, analysis of data from the U.S. Census Bureau	Current Population Survey	No	Yes	Yes	No

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Median income of families with children: 2001	The Annie E. Casey Foundation. (2004). <i>Kids Count Data Book 2004: State Profiles of Child Well-being</i> . Baltimore, MD: The Annie E. Casey Foundation.	Population Reference Bureau, analysis of data from the U.S. Census Bureau	Current Population Survey	No	Yes	Yes	No
Median income of families with related children under age 18, by race, Hispanic origin and family type: selected years, 1980-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau. (2004). Historical Income Tables. <i>Current Population Reports, March 1981 - 2002</i> .	Current Population Survey	No	Yes	Yes	No
Percent of children in poverty: 1996 to 2001	The Annie E. Casey Foundation. (2004). <i>Kids Count Data Book 2004: State Profiles of Child Well-being</i> . Baltimore, MD: The Annie E. Casey Foundation.	<a href="http://www.census.gov/hhes/www/saipe.html">www.census.gov/hhes/www/saipe.html</a> (November 20, 2003), U.S. Census Bureau	Census 2000	No	Yes	Yes	No

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural? <sup>2</sup>	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural? <sup>3</sup>	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural? <sup>4</sup>	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Percent of children living in families where no parent has full-time, year-round employment: 1996 to 2001	The Annie E. Casey Foundation. (2004). <i>Kids Count Data Book 2004: State Profiles of Child Well-being</i> . Baltimore, MD: The Annie E. Casey Foundation.	Urban Studies Institute at the University of Louisville, analysis of data from the U.S. Census Bureau, Current Population Survey	Current Population Survey	No	Yes	Yes	No
Percentage of children under age 18 with both parents or only resident parent in the labor force, by family structure: 1985-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau. (2001). Special tabulations of <i>Current Population Surveys</i> (1996-2001). Unpublished works.	Current Population Survey.	No	Yes	Yes	No
Percentage of children under age 18 with no resident parent in the labor force, by family structure: 1985- 2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau. (2001). Special tabulations of <i>Current Population Surveys</i> (1996-2001). Unpublished works.	Current Population Survey.	No	Yes	Yes	No

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Percentage of mothers with youngest child under age 18 who were employed, by age of youngest child: 1980-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Bureau of Labor Statistics. Special tabulations based on analyses of March <i>Current Population Surveys</i> . Unpublished work.	Current Population Surveys	No	Yes	Yes	No
Percentage of related children below the poverty line by the poverty level of their neighborhood, by age of child, by family structure, and by race and Hispanic origin: 2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau. (2001). Poverty in the United States, 2001. <i>Current Population Survey</i> , P60-219.	Current Population Survey	No	Yes	Yes	No

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural? <sup>2</sup>	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural? <sup>3</sup>	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural? <sup>4</sup>	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
Percentage of related children below the poverty line who live in very poor neighborhoods, by race, Hispanic origin and family type: 2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau. (2001). Poverty in the United States, 2001. <i>Current Population Survey</i> , P60-219.	Current Population Survey.	No	Yes	Yes	No
Percentage of related children under age 18 living below poverty level, by family structure, age, race, Hispanic origin: selected years, 1960-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau. (2003). Poverty in the United States, 2002. <i>Current Population Survey</i> , P60-222 and detailed tables.	Current Population Survey.	No	Yes	Yes	No
Percentage of related children under age 18 living below selected poverty thresholds, by race and Hispanic origin: selected years, 1975-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Census Bureau. (2002). Poverty in the United States, 2002. <i>Current Population Survey</i> , P60-222 and detailed tables.	Current Population Survey.	No	Yes	Yes	No

