TOWARDS A VIRTUAL CONSUMER-FOCUSED INTEGRATED SERVICE DELIVERY SYSTEM RECORD

PREPARED BY THE WORK GROUP FOR THE COMPUTERIZATION OF BEHAVIORAL HEALTH AND HUMAN SERVICES RECORDS

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For Discussion Only

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A DAY IN THE LIFE

Sue Hancock, a 29 year old woman, is in pain. Voices have reappeared in her head telling her that she is no good. It has been several years since the voices were this troubling. At that time, she lost her job because she was unable to concentrate. Without income to pay her rent she eventually became homeless and had been on and off the street for several years.

Now, after two months of contact, an outreach worker has gained her trust and Ms. Hancock presents herself at a publicly supported outpatient clinic. While Sue is waiting, she checks out the electronic consumer information kiosk located in the lobby of the clinic. By touch screen, she browses through a listing of the available social service resources in the area. When the outpatient clinic name appears on the screen, she decides to find out if it has any women on the staff that might be sensitive to her needs. She touches the clinic information icon, and then the personnel icon, and the names of three individuals appear. She then returns to the main menu, and looks for more information on the quality of services at the clinic. By touching the report card icon, she finds that this clinic is ranked second in the county. She is also able to determine the number of complaints and grievances filed at the clinic over the last year. While she is reviewing other items on the report card, her name is called. At the intake, Sue permits her card to be scanned and her name, address and or current living situation , phone or other means of contact, payer, etc. to be automatically entered. This saves many minutes which would have been otherwise spent on tedious paperwork, paperwork done innumerable times before on paper forms at many different locations. She sighs with relief at not having to retell or rewrite this basic information.

Sue then meets with an intake worker who, after a brief conversation, tells her she is entitled to a number of behavioral health services, including psychiatric crisis consultation. The worker also advises Ms. Hancock that her visit can be made faster and easier if she is willing to disclose additional information to the psychiatrist from secure electronic records accessible from her card. On the other hand, she is reassured that refusal to disclose this information will not prevent her from receiving services.

After the worker outlines the information categories for disclosure that would help in making the most efficient use of a brief referral appointment to one of the clinic's psychiatrists, Ms. Hancock agrees to let the intake worker bring up a security menu from her smart card. Sue privately selects to disclose her past psychiatric and medication history and sends it to the psychiatrist's PC. The worker then electronically schedules a mutually convenient appointment. While this information is being processed, Sue returns to the kiosk and checks whether this psychiatrist has had any malpractice suits brought against her. She also finds the results of a recent client satisfaction rating. She is reassured, but at this time decides not to reveal her substance use disorder. At a future visit when she trusts the physician, she toggles the security menu on the M.D.s PC to permit instantaneous access to these records as read-only for the session.

At the crisis clinic, she receives appropriate medication and soon begins to feel better. Her increased level of motivation enables her to request help for her substance abuse problem and she inquires about another facility that specializes in such treatment. The doctor brings up this dual diagnosis treatment center's Internet Home Page and uses his security clearance to access referral scheduling. The doctor is prompted by the scheduling program as to whether an anonymous identifier number should be generated. The doctor responds affirmatively and gives her this identifier along with a print-out of her appointment's scheduled time, a city map, bus schedule, and her route.

Before leaving the clinic, she asks the receptionist about housing programs. Sue authorizes the receptionist to send her eligibility information electronically to the proper agency which automatically screens it, then immediately replies to the receptionist who prints the housing office's referral process and directions for Ms. Hancock.

At the housing office, Sue is told that there are opportunities for immediate placement in a peer-run housing cooperative if she has a recorded psychiatric diagnosis at the clinic. She permits a 'Yes/No' inquiry about her psychiatric diagnosis to be made through a secure server on the Internet to her clinic's Home Page. Upon confirmation, an interview is electronically scheduled after brief e-mail with the Peer Coop Board representative to determine a meeting time and location, in this case the restaurant across from the shelter where Ms. Hancock has been staying.

This case example offers a glimpse into the computerization of the behavioral health and human services record from a "personal perspective," and illustrates how different stakeholders in the helping enterprise can benefit from safe, speedy and comprehensive electronic data interchange. It promotes the rapid provision of appropriate health care services while protecting the client's autonomy, privacy and informed choice as well as the caregiver's and the consumer's time. It also illustrates the interface of consumer-oriented organizational data with the possible clinical applications of an integrated, virtual, consumer-focused service delivery system record. Consumer choice expands to encompass both control of access to one's own record as well as the making of informed treatment and service decisions based on outcomes and satisfaction data. The information system brings the consumer into a proactive, shared decision-making relationship with service providers.

