

**RECOMMENDED STANDARDS FOR
MENTAL HEALTH
POPULATION DATA**



**A Collaborative Activity of the Mental Health Statistics Improvement Program
(MHSIP) and the Decision Support 2000+ (DS2000+) Team**

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Decision Support 2000+ Population Data Standards

Introduction

Development of standards for population-based mental health data has evolved over several years. This report summarizes the development process and major issues; provides key documents and references; and presents the standards currently recommended for collecting and reporting mental health data at the community or population level. This report consists of a brief introduction and several discrete attachments for presenting (*in toto*) previous reports, summaries of major issues, and the data standards.

Background

In 1999, the Survey and Analysis Branch (SAB) of the Center for Mental Health Services (CMHS) with Abt Associates Inc., the National Association State Mental Health Program Directors Research Institute (NRI), the Mental Health Statistics Improvement Program (MHSIP), and individual consultants developed the Draft Requirements Analysis for Decision Support 2000+ (Minden et al 1999; <http://www.mhsip.org/ds2000/newindex.htm>). The chapter describing the purposes and general requirements for population data (Davis, 1999) is included in this document (see Attachment 1), and is available at <http://www.mhsip.org/ds2000/sect2.pdf>.

CMHS subsequently convened two focus groups, one consisting of stakeholders, the other of experts on population data (ROW Sciences, 1999). These groups recommended the following priority areas for data collection (domains):

- Community demographic characteristics
- Community characteristics that affect risk of mental illness
- Health and mental health characteristics, including substance use of persons living in the community
- Access to and use of services by persons living in the community
- Treatment and prevention services available in the community
- Community support for persons with mental illness

They also recommended priority issues for analysis:

- Unduplicated counts of mental illness
- Use and nonuse of services
- Adverse events
- Level of stigmatization in the community
- Quality of health insurance coverage
- Early detection and timely intervention

- Physical and mental health status
- Community resources

Finally, the focus groups recommended data elements for each domain that were then refined by the first DS2000+ Population Workgroup¹ in 2002 (see Attachment II). This workgroup also created a list of population-based surveys that could provide mental health and/or substance abuse data or model questions for new surveys (see Attachment III).

Once these areas of interest were defined, the workgroup addressed the issue of how best to collect the kinds of data that would illuminate the level of need for mental health services and the types and extent of resources available in the general population. Basic to this effort was a review of current developments in the evolving field of psychiatric epidemiology, and recommendations for procedures, tools, and methods for collecting population data. Five evolving methodologies were identified and considered. These were:

1. Direct estimation through large-scale national periodic mental health surveys;
2. Synthetic estimation using existing mental health and non-mental health data sets;
3. Direct estimation through screening questions on existing annual national non-mental health surveys;
4. Direct estimation by “piggybacking” short screening instruments onto existing annual national surveys; and
5. Direct estimation through periodic local data collection efforts.

A summary of these evolving methods in psychiatric epidemiology is presented in Attachment IV. Each of these approaches has distinct advantages and disadvantages, discussed in the attachment. More detailed technical discussions of two of the approaches (direct estimation through periodic national surveys and synthetic estimation using existing data) appear in Attachments V and VI. Use of census data is discussed in Attachment VII.

¹ The first population workgroup members were Gloria Bailey, Nancy Callahan, Steve Davis, Vijay Ganju, Charles E. Holzer III, Kathryn Horsley, Ronald C. Kessler, Sarah Minden, and David Solet. The second workgroup was constituted in early 2003 and included Steve Davis, Harold Goldsmith, Charles Holzer, Ron Jemelka, Ron Kessler, Sarah Minden, and David Solet. This group, designated the population data content workgroup, focused on developing data standards. A third workgroup was also convened in 2003 and, in addition to the members of the content workgroup, included Ted Lutterman, David Moriarty, Ken Thompson and Jennifer Perloff. This workgroup, designated the survey workgroup, has focused on implementation and integration issues including development of a community-based survey. Contact information for work group members can be found at <http://psy.utmb.edu/survey/committee/contact.htm>.

Content and Survey Workgroups

In 2003, two new workgroups (the “content” workgroup and the “survey” workgroup) began meeting via teleconference to finalize content areas of interest, identify specific measures to be used, and develop a survey for administration in local jurisdictions¹.

The content workgroup developed data standards in three areas:

- Regional demographics and community characteristics related to the prevalence of mental disorders;
- Community health and mental health characteristics; and
- Health and mental health resources in the community.

These standards are compatible with the U.S. Department of Health and Human Services National Health Information Infrastructure (NHII) initiative and consistent with the original domains, data elements, and measures for population data developed by the original stakeholder and expert work groups for this project.

The data standards for these three Domains are presented in Attachments VII, IX, and X, respectively.

The survey workgroup has focused its efforts on development and implementation of a local survey. The workgroup recommended the brief screening scale for serious mental illness (SMI) used in the National Health Interview Survey (NHIS) and the National Household Survey on Drug Abuse (NHSDA). (See http://www.hcp.med.harvard.edu/ncs/k6_scales.php for detailed descriptions of these screening instruments.) Although it is possible to convert screening scale scores into aggregate prevalence estimates as well as person-level estimates of the predicted probability of SMI for each state, county-level estimates cannot be made with precision. Consequently, the survey workgroup developed a procedure for conducting inexpensive periodic county-level needs assessment surveys (see Attachment IV, Section 5) (Kessler, et al. 2004). Table 1 below shows the content areas and suggested measures for the local surveys; the links in the Table take the reader to the source documents. The working drafts of the survey are posted at <http://psy.utmb.edu/survey/survey.htm> along with a draft of a computer-assisted telephone interview (CATI) process for data collection (<http://psy.utmb.edu/survey/survey.htm>).

The goal of the final survey product is to provide local stakeholders, planners, administrators, and researchers with data at the person and population levels in their communities. It is intended to be a modular survey that allows local entities to “pick and chose” components of interest with a “drill down” web capacity to facilitate access to successively greater detail. The survey will be based on the domains and data elements shown in attachment VII.

Table 1. Recommended domains, data elements, and measures for local surveys

Survey Content Domains	Suggested Measures- Source
Serious Mental Illness Serious and Persistent Mental Illness (SMI/SPMI)	K-10 CIDI Screening scales
Self ratings of mental health/physical health	NCS self ratings of SF-36, SF-12, SF-8
Frequent mental distress	CDC/HRQOL measures BRFSS-MH
Disability and work days lost	NHIS Census disability WHO/DAS Sheehan Disability Scale
Co-occurring disorders	Charlson Index (physical disorders) NHSDA or BRFSS (substance abuse disorders)
Access to healthcare services	MEPS -Access to Care Module
Victimization and domestic violence	ADAM (victimization questions)
Service utilization, stigma, and barriers to treatment	Services questions from NCS and CEH
Knowledge and attitudes about services	MHSIP Surveys NCS services
Perceptions of quality of care	MHSIP Surveys
Respondent demographics	Examples (for sampling and analysis)

Attachment I. Requirements for Population Data

Steven Davis

Draft Requirements Analysis for DS2000+ (Minden et al, 1999;
<http://www.mhsip.org/ds2000/sect2.pdf>).

Summary

Population-based data are intended to provide a means to plan services for persons in need, and for monitoring the extent to which the overall system is addressing those needs. Two large survey projects that have focused on mental health service needs of the general population are the Epidemiological Catchment Area Study and the National Comorbidity Study. In addition, the National Health Interview Survey, National Household Survey on Drug Abuse, and others have included questions aimed at identifying mental health treatment needs. A review of analyses of these studies identified several steps that need to be accomplished before the requirements for population-based mental health data collection are clearly defined:

- future surveys must cover the full range of ages in the population to identify the full range of service need;
- instrumentation must be developed that is appropriate for assessing mental disorders in children and adolescents;
- coding for demographic and geographic variables must be standardized across data collection projects, or acceptable cross-walks must be developed;
- a sufficiently large sample or appropriate estimation methodology must be used to permit disorder rates to be established for age, race, gender, etc.;
- measures of functional impairment must be developed for adults and children to produce more reliable estimates of prevalence of SMI and SED;
- items must be included to identify sub-clinical symptoms and conditions, and evaluate the demand, as well as the need, for treatment;
- existing surveys need to be identified and examined for their inclusion of mental health data items and their applicability to mental health policy questions.

Four additional areas to study have been identified. First, new vehicles for data collection need to be considered, such as system-based surveys like those used by employers, health plans, counties and regional catchment areas. Second, strategies employing technology and methodology to increase response rates should be used, e.g., proven follow-up methods and computer-based survey systems. Third, measures should be changed to reconcile differences between clinical assessment instruments and population surveys. Calibration must be done between smaller surveys with fewer items and larger surveys with items that specify clinical conditions. Persons with unmet needs must also be identified. Finally, incentives for surveyors and respondents should be investigated, e.g., involving community service organizations in surveys by appealing to citizenship, and using innovative, low-expense items like calling cards to attract respondents.

What is the Intended Purpose or Function of this Component?

In the context of this project, “population data” refers to information about the frequency and rates of various “states” and “occurrences” in the general population. Such frequencies and rates are determined by compiling records of events or by conducting sample surveys. The resulting data may include information about mental and emotional disorders and symptoms; or events that may be indicative of the mental health status of the population; and/or risk/protective factors for mental illness occurring in the population.

The purpose for the periodic collection of population data, as described in the U.S. Public Health Service Healthy People 2000 report ([U.S. Department of Health and Human Services](#), 1990) and by Manderscheid and Henderson (1995), is to allow for assessment of the overall health status of the general community population, so that adequate planning for services for persons in need can be accomplished and overall system performance can be monitored.

Shapiro and colleagues (1984) discussed using population data for planning. They described four purposes for mental health information collected from population surveys like those conducted for the Epidemiologic Catchment Area (ECA) program: to determine patterns and levels of utilization of general health and mental health services by persons with and without mental disorders; to determine the influence of personal characteristics and health services resources on service utilization; to estimate the distribution of mental health care received by service sector and setting; and to estimate the need for services, the gap between need and services received, and factors affecting the size of the gap.

What Information is Required to Accomplish this Purpose?

Domains of Data to be Collected

Adequate planning for mental health services in a state, region, county or city cannot be done by analyzing only enrollment and encounter data from existing consumers. While those sources may provide useful information about consumer characteristics and “met demand” for treatment, they do not address unmet demand or need for treatment. Although some indicators of unmet demand and need may be available from other sources (McAuliffe et al., 1994), to provide information adequate for planning, surveys of the general population must be conducted. Table 1 shows a number of population surveys and the agencies that developed them.

In this section, “population” is used to describe one of the minimum data sets in the information system, in contrast to the Introduction, where the term is used to describe a unit of analysis. The population data set contains information about people independent of and unrelated to their status as plan enrollees or as consumers of services—simply as people who are part of the general population in a community, a county, a state, or the

nation. When specifying a unit of analysis, “population” is used to refer to the set of people being considered, i.e., all enrollees or all users of a service or all people who have experienced a similar outcome— as distinct from consideration of a single individual as when the “person” is the unit of analysis.

The domains of information to be collected from general population surveys may vary depending on the desired level of planning and the availability of resources to conduct the survey. The minimum domain requirements are (1) mental health status questions that directly, or through established algorithms, provide information on diagnoses, symptoms, and functional status, and (2) respondent demographic and location information. Both the mental health status and demographic information should correspond directly to data elements collected by treatment providers during their assessments of consumers. In this way, the same questions asked in the surveys can be used to collect data for assessment, treatment planning, and progress monitoring for individual consumers; individual-level data can then be aggregated and compared with estimates of unmet demand and need calculated from survey results.

In addition to the minimum elements described above, the ideal domain requirements include physical health status, functional status, socioeconomic status (including social support resources, employment and housing information), life events, and treatment history. Including these domains will substantially improve the utility of the survey data for planning and policy analysis purposes. For example, Shapiro et al. (1984) used data on “personal characteristics” (sociodemographic, economic, health insurance, functional status, and co-morbidity information) and information about health services resource availability to analyze utilization data from the Epidemiologic Catchment Area (ECA) program. Similarly, in results from the National Comorbidity Survey (NCS), Kessler et al. (1996a) found significant correlations between serious mental illness (SMI) and gender, education, and marital status, and that service use among persons with SMI was significantly related to age, race, and income. Kessler et al. (1997a) stress that one of the “main advances” NCS made over ECA was that the NCS was designed to be a risk factor study as well as a prevalence and incidence study. NCS contains a comprehensive risk factor battery, including family history, assessments of parental psychology, questions about childhood and family adversity, measures of social networks and support, and information about stressful life events and difficulties.

Other Requirements and Considerations

Population data should be collected from a sample of sufficient size, selected with a statistically appropriate method, to permit calculation of reliable estimates for each geographic region and/or population subgroup for which planning is desired. In particular, surveys should collect information and include data elements to identify age groups (children, adolescents, adults, elderly), target groups (persons with SMI, serious emotional disturbance [SED] and co-occurring mental health and substance abuse disorders), and geographic regions (census tract, zip code, city, county, catchment area). Surveys should address not only need for treatment, but also demand for treatment, to best estimate the potential workload for treatment providers, and to provide the most

useful information for planners of outreach services (McAuliffe et al, 1994). Issues of survey protocol, confidentiality, security, language appropriateness, and cultural competence must be addressed to ensure respondent rights are honored, and all groups in need of service are identified. In addition, since Shapiro et al. (1984) found about one third of those seeking mental health treatment had symptoms or conditions, but no Diagnostic Interview Schedule (DIS) disorder, surveys will need to be designed to identify mild symptoms and sub-clinical conditions if they are to be useful for estimating the full demand for treatment. Data must be consistent and comparable across survey periods to permit comparisons and assessments of change. At the same time, surveys must allow for expansion in terms of data elements and topics addressed, to ensure innovations can be evaluated.