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural?
<b>Safety</b>							
Percent distribution of child maltreatment by type of maltreatment, sex, age of victim, race and Hispanic origin: Selected years, 1990-2001	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	U.S. Department of Health and Human Services, Administration on Children, Youth and Families. (2003). <i>Child Maltreatment, 2001</i> .	Undocumented source, U.S. Department of Health and Human Services.			Data source not identified	
Percentage of children and youth who are observed to have worn a seat belt or been placed in a child safety seat, by age: Selected years, 1994-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Federal Interagency Forum on Child and Family Statistics. (2003). <i>America's Children: Key National Indicators of Well-Being, 2003</i> . Washington, DC: U.S. Government Printing Office.	National Occupant Protection Survey	No	No	No	No

Well-being Indicator	Publication Source	Original Report Source <sup>1</sup>	Data Source (as described in Publication Source)	Can the Indicator be Estimated with Public Use Data Using a Precise Definition of Rural <sup>2</sup> ?	Can the Indicator be Estimated with Public Use Data Using a Less Precise Definition of Rural <sup>3</sup> ?	Can the Indicator be Estimated Using Non-Public Data at a Data Center Using a Precise Definition of Rural <sup>4</sup> ?	Can the Indicator be Estimated Using Non-Public Data Outside of a Data Center Using a Precise Definition of Rural <sup>4</sup> ?
Percentage of children who are restrained for selected categories by year: Selected years, 1994-2002	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	Federal Interagency Forum on Child and Family Statistics. (2003). <i>America's Children: Key National Indicators of Well-Being, 2003</i> . Washington, DC: U.S. Government Printing Office.	National Occupational Protection Use Survey	No	No	No	No
Youth deaths due to injury by firearms by age, sex and race: Selected years, 1980-2000	U.S. Dept. of Health and Human Services. (2003). <i>Trends in the Well-being of America's Children and Youth</i> . Washington, DC: U.S. Government Printing Office.	<i>National Vital Statistics Reports</i> , National Center for Health Statistics, Centers for Disease Control and Prevention. <i>Monthly Vital Statistics Reports</i> , National Center for Health Statistics, CDC.	National Vital Statistics System	No	Yes	Yes	Yes



**Appendix B:**  
**Estimating Child Well-being Indicators for Rural Children: Findings by Data Source**

<b>2003 Current Population Survey (Annual Social and Economic Supplement-March)</b>
<i>Survey Description:</i> Nationally representative monthly household survey designed to collect information on employment and earnings.
<i>Data Source for the Following Published Child Well-Being Indicators in our Universe:</i> Children’s health insurance coverage, poverty, family structure, parental employment characteristics, child population, and food insecurity.
<i>Public Use Variables Used to Identify “Rural” Respondents:</i> <ul style="list-style-type: none"> <li>• Inside/Outside Metropolitan Statistical Area (MSA)</li> </ul>
<i>Sample Size of Rural Children (MSA/Non MSA Definition):</i> <ul style="list-style-type: none"> <li>• In the March 2003 Current Population Survey (CPS) public use file, there are 1,364 children younger than 18 and 489 children younger than five (unweighted cases) in households outside of an MSA. These sample sizes would allow for the CPS child well-being indicators to be estimated for children under five outside MSAs at the national level and perhaps for one or two of the larger states.</li> </ul>
<i>Non-Public Use Variable Used to Identify “Rural” Respondents:</i> <ul style="list-style-type: none"> <li>• Federal Information Processing Standards (FIPS) codes: <ul style="list-style-type: none"> <li>• Codes can be used in conjunction with Economic Research Service’s (United States Department of Agriculture) rural-urban continuum codes to identify children living in rural areas<sup>1</sup></li> <li>• There are substantial financial and time costs associated with using the non-public CPS data <ul style="list-style-type: none"> <li>▪ Those interested in using non-public CPS data must analyze the data at a Regional Data Center (RDC)</li> <li>▪ Only output from statistical models is allowed--tabular output is not permitted unless a waiver is granted</li> <li>▪ All output must be cleared for release by the local RDC administrator</li> <li>▪ Cost for data center approximately \$3,000 per month</li> </ul> </li> </ul> </li> </ul>
<i>Sample Size of Rural Children (Precise Definition):</i> <ul style="list-style-type: none"> <li>• Census Bureau staff indicated that the CPS does not contain a large sample of households in rural counties, so the total national sample size of rural households may be less than 2,000. Depending on the number and ages of children living in these households, some estimates of CPS child well-being indicators may be estimated for rural children under 18 nationally. It is unlikely that any national child well-being indicators can be produced for children under five.</li> </ul>
<sup>1</sup> <a href="#">Rural-Urban Continuum Codes</a> form a classification scheme that distinguishes metropolitan (metro) counties by the population size of their metro area, and nonmetropolitan (nonmetro) counties by degree of urbanization and adjacency to a metro area or areas. The metro and nonmetro categories have been subdivided into three metro and six nonmetro groupings, resulting in a nine-part county codification. The two rural categories are defined as areas with a population of less 2,500 (either adjacent or not adjacent to a metro area).