A young girl about 14 years old is sitting in a mall. She has run away from her adoptive home, is depressed, and has been considering suicide. She has been in residential treatment for longs stays previously as well as having been an inpatient. She notices a woman and her son, who looks to be about nine, using an information kiosk. If she were to use the kiosk after they were through she would have found that there are a whole range of services and information she could obtain.

The mother had been using the kiosk to get information on services for her son who has a history of abuse, has been diagnosed as ADHD, is on Ritalin, and recently has been setting fires. A single mother, she is seeking information on medication review and temporary placement for her son, counseling and a support group for herself, and information on how to deal with her son's special educational needs. Using the touch screen she finds a nearby outpatient clinic with staff familiar with ADHD and prints out the location on a city map and the bus schedule with its route.

At the clinic intake, she permits the card she had previously received from _____ to be scanned; her name, address and or current living situation, phone or other means of contact, payer, is automatically entered. The system then prompts for a personal identification number (PIN) or asks for a thumb print. After the security process is complete, the system grants her access based on her eligibility. She sighs with relief at not having to retell or rewrite this basic information. She then meets with an intake worker who explains she is entitled to a number of the services she is seeking for her son. The intake worker also explains that their visit can be made more productive if she is willing to disclose additional information to the psychiatrist from secure electronic records accessible from her card. She is assured that refusal to disclose this information will not prevent herself or her son from receiving services. She is also told that all information generated at the clinic remains there unless she consents to grant access to other programs or providers.

She is reassured, but at this time decides not to reveal her son's history of abuse or his present firesetting tendencies, or contact with the police. At a later visit when trust has been established she toggles the security menu on the clinic's PC to permit instantaneous access to other records about her son. She asks the receptionist about special education programs and authorizes the receptionist to send her son's eligibility information electronically to the school system which automatically screens it, then immediately replies to the receptionist who prints the school system's referral process. Before leaving she obtains information about support groups for parents of children with ADHD by using a PC with a touch screen in the waiting room. Later on, when she has her own Web tv or PC she keeps in two way email contact with the support group as well as the school and the clinic.

This example shows how shared decision making can make a stronger system, empowering consumers to make clinical decisions in partnership with providers based on information available to the community of users of an information system system. The operationalization of the consumer-focused philosophy is what distinguishes the Group from others. Partnership and shared decision-making is the real consumer perspective on this effort, balanced by the same for providers. The *Electronic Heartbeat Community (EHC)* can provide the rapid provision of appropriate health care services while protecting the clients autonomy, privacy and informed choice as well as the caregivers' and the consumers' time.

Technical Aspects. This kiosk is tied via a frame relay network using TCP/IP tied to the Internet. The kiosk queries a regional index server. Because of nature of the data, a firewall is protecting consumer data and other vital business software programs and data from the internet link. With each touch the system goes out to the network and gathers key indexes based upon her query. The key indexes are then rolled up into a process that goes to each server where the actual provider data is located and computes each request. In each request, the data are complied back to the kiosk system while the data continues to reside in the original database at the service provider location. Each query is matched against security access and encrypted as it moves across the network. The card is a data card and is capable of storing key indexes. The scanning of the card causes a security process to be executed. The data are then read off of the card into a file located locally.

When the PIN or biometric scan occurs, the system sends a encrypted security process to the network for authentication. The authentication process is then matched against the card key data and validation is sent back to the local system, again encrypted.

Providers access is matched in a matrix against the consumers data access grant before any further data query is allowed. This saves time that would have been otherwise spent on tedious paperwork which may have been completed before many times on paper forms at many different locations.

When a consumer desires to disclose past psychiatric or any other treatment history, their use of PIN and thumb print sends a request to the network index server. The network find the various locations of data using the indexes setup on each services transaction. Matching a matrix of consumer access grant and provider security rights, the network compiles the data and sends summary information to the provider's PC where the consumer is currently receiving services. The system then logs to the network a log of who requested the information, at what date and time and from what location. The worker then electronically schedules a mutually convenient appointment using the local scheduling product within the facility.

INTRODUCTION AND BACKGROUND

Although all of the technology referenced in this document exists today, the standards for data interchange do not. Our mission is to assist the consumer, provider, payer, and purchaser to formulate these standards and to provide momentum toward making the "Day in a Life" scenario above a reality.