Sources of Population Data

In addition to de novo data collection, there are also supplemental, surrogate or indicator sources of population data. In a working paper on estimating the 12-month prevalence of serious mental illness, Kessler et al. (1997b) recommended two approaches to improving SMI estimates that can be applied to prevalence estimates of mental health diagnoses in general:

1. “add marker information about SMI to ongoing annual federal surveys,” such as the National Health Interview Survey (NHIS), the Behavioral Risk Factor Surveillance System (BRFSS), and the National Household Survey on Drug Abuse (NHSDA) and integrate this direct information into the estimation of SMI@; and
2. “integrate aggregate indicators that are available on an ongoing basis,” including outcomes of SMI (e.g., suicides), triggers such as disasters and major increases in unemployment, and markers for ambient community-level stress (e.g., population density and crime rates).

The authors propose that more detailed and expensive assessment surveys such as the NCS be conducted at less frequent intervals, e.g., every 10 years, and their results be linked with data from more frequent, but less detailed surveys to produce estimates in intervening years.

Mental health questions have already been added to several national surveys that could contribute to the types of analyses Kessler et al. recommend. The 1996 NHSDA (Office of Applied Studies, 1998) included modules administered to adolescents (12 to 17 years old) and adults (18 years and older) that were “composed of items derived from mental health epidemiologic surveys.” The source for the adult items was the Composite International Diagnostic Interview (CIDI) questions for major depressive episode, panic attack, generalized anxiety disorder, and agoraphobia from the National Comorbidity Survey (NCS). For adolescents, the Youth Self-Report Checklist (Achenbach, 1991) was used.

In calendar years 1994 through 1997, the National Health Interview Survey on Disability (NHIS-D) Phase 1 and Phase 2 interviews were conducted (NCHS, 1998).

The NHIS is an annual face-to-face interview designed by the National Center for Health Statistics and administered by the U.S. Census Bureau to members of randomly selected households. In 1994 and 1995, special questions on disability were added to the basic NHIS questionnaire. During Phase 1, families were screened for any indication of disability; in Phase 2, completed in early 1997, identified families received follow-up interviews to collect additional information. Mental disorders identified by the survey include senile and pre-senile organic psychotic conditions, schizophrenic psychoses, affective psychoses, other psychoses, neurotic and personality disorders, alcohol dependence syndrome, and drug dependence. Persons with mental illness were asked about housing and long-term care utilization, access to public transportation, specialist service providers, and inpatient and outpatient mental health care in the past 12 months, availability of needed care, barriers to care, and links to mental retardation services. Data from those surveys are now available (National Center for Health Statistics, 1998) in public use files on CD-ROM.

The BRFSS and the Youth Risk Behavior Surveillance System (YRBSS), administered in all 50 states with support from the Centers for Disease Control and Prevention (CDC) have included items that may contribute to both methods of estimation recommended by Kessler et al. The Morbidity and Mortality Weekly Report (CDC, May 1, 1998) includes data on self-reported "frequent mental distress" (FMD) among adults, a BRFSS quality of life question that has been collected since 1993. Respondents are asked to report how many days during the past 30 days their mental health was not good. Persons reporting 14 or more days are defined as having FMD. If this item were included in a survey with a sufficient number of CIDI items so that mental health diagnoses could be derived from responses, correlations with CIDI items could be calculated and future BRFSS results could then be used to estimate prevalence of related mental disorders.

The BRFSS has also included questions about health insurance that permit estimation of the prevalence of insured and uninsured persons in the US. This could prove useful to mental health service planners since underinsurance or lack of insurance has been related to delayed care and adverse health consequences (CDC, July 3, 1998). Similarly, the YRBSS (CDC, August 14, 1998) is a source of information about priority health-risk behaviors among youth and young adults aged 10-24 years C behaviors that contribute to unintentional or intentional injuries, including suicide attempts C that could be correlated with diagnoses derived from more detailed surveys.

Vital statistics (e.g., suicides and other mortality data) from state health departments and the CDC, emergency department reports of selected services, and single vehicle fatality reports from the Fatality Analysis (formerly Fatal Accident) Reporting System (FARS) are other sources of indicator data that may be correlated with prevalence of mental illness in the general population. The US Census is a source of non-mental health information that can be used for certain rate calculations and estimations of prevalence based on correlations with data from other sources.

Two surveys co-sponsored by the Agency for Health Care Research and Quality (AHRQ) (formerly the Agency for Health Care Policy and Research [AHCPR]) may be resources

for mental health planners and policy analysts. The first is the Medical Expenditure Panel Survey (MEPS) (AHCPR, 1998). MEPS is “a nationally representative survey of health care use, expenditures, sources of payment, and insurance coverage for the U.S. civilian noninstitutionalized population, as well as a national survey of nursing homes and their residents.” MEPS is sponsored by AHRQ and NCHS. It is designed to provide data on the level and distribution of health care use and expenditures, the health care delivery and insurance systems, and health care policy. Besides collecting data from household respondents, MEPS includes a Medical Provider Component designed to reduce estimate bias by collecting provider-reported charge and payment data. An event level “condition” field, reported by the household respondent, can include mental health and substance abuse problems. The condition and expense data are not yet available for analysis.

Who Provides the Information?

The initial sources of most information described above are selected individuals in the general population who may respond to surveys; others may be included in public health or public safety registries or in vital statistics reporting programs. The AHRQ-sponsored surveys described in the preceding paragraphs collect data from consumers, providers, and facility administrators. The information may be collected by surveyors, public health or public safety personnel, or health care providers, e.g., emergency department physicians.

What Information is Produced to Accomplish this Purpose?

The information from general population surveys, disease registries, vital statistics repositories, the Census and other sources can be used for several purposes. First, the data will provide rates of mental disorders among those from whom or about whom the data were collected. If sufficient input information is available, i.e., if the ideal domain requirements are met, output information will include reliable and valid rates based on accepted diagnostic criteria (e.g., those outlined in the American Psychiatric Association’s Diagnostic and Statistical Manual, Fourth Edition) that are specific to population sub-groups and sub-state regions. States, health plans or other interest groups may choose to fund supplemental surveys of specific populations to permit production of statistically reliable, comparable estimates to support planning, budgeting or bidding to provide services to a specific group of consumers.

Second, information from these surveys will be available to produce the previously-described population-based report card proposed by the CMHS Survey and Analysis Branch. Patterns and levels of health and mental health service utilization can be determined; correlations between consumer history, other personal characteristics, treatment history, and service utilization can be calculated; the distribution of services received by service sector and treatment setting can be estimated; and the unmet need and demand for various mental health services can be determined.

Finally, the resulting data on counts and rates of persons suffering mental distress, attempting suicide, and committing suicide; on emergency department visits for selected

services; on single vehicle fatality accidents; and other indicators of mental disorders in the general population can be applied to producing surrogate disease-rate estimates in geographic areas, or time periods, for which general population survey results are not available.

Who Uses the Information that is Produced?

Population data are useful to a broad group of stakeholders. Consumers, advocates, state mental health authority administrators, and regional planning groups for people with mental illness will use population information to identify treatment needs and inequities. Those needs can then be compared with the demand for and availability of services to justify requests for resources and plan their allocation. Managed care organizations and providers will use population information to help assess the risk they would accept for contracting to serve a given region or population group. Health plans will compare behavioral healthcare needs identified in surveys of their population areas with proposals by managed care firms for the care of their members to determine the extent to which the managed care organizations are offering appropriate services. Evaluators will examine resource allocation, service delivery, and changes in population data to determine whether, or under what circumstances, interventions made by administrators and providers had the desired effects. Researchers will study life event, social support, service history, and health status information to identify risk and protective factors that will guide planning for prevention and early intervention services.

How Ready is this Component for Inclusion in the Information System?

Although significant work has been done in the past 20 years to develop population surveys and other sources of data useful for mental health planning and policy making, there is still much that must be done before this component of the system is completely operational. Large studies like ECA and NCS are invaluable resources that researchers, planners, and policy makers are using to assess the prevalence and distribution of mental disorders, determine levels of service utilization, and answer important planning questions. Unfortunately, those studies do not meet all the domain and other requirements recommended here for the population data standards.

Kessler and his colleagues (1997 a,b) compared characteristics of the ECA and NCS studies, identified improvements made in the latter, and suggested additional modifications to make to future population surveys. The NCS, for example, was based on a nationally representative sample from the 48 contiguous states, which made producing national, state and sub-state estimates of prevalence possible (e.g., NCS results were used to make estimates of the numbers of adults with serious mental illness for each county in every state), whereas the ECA was based on a sample of only five local areas. The ECA included institutional populations that permitted better sampling of psychotic individuals while the NCS was limited to the household population and student housing. The ECA included an unrestricted age range in its sample; the NCS only surveyed persons 15 through 54 years old. The NCS used items that identified DSM-III-R diagnoses; ECA items derived from the earlier DSM-III diagnostic codes. As

noted above, the NCS added items to identify risk factors and used better recall methods; and improvements to the Diagnostic Interview Schedule made after the ECA studies led to increased validity and higher prevalence estimates. Neither the NCS or the ECA surveys comprehensively assessed all DSM disorders, nor did they provide good measures of functional impairment, a factor in assessment made important by recent definitions established for SMI and SED. Kessler et al. (1996a) conclude “it is important for future work to generate measures of functional impairment” based on “nationally representative samples that cover the full range of adult years.”

Work must be done to establish a methodology for developing estimates of the prevalence of childhood and adolescent mental disorders as well. Although the NCS made several improvements on the ECA work, it did not include children in its sample. Child and adolescent disorders such as conduct disorder were omitted and information was collected from only one informant. The report by Friedman et al. (1997) that provides the background for the national SED prevalence estimates concludes “there is no one study of national scope from which to derive a single estimate of prevalence” for children with mental disorders, and “there are insufficient data to assess how or if prevalence rates vary for different age groups, racial and ethnic groups, genders, and socio-economic groups.” The authors commend the NIMH-funded Utilization, Need, Outcomes, and Costs for Child and Adolescent Populations (UNOCCAP) effort to survey children aged four to 17, but also calls for more work to measure functional impairment. Unfortunately, this survey was developed, but never implemented in the field.

Another area of endeavor mentioned by Kessler and colleagues (1997b) in which insufficient work has been done is the collection, compilation, and analysis of data other than that collected in expensive, detailed surveys like the ECA or the NCS. Methodologies need to be established for correlating and/or combining information from smaller studies with the larger surveys to improve estimates of prevalence, need, and demand made from the latter, and to produce estimates for those areas and times where data from the larger, more detailed surveys are not available.

What Future Efforts are Required for Readiness?

Populations Surveys

Future efforts should involve building on the accomplishments of the ECA, NCS and other studies to produce population surveys and estimation methodologies that more closely match the ideal domain requirements described above. Specifically:

- future surveys should cover the full range of ages in the population to identify the full range of service need.
- survey items need to be developed and tested to identify a broader range of diagnoses, diagnostic categories and sub-clinical conditions than were addressed by the ECA or NCS to achieve a more complete picture of disorders in the general population;
- items should be included to identify sub-clinical symptoms and conditions to

- evaluate accurately the need for various treatment modalities and levels of care;
- a sufficiently large sample or appropriate estimation methodologies should be used to establish estimates of disorder rates by age, race, and gender within target groups and geographic areas of interest to planners, consumers, providers, and other decision makers;
 - instruments need to be developed to assess mental disorders in children and adolescents and produce reliable and valid prevalence estimates as in the UNOCCAP survey instrument developed with NIMH support;
 - measures of functional impairment should be developed for adults and children to produce more reliable estimates of prevalence of SMI and SED, to better predict the need for services, and to examine outcomes of services or specific interventions;
 - diagnostic items must be updated to match DSM-IV, ICD-10, and future coding systems;
 - the definition of serious mental illness (SMI) needs further psychometric analysis, including ways to combine short screening measures of the impairments associated with SMI into a comprehensive assessment of SMI;
 - further work is needed to determine the validity of short screening instruments for symptoms of mental illness and functional status;
 - coding for demographic and geographic variables should be standardized across data collection projects, or acceptable cross-walks must be developed, to permit comparison of survey findings with treatment utilization and outcomes data;
 - “marker” items, e.g., the BRFSS frequent mental distress question, that correlate with diagnoses of mental disorders should be identified and included in frequently administered surveys to provide ongoing prevalence estimates;
 - Kessler et al. (1997b) recommended that the field develop methodologies for correlating surrogate and indicator data with prevalence, need, and demand information from detailed population surveys and use these data to provide estimates in periods between large surveys;
 - survey protocols need to be examined, and standards established, for surveyor-respondent interaction (including issues of respect, cultural competence, and response to emergency needs identified in the interview process), assurances of confidentiality and data security, and secondary uses of data;
 - existing surveys, e.g., MEPS, need to be identified and examined for their inclusion of mental health data items and their applicability to mental health policy questions;
 - biostatistical simulations need to be performed to examine the feasibility of including screening versions of mental health assessment measures in the BRFSS, the NHIS, and other population surveys and doing so in conjunction with small local surveys to develop reliable estimates at the planning district (e.g., county) level;
 - the technology of surveying needs to be studied to determine whether Computer-Assisted Telephone Interview (CATI) systems be made more automated or web-based technology can be used;
 - innovative and inexpensive new ways of collecting data at local area levels need further development, for example, Interactive Voice Response (IVR) technology

- where respondents call a toll-free (1-800) number and use the telephone touch tone pad to key-enter their responses to a pre-recorded survey (such data collection is essentially free from the collector's perspective but potential survey respondents must be motivated to make the call and it is necessary to adjust for biases in the surveys);
- new methodologies and methodologies from other disciplines need further development in regard to their applicability to mental health; these include internet-based data collection, snowball sampling, and capture-recapture analyses (adapted from wildlife studies to estimate numbers of homeless persons needing treatment).

