

DECISION SUPPORT2000+
**RECOMMENDED STANDARDS
FOR MENTAL HEALTH DATA**



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

June 2006

Funded by the Center for Mental Health Services,
Substance Abuse and Mental Health Services Administration

Table of Contents

Decision Support 2000+ Recommended Standards for Mental Health Data	1
Overview	1
Purpose.....	2
History.....	3
Decision Support 2000+ Data Standards Development Process	5
Decision Support 2000+ and the Health Insurance Portability and Accountability Act	6
Figure 2. DS2000+ Core, Stakeholder-Specific, and Unique Data Sets.....	9



Decision Support 2000+ Recommended Standards for Mental Health Data

Overview

Decision Support 2000+ (DS2000+) is an integrated set of mental health data standards and a web-based information system designed to help all stakeholders answer key questions and make critical decisions that will improve the quality of care (Henderson et al., 2001; Henderson et al, 2002). Figure 1 shows the full scope of the DS2000+ initiative.

The DS2000+ information system accepts and transforms anonymized person-level and aggregated data through online surveys, online data entry, and data file uploads; produces standard, customized, and *ad hoc* reports; links to other sources of information and data; and provides access to a variety of software, analytic, and measurement tools. See www.ds2kplus.org.

DS2000+ data standards apply to population, person (enrollment) and encounter, financial, human resources, and organizational data; performance indicators, report cards, and outcome measures; and fidelity measures for clinical and system guidelines. For each set of standards, DS2000+ development teams recommended a *core* set of data elements for use across the entire field and *stakeholder-specific* data elements of interest to particular stakeholder groups.

Stakeholder groups cut across the public and private sectors of care and include mental health consumers and family members; state and local mental health agencies; institutional and professional providers; the managed behavioral health care industry; sponsors, payers, and their agents; researchers and policymakers; and experts in mental health electronic records and information technology. For both the core and stakeholder-specific data sets, the DS2000+ standards provide uniform definitions, common measures, and consistent procedures for collecting, analyzing, recording, and reporting data. Some stakeholder groups, or subgroups within them, will want to use data elements that are unique to their interests; these can be appended to the DS2000+ data standards by these users. See Figure 2.

The need for reliable information has expanded exponentially in recent years. With the dramatic changes in the organization and financing of mental health services and the changes in types and roles of key stakeholders, the mental health field has needed to expand and improve the quality of its information resources and to provide support for decisions made on a daily basis. *The quality of information will determine the quality of care:* without good data, stakeholders cannot make good decisions and without good decisions, the system cannot continue to operate.

Uniform data based on clear, consensus-based standards are critical to improving the quality of information. The field also requires reliable and valid measures to evaluate the quality of the care, the practices of systems, and their outcomes for consumers and



families. Finally, systems for collecting this information in a consistent and comparable way will enhance communication among participants and across systems of care. Adherence to established standards for data collection will benefit all stakeholders whether they are consumers or providers making choices about treatments, sponsors and payers deciding among benefits and plans, managers allocating financial and human resources, or researchers determining the need for services in a community. Collection of necessary data can be accomplished while protecting the privacy and confidentiality of personal medical records.

Purpose

The DS2000+ data standards and information system are designed to:

- ***Improve Decisions.*** Decisions made by consumers and family members, providers, payers, managers, and researchers will be enhanced by data that are uniform, comparable, valid, reliable, and made available through an information system that provides all the data needed quickly, accurately, and efficiently.
- ***Improve Services.*** An information system that makes available to stakeholders reliable, standardized, and comparable data on a community's mental health needs, services, service users, costs, revenues, performance, and outcomes is critical to improving care.
- ***Improve Accountability.*** To be most beneficial, information on accountability needs to be based on widely-accepted performance indicators and readily available within a framework of continuous quality improvement.
- ***Improve Communication.*** Effective communication within the mental health system and between mental health and other human service systems is essential for delivering quality care and requires shared unambiguous terminology.
- ***Protect Privacy and Confidentiality.*** Protection of privacy and confidentiality of personal medical records is fundamental to all aspects of the DS2000+ initiative.

DS2000+ recommends standards for four different types of data—descriptive, prescriptive, evaluative, and corrective—in order to address particular questions: *What are we doing? What should we be doing? How well are we doing? How do we improve?* The data components needed to answer these questions are in DS2000+ and include:

- characteristics of populations, persons, and encounters with service providers; financial, organizational, and human resource characteristics of clinical and administrative entities within the care system;
- measures that reflect adherence to system and clinical guidelines; and
- results reported through system performance indicators, consumer outcome measures, and surveys of consumers, providers, and others.