Specifically, our mission is to create and promote equitable standards and guidelines that incorporate the following characteristics into a consumer-focused, virtual behavioral health and human services record:

- Ownership
- Privacy
- Confidentiality
- Quality
- Accessibility

Since 1992 we have distributed information on this topic by conducting presentations, leading dialogues, and publishing related studies.

We are currently working on a proof of concept project that will demonstrate the feasibility of these ideas and will identify operational issues which will need to be addressed prior to a pilot project. Additionally, we are working to develop a template for a common data set and related technologies that will best meet the needs of all stakeholders.

THE NEED FOR A STANDARDIZED CONSUMER-FOCUSED RECORD

A) Need

A primary barrier to an effective and efficient delivery of human services for children and families is the lack of a coordinated communication system that allows for the sharing of timely, accurate, and appropriate information among children and their families, service providers and public agencies. For instance, at least one in five American children and adolescents has a mental health, behavioral, or emotional problem that disrupts all aspects of a child's life. They and their families need a variety of services from providers, community mental health centers, schools, and social service organizations.

Our perspective on the need to establish standards for an integrated, virtual health, behavioral health, and human services record (an integrated "service delivery system" record) is informed by a belief in the explicit need for all fields to reorganize their record keeping activities. The reorganization of records should prioritize consumers' needs, rights and experiences in all documentation efforts. While adequate collection of provider and payer-focused information is indispensable, these latter should be seen as secondary in relation to the need for a consumer-focused approach to both service delivery and information system development.

Furthermore, our proposed system incorporates advances already attained by health care industry experts (like ANSI, AHIMA, ASTM, CPRI and HL-7 committees) who have worked diligently over the past seven years to develop standards for health care records. We aim to create companion standards for the health care record -- with stand-alone capacity -- that focus specifically on behavioral health and human services information.

We believe our consumer-focused approach and our exploration of virtual linkages for creating and developing the record are unique and should have a high degree of utility to the health, behavioral health and human services industries alike.

In addition to supporting and facilitating the transition to a consumer-focused approach to service delivery, the proposed standardized record-keeping system is also designed to address the following ten needs:

1. The need to radically improve consumer and family experiences in data collection and retrieval processes, especially in consumer-provider interactions.

2. The need to better protect the privacy of the consumer.

3. The need to improve clinical treatment by obtaining far more comprehensive information than has been traditionally collected.

4. The need to create a means of aggregating comparable data to inform the development of best practice guidelines (for integrated and segregated delivery

systems), and to further aggregate this information for the purposes of macrosystem-level planning and monitoring.

5. The need to promote public, private and consumer and family partnerships by overcoming language barriers and developing a common data dictionary.

6. The need to develop voluntary, standardized core data sets and definitions specific to the behavioral health and human services industry which facilitate the collection of comparable, measurable, and meaningful outcomes data. This information should also be useful for practitioners and planners of holistic health care services and serve as companion core data for an integrated, virtual, consumer-focused health care record.

7. The need to develop integrated service delivery environments and enhance electronic data exchange among participants in these systems by standardizing information collection and reporting processes between public agencies, private industry payers and providers, and consumers and families.

8. The need to develop new data standards to support new caregivers in integrated systems (including specialty providers, wrap-around services, peer support groups, and consumer support groups).

9. The need to use technological advances to increase the quality of the security features of automated consumer information systems and to build comfortable linkages between legacy systems and more advanced systems.

10. The need to promote vendor collaboration and stakeholder involvement in developing information and security systems to facilitate ease of consumer record and information integration.

Only our values can provide a yardstick against which to measure the success of our endeavors. The development of a virtual, consumer-focused record and the delineation of core data categories is intended to promote a record and a service delivery system that is attentive to the varying needs of individual consumers, families and communities and is accessible to them. Such a system will inherently be *prevention-oriented.* In addition to facilitating more informed professional treatment, the integrated, virtual, consumer-focused record should also include information on, and thus encourage, peer support.

B) The Solution

By implementing the proposed virtual child and family focused health and human services record system, key stakeholders, families, providers, and county health and human services divisions will be able to exchange information that will improve coordination of care. The system will treat the privacy and confidentiality rights of children and their families with the utmost respect and provide them the maximum level of technologically supported security. Key stakeholders, including children and their families, providers, payers and information system developers, will participate in the process of designing the parameters of the system.

The solution (cont.)

To activate the system, an electronic key similar to a credit card along with a biometrics scanner to read thumb prints will be used by all children and their parents (or legal guardians) enrolled in Heartbeat. Children capable of consenting, parents and legal guardians will use these keys to authorize providers' access to their encrypted confidential clinical and human services electronic records at other locations.