Population-based Report Cards

The Survey and Analysis Branch, Division of State and Community Systems Development, within the [Center for Mental Health Services](#), is in the process of developing a prototype population-based report card that would use a common data collection strategy with comparable core indicators for public sector health insurance plan participants, private sector plan participants, and the uninsured population within a county, state or other geographic area. This multi-stake holder initiative has proposed data elements to be collected and identified existing national surveys that would be suitable sources of such data—either through secondary analyses of existing data or inclusion of new data elements.

Questionnaire Design and Statistical Analysis

Issues of instrument reliability and validity should be addressed with any new survey as well as the need for shorter instruments to reduce burden on both surveyors and respondents. To do this, and to be able to correlate results from shorter surveys with those that include the more extensive sets of questions needed to determine diagnoses, “marker” items should be added to the larger surveys. Analyses must then be performed to demonstrate that the marker questions correlate with the larger sets of items; once this is done, disorders can be identified more quickly and cheaply identified with fewer items. Accomplishing this task requires more planning and coordination among survey projects than has occurred in the past. Another coordination task is the standardization of demographic and geographic questions across data collection projects so that results can be correlated and compared more easily. Geo-coding from data items at the Census block group level would be more useful than zip codes.

The NCS survey questions were constructed to elicit full, honest responses. Applying lessons learned in that study would be helpful in designing future surveys. Questions should focus on measuring demand for treatment, not just prevalence of disorders that need treatment, since a portion of the people assessed to need treatment never seek it (demand). The ECA study showed the opposite situation: people with transitory symptoms may seek (demand) treatment, even though they may not be assessed as needing treatment (based on the prevalence of disorders). To calculate useful rates of demand and need, technical decisions must be made about whether and how to include

persons who have transitory symptoms. To plan adequately for workload, demand must be accurately estimated; to plan properly for outreach, need must also be estimated accurately.

Survey design and analysis work are needed to improve the specificity and sensitivity of items used to identify persons with SMI and SED. Questionnaire design must also address face validity with attention to cultural differences, i.e., surveys must incorporate the views or constructs that different cultures hold of mental health (note the work by Elliot Green in Puerto Rico). In regard to children, alternatives to DSM-IV need to be identified as sources for survey items because that manual does not encompass the breadth of common diagnostic sub-types for children. Since previous attempts to estimate the number of children with SED were made for varied purposes, with different associated errors, their methods should be applied to future surveys with caution. Marker items like those described above for adults need to be identified for children and other sub-populations.

Sampling and Data Collection

It will be necessary to prioritize questions asked, population sub-groups surveyed, and geographical areas surveyed, to balance the need for data with the cost of data collection. Reports of significant numbers of persons with mental illness being incarcerated in jails and prisons raise the importance of surveying institutional populations. Criteria for selecting priorities will need to be established. In addition to costs of surveying, the cost-offset of identifying and treating a disorder or trends in the prevalence or incidence of disorders, may be used as the basis for setting priorities. Varying the data collection method according to the difficulty of collecting the data (e.g., for homeless and other elusive populations) may be cost-saving. Special methodologies, such as capture-recapture strategies, may need to be employed for some target populations.

Technical issues that must be addressed include defining the sampling frame, especially for household surveys, and specifying how survey methods may lead to bias, for example, when telephone surveys exclude persons without phone service or access to a phone.

Broad System Issues

Population-based data collection needs to be moved from national projects to local and regional levels. One means of accomplishing this task would be to develop toolkits to guide the design and implementation of local population assessments and the application of results. A second important factor would be to provide an infrastructure to support these efforts from the national level. Another step would be to link population monitoring with education interventions as NCQA is now asking health plans to do. Knowing the health of the population and how it changes over time would be helpful for planning and outcome assessment. Being able to use information at the provider level to anticipate service demands, to plan outreach for at-risk populations, and to design prevention and education programs would also be useful. State mental

health authorities and managed care organizations should provide population information with contracts to providers.

Providers and managers need to be better informed as to how population data can be used to determine the percent of the population in need of treatment and to support service delivery decisions. When building a database of population data, it is necessary to develop methods to assess quality, ensure timeliness, and estimate standard errors; use appropriate statistical analyses; and arrange resources for database maintenance and support. It is also necessary to determine ways to use data for needs assessment of populations whose members move from one funding stream to another, or from public to private sector coverage, or who have multiple sources of funding for care, e.g., children.

Focusing attention on “covered lives” under managed care, and not just the general population, might permit linkage to more detailed information for analysis. Administrative data (e.g., Medicare and Medicaid) could be used to validate self-report data and test correlations among treatment history, demographics, clinical measures, and service utilization variables.

Vehicles for Data Collection

System-based surveys such as those used by employers, health plans, counties and catchment areas to collect “health risk appraisal” information from constituents (e.g., the Stay-Well survey) could be used for service planning and demand management. These surveys are usually done as a census, not on a sample, but can be adapted for sample use. Self-insured companies often use these survey results to plan services and programs such as smoking cessation. This is an inexpensive method of data collection, and despite its often low response rate, could provide employers or governments with a good assessment of employee or citizen status that can be used for outreach. Mental health experts would have to identify a standard set of questions to be used in this type of survey.

New Technologies and Methodologies

Utilizing available technology and various methodologies can yield better survey results in terms of response rate and cost-effectiveness. A low response rate (e.g., 30 percent) for a typical mail survey to 5,000 people can be improved by following the initial mailing with a postcard reminder (to get, perhaps, 2,000 responses, instead of the initial 1,500). Further improvement can be made by identifying a sub-sample of non-respondents (e.g., 300), sending people to the field to solicit responses, and then weighting those responses to complete estimates.

Interactive voice response (IVR) and audio computer-assisted self-interviewing (CASI) can use either a live operator or a computer voice system to present interview questions that respondents answer by using their phone touchtone keypad. CASI systems can be programmed in different languages with a specified set of questions. People who are non-readers or prefer not to fill out a survey by hand might prefer such procedures. Local surveys using IVR can include questions that address barriers to engagement and

retention in the local treatment system. It would be useful to have a parallel survey for people who sought treatment.

Measures

Current crosswalks between clinical assessments and survey measures do not work well. The former focus on what is happening to the client at the time of assessment and the latter generally ask about problems in the last six months, year or lifetime. This problem can be addressed by blending from both sides, e.g., by adding more here-and-now items to surveys. Likewise, long clinical interviews need to be shortened, such as has been done with the revised Hamilton 17-item depression rating scale and its redesign as a self-administered instrument.

Calibration between surveys remains a problem to be addressed. Small-scale surveys do not have large enough samples to determine accurately the questions to ask. Large-scale studies should be used, in part, to test instruments, especially calibration between short and long instruments and identification of good “marker” items. There needs to be national benchmarking studies every five to 10 years to update these analyses.

Clinical assessments typically focus only on the problems and unmet needs of those presenting for treatment. HEDIS customer surveys have begun to address directly what people have experienced in the treatment setting. Although providers have complained that this is not a valid assessment of care because refusal to give certain kinds of treatment (e.g., inappropriately prescribing antibiotics for a viral infection) may be incorrectly viewed by a consumer as withholding treatment, this is less of a problem with behavioral health consumers because self-reported perceptions of well-being are a main focus of care (e.g., do you feel depressed?).

Even with HEDIS, however, there remains the issue of measuring and correlating clinical factors, consumer experience, what is happening to drop-outs and what is happening to those who never received care. There needs to be a focus on why unmet needs have not been addressed and why people drop-out or never enter treatment. It is important to gather information from people who call for an appointment, are put on a waiting list, then fail to return; people who come for an assessment, but do not return for treatment; and people who drop out of treatment before meeting their goals. This will provide reasons why such individuals are not satisfactorily engaged by the treatment system.

Incentives

Attention needs to be given to providing incentives for people to respond to surveys and for organizations to collect survey data. Making client satisfaction surveys a requirement of certification is one way to encourage provider organizations to collect survey data. It is possible to use ideological influence to encourage survey response, e.g., by having church groups, Kiwanis or other social clubs appeal to citizenship or civic responsibility when publicizing surveys and collecting data. Soliciting citizens’ experience to compare and improve services can increase response rate. Inexpensive incentives have also been used

successfully, e.g., sending a one-hour phone card to subjects in a sample with an 800 number that requires completion of a 10-minute survey before the card can be activated; each card has an ID number to allow surveyors to identify subjects who have completed the survey and focus follow-up efforts on non-callers.

Even with incentives it is difficult to identify persons with mental illness or substance abuse problems when conducting a community survey; it is also more expensive to find these hard-to-reach respondents. Alternative methods are to use indirect measures, such as demand for treatment, service utilization at safety net provider organizations, or counts of persons seen at shelters. Surveys may also ask respondents about relatives who are currently homeless or who have been homeless for part of the year, have no phone, or who live in-group quarters.

Although statistical significance may be a goal of survey analysis, in truth, any results which provide more information than a 0.5 probability, i.e., 50-50 chance of being right, are a useful finding in a knowledge-poor situation.

Future Activities

In 2000, Ronald Kessler and colleagues will conduct a follow-back to the original NCS sample to study how mental health status and use of services have changed over time. In 2001, this group will replicate the NCS on approximately 12,000 people aged 12 years and older across the nation. Discussions are underway to determine whether a survey on minority mental health status will use the same protocol, enhancing the sample even further. These epidemiological studies will provide important data on the mental health status of the population and on patterns of use of mental health services. Also nearly ready for widespread use is a new consumer survey that combines elements from the MHSIP Consumer Survey and the Harvard/AHRQ Consumer Assessment of Behavioral Healthcare Services (CABHS) survey. NCQA plans to initiate this common survey as part of its accreditation process in 2001, pending approval of its behavioral health advisory panel.

Table I. General Population Surveys and Responsible Agencies

Agency	Survey
National Institute of Mental Health (NIMH)	Epidemiologic Catchment Area (ECA) Program; Diagnostic Interview Schedule (DIS)
National Institute of Mental Health	National Comorbidity Survey (NCS); Composite International Diagnostic Interview (CIDI)
National Center for Health Statistics (NCHS)	National Health Interview Survey (NHIS)
National Center for Health Statistics	National Health Interview Survey on Disability (NHIS-D)
Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA)	National Household Survey on Drug Abuse (NHSDA)
Centers for Disease Control	Behavioral Risk Factor Surveillance Survey (BRFSS)
Centers for Disease Control	Youth Risk Behavior Surveillance Survey (YRBSS)
Centers for Disease Control	Fatality Analysis Report System (FARS)
Census Bureau	U.S. Census
Agency for Health Research & Quality (AHQR) and National Center for Health Statistics	Medical Expenditure Panel Survey (MEPS)
Agency for Health Research & Quality	Health Care Cost and Utilization Project (HCUP-3)
National Institute of Mental Health	Utilization, Need, Outcomes and Costs for Child and Adolescent Populations (UNOCCAP)—this survey was developed, but never fielded

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Attachment II. Recommended Domains and Data Elements for Collecting and Reporting Population Data

Community demographics

- Gender
- Age
- Race/Ethnicity
- Marital status
- Primary language
- Educational and occupational attainment
- Median income
- Housing arrangements (i.e., vacancy rates, affordability, quality, homelessness)
- Urban/rural

Community characteristics that bear on risk for disorders

- Unemployment rates
- Poverty rates
- Proportions of single-parent families
- Rates of violence against persons
- Proportions of youth under age 18 not enrolled in school

Health and mental health characteristics

- Prevalence of a range of physical and mental disorders
- Prevalence of SMI, SED, and SPMI
- Prevalence of restricted activity days, bed disability days, school absence days
- Rates of inpatient and outpatient mh/sa service utilization by payer and provider
- Rates of SSI or SSDI
- Self-ratings of physical and mental health

Access to and use of services

- Number of managed care organizations and other health plans
- Proportion of the population enrolled in each (vs. none) of the plans
- Coverage for behavioral health services
- Provider participation in local health plans
- Proportion of individuals with SMI not accessing treatment

Treatment and prevention services

- Participation of Medicaid providers in behavioral health-related EPSDT
- Rates of involuntary inpatient and outpatient commitment
- Episodes of seclusion and restraint per unit time

Community support

- Presence of advocacy organizations (e.g., NAMI and Federation of Families)
- Availability of support groups for mental health-related problems and issues.