Because DS2000+ shares the standards mandated by the Health Insurance Portability and Accountability Act (HIPAA), it facilitates data sharing and communication with the larger health care community. Because it addresses the wide-ranging needs of the mental health field, the DS2000+ framework is more comprehensive and its data elements are more extensive than those required by HIPAA. DS2000+ data standards are available for:

- **population data** that describe the demographic characteristics, health and mental health status, level of functioning, and quality of life of community members;
- **person data** that describe the demographic, insurance, and health and mental health status of enrollees and their family members;
- **encounter data** that characterize users of services (e. g., by health and mental health status, diagnosis, symptoms, functional status), types of services used, and frequency of use;
- **financial data** that reflect costs of services, administrative costs, other expenditures, and revenues;
- **human resource data** that describe the characteristics of providers of care, support staff, and other personnel;
- **organizational data** that reflect information about organizational structure and processes;
- **performance indicators** that are critical for accountability, quality improvement, and management of mental health systems;
- **measuring fidelity** to evidence based practices for services and systems of care; and
- **consumer outcomes** that can be used to determine the effects of different interventions on mental health status, level of functioning and quality of life.

History

DS2000+ activities build on what the field has already accomplished, using resources currently in place and focusing on areas that need further work. Most importantly, DS2000+ builds on the work of the Mental Health Statistics Improvement Program (MHSIP) (www.MHSIP.org) in developing standards for mental health.

In the late 1980's, MHSIP created a Task Force to review existing data standards and recommend revisions. In its 1989 report, Data Standards for Mental Health Decision Support Systems (commonly known as FN-10), the Task Force presented minimum data sets for patient/client data, event/encounter data, human resources data, financial data,



and organization data (Leginski et al., 1989); subsequently, recommendations were made in regard to data elements relevant to children (MHSIP, 1992). Owing to the quality of MHSIP's work, all states now have voluntarily adopted many of these standards. A MHSIP workgroup (FN11 Workgroup) began the process of updating and refining FN-10 (MHSIP, 1997); this work is being continued under the DS2000+ initiative.

As a result of changes in mental health over the past decade, there is an increased need to broaden the audience for and users of mental health information beyond those of principal interest to the developers of FN10 and FN11; hence, DS2000+ was designed to be relevant to a wide range of stakeholders in *both* the public and private sectors. In addition, new data standards and reporting requirements in the field necessitated that the data elements recommended in DS2000+ be compatible with the requirements of HIPAA (<http://aspe.hhs.gov/admsimp/final/>), the Center for Mental Health Services (CMHS) Uniform Reporting System (URS) (<http://www.mhsip.org/URSTablesFinal.wpd.pdf>), and the Substance Abuse and Mental Health Services (SAMHSA) National Outcomes Measures (NOM).

As part of this broadening of focus, DS2000+ has incorporated the work of other important initiatives in the mental health field. For example, definitions of data elements in the person and encounter data sets draw from CMHS's Sixteen State Performance Indicator Study (<http://www.mhsip.org/sixteenstate/index.htm>). The human resources data set was developed in collaboration with the CMHS Human Resources Workgroup which is comprised of all the major mental health provider disciplines. The organizational data set uses data elements from CMHS's Survey of Mental Health Organizations (<http://www.samhsa.gov/statistics/statistics.html>). The performance indicator component relies upon the work of MHSIP, the Forum on Common Performance Measures (<http://www.mhindicators.org/>), the American Managed Behavioral Healthcare Association (AMBHA) (<http://www.ambha.org>), the National Association of State Mental Health Program Directors (NASMHPD) Research Institute (<http://nri.rdmc.org>), the National Committee for Quality Assurance (NCQA) (<http://www.ncqa.org/Programs/HEDIS/index.htm>), the National Association of Psychiatric Health Systems (NAPHS) (<http://www.naphs.org/>), and the American College of Mental Health Administration (<http://www.acmha.org>). The population and evidence based practices components also derive from work supported by CMHS and others including the National Comorbidity Survey (<http://www.hcp.med.harvard.edu/ncs/index.htm>), synthetic estimations of need for mental health services (<http://psy.utmb.edu/estimation/estimation.htm>), and several guideline initiatives including the Texas Medication Algorithm Project (TMAP) (www.mhmr.state.tx.us/centraloffice/medicaldirector/tmaptoc.html), the Expert Consensus Guidelines Series (<http://www.psychguides.com/>), toolkits on psychosocial interventions (http://tecathsri.org/products_new.asp), and the guidelines activities of the American Psychiatric Association (http://www.psych.org/clin_res/prac_guide.cfm), the American Psychological Association (<http://www.apa.org/>), and the Agency for Healthcare Research and Quality (AHRQ) (<http://www.ahrq.gov/clinic/epcix.htm>). Finally, the consumer outcomes standards reflect the work of several states.