## Adoption and Foster Care Analysis and Reporting System (AFCARS)

*Survey Description:* The AFCARS is a federal data collection effort that provides child-specific information on all children covered by the protections of Title IV-B and Title IV-E of the Social Security Act. Every year, each state submits data to the U.S. Children's Bureau, regarding each child in foster care and each child who has been adopted under the authority of the state's child welfare agency.

*Data source for the Following Published Child Well-Being Indicators in our Universe:* Children in foster care, children entering foster care, children living in foster care

*Public Use Variables Used to Identify "Rural" Respondents:*

- No public use variables to specifically identify rural children but the Local Agency (responsible for the foster case) is noted by the 5-digit Federal Information Processing Standard (FIPS) codes
  - Codes can be used in conjunction with Economic Research Service's (United States Department of Agriculture) rural-urban continuum codes to identify children living in rural areas<sup>1</sup>

*Sample Size of Rural Children (MSA/Non MSA Definition):* Given that the AFCARS contains case level information on all children in foster care and who are adopted under the auspices under the state's public child welfare agency, the indicators of child well-being measured by AFCARS can be obtained for rural counties.

<sup>1</sup>[Rural-Urban Continuum Codes](#) form a classification scheme that distinguishes metropolitan (metro) counties by the population size of their metro area, and nonmetropolitan (nonmetro) counties by degree of urbanization and adjacency to a metro area or areas. The metro and nonmetro categories have been subdivided into three metro and six nonmetro groupings, resulting in a nine-part county codification. The two rural categories are defined as areas with a population of less 2,500 (either adjacent or not adjacent to a metro area).

## American Housing Survey

*Survey Description:* National survey that collects data on the Nation's housing quality, costs, equipment and fuels, as well as income, household characteristics, neighborhood quality, size of housing unit, and recent movers.

*Data Source for the Following Published Child Well-Being Indicators in our Universe:*  
Children having selected housing problems

*Public Use Variables Used to Identify "Rural" Respondents:*

- METRO3
  - Includes five categories: Central City of MSA; Inside MSA, not in central city (urban); Inside MSA, not in central city (rural); Outside MSA (urban); and Outside MSA (rural)

*Sample Size of Rural Children (MSA/Non MSA Definition):* In the 2003 National American Housing Survey, there are 11,038 households listed as "Outside MSA, rural" and another 9,637 listed as "Inside MSA, not in central city – rural". Therefore, there are a total of 20,675 households located in areas of less than 2,500 residents. The sample size is large enough to analyze rural children nationally and in numerous states.