Attachment III. General Population Surveys and Responsible Agencies

Agency	Survey
National Institute of Mental Health (NIMH)	Epidemiologic Catchment Area (ECA) Program Diagnostic Interview Schedule (DIS) National Comorbidity Survey (NCS) Composite International Diagnostic Interview (CIDI)
National Center for Health Statistics (NCHS)	National Health Interview Survey (NHIS) National Health Interview Survey on Disability (NHIS-D) National Health and Examination Survey (NHANES) Mortality Data from the National Vital Statistics System (http://www.cdc.gov/nchs/about/major/dvs/desc.htm) Utilization, Need, Outcomes and Costs for Child and Adolescent Populations (UNOCCAP) – this survey was developed but never fielded
Centers for Disease Control (CDC) http://www.cdc.gov/brfss/	Behavioral Risk Factor Surveillance System (BRFSS) Youth Risk Behavior Surveillance System (YRBSS) http://www.cdc.gov/HealthyYouthyrbs.index.htm
Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA)	National Survey of Drug Use and Health (NSDUH); (formerly called the National Household Survey on Drug Abuse[NHSDA])
Census Bureau	U.S. Census
Agency for Health Research & Quality (AHQR) and National Center for Health Statistics	Medical Expenditure Panel Survey (MEPS) http://www.meps.ahrq.gov/
Agency for Health Research & Quality	Health Care Cost and Utilization Project (HCUP-3) http://www.ahrq.gov/data/hcup/

Attachment IV. Summary of Methods for Estimating the Prevalence of Mental Illness and Need For Mental Health Services

There are few sources for reliable, valid data describing the mental health of the United States population at national, state or local levels. For national data, estimates are provided in the biannual CMHS publication, *Mental Health, United States* (<http://www.mentalhealth.samhsa.gov/publications/allpubs/>). In the 1998 *Mental Health, United States*, Kessler, Berglund, Walters et al. (1998) provided what are generally regarded as the most useful national estimates of serious mental illness in the United States: approximately 5.4 percent of adults have a serious mental illness (SMI) and 2.8 percent have a severe and persistent mental illness (SPMI). In the more recent edition, Kessler and colleagues (2002) report preliminary prevalence estimates based either on post hoc secondary analysis of previously collected psychiatric epidemiological surveys or on indirect estimates from screening scales: 2.4 to 3.3 percent of the U.S. adult population meet criteria for SMI in any given month and 5.4 to 7.2 percent do so at some time during the year. The demographic risk profile for SMI includes being female, young or middle-aged, unmarried, and of low socioeconomic status. SMI is significantly related to substance use disorders (SUD), although most people with SMI do not have a co-occurring SUD.

While of interest and utility in understanding the scope of the problem at the national level, these estimates are of less utility in understanding, assessing, and projecting the needs for mental health services, both publicly and privately funded, in small geographic units such as state, county, and municipal level planning efforts.

To address this problem, a variety of methods have evolved to estimate rates and risk of mental illness in the community. These include:

1. Direct estimation through large-scale national periodic mental health surveys;
2. Synthetic estimation using existing mental health and non-mental health data sets;
3. Direct estimation through screening questions on existing annual national non-mental health surveys;
4. Direct estimation by “piggybacking” short screening instruments onto existing annual national surveys; and
5. Direct estimation through periodic local data collection efforts.

Areas that have received considerable attention in recent years have included the development of direct and indirect measures of need and demand for services and measures of knowledge, attitude, and behavior regarding mental health conditions and use of services. Progress in the five topic areas identified above is reviewed more thoroughly in the text that follows. These efforts serve as the building blocks for defining the data elements for the DS2000+ population data standards.

In addition to these methods, measures are needed to assess co-morbidities and risk factors and to provide community profiles of health status indicators, socioeconomic status, homelessness, insurance coverage, etc. Quantitative approaches are needed to estimate the number of mental health providers in the community in different settings and

their capacity to serve special populations such as children, the elderly and disabled, and various ethnic groups. Qualitative approaches are needed to determine the number and capacity of providers working in non-traditional settings, grant-funded, and others who would not be identified through customary methods. A subsequent section of this paper will address all these information needs and report the efforts of the population workgroup to integrate the current state of the art in these areas into a coherent strategy for assessing mental health status and needs at different levels of geographic specificity.

Below we describe the different approaches currently used to collect population-based mental health data, note their strengths and limitations, and suggest directions for future development.

1. Direct estimation through large-scale national periodic mental health surveys

Description. Initial efforts in the field of psychiatric epidemiology resulted in the development of a number of structured interviews to identify mental disorders. Two have been used for population-based estimates: the National Institute of Mental Health's Diagnostic Interview Schedule (DIS) in the Epidemiologic Catchment Area (ECA) study (Robins and Regier, 1991) and the Composite International Diagnostic Interview (CIDI) in the National Comorbidity Surveys (WHO 1990; Kessler et al, 1994 Kessler et al., 1996; Robins et al., 1988). Short screening instruments that have also been developed, tested, and incorporated into large-scale surveys of the population and discussed below.

The ECA was conducted in 1980-1983 in New Haven CT, Baltimore MD, St. Louis MO, Durham and neighboring counties NC, and Los Angeles CA. The ECA is considered to be a single study, although there were some differences in methodology among the five sites. The ECA used the DIS, included Spanish language interviews in Los Angeles, and included adults age 16 or older. Various sites had over-samples of African-Americans, Hispanics, and the elderly. More detail about this pioneering effort can be found in Eaton and Kessler's text *Epidemiologic Field Methods in Psychiatry* (1985) and in Robins & Regier (1991).

The NCS research program (<http://www.hcp.med.harvard.edu/ncs/>) consists of a series of surveys. The baseline NCS, fielded from the fall of 1990 to the spring of 1992, was the first nationally representative mental health survey in the U.S. to use a fully structured research diagnostic interview to assess the prevalence rates and correlates of DSM-III-R disorders. The baseline NCS respondents were re-interviewed in 2001-02 (NCS-2) to study patterns and predictors of the course of mental illness and substance use disorders and to evaluate the effects of primary mental disorders in predicting the onset and course of secondary substance disorders. In conjunction with this, an NCS Replication survey (NCS-R) is being carried out in a new national sample of 10,000 respondents to study trends in a wide range of variables assessed in the baseline NCS and to obtain more information about a number of topics either not covered in the baseline NCS or covered in less depth than currently desired. A survey of 10,000 adolescents (NCS-A) was carried out in parallel with the NCS-R and NCS-2 surveys to produce nationally representative data on the prevalence rates and correlates of mental disorders among youth. NCS-R and

NCS-A, finally, are being replicated in a number of countries around the world. Centralized cross-national analysis of these surveys is being carried out by the NCS data analysis team under the auspices of the World Health Organization (WHO) World Mental Health Survey Initiative (Excerpted from the NCS homepage, at <http://www.hcp.med.harvard.edu/ncs/> . More detail, references, and publications are available from this site.) Attachment V provides selected detail on the NCS and NCS-2.

Advantages and disadvantages. The major advantage of the ECA and NCS surveys is that they provide direct estimates of the prevalence of a wide variety of mental conditions using reliable and valid instruments (i.e., DIS in the ECA and CIDI in the NCS and NCS-2) and conforming to standardized diagnostic criteria (DSM-III in ECA and DSM-III-R and some DSM-IV and ICD-10 in NCS and NCS-2). The NCS-2 was designed specifically to study SMI (in contrast to the ECA and NCS) and to assess level of functioning and impairment using the Global Assessment of Functioning Scale (GAF) and a 6-item Impairment Scale described in more detail below (Kessler et al., 2001). Two important “products” of the NCS-2 will be the ability to use CIDI data to test the assumption that a GAF score of < 60 is indicative of SMI and to validate further the Impairment Scale. The CIDI itself is also being studied to determine and correct some possible diagnostic weaknesses.

The major disadvantage of the periodic mental health surveys is that they are very expensive. Consequently, they have been conducted, on average, only once every 10 years. In addition, they produce only a snapshot in time and cannot show how the population is changing over time. While the NCS and NCS-2 have national coverage, the numbers are not large enough to provide small area estimates; and while the ECA did collect data at the community level, these data are not generalizable to all communities.

2. Synthetic estimation using existing mental health and non-mental health data sets

Description. Synthetic estimation applies information about rates from one source data set to a different target data set. In effect, it is a form of re-standardization of one set of rates to a new population. In this approach, developed by Charles Holzer, III, Ph.D. for psychiatric epidemiology, data from a mental health survey of a broad area such as found in the ECA, the NCS, or the Washington State Needs Assessment Survey, is applied to specific counties that were not directly surveyed, or were surveyed in small numbers as part of an overall sampling plan. (Excerpted from Dr. Holzer's website; see links below). When smaller geographic entities, such as counties, are insufficiently sampled to allow generalizability to those regions, this approach uses the empirical relationships noted in larger samples between the criterion variables being assessed (usually presence/absence of mental disorders specifically defined) and readily available demographic variables. By using the prediction models from the larger survey efforts and applying them to the known demographic characteristics of local regions, it is possible to estimate the criterion conditions based on local characteristics.

These synthetic estimation procedures have been used by Holzer and colleagues to estimate need for mental health services in Texas, Washington, the District of Columbia,

and member states of the Western Interstate Commission for Higher Education (WICHE) Mental Health Program. Estimates can generally be derived for individual counties. Links to these activities can be found at <http://psy.utmb.edu/estimation/estimation.htm>.

A brief summary of synthetic estimation is provided below with greater detail in Attachment VI.

First, census data describing the areas of interest, usually counties, are obtained and organized for analysis. For many synthetic estimates, it is desirable to use long form data, provided by the Census Bureau as Public Use Microdata Samples (PUMS) 1% or 5% samples (<http://www.census.gov/main/www/pums.html>). These files contain detailed information on households and individuals, and allow cross tabulations of a number of variables shown or believed to be correlated with measures of mental health status and need for services. Public Use Microdata Areas (PUMAs) comprise the smallest geographic areas available for analysis in these samples. In rural areas, PUMAs may be comprised of several counties; in large cities, there may be several PUMAs. Each PUMA contains a minimum population threshold of 100,000 persons.

The variables that are most useful for predicting mental illness are selected from the microdata files to construct matrices with demographic data and risk factors for mental illness. The variables typically used are age, sex, race, marital status, education, poverty, residence, and urban/rural. Other variables might be of interest, but new research and possibly new surveys would be required to determine whether there are additional variables that should be considered. Social indicators reflecting economic, demographic, or social changes may be viewed as important in the future.

Second, data from NCS or ECA or other national or statewide surveys are used to build estimation models for risk of different mental disorders and/or categories of need. These models use the demographic data to construct estimates that are particular for a given community, e.g., different estimates for rates of depression due to differences in a community's gender and age distribution, prevalence of poverty, etc.

In addition to the work of Holzer and colleagues described above, census and NCS data were used by Kessler and colleagues to construct prediction equations for SMI at the individual-, census tract-, county-, and state-level (Kessler et al., 1998). Although age, sex, race, and marital status were found to be statistically significant predictors of SMI, the associations were weak and the investigators questioned the reliability of the estimates (see below).

Advantages and disadvantages. The major advantages of synthetic estimates are their relatively low cost and the uniformity that allows comparison across communities. Census data have been used by Kessler, Holzer and others to produce estimates of many of the indicators and priority areas identified as important by stakeholders (See Attachment II).

In addition, synthetic estimation techniques could be applied to data from other surveys to produce data of importance to stakeholders. These include the Uniform Crime Reports to estimate community characteristics that would bear on risk for disorders and rates of violence against persons; the Current Population Survey to estimate characteristics that bear on risk for disorders and unemployment rates; and the National Health Interview Survey to estimate health and mental health characteristics, restricted activity days, and self ratings of physical and mental health.

The major disadvantages of synthetic estimates are that they are less accurate than direct counts. Few people or centers do this kind of work and correlations between demographic variables and measures of need based on diagnostic interviews are low (Kessler et al., 1998). Using NCS and Census data to construct equations for predicting prevalence of SMI at tract, county and state levels, Kessler and colleagues found no significant differences in prevalence estimates across states, suggesting they are not sufficiently varied demographically for our current instruments and methods to produce reliable estimates (Kessler et al. 1998).

Recommendations. Synthetic estimates could be made available to communities if production were centralized to take advantage of economies of scale. This would involve creation *de novo* of centers or encouraging Federal agencies such as NCHS to take on this work. It would be cost-effective to coordinate the activities of CDC, NCHS, and SAMHSA, to pool surveys, and to create uniformity across counties and states constructing estimates.

3. Direct estimation through screening questions on existing annual national non-mental surveys

Currently, some large-scale national surveys contain questions relevant to mental health and provide some useful, even if limited, information about need for services in the population.

The BRFSS is a telephone survey conducted continuously by the health departments of all states, the District of Columbia, Puerto Rico, the Virgin Islands, and Guam with assistance from CDC to collect data on health-related behavior of adults and identify emerging health problems, track progress toward meeting health objectives, and evaluate public health policies and programs (see <http://www.cdc.gov/hrqol/>). Because the BRFSS is conducted in smaller geographic units, it allows generalization to specific locales.

Since January 1993, the BRFSS interviews have included four health-related quality-of-life (HRQOL) questions developed by David Moriarty and colleagues at the CDC. The HRQOL questions include a general mental health question: "Now thinking about your mental health, which includes stress, depression and problems with emotions, for how many days during the past 30 days was your mental health not good?" Persons who reported that their mental health was not good for 14 or more of the preceding 30 days were defined as having frequent mental distress (FMD). To permit comparisons, data were statistically weighted to reflect the age, race/ethnicity, and gender distribution of the

state population and, when appropriate, age-standardized to the 1990 U.S. population 18 years or older using SUDAAN software.

Persons who reported greater than 14 or more days of recent mental health problems had a comparatively high level of disability (i.e., poor physical or mental health had prevented them from performing their usual activities an average of 7.7 of the previous 30 days). In comparison, respondents with 2 or fewer days of mental distress reported less than one day of illness related activity limitation.

[<http://www.cdc.gov/mmwr/preview/mmwrhtml/00052469.htm>].

The inclusion of frequent mental distress and health-related quality of life in the BRFSS represents one of the primary survey efforts to determine the mental health status of large numbers of persons, while having some generalizability to specific and smaller geographic units.