Most mental health organizations are accountable to public or private payers and are required to report routinely. Use of core data standards (as well as agreement on data exchange protocols and use of web-based internet and intranet applications) will increase the efficiency and cost-effectiveness of data collection and reporting. Within the mental health field, for example, the basic and developmental measures of the URS currently being used in the Data Infrastructure Grants, as well as SAMHSA's NOMS, can be reported using DS2000+ data standards. In addition, as described more fully below, the DS2000+ core data standards for person, encounter, and financial data incorporate the standards mandated by HIPAA.

DS2000+ also makes use of existing data collection activities and information technology, and allows users to bring their current practices closer to the ideal without major overhauls and massive investments. Much of the system already exists in one form or another. The Federal and some state governments collect population-level data; managed behavioral health care organizations and providers collect person (enrollment), encounter, and outcome data, use financial and human resource data, and report on performance indicators; and measures are being developed to assess fidelity to clinical and system guidelines. Certainly, these data collection efforts need to be expanded and standardized, but it is important not to minimize how much exists.

When linking data sets, it is critical that data elements and coding be clearly specified to avoid misunderstanding and unwanted variation in coding items. Data collection procedures and databases that serve multiple purposes, such as reimbursement and quality measurement, are more likely to be adopted by users than more limited ones; but they also increase the need for instruments that are straight-forward and transparent, and that minimize additional staff training and development of training materials and documentation.

With guidance from a Technical Expert Workgroup, the DS2000+ project team prepared the requirements analysis for DS2000+ (Minden et al., 2000). For each component, this analysis described the field's achievements and remaining work with respect to consensus on *domains* (issues, categories, or topics of interest), *indicators* (measurable activities, events, characteristics, or items that represent a domain), and *measures* (the instruments used to assess, evaluate, and reflect an indicator). The report also indicated whether the measures had been *field tested* and/or *implemented*; and whether the component was fully *ready for inclusion* in the information system. The components remain at different levels of development. For person and encounter data standards, for example, there is fairly broad consensus on what to include, but problems such as specifying unique identifiers remain unresolved. For other standards, particularly population data, performance indicators, and measurement of guideline adherence, much work remains to be done. The complete requirements analysis is posted on the MHSIP website (<http://www.mhsip.org/>) for broad review and comment by the field.

Decision Support 2000+ Data Standards Development Process

The DS2000+ initiative is a field-wide collaborative effort led by the Survey and Analysis Branch, Division of State and Community Systems Development, Center for



Mental Health Services, Substance Abuse and Mental Health Services Administration. The DS2000+ team consists of Abt Associates, Inc., MHSIP, NASMHPD Research Institute, and many individual consultants. Throughout the process the DS2000+ team shared its work with and sought feedback from representatives of key stakeholders through expert panels, focus groups, presentations at meetings, and postings on the MHSIP web site. The team has received ongoing input from the many organizations cited earlier who are working on issues related to the components of DS2000+.

Because of the longstanding work in data standards noted above, MHSIP has been central to the DS2000+ development process. Members of the MHSIP Policy Group have been involved in the design, development, and implementation of DS2000+ since its inception. In October 2000, the MHSIP Policy Group formalized its association with the DS2000+ development team by creating a DS2000+ MHSIP Liaison Group consisting of a chair from the MHSIP Policy Group and representatives of the four Regional User Groups (RUGs). In August 2001, the DS2000+ MHSIP Liaison Group reviewed and revised the draft person and encounter data standards. RUGs reviewed and commented on standards for other components as they were developed. The standards have also been presented at national and regional mental health statistics conferences for review and comment by a more diverse audience.

Decision Support 2000+ and the Health Insurance Portability and Accountability Act

The DS2000+ team responded to the requirements of the Health Insurance Portability and Accountability Act (HIPAA) in three ways. First, to assist the field in its compliance, the team created user-friendly tools consisting of a Handbook and Master Data Set for the HIPAA transactions listed below. These tools are posted on the MHSIP website.