<b>Census 2000 (5-percent Public Use Microdata Sample (PUMS))</b>
<i>Survey Description:</i> Contains decennial census data on demographic, housing, social and economic characteristics of the United States population.
<i>Data Source for the Following Published Child Well-Being Indicators in our Universe:</i> Small area poverty estimates; population counts of children and population projections; number, age distribution and family structure of foreign-born children.
<i>Public Use Variables Used to Identify “Rural” Respondents:</i> <ul style="list-style-type: none"> <li>• Inside/Outside MSA</li> </ul>
<i>Sample Size of Rural Children (MSA/ Non MSA):</i> In the Census 2000 5-percent PUMS file, there are 1,231,369 housing records outside of MSAs. This sample size allows for the estimation of child well-being indicators for rural children at all levels of geography.
<i>Non-Public Use Variable Used to Identify “Rural” Respondents:</i> <ul style="list-style-type: none"> <li>• Federal Information Processing Standards (FIPS) codes <ul style="list-style-type: none"> <li>• Codes can be used in conjunction with Economic Research Service’s rural-urban continuum codes to identify children living in rural areas<sup>1</sup></li> </ul> </li> <li>• Researchers may also request access to an internal urban/rural flag variable which makes an urban/rural distinction by block (the smallest defined Census geography 2000 data)</li> <li>• There are substantial financial and time costs associated with using the non-public Census <ul style="list-style-type: none"> <li>• Those interested in using non-public CPS data must consent to analysis at a Regional Data Center (RDC)</li> <li>• Only output from statistical models is allowed--tabular output is not permitted unless a waiver is granted</li> <li>• All output must be cleared for release by the local RDC administrator</li> <li>• Cost for data center approximately \$3,000 per month</li> </ul> </li> </ul>
<i>Sample Size of Rural Children (Precise Definition):</i> Exact sample size not known because non-public use data could not be accessed. However, it is clear that the sample size will allow for the estimation of child well-being indicators at all levels of geography.
<sup>1</sup> <a href="#">Rural-Urban Continuum Codes</a> form a classification scheme that distinguishes metropolitan (metro) counties by the population size of their metro area, and nonmetropolitan (nonmetro) counties by degree of urbanization and adjacency to a metro area or areas. The metro and nonmetro categories have been subdivided into three metro and six nonmetro groupings, resulting in a nine-part county codification. The two rural categories are defined as areas with a population of less 2,500 (either adjacent or not adjacent to a metro area).

## National Household Education Surveys Program (NHES)

Survey Description: Provides descriptive data on the educational activities of the U.S. population. System consists of two repeating surveys targeted at children ages three- to five-years-old.

*Data Source for the Following Published Child Well-Being Indicators in our Universe:* Enrollment in center-based early childhood care and education programs, school-readiness skills, and participation in literacy activities with a family member (all measures for children 3- to 5-years-old only).

*Public Use Variables Used to Identify “Rural” Respondents:*

- ZIPURBAN
  - Variable categorizes a household’s zip code into three categories depending on whether the zip code area is primarily urban or rural.
    - Urban is broken into two categories (inside or outside of an urban cluster) and rural has one category.
      - Urbanized area: area with at least 50,000 people.
      - Urban, inside urban cluster: densely settled territories with a population between 2,500 and 50,000.
      - Rural: areas with less than 2,500 people.

*Sample Size of Rural Children (Precise Definition):* The 1999 NHES consisted of 1,848 children between the ages of 3 and 17 living in rural areas. Sample size is large enough to allow for estimates of child well-being for rural children nationally

<b>National Health Interview Survey (NHIS)</b>
<i>Survey Description:</i> A cross sectional household survey to monitor the health of the United States population through the collection and analysis of data on a broad range of health topics.
<i>Data Source for the Following Published Child Well-Being Indicators in our Universe:</i> Children who are reported by their parents to be in very good or excellent health, children with selected health conditions, children with any activity limitation due to a chronic condition
<i>Public Use Variables Used to Identify “Rural” Respondents:</i> <ul style="list-style-type: none"> <li>• No public use variables to identify “rural” respondents</li> </ul>
<i>Sample Size of Rural Children (MSA/ Non MSA Definition):</i> Not applicable since there are no public use variables to identify rural respondents.
<i>Non-Public Use Variable Used to Identify “Rural” Respondents:</i> <ul style="list-style-type: none"> <li>• Urban/rural</li> <li>• MSA/non-MSA</li> <li>• Federal Information Processing Standards (FIPS) codes <ul style="list-style-type: none"> <li>• Codes can be used in conjunction with Economic Research Service’s (United States Department of Agriculture) rural-urban continuum codes to identify children living in rural areas</li> </ul> </li> <li>• There are substantial financial and time costs associated with using the non-public NHIS data <ul style="list-style-type: none"> <li>• Those interested in using non-public NHIS data must submit proposal and consent to analysis at the Research Data Center (RDC) located in Hyattsville, Maryland</li> <li>• Cost to use RDC: approximately \$1,000 per week</li> </ul> </li> </ul>
<i>Sample Size of Rural Children (Precise Definition):</i> Sample size cannot be calculated because non-public data could not be accessed.