The K-6 and K-10 are two short screening instruments that are being increasingly used for detecting SMI. (See <http://www.mentalhealth.samhsa.gov/publications/allpubs/SMA04-3938/Chapter12.asp> for a description of the development and psychometric properties of these two scales.) For example, the National Health Interview Survey (NHIS), which is conducted annually as a face-to-face household survey of approximately 40,000 households and over 100,000 persons, has a mental health section using the K-6 to identify general distress symptoms which are known predictors of service utilization. There is also one question on the impact of these symptoms on a person's activities to assess the severity of distress. These items can be used to show the prevalence and severity of distress in the population each year and, by examining consecutive years, to track changes over time. Larger samples can be created by pooling data from 3-5 years; comparison will also show trends over time. Although county-level data are not released to researchers, the National Center for Health Statistics (NCHS) can produce these estimates for individual counties to determine psychological distress at points-in-time, over-time, and for cross-county comparisons. (see <http://www.cdc.gov/nchs/nhis.htm>).

A 10-item version of these screening questions (K-10) is included in the National Survey on Drug Use and Health (NSDUH; formerly called the National Household Survey on Drug Abuse [NHSDA]). This survey is conducted annually by the Substance Abuse and Mental Health Services Administration (SAMHSA) (see <http://oas.samhsa.gov/nhsda.htm> for more details).

Advantages and disadvantages. Inclusion of these screening questions in the BRFSS, NHIS, and NSDUH/NHSDA provides information each year on the frequency of psychological distress in the population and its severity (i.e., the extent to which it interferes with daily life and activities). Data can be used to examine trends over time and annual samples can be pooled to increase sample size. In addition, random nationwide samples allow the data to be generalized to the entire country. Although county-level data are not publicly available, government agencies could provide those estimates.

The major disadvantage is that the brief screening instruments used in these surveys can provide information only on the prevalence of non-specific psychological distress, in contrast with the ECA and NCS I and II which use standardized diagnostic interviews to determine the prevalence of specific mental disorders.

4. Direct estimation by “piggybacking” short screening instruments onto existing annual national surveys

Mental health needs assessment data at the county level will allow States and counties to make rational resource allocation decisions. One approach is to arrange with both national and local agencies to “piggyback” mental health screening instruments onto national surveys to collect data at local levels. The BRFSS, with samples of at least 2400 respondents per State per year, has been used by two groups to generate county-level SMI prevalence estimates.

Public Health – Seattle & King County (PH-SKC), WA added the K-6, six mental health screening questions developed by Ronald Kessler and colleagues, to the annual BRFSS and followed up on respondents who screened-in with additional questions to identify persons with SMI.

The K-6 questions and scoring guide are included in Attachment XI.

The mental health screening questions were added to an extensive array of other health outcome measures (i.e., rates of community-specific vital statistics, hospitalization, communicable disease, cancer incidence and behavioral risks). PH-SKC partnered with the King County Mental Health, Chemical Abuse and Dependency Services Division (MHCADSD) which was also interested in exploring population-based assessment, although its specific service population, the low income seriously and persistently mentally ill, is a particular subset of the target population that may not be efficiently reached by a telephone methodology.

In adding the mental health screening questions to the Washington State BRFSS, PH-SKC deleted questions from another BRFSS module to maintain the original total survey length and avoid increasing respondent burden. PH-SKC enhanced the King County sample of the state BRFSS to allow the calculation of small area BRFSS measures and added the screening questions only for this county so that the statewide survey was not affected. Since the over sample had already been funded, the cost of adding the screening questions was limited to the work of local King County staff who modified the instrument and, in the analysis stage, re-weighted and analyzed the data.

A similar initiative was undertaken in Allegheny County, PA (Pittsburgh) by Ken Thompson and his colleagues at the University of Pennsylvania, working closely with the BRFSS coordinator for the state, Robert F. Dewar.

Advantages and disadvantages. Piggybacking onto local administration of national surveys such as the BRFSS provides estimates at the community level each year for relatively low cost. The disadvantage, as with the NHIS and NSDUH/NHSDA, is that the

screening instruments provide estimates only for non-specific distress and not specific mental disorders. However, if different questions are added each year, communities could gain community-level information on substance abuse, family violence, mental health, and disability. For example, brief depression modules (the PQH-9) have recently been added to the National Health and Examination Survey (NHANES0 and the BRFSS.

Recommendations. Important methodological issues need to be addressed when adding questions to existing surveys, e.g., which data sets questions can be added to, how they will they be nested in an existing instrument, and which elements from which data sets need to be pulled out. As with the small area estimation process, it would be economical to create a center to coordinate these activities.

5. Direct estimation through periodic local data collection efforts

Methods for collecting data at local levels include pooling enrollment and annual update data collected by health plans and public agencies and low-cost telephone surveys in local communities.

Pooled enrollment data will provide information only on enrollees or persons eligible for services and require use by these entities of standardized data elements and uniform collection methods. Implementation of DS2000+ data standards will facilitate this process and data sharing depends on agreements between government agencies and private sector organizations.

Low-cost county-level telephone surveys can be developed based on the design and methods used in volunteer political polls for local and State elections. Specifically, this involves developing a preset telephone interview schedule; programming the interview onto laptop computers that are shipped to local areas; and training local volunteers to administer the interview on these computers. The interviews are usually conducted at a temporary phone survey facility (e.g., a church basement, a community center) over a period of 1 or 2 weeks. A team of 20 to 40 volunteer telephone interviewers, each working 10 to 20 hours, can usually complete 500 to 800 telephone interviews over this period. The laptop computers, still containing the completed survey data, are then shipped back to the pollster and a report is prepared.

For mental health screening, the interview would include the K6 and selected other brief screens for issues of interest to a particular community (e.g., substance problems, suicidality, relationship violence, barriers to care). A local civic or church group would be recruited to carry out the survey as a voluntary activity and the local telephone company would be asked to donate the cost of installing a temporary telephone bank for the time it would take to carry out the survey. The survey could be repeated every 1-5 years to monitor trends in prevalence and service needs.

Advantages and disadvantages. Results of such surveys could be of great value to county mental health service planners. It would not be difficult to create an interview schedule for these surveys, a laptop computer program that could be used to record interview data, or a standard electronic report format to synthesize and communicate survey results to

local mental health policymakers. The only real constraint is in obtaining a large enough stockpile of laptop computers to carry out the surveys on a production basis in a number of counties at a time. The ideal situation would be for SAMHSA to underwrite the purchase of these computers and to allow them to be used on a rotating basis by counties throughout the country to carry out local needs assessment surveys. An alternative would be to use a web-based survey so that volunteers could use desk-top computers and administer the survey from any location.

Attachment V. National Comorbidity Survey (NCS) and National Comorbidity Survey-2 (NCS- 2)

The NCS, a congressionally mandated survey of the U.S. population conducted between 1990 and 1992 was designed to provide data on the prevalence, risk factors, and consequences of psychiatric morbidity and comorbidity (Kessler et al., 1994; Wittchen et al., 1994). Using probability methods, 8,098 respondents were selected from a stratified sample of small areas in 172 counties in 34 states. The Composite Diagnostic Interview Schedule (CIDI) was used to make lifetime and 12-month DSM-III-R diagnoses (Robins et al., 1988; see Kessler et al., 1994 and Wittchen et al., 1994 for a comprehensive list of studies on the psychometric properties of the CIDI). The diagnoses assessed were:

- Major depression
- Mania
- Dysthymia
- Panic disorder
- Agoraphobia
- Social phobia
- Simple phobia
- Generalized anxiety disorder
- Alcohol abuse
- Alcohol dependence
- Drug abuse
- Drug dependence
- Antisocial personality disorder
- Nonaffective psychoses (a summary category consisting of schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder, and atypical psychosis)
- “Severe” disorder (a summary category defined as 12-month mania or nonaffective psychosis, lifetime mania or nonaffective psychosis with 12-month treatment or role impairment, or 12-month depression or panic disorder with severe impairment [hospitalization or use of antipsychotic medication])

The NCS differs from the ECA in that it used a nationally representative sample; made DSM-III-R and some DSM-IV and ICD-10 (rather than DSM-III) diagnoses; and contained a more comprehensive risk factor battery including the Family History Research Diagnostic Criteria, questions on childhood family adversity, measures of social networks and support, and information about stressful life events and difficulties (Kessler et al., 1994).

The NCS also collected demographic data and data on use of treatment services (see table below).

Table V-1. NCS Demographic and Use of Treatment Services Data Elements

Demographic variables	
Sex	Male, female
Race	White, black, Hispanic, other
Education	0-11, 12, 13-15, \geq 16
Marital Status	Married/cohabitation, separated/widowed/divorced, never married
Region	Northeast, midwest, south, west
Age	15-24, 25-34, 35-44, 45-54 years
Urbanicity	Large MSAs, small MSAs, not MSAs
Use of treatment services	
Use of any professional services	For all services, lifetime and 12-months hospitalization or outpatient treatment by a mental health specialist, physician, social worker, counselor, nurse, or other health professional
Use of mental health specialty services	Hospitalization or outpatient treatment by a psychiatrist or psychologist or treatment in a substance abuse facility
Use of substance abuse facility	zation for drug or alcohol problems or treatment in a alcohol outpatient clinic or drop-in center or program for people with emotional problems with alcohol or drug abuse

Attachment VI. Steps in Synthetic (Indirect) Estimation of Need for Mental Health Services

The following is excerpted from Dr. Charles Holzer's website which contains several reports on his mental health need and services estimation projects. The synthetic estimation process has been applied to large metropolitan regions (e.g. Washington, DC), states (e.g. Washington State), and other geographic subdivisions. Specific technical reports can be accessed at <http://psy.utmb.edu/estimation/estimation.htm>. The methodology described in this excerpt is generalizable to any geographic region if the demographic parameters described below are available.

An estimation method is considered indirect if it estimates need without making an adequate number of direct assessments, i.e. interviews, in the target population. In some cases, data from a direct estimate are available for one population but must be applied to another; that approach is described below. In other cases, estimates of need are made when there are no direct assessments from which to work, so variables such as risk factors, socioeconomic status, and related social problems are used to make an estimate. For example one might project that mental health services are needed in areas with high crime, poverty, divorce, teenage pregnancy, and child abuse. That approach is called the social indicators approach, and is not the method being described here.

The basic assumption underlying indirect needs assessment is that persons with particular demographic characteristics are more likely than others to need mental health services, regardless of where they live. This approach assumes that demographic variation is more important than geographic variation. By making estimates for specific demographic subgroups and then summing the estimates across all demographic subgroups, an overall estimate of the numbers of people in need of mental health services can be calculated for any geographic area. While the basic idea is a simple one, the actual procedures for indirect estimation are somewhat complex. The remainder of this section provides details for the various steps in this technique.

Summary of Steps in indirect (synthetic) estimation using the NCS as an example

Step 1: Analysis of survey data rates for demographic cells

The NCS survey sample was divided into an optimal set of demographic sub-groups or cells, defined by variables predicting psychiatric disorder, including "control" variables that defined the conditions under which the predictors operated. A multivariate model was used to determine the best set of variables, which specified seven categorical variables: age, sex, race/ethnicity, marital status, education and poverty, with adjustments for institutions and group quarters (see Table V1-1).

Table VI-1. Definitions of Cells for Demographic Model			
Variable	Definition	Potential cells	NCS cells
Age	0-6, 7-12,13-17,18-24, 25-34, 35-44, 45-54, 55-59, 60-64, 65+	10	4
Sex	Male, female	2	2
Race	White-not Hispanic, Black-not Hispanic, Asian, Native American, Eskimo, Aleut, Hispanic	5	5
Marital	Married (separated/widowed/divorced), single	3	3
Education	Not high school graduate, high school graduate, college graduate	3	3
Poverty	<100%, 100-200%, >200% of federal poverty guidelines	3	3
Residence	Residential, institution, group quarters	3	(Res.)1
Total cells	10 x 2 x 5 x 3 x 3 x 3 x 3	8100	1080

It is essential that the NCS cell classification be identical to the cell classification available in the census data for indirect needs assessment. Also, the cell structure had to capture a substantial portion of the socio-demographic variance in the prevalence rates.

Step 2. Determine cell specific rates of disorder for each cell

Cross tabulation of all the demographic variables with the specified diagnostic variables produced crude rates of the various disorders for each of the NCS cells. Some of the resulting cells had very small sample sizes and were therefore likely to give misleading estimates.

Step 3. Use logistic regression estimates for cells

Logistic regression was used to determine the strength and significance of demographic predictors and to generate estimates of the "true" prevalence for each of the cells, because it is designed to handle dichotomous dependent variables, with either categorical or continuous predictors. It yields coefficients that can be interpreted in terms of relative risk or odds ratios and gives an overall measure of the fit between crude cell rates and values predicted by a model.

Step 4. Estimate local population structure (city, service area, and ward) for demographic cells, or subgroups, from census projections

The next step in the estimation procedure was to obtain population counts for each of the 8100 demographic cells in the district, areas, and wards using four datasets from the U.S. Census:

- the STF1a file which contained a table of Age by Sex by Race, with a supplemental table for Hispanics and information on residence in households, institutions, or non-institutional group quarters.
- the STF3a file which added information on socioeconomic characteristics such as marital status, education and poverty
- the Public Use Microdata Sample (PUMS) which contained the detailed census long form records for a 5% sample of the population, with appropriate variables for weighting the sample up to the full population count. Confidentiality is maintained by restricting the geographic identification provided to areas of about 100,000 persons or more, typically larger than rural counties, and definitely larger than census tracts and blocks.

Step 5. Apply disorder or need rates from survey to each population cell.

Estimates were prepared by multiplying the smoothed risk rates from the logistic regression analysis by the corresponding cells in the updated demographic matrix for each census tract or service area. This provided an estimate for each of the 480 specific demographic cells. Since there were too many cells to examine, in the next step the rates were summarized by demographic marginal.