- Benefit Enrollment and Maintenance (834)
- Health Care Claim: Professional (837)
- Health Care Claim: Institutional (837)
- Health Care Eligibility/Benefit Inquiry and Information Response (270/271)
- Payroll Deducted and Other Group Premium Payment for Insurance Products (820)
- Health Care Claim Request for Additional Information and Response (277/275)
- Health Care Services Review—Request for Review and Response (278)
- Health Care Claim Status Request and Response (276/277)
- Health Care Claim Payment/Advice (835)

Second, the DS2000+ information system offers a mapping tool for users to create cross-walks between their databases and the HIPAA transactions.

Finally, the DS2000+ data standards incorporate HIPAA data definitions and codes and add substantial value to HIPAA by providing behavioral health-specific definitions and codes. On the one hand, use of DS2000+ ensures compliance with HIPAA and supports the business functions and financial matters (i.e., claims and their payment) related to general health care that is the primary focus of HIPAA. On the other hand, DS2000+ deals with issues of concern to behavioral health that are not fully addressed by the



HIPAA data sets: quality measurement, outcomes, recovery, level of functioning, support and wrap-around services, etc. Therefore, the DS2000+ team developed two types of core data standards: DS2000+ HIPAA data standards and DS2000+ non-HIPAA data standards. The first consist of core domains and data elements of widespread interest and the second, of stakeholder-specific domains and data elements of interest to particular stakeholder groups. Even in the components most closely allied to HIPAA (i.e., the person, encounter, and financial data sets), the DS2000+ team created stakeholder-specific DS2000+ core non-HIPAA data standards.



Figure 1. The Decision Support 2000+ Initiative

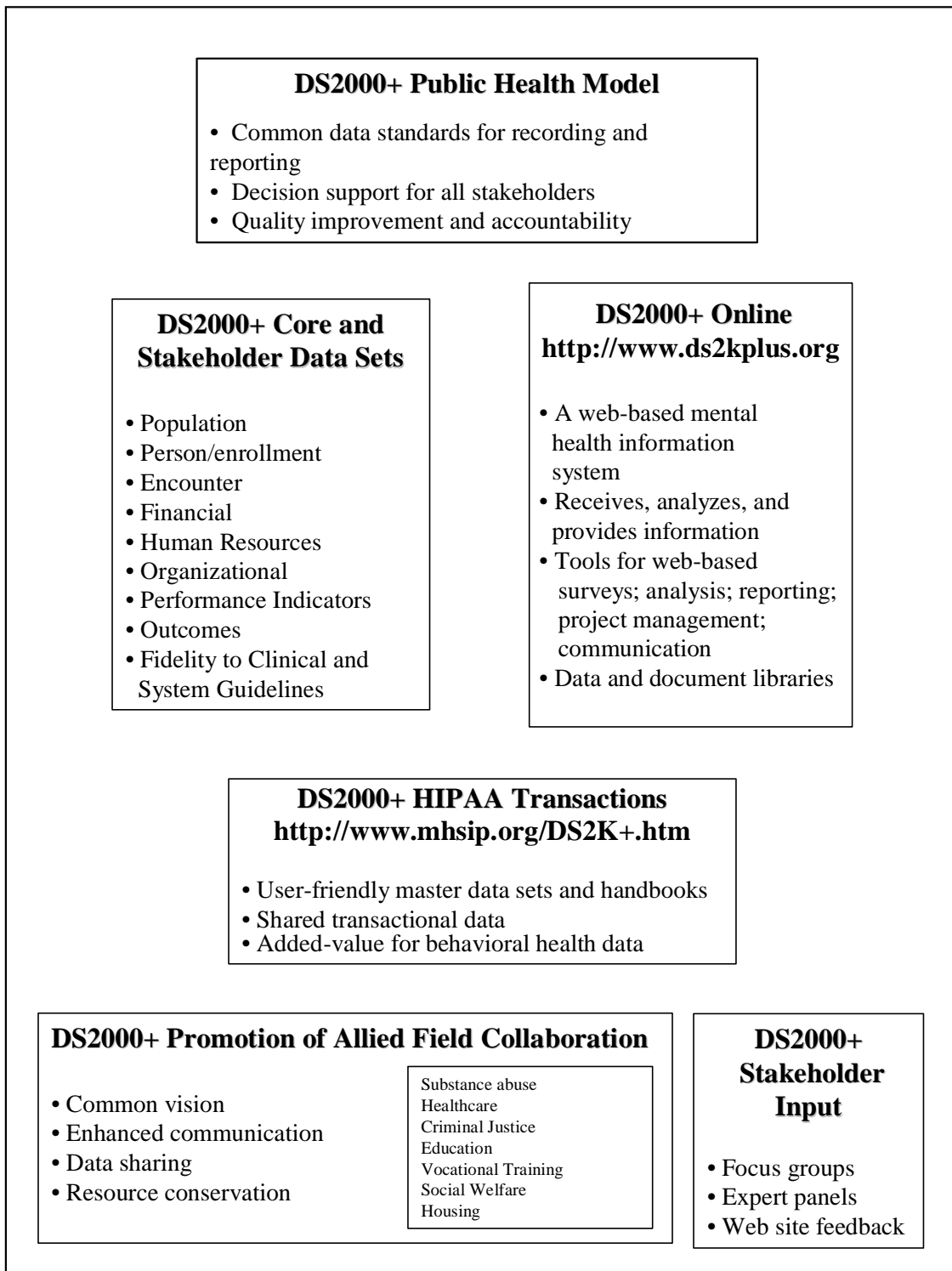
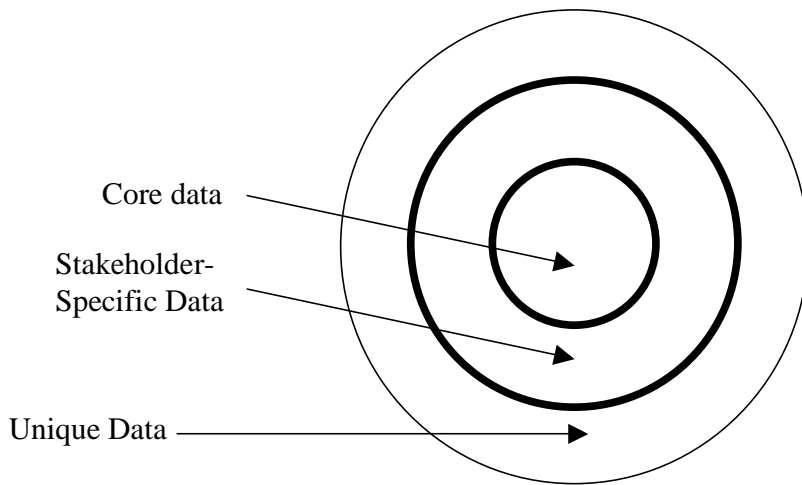