## National Immunization Survey (NIS)

*Survey Description:* Random-digit-dial telephone survey that collects data on whether children between the ages of 19 and 35 months living in the United States have had six recommended vaccines.<sup>1</sup> Data from the NIS are used to produce timely estimates of vaccination coverage rates for the nation and for each of 78 Immunization Action Plan (IAP) areas, consisting of the 50 states, the District of Columbia, and 27 large urban areas.

*Data Source for the Following Published Child Well-Being Indicators in our Universe:* 2 - year-olds who were immunized, children ages 19 months to 35 months who have received routinely recommended vaccinations

*Public Use Variables Used to Identify “Rural” Respondents:*

- No variable to identify rural respondents

*Sample Size of Rural Children (MSA/ Non MSA Definition):* Not applicable. No variable to identify rural respondents.

*Non-Public Use Variables Used to Identify “Rural” Respondents:*

- No non-public use variable available to identify “rural” respondents

*Sample Size of Rural Children (Precise Definition):* Not applicable. No variable to identify rural respondents.

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<sup>1</sup> The six recommended vaccines are Hepatitis B, DTP (Diphtheria, Tetanus, acellular Pertussis ), HIB (Haemophilus influenzae type b), MMR (Measles, Mumps, Rubella ), Polio (Inactivated polio vaccine, IPV), Varicella (chicken pox).

<b>National Survey of America's Families (NSAF)</b>
<p><i>Survey Description:</i> National survey of over 40,000 households and is representative of the noninstitutionalized, civilian population of person under age 65. The survey focuses primarily on health care, income support, job training, social services, and child care.</p>
<p><i>Data Source for the Following Child Well-Being Indicators:</i> Child care, child health insurance coverage, child school engagement, child poverty, and family structure</p>
<p><i>Public Use Variables Used to Identify "Rural" Respondents:</i></p> <ul style="list-style-type: none"> <li>• No public variables</li> </ul>
<p><i>Sample Size of Rural Children (MSA/ Non MSA Definition):</i> Not applicable.</p>
<p><i>Non-Public Use Variables used to Identify Rural Respondents:</i></p> <ul style="list-style-type: none"> <li>• Inside/Outside MSA</li> <li>• Federal Information Processing Standards (FIPs) codes <ul style="list-style-type: none"> <li>• Codes can be used in conjunction with Economic Research Service's rural-urban continuum codes to identify children living in rural areas<sup>1</sup></li> </ul> </li> </ul>
<p><i>Sample Size of Rural Children (Precise Definition):</i> While it is difficult to assess the sample sizes using the precise definition of rural, it appears that the single-year sample sizes in the National Survey of America's Families are large enough to estimate the well-being indicators for children nationally and for some states. Combining the three years of NSAF data, where possible, increases the number of states where one can estimate the well-being of rural children using the precise definition of rural.</p>
<p><sup>1</sup><a href="#">Rural-Urban Continuum Codes</a> form a classification scheme that distinguishes metropolitan (metro) counties by the population size of their metro area, and nonmetropolitan (nonmetro) counties by degree of urbanization and adjacency to a metro area or areas. The metro and nonmetro categories have been subdivided into three metro and six nonmetro groupings, resulting in a nine-part county codification. The two rural categories are defined as areas with a population of less 2,500 (either adjacent or not adjacent to a metro area).</p>



## National Vital Statistics System (NVSS)

*Survey Description:* System that collects vital statistics including births, deaths, marriages, divorces and fetal deaths in the 50 States, as well as 2 cities (Washington, DC, and New York City), and 5 territories (Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands).