Key stakeholders will work to define a core data set to be shared by various types of providers. For example, when a child and family seeks service from a Heartbeat provider, types of information collected might be registration, intake, eligibility, clinician selection, clinical and other historical information. Using the same procedure, case managers can access information from other providers seen previously by the children and their families. The child and parent may limit access to as much or as little information as they feel is appropriate. Once consent is granted, the virtual system provides immediate access to those data. Consent is only granted for the current use of the information and does not become a permanent part of that provider's record unless the family explicitly consents to its permanent inclusion in the Heartbeat record.

Using the electronic keys, core data sets and web-based technologies, the proposed information system solution will allow diverse providers to share information without having to replace their existing information systems. The sharing of sensitive information will not be possible without informed consent, and only the data the child and family agree to share will be made available.

The creation of the core data sets will also ensure that all mandated reporting requirements are met. De-identified data can be easily aggregated and transferred to appropriate administrators in order to monitor and analyze the system of care and its responsiveness to the needs of children and families. Identified data using a unique identifier may be necessary for children in specific situations; however, the name of the child will not be stored.

Families receiving services will be trained on how to protect confidentiality and privacy of their records. Training will also be provided on how to use and access the proposed *Electronic Community*. Some families may be provided WebTV to maintain ongoing contact, through e-mail, with their case manager and other service providers such as teachers. Children and families will be able to determine eligibility for entitlement programs and electronically submit the appropriate application form. Consumer satisfaction survey and grievance forms may be completed on-line. Families will also be able to look up community resources to meet their needs and access employment and educational opportunities.

For families lacking home access to the *Electronic Community*, kiosks providing the same information will be conveniently located throughout the county. Six family resource centers will have a kiosk. They will use state-of-the art technology such as touch screens and multimedia with voice response in multiple languages.

Support for End Users

The current delivery of health and human services is often fragmented, redundant, and influenced too often by the communication limitations of providers. Children and families with needs that require a coordination of care among a range of agencies are particularly impacted by this inability of service providers and agencies to effectively communicate with each other and with families. If consumers are empowered with information, studies have shown that they use the human service system more intelligently and with better outcomes. Accordingly, these children and families will continue to be underserved and inefficiently served with higher system costs unless a coordination of information about care is created.

This innovative project creates consumer-controlled access to timely, accurate, child- and family-based information at multiple providers, and indeed multiple services and agencies at multiple locations while safeguarding privacy and confidentiality. The use of web-based technology including Web TV, public kiosks, an emergency data set and a combination of an electronic key and thumb print scanner is a new combination. This project will overcome the current barriers children and their families have in obtaining the information and services they need to help them realize their full potential, and the barriers providers face in providing a range of services. It also allows agencies and providers to participate fully without having to purchase expensive new equipment.

Children and families are the ultimate end users and will benefit from the technology. Technology will also improve their quality of care. Kiosks in family resource centers, web Tvs, and Pcs will get technology in their homes and training in their schools, on how to use them and the Internet. We fully expect to have families involved in the design and implementation. The **Day in the Life of a Child and Family** describes how the integrated communication system developed through the proposed project will be used. The scenario demonstrates in a vivid way how the integrated communication system works.

KEY CHARACTERISTICS OF THE PROPOSED VIRTUAL CONSUMER-FOCUSED RECORD

We all use health care record systems of one kind or another. You do, and so do those who regulate, manage, or deliver health or human services. Among the latter, some have been frustrated by the prevalence of inappropriate care, wasteful replication, inaccessibility, and inconsistency in service delivery. Others deplore the high costs of record keeping, inadequate record confidentiality, and the absence of effective measures of quality care.

The proposed virtual consumer-focused record will be an interactive tool designed to reflect the priority of consumer ownership and the need for real-time data linkages between providers, payers, MCO's, accreditors and regulators of health care and human service systems. It will be the product of a collaborative effort to serve the consumer most effectively and efficiently.

The proposed system centralizes the collection of encounter and clinical data. The encounter-tracking feature of the system when implemented will record psychiatric, substance use, counseling, medical, and social service contacts.

This system will provide an economical way to chart the history of an individual's involvement with systems of care and, further, will be flexible enough to accommodate negotiated and incremental disclosure of additional information should it be required. The record is intended to provide a profile of service interventions and -- when necessary and consumer-authorized -- to provide clinical information toward appropriate treatment decisions.

A virtual record will be created by linking many different, separately located records -- no one single physical record will exist in any one place. A common identifier will be incorporated into in each physical record which establish their link to the system.