Step 6. Combine cell counts for total estimates of disorder or need

Once the estimated number of cases was obtained for each of the demographic cells, the estimated cases were summed to obtain the total cases of disorder or need.

Step 7. Summary rates for aggregated demographic subgroups or for a specific area

The sum of the estimated number of cases was divided by the sum of the population denominators to provide an overall estimated rate of disorder or need for a group in the specific area.

Step 8. Estimate local rates for specific population groups

In order to provide a summary rate, or percentage of the population estimated to have each specific disorder or to need services, the estimated numerators in step 6 were divided by their corresponding denominators and presented as percentages.

Attachment VII. Use of Census Data

Recognizing that demographic data from the decennial census provide low cost indicators of the need and demand for behavioral health services (i.e. the likelihood, type and severity of mental illness, substance abuse and dependency and related psychopathological problems), Decision Support 2000+ data standards include selected demographic data elements from the 2000 decennial census (illustratively; age, gender, race/ethnicity, socioeconomic status and marital status distributions) that facilitate the *initial* determination of need and demand for these services in both large and small areas.

However, the information about the behavioral health needs of communities can be significantly improved if policymakers and planners take into account not only specific demographic distributions, but also the cross classification of these demographic distributions. Thus, cross classification of demographic distributions permit one to identify and compare the communities that have extraordinary high levels of behavioral and physical health needs with those that have comparatively low levels. More specifically, using multiple demographic distributions, it is possible to locate socially disorganized communities with reduced social control, social isolation, high levels of behavioral and physical problems and disability, a lack of adequate living space, few safe places for children to play outside the home, poor overcrowded schools, an absence of social institution such as churches, and long and often costly journeys to work as well as communities characterized by conditions that facilitate diffuse and particularistic social relationships, social support networks and knowledge of effective strategies to cope with problems related to behavioral and other health problems. The former communities can be indexed by extremely low economic status (population in poverty can exceeds 40 percent), concentrations of non-husband-wife families (one parent families, persons living alone, and non-family members in households), rented overcrowded housing in poor condition and often disadvantaged race/ethnic populations whereas the latter have concentrations of white-non-Hispanic socially and economically successfully intact husband-wife families, many with children, who reside in uncrowded single dwelling units in good condition.

More specifically, the cross classification of demographic distributions permits placing individuals in the social context of their residential areas thereby enabling the identification of different types of typical/atypical community residents (illustratively, it is possible to identify poor white elderly women, a subpopulation with high risks of social problems, living in predominately African-America communities) as well as special target populations (illustratively, poor employed female headed household with young children, teenagers not in school or the labor force or elderly living alone or with non-relatives). The rationale for such analysis is simply that persons who are not congruent with the dominant sociodemographic characteristics of their residential areas (atypical persons) or the residents of economically and socially heterogeneous residential areas, particularly where antagonisms or social barriers exist between social classes or race/ethnic populations, may have higher levels of behavioral and physical problems than the residents of neighborhoods that are socially, economically and race/ethnically congruent. In part, this is because individuals who are a discernable minority within a

particular neighborhood may find themselves lacking in the kinds of interpersonal resources necessary to cope with the disrupted episodes of ordinary life and consequently have elevated levels of stress-linked behavioral health problems as well as physical disability. This may be particularly true for deviant persons for whom the residential environment is an important part of their daily life (i.e. who are dependent on the neighborhood for social interaction and social support) and for whom alternative interactions outside the residential environment is limited (the elderly, families with young or schooled age children, particularly when they are poor). Again, the cross classification of demographic distributions permits the identification of such populations. Further, life cycle characteristics of a population can be identified and their specific needs taken into account. Early childrearing populations can be distinguished from middle and late childrearing population or aging populations by constructing age by gender distributions. Moreover, if one is targeting disadvantaged populations, race/ethnicity and socioeconomic characteristics can also be taken into account.

To obtain the cross classification of demographic distribution from the 2000 decennial census, the Bureau of the Census has provided a new program called DataFerret that permits one to construct cross classification of census distribution for census tracts, counties and larger areas (see <http://dataferrett.census.gov/> and <http://www.thedataweb.org/datasets.html>).

Attachment VIII. DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*					
DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
Gender	Male Female		U.S. Census Bureau/State and local updates For data and categories see: http://factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=&geoContext=&_street=&_county=table+pct4&_cityTown=table+pct4&_state=&_zip=&_lang=en&_sse=on&pctxt=fph&pgsl=010 See also: http://factfinder.census.gov/servlet/SAFFPeople	Provide number and percent in each category.	Allows consideration of gender in estimates of prevalence and need.

* Note: The data elements in this domain apply to the region of interest, not to persons or encounters.

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
Age	Under 5 years 5 to 9 years 10 to 14 years 15 to 19 years 20 to 24 years 25 to 34 years 35 to 44 years 45 to 54 years 55 to 59 years 60 to 64 years 65 to 74 years		U.S. Census Bureau/State and local updates For data and categories see: http://factfinder.census.gov/servlet/SAFFacts?_event=&geo_id=01000US&geoContext=&street=&county=table+pct4&cityTown=table+pct4&state=&zip=&lang=en&sse=on&ActiveGeoDiv=&useEV=&pctxt=fph&pgsl=010&submenuId=factsheet_0&ds_name=DEC_2000_SAF See also: http://factfinder.census.gov/servlet/SAFFPeople	Compute age (DOB-date/365=age) Provide number and percent in each category. Roll up as needed.	Allows consideration of age in estimates of prevalence and need.

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	75 to 84 years 85 years and over				
Race	White Black, African American, Negro American Indian or Alaska Native Asian Indian Chinese Filipino Japanese Korean		U.S. Census Bureau/State and local updates For data and categories see: http://factfinder.census.gov/servlet/SAFFacts?_event=&geo_id=01000US&_geoContext=&_street=&_county=table+pct4&_cityTown=table+pct4&_state=&_zip=&_lang=en&_sse=on&ActiveGeoDi v=&_useEV=&pctxt=fph&pgsl=010&submenuId=factsheet_0&ds_name=DEC_2000_SAF	Provide number and percent in each category. Roll up as needed using Census categories: White Black or African American American Indian and Alaska Native Asian Native Hawaiian and Other Pacific Islander	At the community level, unduplicated population counts by race and ethnicity can be used to assess service utilization by these groups and ensure adequate numbers of culturally competent staff and programs. Counts can also be compared to community-based population rates to evaluate access to

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	Vietnamese Other Asian Native Hawaiian Guamanian or Chamorro Samoan Other Pacific Islander Some other race		See also: http://factfinder.census.gov/servlet/SAFFPeople	Some other race	and appropriateness of services.
Ethnicity	Not Spanish, Hispanic, Latino Mexican, Mexican American, Chicano		U.S. Census Bureau/State and local updates For data and categories see: http://factfinder.census.gov/servlet/SAFFacts?_event=&geo_id=01000US	Provide number and percent in each category. Roll up as needed.	Same as above

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	Puerto Rican Cuban Other Spanish, Hispanic, Latino		&_geoContext=&_street=&_county=table+pct4&_cityTown=table+pct4&_state=&_zip=&_lang=en&_sse=on&ActiveGeoDiv=&_useEV=&pctxt=fph&pgsl=010&_submenuId=factsheet_0&ds_name=DEC_2000_SAF See also: http://factfinder.census.gov/servlet/SAFFPeople		
Marital status	Never married Now married Widowed Divorced Separated		U.S. Census Bureau/State and local updates For data and categories see: http://factfinder.census.gov/servlet/SAFFFacts?_event=Search&_geo_id=&_geoContext=&_street=&	Provide number and percent in each category. Roll up as needed.	Allows consideration of this data element in estimates of prevalence and need.

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	Never married		_county=table+pct4&_cityTown=table+pct4&_state=&_zip=&_lang=en&_sse=on&pctxt=fph&pgsl=010 See also: http://factfinder.census.gov/servlet/SAFFPeople		
Primary language	Speaks English Does not speak English Speaks English very well Speaks English well Does not speaks English well	Primary language and rating of ability to speak English. “Other” languages ncludes Hungarian, Navajo, Hebrew, Arabic, and African languages	U.S. Census Bureau/State and local updates For data and categories see: http://factfinder.census.gov/servlet/SAFFFacts?_event=&_geo_id=01000US&_geoContext=&_street=&_county=table+pct4&_cityTown=table+pct4&_state=&_zip=&_lang=en&_sse=on&ActiveGeoDi	Provide number and percent in each category.	Allows consideration of this data element in estimates of prevalence and need.

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	<p>Does not speak English at all</p> <p>Other languages including American Sign Language</p>		<p>v=&_useEV=&pctxt=fph&pgsl=010&submenuId=factsheet_0&ds_name=DEC_2000_SAF</p> <p>See also: http://factfinder.census.gov/servlet/SAFFPeople</p> <p>See Attachment XII for list of languages commonly used in Census reports</p>		
Educational attainment	<p>No schooling completed</p> <p>Nursery school to 4th grade</p> <p>5th grade or 6th grade</p>	<p>Number and percent in each category.</p>	<p>U.S. Census Bureau/State and local updates</p> <p>For data and categories see: http://factfinder.census.gov/servlet/SAFFFacts?_event=&geo_id=01000US&_geoContext=&_street</p>	<p>Provide number and percent in each category using the highest degree or level of school completed. If currently enrolled, use the previous grade or highest degree received.</p>	<p>At the person level, education status is an important indicator of level of functioning. For children and adolescents, when assessed at baseline</p>

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	7th grade or 8th grade 9th grade 10th grade 11th grade 12th grade, no diploma High school graduate, high school diploma or the equivalent (e.g. GED) Some college credit, but less than 1 year 1 or more years of		=& county=table+pct4& cityTown=table+pct4& state=& zip=& lang=en & sse=on&ActiveGeoDiv=& useEV=&pctxt=fph &pgsl=010& submenuId=factsheet_0&ds_name=DEC_2000_SAF See also: http://factfinder.census.gov/servlet/SAFFPeople		and subsequent points-in-time it can be used to indicate current level of functioning and show change over time. It can be used as an outcome measure for assessing the impact of treatments and interventions. For young people and for adults with low education status, it can be used to guide treatment, i.e., to indicate the need for education-related

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	college, no degree Associates degree (e.g., AA, AS) Bachelor's degree (e.g., BA, AB, BS) Master's degree (e.g.: MA, MS, M.Ed., MSW, MBA) Professional degree (e.g., MD, DDS, DVM, LLB, JD) Doctorate degree (e.g., PhD, EdD)				interventions. At program and population levels, educational achievement may be used to characterize a program's consumers compared to the general population in the community and to ensure availability of and access to education-related programs.

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
Occupational attainment	U.S. Census Categories	The US Census occupational classification consists of 509 specific occupational categories for employed people arranged into 23 major occupational groups.	U.S. Census Bureau/State and local updates For data and categories see: http://factfinder.census.gov/servlet/SAFFPeople For occupations codes see http://factfinder.census.gov/metadoc/occupation.pdf Summary File 3, P49 and P50. Available at http://factfinder.census.gov/servlet/SAFFPeople?sse=on	Provide the number and percent in each category.	Allows consideration of this data element in estimates of prevalence and need
Median family income	Median (in dollars)		U.S. Census Bureau/State and local updates	Compute median income in dollars. US Census income categories are:	Allows consideration of this data element in

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
			<p>For data and categories see: http://factfinder.census.gov/servlet/SAFFacts?_event=Search&geo_id=&geoContext=&street=&county=table+pct4&cityTown=table+pct4&state=&zip=&lang=en&sse=on&pctxt=fph&pgsl=010</p> <p>See also: http://factfinder.census.gov/servlet/SAFFPeople</p> <p>U.S. Census data Summary Tape 3 (P56, P57). Available at http://factfinder.census.gov/servlet/SAFFPeople?sse=on</p>	<p>Less than \$10,000 \$10,000 to \$14,999 \$15,000 to \$19,999 \$20,000 to \$24,999 \$25,000 to \$29,999 \$30,000 to \$34,999 \$35,000 to \$39,999 \$40,000 to \$44,999 \$45,000 to \$49,999 \$50,000 to \$59,999 \$60,000 to \$74,999 \$75,000 to \$99,999 \$100,000 to \$124,999</p>	<p>estimates of prevalence and need</p>

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
				\$125,000 to \$149,999 \$150,000 to \$199,999 \$200,000 or more	
Median individual income	Median (in dollars)		U.S. Census Bureau/State and local updates For data and categories see: http://factfinder.census.gov/servlet/SAFFacts?_event=Search&geo_id=&geoContext=&street=&county=table+pct4&cityTown=table+pct4&state=&zip=&lang=en&se=on&pctxt=fph&pgsl=010 See also: http://factfinder.census.g	Compute median income in dollars. US Census income categories are: Less than \$10,000 \$10,000 to \$14,999 \$15,000 to \$19,999 \$20,000 to \$24,999 \$25,000 to \$29,999 \$30,000 to \$34,999 \$35,000 to \$39,999 \$40,000 to \$44,999	Allows consideration of this data element in estimates of prevalence and need

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
			ov/servlet/SAFFPeople U.S. Census data Summary Tape 3 (P56, P57). Available at http://factfinder.census.gov/servlet/SAFFPeople?sse=on	\$45,000 to \$49,999 \$50,000 to \$59,999 \$60,000 to \$74,999 \$75,000 to \$99,999 \$100,000 to \$124,999 \$125,000 to \$149,999 \$150,000 to \$199,999 \$200,000 or more	
Housing arrangements	Owner-occupied housing units Renter-occupied housing units Household size		U.S. Census Bureau/State and local updates For data and categories see: http://factfinder.census.gov/servlet/SAFFFacts?event=Search&geo_id=&	Provide number and percent in owner or renter-occupied units. For each type of unit, compute average household size.	Allows consideration of this data element in estimates of prevalence and need

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
			<p>geoContext=& street=& county=table+pct4& cityTown=table+pct4& state=& zip=& lang=en& se=on&pctxt=fph&pgsl=010</p> <p>See also: http://factfinder.census.gov/servlet/SAFFHousing</p> <p>U.S. Census data Summary Tape 3, DP-4 and QT-H1; Summary Tape 1, GCT-H6 available at: http://factfinder.census.gov/servlet/MetadataBrowserServlet?type=surveyInstance&id=Census+2000+United+States& SectorId=&survey=Census+2000& lang=en</p>		

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
Urban/rural	Urban Rural	The US Census Bureau classifies urbanized areas or an urban clusters as core census block groups or blocks that have a population density of at least 1,000 people per square mile and surrounding census blocks that have an overall density of at least 500 people per square mile The classification of "rural" consists of all territory, population, and housing units located outside of urban areas and urban clusters.	U.S. Census Bureau/State and local updates For data and categories see: http://factfinder.census.gov/servlet/SAFFPeople U.S. Census Summary File-4, Table PCT2 available at: http://factfinder.census.gov/servlet/MetadataBrowserServlet?type=surveyInstance&id=Census+2000+United+States&SectorId=&survey=Census+2000&_lang=en	Provide number and percent in each category.	
Unemployment rates	In Labor Force		See Bureau of Labor Statistics-Local Area	Provide number and percent in each category.	