*Data Source for the Following Published Child Well-Being Indicators in our Universe:* Low-birth weight babies, infant mortality rate, child death rate, low birth weight infants as a percentage of all infants, very low birth weight infants as a percentage of all infants, infant, neonatal, and postnatal mortality rates, infant mortality rates, child and youth mortality rates, youth deaths due to injury by firearms.

*Public Use Variables Used to Identify “Rural” Respondents:*

- Inside/Outside MSA

*Sample Size of Rural Children (MSA/ Non MSA Definition):* Given that the jurisdictions listed above are responsible for maintaining registries of every vital event that takes place within them, the indicators of child well-being measured by the NVSS can be obtained for rural counties

*Non-Public Use Variable Used to Identify “Rural” Respondents:*

- Federal Information Processing Standards (FIPS) codes
  - Codes can be used in conjunction with Economic Research Service’s (United States Department of Agriculture) rural-urban continuum codes to identify children living in rural areas
  - Special requests can be made to obtain the entire set of county codes and such requests have been granted in the past
  - If request to obtain county codes is not successful, analysis can be conducted at Research Data Center (RDC)
  - There are substantial financial and time costs associated with using the non-public NVSS data at RDC
    - Those interested in using non-public NVSS data must submit proposal and consent to a review of all analysis
    - RDC located in Hyattsville, Maryland
    - Cost to use RDC: approximately \$1,000 per week

*Sample Size of Rural Children (Precise Definition):* Given that the jurisdictions listed above are responsible for maintaining registries of every vital event that takes place within them, the indicators of child well-being measured by the NVSS can be obtained for rural counties.

## Survey of Income and Program Participation (SIPP)

*Survey Description:* A continuous series of national panels of a stratified sample of the U.S. civilian noninstitutionalized population. The main objective of the SIPP is to provide information about the income and program participation of individuals and households in the United States, and about the principal determinants of income and program participation.

*Data Source for the Following Child Well-Being Indicators (Waves 4 and 7 of 2001 Panel):* Child care enrollment, early childhood experiences, and parent-child interaction

Public Use Variables Used to Identify “Rural” Respondents:

- Inside/ Outside MSA

*Sample Size of Rural Children (MSA/Non MSA Definition):* In the 2001 SIPP panel, there are 9,115 children younger than 18 and 2,457 children younger than five (unweighted cases) in households outside of an MSA. These sample sizes would allow for the SIPP child well-being indicators to be estimated for children under five outside MSAs at the national level and for some larger states.

*Non-Public Use Variable Used to Identify “Rural” Respondents:*

- Federal Information Processing Standards (FIPS) codes
  - Codes can be used in conjunction with Economic Research Service’s (United States Department of Agriculture) rural-urban continuum codes to identify children living in rural areas<sup>1</sup>
- Urban/Rural
- There are substantial financial and time costs associated with using the non-public SIPP data
  - Those interested in using non-public SIPP data must analyze the data at a Regional Data Center (RDC)
  - Only output from statistical models is allowed--tabular output is not permitted unless a waiver is granted
  - All output must be cleared for release by the local RDC administrator
- Cost for data center approximately \$3,000 per month

*Sample Size of Rural Children (Precise Definition):* While non-public-use data could not be accessed, it also appears that the sample sizes should be large enough to estimate the well-being indicators for all children under 18 nationally and perhaps for some states.

<sup>1</sup>[Rural-Urban Continuum Codes](#) form a classification scheme that distinguishes metropolitan (metro) counties by the population size of their metro area, and nonmetropolitan (nonmetro) counties by degree of urbanization and adjacency to a metro area or areas. The metro and nonmetro categories have been subdivided into three metro and six nonmetro groupings, resulting in a nine-part county codification. The two rural categories are defined as areas with a population of less 2,500 (either adjacent or not adjacent to a metro area).



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