The virtual record will provide immediate access to appropriate clinical information, when and where it is needed, by eliminating the need to rely upon the transportation of paper records. A virtual record would also consolidate the multiplicity of records now generated each time a consumer receives service from any of the various components of the health and human services delivery system. It will constitute a comprehensive document focused on protecting the confidentiality of a consumer's information while, at the same time, promoting the sharing of clinically necessary information among individuals from various systems.

An individual record will be created each time an individual or family seeks access to or is referred to any part of the service delivery system. Individual service providers, payers, clinical managers, the legal system and consumers may add information to the record each time the consumer accesses the service system. A consumer may access the record at any time in order to review and comment on, but not alter, the information contained therein.

Incorrect information entered into the record can be accessed and corrected. Corrected information will be treated as an amendment to the record and will not replace previous entries. An audit trail will exist that shows the date, time and source of the original entry and the date, time and source of the corrected entry. Consumers may enter comments into the record at any time regarding the accuracy of the information in the record.

Consumer information, in non-emergency situations, can only be accessed if a consumer has furnished the provider with his or her electronic "key" (this will, probably, be something like an ATM card and PIN combination). Access will not be granted unless the provider first obtains documented consent from the consumer which details the provider's need for the information concerned and guarantees its confidential storage and maintenance.

In the event of an emergency, such that the consumer is unable to provide their electronic "key," a provider may execute an override to gain access to all necessary information with which to manage the emergency. This kind of emergency access must be strictly recorded for audit, and must follow the principle "As much as necessary, and as little as possible."

The virtual consumer-focused record will incorporate technological and legal solutions for ensuring privacy and confidentiality. Again, users of the consumer-focused record will be prompted to follow the guiding principle, "use all the information necessary and as little as possible," to meet the needs of the consumer at that moment in time.

The proposed system incorporates several technologically supported safeguards and practice guidelines:

- The system will include a brief on-line users' training program. Users' completion of this training is marked by electronic signature in the program. Users are not able to log onto the system if they have not completed a standardized training program on privacy rights.
- Consumers and guardians control of access to all parts of the record with an "electronic key". Consumers would use an electronic "key" to release specific details of selected encounters to providers as they see fit. Provisions will be made for necessary information disclosure under emergency situations.
- The requirement of documented electronic signature consumer or guardian consent for all second party access to the system.
- The ability to separate core enrollment and encounter information from detailed clinical and human services information generated by those encounters.

- An audit tracking capacity that allows consumers and authorized guardians, providers, and payers to track the history of all entries in the record.
- The ability to use the electronic key to access consumer educational information, (including provider report card results, provider capability statements, and self help information, etc.)

It is recommended that users of the virtual record be held accountable to the following practice guidelines:

* Providers, payers and purchasers will be required to participate in live training on ethical practice and confidentiality in record keeping.
* Providers, payers and purchasers will be required to incorporate an employee assessment of privacy competency in all job performance review activities.
* Regulators, licensing bodies and administrators will be required to assess provider's privacy competency as a part of their standard credentialing activities.

CONCEPTUAL FRAMEWORK FOR THE DEVELOPMENT OF THE PROPOSEDVIRTUAL CONSUMER-FOCUSED RECORDING SYSTEM

The proposed record can help to save lives and promote wellness. The data in the record will be used to drive the development of quality care. Information in the record will be able to speak for the consumer in emergencies when he or she is unable to speak for him or herself. Furthermore, the virtual record will improve the quality of care by creating linkages that facilitate coordination of the array of health and human services required by any individual consumer and his/her family. In truly assisting clinicians and case managers, the virtual record will facilitate and increase the delivery of care appropriate to the consumer's specific history, and reduce the risk of redundancy and duplication of documentation and service delivery.

The Consumer-focused Virtual Record's emphasis is on:

- Enabling the consumer to have access to and understand their past clinical, social, educational, and cost history.
- The consumer's choice: he or she should be able to make his or her history or data available to a prospective provider or payer of care.
- Client and provider participation in securing the completeness and accuracy of the record system.

The development of the proposed consumer-focused record has been informed by Dr. Lawrence Weed's "Knowledge Coupling" approach to building "expert decision support" information systems. We share Dr. Weed's belief that knowledge of the individual's unique attributes, historical circumstances, and preferences are central to the collection, implementation, and assessment of the accuracy of an "expert system."

The proposed record is also intended to capture, integrate and correlate data generated by the fullest array of partners and service providers involved in integrated health, behavioral health, and human services delivery environments. For example, the record will capture core data from cost-effective wrap around and community-based services that will subsequently be used in coordination with other treatment information.