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	Employed Unemployed Unemployment rate		Unemployment System (LAUS) for monthly and annual employment, unemployment, and labor force data for Census regions and divisions, States, counties, metropolitan areas, and many cities, by place of residence. http://stats.bls.gov/lau/home.htm#data	Compute unemployment rate.	
Poverty rates	Below 100% of Poverty Below 125% of Poverty	Definitions of poverty available at http://aspe.hhs.gov/poverty/poverty.shtml	State level estimates available at http://ferret.bls.census.gov/macro/032004/pov/new46_001.htm For county jurisdictions, see estimates at http://factfinder.census.gov/servlet/GCTTable?_b	Instructions for calculating poverty available at http://aspe.hhs.gov/poverty/poverty.shtml . Provide number and percent below poverty level. Geographic region will need to be adjusted to	Allows consideration of this data element in a local area of interest

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
			m=y&-geo_id=D&-ds_name=D&-lang=en&-mt_name=DEC 2000_SF4 U GCTP14 CO2 See also: http://factfinder.census.gov/servlet/SAFFacts?_event=Search&geo_id=&geoContext=&street=&county=table+pct4&cityTown=table+pct4&state=&zip=&lang=en&se=on&pctxt=fph&pgsl=010	obtain the county-state combination of interest.	
Proportions of single-parent families	Female householder, no husband present Married couple		U.S. Census Bureau/State and local updates For data and categories see: http://factfinder.census.g	Provide number and percent in each category.	Allows consideration of this data element in a local area of interest

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	family With own children under 18 years		ov/servlet/GCTTable?_b_m=y&-geo_id=01000US&-_box_head_nbr=GCT-P7&-ds_name=DEC_2000_SF1_U&-lang=en&-redoLog=false&-mt_name=DEC_2000_SF1_U_GCTP7_US9&-format=US-9&-sse=on U.S. Census Current Population Survey Table CH-7 contains national data. Subdivision (state/county/MSA) available from Census Summary File-3, Table PCT 4.		
Rates of violence against persons	Violent crime Murder and non-		FBI Uniform Crime Reports http://www.fbi.gov/ucr/u	Provide number and percent in each category.	Allows examination of crime rates in a local area of

DS2000+ Population Data Standards for Regional Demographics and Community Characteristics Related to the Prevalence of Mental Disorders*

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	negligent manslaughter Forcible rape Robbery Aggravated assault Property crime Burglary Larceny-theft Motor vehicle theft		cr.htm		interest

Attachment IX. DS2000+ Population Data Standards for Community (Demographic) Characteristics

DS2000+ Population Data Standards for Community Health and Mental Health Characteristics					
DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
Prevalence of a range of physical and mental disorders	TBD: List of physical and mental disorders by name and ICD-9-CM code		Depends on methodology	Compute direct, indirect or flat rate projections using appropriate methodology from Attachment IV Percentage of individuals with the defined disorder; may be expressed as a rate rather than a percentage.	Allows a relatively inexpensive estimate of the prevalence of many psychiatric disorders and categories of need.
Prevalence of SMI		Pursuant to section 1912 [c] of the Public Health Service Act, adults with serious mental illness (SMI) are persons: (1) age 18 and over and (2) who currently have, or at any time during the past year had a diagnosable mental, behavioral, or	Depends on methodology	Compute direct, indirect or flat rate projections using appropriate methodology from Attachment IV	Allows a relatively inexpensive estimate of the prevalence of many psychiatric disorders and categories of need

DS2000+ Population Data Standards for Community Health and Mental Health Characteristics

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
		emotional disorder of sufficient duration to meet diagnostic criteria specified within DSM-IV or their ICD-9-CM equivalent (and subsequent revisions) with the exception of DSM-IV “V” codes, substance use disorders and developmental disorders, which are excluded, unless they co-occur with another diagnosable serious mental illness and (3) that has resulted in functional impairment, which substantially interferes with or limits one or more major life activities. (Federal Register Volume 58 No.96)			
Prevalence of SED		Pursuant to section 1912 [c] of the Public Health Service Act, children with a serious	Depends on methodology	Compute direct, indirect or flat rate projections using appropriate	Allows a relatively inexpensive estimate of the

DS2000+ Population Data Standards for Community Health and Mental Health Characteristics

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
		emotional disturbance (SED) are persons: (1) from birth up to age 18 and (2) who currently have, or at any time during the past year had a diagnosable mental, behavioral, or emotional disorder of sufficient duration to meet diagnostic criteria specified within DSM-IV or their ICD-9-CM equivalent (and subsequent revisions) and (3) that results in functional impairment which substantially interferes with or limits the child's life or functioning in family, school, or community settings.		methodology from Attachment IV	prevalence of many psychiatric disorders and categories of need
Prevalence of restricted activity days by type of disability	Blindness, deafness, or a severe vision or hearing impairment		Summary File 3, PCT26 through PCT 34. Census 2000 Long Form Questions 16, 17.	Compute prevalence rate for each disability category	Allows consideration of this data element in estimates of prevalence and need

DS2000+ Population Data Standards for Community Health and Mental Health Characteristics

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	(sensory disability) A condition that substantially limits one or more basic physical activities, such as walking, climbing stairs, reaching, lifting, or carrying (physical disability) Difficulty learning, remembering, or concentrating (mental disability) Difficulty dressing, bathing, or getting around inside the home				

DS2000+ Population Data Standards for Community Health and Mental Health Characteristics

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	(self-care disability) Difficulty going outside the home alone to shop or visit a doctor 's office (going outside the home disability) Difficulty working at a job or business (employment disability).				
Prevalence of bed disability days		Rate or proportion of population with range of disability days	TBD	TBD	TBD
Prevalence of school absence days		Rate or proportion of population with range of school absence days	Local school district or State Office of Public Education	Request data from appropriate authority	Allows consideration of this data element in

DS2000+ Population Data Standards for Community Health and Mental Health Characteristics

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
					estimates of prevalence and need
Rates of inpatient mental health and substance abuse service utilization by payer and provider		Rate or proportion of population receiving these services	TBD		Allows consideration of this data element in estimates of prevalence and need
Rates of outpatient mental health and substance abuse service utilization by payer and provider		Rate or proportion of population receiving these services	TBD		Allows consideration of this data element in estimates of prevalence and need
Rates of SSI		Rate or proportion of population receiving these benefits	State Medicaid Authority	Request data from appropriate authority	Allows consideration of this data element in

DS2000+ Population Data Standards for Community Health and Mental Health Characteristics

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
					estimates of prevalence and need
Rates of SSDI		Rate or proportion of population receiving these benefits	State Medicaid Authority	Request data from appropriate authority	Allows consideration of this data element in estimates of prevalence and need
Self-ratings of recent physical health	Percentage with fair or poor self-rated health Mean physically unhealthy days Percentage with 14 or more physically unhealthy days Mean days of activity limitation Percentage with	See http://apps.nccd.cdc.gov/HRQOL/ for specific definitions of each category	CDC Health Related Quality of Life at http://apps.nccd.cdc.gov/HRQOL/	Data available by State and some special reports on other jurisdictions.	Allows consideration of this data element in estimates of prevalence and need

DS2000+ Population Data Standards for Community Health and Mental Health Characteristics

DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	14 or more activity limitation days				
Self-ratings of recent mental health	Mean mentally unhealthy days Percentage with 14 or more mentally unhealthy days (Frequent Mental Distress)	See http://apps.nccd.cdc.gov/HRQOL/ for specific definitions of each category	CDC Health Related Quality of Life at http://apps.nccd.cdc.gov/HRQOL/ Also see Kaiser Family Foundation State Health Facts http://www.statehealthfacts.kff.org/cgi-bin/healthfacts.cgi?	Data available by State and some special reports on other jurisdictions.	Allows consideration of this data element in estimates of prevalence and need. Also allows comparison of self report of mental health status and distress with other estimates of prevalence and need.

Attachment X. DS2000+ Population Data Standards for Health and Mental Health Resources in the Community.

DS2000+ Population Data Standards for Health and Mental Health Resources in the Community						
SUB-DOMAIN	DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
Access to and use of services						
	Available inpatient health care services	See Attachment IXa.	See Area Resource File documentation.	The Area Resource File (ARF) ² http://www.arfsys.com/	Number in category. See Area Resource File documentation.	Allows consideration of this data element in estimates of prevalence and need, and permits comparison of needs data with available health care resources

² The Area Resource File (ARF) is a national county-level health resources information system that describes the nation's health care delivery system and factors that may impact health status and health care in the United States. The data can be aggregated into larger geographic units and files can be linked to other geographic level files. The ARF database contains statistics on health professions, health training programs, health facilities, measures of resource scarcity, and health status. It also contains specific geographic codes and descriptors and information on economic activity, and socioeconomic and environmental characteristics. The annual file can be purchased for \$500 to \$800, depending on the requested file format

DS2000+ Population Data Standards for Health and Mental Health Resources in the Community

SUB-DOMAIN	DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	Available outpatient health care service	See Attachment IXa.	See Area Resource File documentation	ARF http://www.arfsys.com/	Number in category. See Area Resource File documentation	Allows consideration of this data element in estimates of prevalence and need, and permits comparison of needs data with available health care resources.
	HMO penetration	See Attachment IXa.	See Area Resource File documentation	ARF http://www.arfsys.com/	Number in category. See Area Resource File documentation	Allows consideration of this data element in estimates of prevalence and need, and permits comparison of needs data with available health care resources.
	Available health care	See Attachment IXb	See Area Resource File documentation	ARF http://www.arfsys.com/	Number in category. See Area Resource File	Allows consideration of

DS2000+ Population Data Standards for Health and Mental Health Resources in the Community

SUB-DOMAIN	DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	professionals				documentation	this data element in estimates of prevalence and need, and permits comparison of needs data with available health care resources.
	Utilization of health care facilities	See Attachment IXc	See Area Resource File documentation.	ARF http://www.arfsys.com/	Number in category. See Area Resource File documentation	Allows consideration of this data element in estimates of prevalence and need, and permits comparison of needs data with available health care resources.
	Proportion of individuals with SMI not			Local or State Mental Health Authority	Contact appropriate authority.	Assists local planning efforts.

DS2000+ Population Data Standards for Health and Mental Health Resources in the Community

SUB-DOMAIN	DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	accessing treatment					
Treatment and prevention services						
	Participation of Medicaid providers in behavioral health-related EPSDT			Local or State Health Authority		
	Rates of involuntary inpatient commitment		Number of inpatient commitments expressed as either a rate per 100,000 or as a percentage.	Local or State Mental Health Authority	Contact appropriate authority.	Assists local planning efforts.
	Rates of involuntary outpatient		Number of outpatient commitments expressed as either a rate per 100,000 or as	Local or State Mental Health Authority.	Contact appropriate authority.	Assists local planning efforts.

DS2000+ Population Data Standards for Health and Mental Health Resources in the Community

SUB-DOMAIN	DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	commitment		a percentage.			
	Episodes of seclusion and restraint per unit time		Use definition of local or state authority providing data.	Local or State Mental Health Authority.	Contact appropriate authority.	Assists local planning efforts.
Community support						
	Presence of advocacy organizations	Yes (specify) No		Examples of advocacy organizations include: Federation of Families http://www.ffcmh.org/who_chapters.php NAMI http://www.nami.org/Template.cfm?Section=Your_Local_NAMI&Template=/CustomSource/AffiliateFinder.cfm&lstd=333	See websites for availability information for any given jurisdiction. Specify names and types of organizations.	Allows consideration of this data element in estimates of prevalence and need, and permits comparison of needs data with available health care resources.

DS2000+ Population Data Standards for Health and Mental Health Resources in the Community

SUB-DOMAIN	DATA ELEMENT	CATEGORIES	DEFINITION	SOURCE	INSTRUCTIONS	USES OF DATA
	Availability of support groups for mental health-related problems and issues	TBD		Local health mental health and substance abuse services providers, authorities, and advocacy groups	Contact appropriate group.	Allows consideration of this data element in estimates of prevalence and need, and permits comparison of needs data with available resources.