Figure 2. DS2000+ Core, Stakeholder-Specific, and Unique Data Sets



References

Henderson MJ, Minden, SL, & Manderscheid, RW. Decision Support 2000+: A New Information System for Mental Health. Center for Mental Health Services. *Mental Health, United States, 2000*. Manderscheid RW, and Henderson MJ, eds. DHHS Pub No. (SMA) 01-3537. Washington, DC: Government Printing Office, 2001.

Henderson MJ, Minden SL, Manderscheid RW. Decision Support 2000+: A New Information System for Public Mental Healthcare. In Dewan NA, Lorenzi N, Riley R, Bhattacharya SR, eds. *Behavioral Health Care Informatics*, New York, Springer-Verlag New York, Inc., 2002.

Leginski WA, Croze C, Driggers J, Dumpman S, Geertson D, Kamis-Gould E, Namerow MJ, Patton RE, Wilson, NZ, & Wurster CR. *Data Standards for Mental Health Decision Support Systems*. National Institute of Mental Health Series FN No. 10. DHHS Pub. No. (ADM) 89-1589. Washington, DC: Government Printing Office, 1989.

MHSIP Ad Hoc Group. *The handbook of mental health data: A reference manual for anyone who wants to collect, find, report, understand or use mental health data*. Rockville, MD: Center for Mental Health Services, 1997.

MHSIP Task Force on Enhancing MHSIP to Meet the Needs of Children. *Enhancing MHSIP to meet the needs of children: Final report*. Rockville, MD: Center for Mental Health Services, 1992.

Minden SL, Davis S, Ganju V, Guidera S, Hale C, Hernandez M, Kaufman C, Mazade N, Noonan D, Rich T, Rosenthal M, Trabin T, Van Tosh L, & Webman D. *Requirements Analysis for Decision Support 2000+*, 2000. www.mhsip.org.