We have also developed proposals for the standardization of data collection with respect to under-served populations, such as children. The production and utilization of a child's records, unlike that of an adult, needs to involve family consent and to incorporate *family* information. Since families may access many services at once, the record will need to be flexible enough to allow a variety of agencies to share critical treatment and service management information. It should be noted that as many as five agencies may be involved in the case of a child with a serious emotional disturbance; e.g., child welfare, public health, education, juvenile justice, and mental health.

Although the proposed record focuses on individual clinical information, we will make recommendations about ways to integrate that information with administrative information, especially when administrative information effects access to clinical and social services. Therefore, we advocate that the financial management components of the record must capture and assess the many funding sources and entitlements that can be used to enhance the service plan for any individual or family. Also, our proposed virtual, consumer-focused record acknowledges the need for data elements that define *social* necessity criteria for service system access -- in addition to the more traditional *medical* necessity criteria -- in integrated services delivery environments.

In order to operationalize the concepts articulated here we will need to work with all key stakeholders to:

- create a unique consumer identifier.
- identify appropriate vehicles for linking consumer information.
- identify appropriate methods of tracking encounters.
- reach consensus on core data elements for each service setting and type of service.
- reach consensus on consumer oriented outcome measures and data collection points for those measures.

A PRELIMINARY GUIDE TO THE CONTENT AND STRUCTURE OF THE CONSUMER-FOCUSED RECORD

The scope of services encompassed by the behavioral health and human service industry is extremely broad. In turn, the content and structure of the *Record* varies widely depending upon the service setting involved in documenting of services. There are several factors which contribute to diversity of documentation procedures across settings. On the one hand, the cost or burden of record keeping, as well as concerns about privacy, support the limitation of record keeping to just those elements which are necessary to the assessment of specific needs and provision of specific services. Information irrelevant to the provision of services need not be recorded. On the other hand, there are multiple stakeholders involved in the behavioral health and human service enterprise, each having somewhat different informational requirements. These stakeholders include consumers, providers, provider organizations, case managers, payers, licensers and accreditors. Consequently, a compromise is reached such that each stakeholder's minimum data set, at the minimum, is collected. Typically, the volume of data recorded will bear some relationship to the nature, duration, and cost of a provided service.

In order to delineate the structure and establish the content of the proposed record system, the following hierarchical classification scheme has been used:

Level of Care/ Type of Service
Encounter/Service Setting
Service Unit
Encounter/Service type
Data Clusters
Data Elements

The present section describes the scope or 'universe' of encounters documented across the Behavioral Health and Human Service enterprise (the *Level of Care*, *Encounter/Service Setting*, and *Service Unit* level categories will be addressed in a later section outlining the behavioral health and human service system map). The term "*encounter*" refers to any consumer-provider interaction, such as a diagnostic assessment. (The list **of encounter types** is not yet complete. Further, no one provider or service setting would record all, or, in most cases, most of the types of encounter records **listed here**). *Data clusters* are logically related groups of data elements, for example, substance abuse history and rehabilitative treatment. *Data elements* are specific variables, such as diastolic blood pressure or county of residence.

In addition, we have appended a recent guide developed by Committee E3 1 of the American Society for Testing and Materials that addresses the structure and content of the computerized consumer record in emergency medical care. We believe that this represents a model document for the development of behavioral health and human services information standards at each of the identified service settings.

Although the proposed list of *Encounter/Service* document types is not complete, it is hoped that the outline of the content and structure of the *Record* in Appendix I provides a foundation sufficient to appreciate the varied workflows that exist in the field. In constructing the minimum data set for the *Record*, it is extremely important to consider data elements in the context of a full range of services within an integrated service delivery system.

THE VIRTUAL CONSUMER-FOCUSED RECORD'S ORGANIZATIONAL STRUCTURE AND MAPPING SYSTEM

In order to define core data elements across the system of care, it is first necessary to define and create data fields in which the data elements related to each of the separate fields are located. A schema of an integrated service delivery system is then based upon the consumer's first interactions with the record system. Our mapping approach employs a matrix which contains auspices of care (public or private), levels of care, and types of services. Within each service, specific programs are defined as settings; e.g., clinic. Similarly, within each service setting the service unit is defined; e.g., psychiatric service. Encounters are then further defined with respect to the associated data cluster (information pertinent to the service setting and service type) and specific data elements.

We have pilot tested and now propose to engage in the following process of defining data fields, data clusters and data elements:

- identify and define the levels of care and types of services provided in behavioral health and human services for adults and children.
- identify, define and map the service settings.
- identify and define the disciplines involved in providing the service.
- identify and define the encounter type and associated data cluster.
- identify and define specific data elements within each data cluster.