Attachment IXa. Inpatient Health Care Resources from the Area Resource File
<http://www.arfsys.com/>

Total Number Hospitals
ST Gen Hospitals
STNG Hospitals
Long Term Hospitals
Psychiatric, Rehabilitation, & Children's Hosps, ST
Type of Long Term Hospital
ST Community Hospitals
ST AOHA Hospitals
Veteran's Hospitals
Hospitals by Approvals for ST Gen and STNG/LT
Hospital Admissions
ST Gen Hospital Admissions
STNG/LT Hospital Admissions
ST Community Hospital Admissions
ST AOHA Hospital Admissions
Veteran's Hospital Admissions
Hospital Beds
ST Gen Hospital Beds
STNG Hospital Beds
Long Term Hospital Beds
ST Community Hospital Beds
ST AOHA Hospital Beds
Veteran's Hospital Beds
Newborn Bassinets ST Gen Hospitals
Newborn Bassinets STNG/LT Hospitals
ST Gen Hospitals by Bed Count
STNG/LT Hospitals by Bed Count
Veteran's Hospitals by Bed Count
ST Gen Hospitals with Specific Services (see below)
Personnel FT & PT, ST Gen & STNG/LT
Distribution of Hospitals by # of Services, ST Gen & STNG/LT
Skilled Nursing Facilities
Skilled Nurs Fac Total Beds
Skilled Nurs Fac Certified Beds
Home Health Agencies
Nursing Facilities
Nursing Facilities Total Beds
Nursing Facilities Cert Beds
Rural Health Clinics
Ambulatory Surgery Centers
Hospices
Community Mental Health Ctrs
Screening Mammography Centers

Federally Qualified Health Centers
HMOs & # Federally Qualified
Total & Fed Qualified HMO Membership
HMOs & Enrollment by Model Type
HMOs by Headquarter Location (Also 76-79)

ST Gen Hospitals with Specific Services

General Medical/Surgical Care, Adult
General Medical/Surgical Care, Pediatrics
Obstetric Care
Medical/Surgical Intensive Care
Cardiac Intensive Care
Neonatal Intensive Care
Neonatal Intermediate Care
Pediatric Intensive Care
Burn Care
Other Special Care
Other Intensive Care (1998 on)
Rehabilitation Care
Alcohol/Drug Abuse Inpatient Care
Psychiatric Care
Skilled Nursing Care
Intermediate Care
Acute Long-Term Care (1998 on)
Other Long-Term Care
Other Care
Adult Day Care Program
Alcohol/Drug Abuse Outpatient Services
Ambulance Services (2000 on)
Angioplasty
Arthritis Treatmt Center
Assisted Living
Auxiliary Services (1998 on)
Birth Room/Labor, Delivery, Recovery Room/Labor, delivery, recovery, postpartum
Room
Breast Cancer Screen/Mammography
Cardiac Catheterization Lab
Case Management
Child Wellness Program
Chiropractic Services (1998 on)
Community Outreach
Complementary Medical Services (1998 on)
Crisis Prevention
Dental Services
Emergency Department
Certified Trauma Center
Enabling Services (2000 on)

End of Life Services (1998-1999)
Palliative Care Programs (2000 on)
Enrollment Assistance Programs (2000 on)
Extracorporeal Shock-Wave Lithotripter
Fitness Center
Freestanding Outpatient Center
Geriatric Services
Health Fair
Health Information Center
Health Screenings
Hemodialysis (2000 on)
HIV-AIDS Services
Home Health Services
Hospice
Hospital-Based Outpatient Care Center/Services
Meals On Wheels
Nutrition Programs
Occupational Health Services
Oncology Services
Open-Heart Surgery
Outpatient Surgery
Pain Management Program (1998 on)
Patient Education Center
Patient Representative Services
Physical Rehabilitation Outpatient Services
Primary Care Department
Psychiatric Child/Adolescent Services
Psychiatric Consultation/Liaison Services
Psychiatric Educational Services
Psychiatric Emergency Services
Psychiatric Geriatric Services
Psychiatric Outpatient Services
Psychiatric Partial Hospitalization Program
Radiation Therapy
Computed-tomography (C.T.) Scanner
Diagnostic Radioisotope Facility
Magnetic Resonance Imaging
Positron Emission Tomography (PET)
Single Photon Emission Computerized Tomography (SPECT)
Ultrasound
Reproductive Health
Retirement Housing
Sleep Center (2000 on)
Social Work Services
Sports Medicine
Support Groups

Tobacco Treatment Services
Teen Outreach Services
Transplant Services
Transport to Health Facility
Urgent Care Center
Volunteer Services Department
Women's Health Center/Services

Attachment IXb. Available Health Care Professionals from the Areas Resource File

Total Active MDs, Non-Fed and Fed
Total Active Non-Fed MDs (Also 40, 50, 60, 70, 75)
Total MD's, Total Non-Fed and Fed
Total Non-Fed MDs
Total Patient Care, Non-Fed MDs (Also 70, 75)
MDs, Pat Care, Office Based, Non-Fed (Also 70, 75)
MDs, Total Hospital Based, Pat Care, Non-Fed (Also 70, 75)
Non-Fed MDs, Total by Major Professional Activity (see below)
Non-Fed MDs, by Specialty and by Major Professional Activity (see below)
Federal MDs, by Specialty (see below)
MDs by Major Specialty Categories, Pat Care, Office Based (Also 70, 75)
Total Inactive & Not Classified MDs
MDs by Gender
MDs by Specialty by Age (see below)
MDs by Graduation Location and by Major Professional Activity (see below)
Physicians (MDs and DOs) and Surgeons (2000)
Total Non-Fed and Fed DOs
Active Non-Fed and Fed DOs
Total Non-Fed DOs
Active Non-Fed DOs (Also 71, 74, 76)
Total Fed DOs
Active Fed DOs
Active Non-Fed DOs by Practice Type
Active Non-Fed DOs by Gender
Active Non-Fed DOs by Board Certification
Active Non-Fed DOs by Age
Active Non-Fed DOs by Primary Care Status
Active Non-Fed and Fed DOs by Specialty
Active Non-Fed DOs by Specialty
Active Non-Fed and Fed DOs by Primary Care by Gender
Active Non-Fed DOs by Primary Care by Gender (Also 76, 78)
Active Non-Fed DOs by Major Professional Activity
Total Dentists
Dentists, Total Professionally Act Non-Fed and Fed
Dentists, Total Private Pract, Non-Fed & Fed
Active Non-Fed Dentists
Dentists, Total Private Practice, FT and PT
Dentists, Total Private Pract, by Gender
Dentists, by Professional Activity
Private Pract/Gov't GP, Ped & Other Dentists
Dentists, Hospital Staff, or Other GPs & Ped
Dentists, Hospital Staff, GPs & Ped
Dentists, Hospital Staff or Other, Other Specialty
Dentists, Hospital Staff, Other Spec

Dentists, Hospital Staff, Miss Specialty
Dentists, Grad/Intern/Res, GP & Peds
Dentists, Intern/Res, GP & Peds
Dentists, Grad/Inter/Res, Other Specialty
Dentists, Intern/Res, Other Specialty
Dentists, Intern/Res, Miss Specialty
Dentists, Other Org, GPs & Ped
Dentists, Other Org, Other Specialty
Dentists, Other Org, Miss Specialty
Active Dentists by Age
Dental Hygienists
Dental Assistants
Dental Lab/Med Appl Tech
Veterinarians
Pharmacists (Also 66, 74)
Optometrists
Optometrists, Total Active, Fed & Non-Fed (Also 68, 78, 79)
Optometrists, Active Non-Fed (Also 72, 78, 79)
Podiatrists (Also 68, 74)
Podiatrists, by Age
Chiropractors
Registered Nurses (Also 66, 72, 77)
Licensed Practical Nurses (Also 67, 74)
Nurse Practitioners
Certified Nurse Midwives
Physician Assistants
Health Care Professionals by Category
Nurse, Psych, Home Health Aides (Nurs Aides, Orderlies/Attendants)
Occupational Therapists
Physical, Speech and N.E.C. Therapist
Health Technicians
Managers, Medicine & Health
Medical Science Teachers
Health Specialty Teachers
Medical Scientists
Opticians, Dispensing (Optical Goods Workers)
Psychologists
Social Workers
Sociologists

MD Major Professional Activities from the Area Resource File

Patient Care
Patient Care, Office Based
Patient Care, Hospital Based
Patient Care, Hospital Resident
Patient Care, Clinical Fellows (through 1994)
Patient Care, Hospital Full Time Staff
Other Professional Activity
Administration
Teaching
Research
Other

MD Specialties from the Area Resource File

Aerospace Medicine
Allergy and Immunology
Anesthesiology
Cardiovascular Disease
Child and Adolescent Psychiatry
Colon and Rectal Surgery
Dermatology
Diagnostic Radiology
Emergency Medicine
Epidemiology (2000 only)
Family Practice
Forensic Pathology
Gastroenterology
General Practice
General Preventive Medicine
General Surgery
Internal Medicine
Medical Genetics
Neurological Surgery
Neurology
Nuclear Medicine
Obstetrics and Gynecology
Occupational Medicine
Ophthalmology
Orthopedic Surgery
Other Specialty
Otolaryngology
Pathology
Pediatrics
Radiology
Pediatric Cardiology
Psychiatry

Physical Medicine and Rehabilitation
Plastic Surgery
Public Health
Pulmonary Disease
Radiation Oncology
Radiology
Thoracic Surgery
Transplant Surgery (2000 on)
Urology
Vascular Medicine (2000 on)
Unspecified

MD Major Professional Activities from the Area Resource File

Patient Care
Patient Care, Office Based
Patient Care, Hospital Based
Patient Care, Hospital Resident
Patient Care, Clinical Fellows (through 1994)
Patient Care, Hospital Full Time Staff
Other Professional Activity
Administration
Teaching
Research
Other

Federal MDs from the Area Resource File

Federal status is defined as full-time employment by the federal government, including the Army, Navy, Air Force, Veteran's Administration, the Public Health Service and other federally funded agencies.

Major Professional Activities

Patient Care
Patient Care, Office Based (1997 only)
Patient Care, Hospital Resident
Patient Care, Hospital Full Time Staff
Other Professional Activity

Specialties

Total General Practice
General Internal Medicine
Pediatrics
Other Medical Specialties
General Surgery
Obstetrics and Gynecology (General and Subspecialties)
Other Surgery
Psychiatry

Other Specialties

Age Categories for MD's from the Area Resource File

<35

35-44

45-54

55-64

65-74

75+

Graduation Locations for MD's from the Area Resource File

In US

Within State

Contiguous State

Other State

Canada

International

Attachment IXc. Utilization of Health Facilities from the Area Resource File

Inpatient Days in ST Gen Hospitals
Inpatient Days in STNG/LT Hospitals
Inpatient Days by Type of ST and LT Hospitals
Inpatient Days in Short Term Community Hospitals
Inpatient Days in ST AOHA Hospitals
Inpatient Days in Veteran's Hospitals
Total Medicare/Medicaid Inpatient Days, ST Gen & STNG/LT
Total Facilities, Medicare/Medicaid Inpatient Discharges
Distribution of Hospitals by Utilization Rate
Outpatient Visits in ST Gen Hospitals
Outpatient Visits in STNG Hospitals
Outpatient Visits in LT Hospitals
Outpatient Visits in Veteran's Hospitals
Emergency Outpatient Visits, ST Gen & STNG/LT
Outpatient Visits Other, STNG/LT
Outpatient Visits Other , ST Gen
Surgical Operations, Inpatient, Outpatient & Total, ST Gen & STNG/LT
Surgical Operations, Veteran's Hospitals
Operating Rooms, ST Gen & STNG\LT
Airborne Infection Isolation Rooms, ST Gen & STNG\LT

Attachment X. Scoring for Instrument used by Public Health – Seattle & King County Public Health Department (PH-SKC), WA

1. The items were scored from 1-5, converted to 0-4, the signs were reversed, and the items added to produce a scale from 0 to 40. There was no evidence that differential weighting affected reliability, so PH-SKC recommended use of the simple sum scoring method.

2. PH-SKC carried out a small calibration study of 155 people who completed the screening instrument and a SCID and GAF. Given the small sample size it was not possible to obtain a fine-grained calibration, but PH-SKC was able to collapse the scores to generate a predicted probability of SMI for each of several scale score ranges. These were based on post-stratifying the data to national norms on demographics and item distributions. It is possible to re-calibrate the 0-40 scores to assign predicted probabilities of SMI (see table below).

Scale score	Fraction with SMI
0-10	0.036
11-20	0.117
21-30	0.472
31-40	1.0

Attachment XI. References

Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System (BRFSS). Available at <http://www.cdc.gov/brfss/>

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Attachment XII. Languages commonly used in Census Reports³

English

Spanish or Spanish Creole

Other Indo-European languages

French (incl. Patois, Cajun)
French Creole
Italian
Portuguese or Portuguese Creole
German
Yiddish
Other West Germanic languages
Scandinavian languages
Greek
Russian
Polish
Serbo-Croatian
Other Slavic languages
Armenian
Persian
Gujarathi
Hindi
Urdu
Other Indic languages
Other Indo-European languages

Asian and Pacific Island languages

Chinese
Japanese
Korean
Mon-Khmer, Cambodian
Miao, Hmong
Thai
Laotian
Vietnamese
Other Asian languages
Tagalog
Other Pacific Island languages

³ Source: U.S. Census Bureau, Census 2000, Summary File 3, Table PCT10.
Internet release data: February 25, 2003

Other languages

Navajo

Other Native North American languages

Hungarian

Arabic

Hebrew

African languages

Other and unspecified languages