Throughout this process, both the common and unique data requirements for the *Record* at each intersection of a level of care, type of service, and the auspices of this care are included.

Given rapidly increasing advances in technology (e.g., the smart card), we have explored technologies that would enable consumers and users of this recording system to divide the record in many ways at different times and to reduce the labor and effort involved in reporting and recording redundant information by allowing consumers to give providers access to already recorded information from other providers. In other words, consumers may be able to transport with them certain components of the record, while other components would be available to any agency that may need to provide urgent or emergency treatment.

A) Technical Approach

The project will utilize existing technologies in new and novel ways to connect electronically the community of children and families, the providers of services to that community, and the payers and regulators of those services to one another in a virtual network, The *Electronic Community*, illustrated below in Figure 1, depicts the proposed communication system. The goal of this virtual network is to enhance care coordination and to promote communication between families, providers, government agencies and Heartbeat. *The Electronic Community* (EC) will be Internet-based and provide access points throughout the community for those unable to access the Internet from their homes. Families may access the EC web server from microcomputers or Web TVs located in their homes, from local schools, from kiosks located in convenient sites around the community in libraries, shopping malls and other public sites. The concept's key strengths are its inter-operability and scalability since it is uses existing technologies which are platform independent, can be replicated in other communities, and be scaled up very easily to add more families, agencies, and providers.

Through focus groups and other consensus-building means, core data sets will be agreed upon that cover the contents of the individualized case record. Components of the child and family case record such as the Treatment/Service Plan, Intake Assessment, Educational Assessment and the Psychosocial Assessment will have minimum data sets. Providers that have these components automated will place the minimum data sets on a secure Internet web server that will be accessed by other providers. Small providers may contract with another provider or other organization to host their minimum data sets and participate in the Provider Network. Large providers may manage their own secure web site. The Provider Network will utilize a firewall (a filter which creates a one way protected flow of data) to restrict access to the data housed on the web server. Other organizations such as the schools and the county may also maintain secure web servers to share data amongst themselves. In this way, the Electronic Heartbeat Network can be expanded to meet the changing needs of the community. This model is well suited for replication in other communities as it uses existing technologies that are very scaleable.

The EC will become the navigation tool for families and children who need or receive services and the providers of those services. Families and their children will be able to utilize electronic mail to communicate with each other, service providers, governmental agencies and community organizations. The EC will be a vehicle for sharing information on community resources, provider resources, and government resources. Families will be able to complete on-line eligibility checks for entitlements and submit an electronic application to the appropriate governmental agency. Free Internet functions such as NetMeeting will be used to convene focus groups of families and community organizations to get input from individuals who otherwise would be unable to participate due to transportation or other problems.

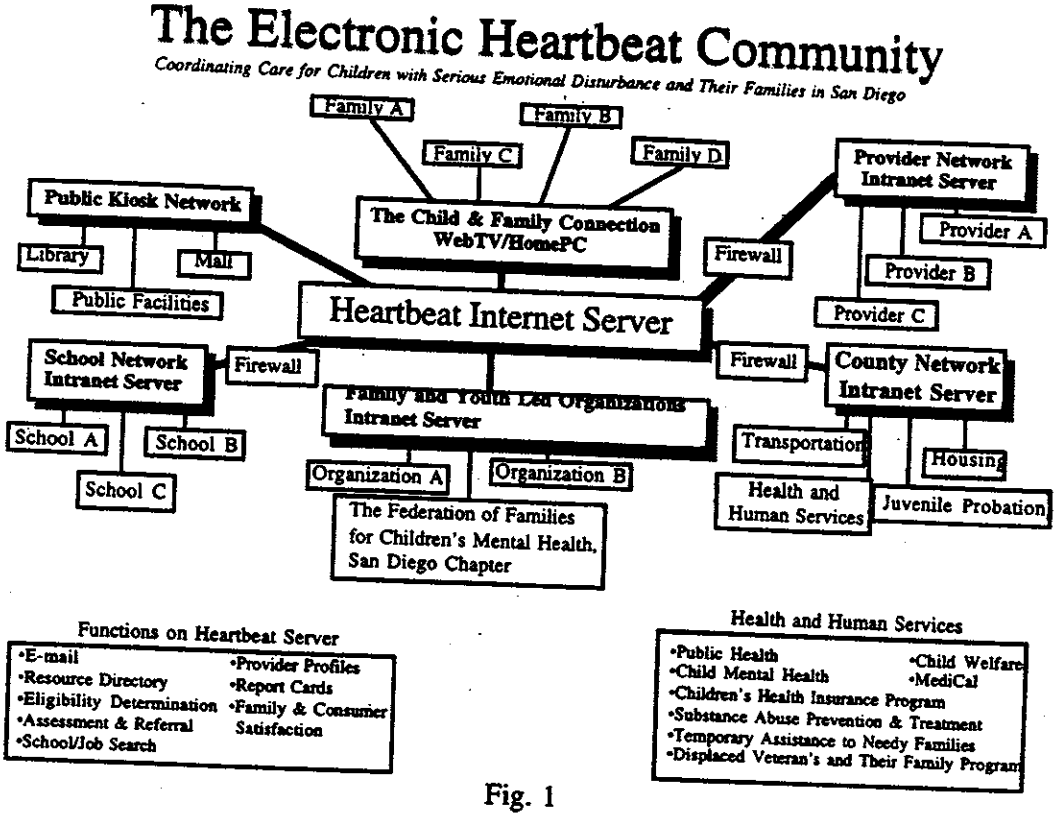

Fig. 1

The EC will become the navigation tool for families and children who need or receive services and the providers of those services. Families and their children will be able to utilize electronic mail to communicate with each other, service providers, governmental agencies and community organizations. The EC will be a vehicle for sharing information on community resources, provider resources, and government resources. Families will be able to complete on-line eligibility checks for entitlements and submit an electronic application to the appropriate governmental agency. Free Internet functions such as NetMeeting will be used to convene focus groups of families and community organizations to get input from individuals who otherwise would be unable to participate due to transportation or other problems.

The EC server will allow families and their children to review provider hours of operation, language and culture availability, and programs and services provided. Links to other on-line resources will be provided. With this information, youth and families can make informed choices. The EC server will also contain a secure area to be used by providers and Heartbeat administrators for coordination of care activities. Providers may use this area to share clinical information between themselves, with the county agencies and with Heartbeat. The administrative services organization will use the secure web site to transmit and receive data on providers' credentials, performance and outcomes, and encounter and claims data.

THE ENCOUNTER-BASED INDEXING SYSTEM

The Work Group has always advocated for the most stringent privacy protection technology available. One of the issues which has emerged from the partnership is the need to balance information sharing with privacy and confidentiality. A confidentiality subcommittee of the Staffing Group spent three months reviewing existing law and protocols within each department, including the needs of the juvenile court system. As a result of this investigation, the subcommittee submitted legislation which is now making its way through the state legislature. This legislation, with further refinement of all partners, represents a template which will greatly enhance the success of the Heartbeat Electronic Community (see attached copy of legislation).

The proposed model will assure that children, youth and their families will have unprecedented control over access to their records at any moment in time for any case decision that needs to be made. State of the art identifiers the consumers thumbprint and PIN will also secure information. An added feature throughout the potential information linkages, firewalls (one-way filters to control access) have been incorporated.

The dual requirement of full access to information, on the one hand, and consumer confidentiality, on the other, poses an apparent conflict of demands. The need to guarantee the consumer's right to choose when to notify a provider of his or her past treatment, necessitates the creation of a *complete, chronological index record* of the consumer's past interaction with the system and providers.

The index will enable the consumer to summarily review their previous interaction with delivery systems. A unique consumer identifier will permit access to a given index. Since the purpose of the index is only to provide a chronological summary of consumer interaction, the indexed information will by strictly limited to the following: *date of interaction, service entity or facility, provider.* The servicing entity's information system, on the other hand, will capture and offer access to more detailed information.

PROOF OF CONCEPT AND PILOT PROGRAMS

In order to appropriately demonstrate both the operational capabilities of and the challenges to implementing the proposed virtual record, the Work Group proposes the following:

1. That a proof of concept project be initiated by the Work Group to illustrate the viability of implementing the virtual, consumer-focused integrated service delivery system at service delivery sites.

   The following activities and deliverables must be accomplished either before or during the proof of concept project:

   - Identification of which of the specific entity components of the service delivery system; i.e., Housing, Welfare, Criminal Justice, etc. will be incorporated into the virtual record
   - Identification of the data elements that are associated with the consumer record and normally captured and recorded in the servicing provider's manual and/or automated systems.
   - Identification of the consumer record data elements that are standard across all service entities within the organization delivery system.
   - Identification of the consumer record data elements that are unique to a particular entity and service within the organization delivery system.

2. Upon acceptance of the proof of concept project, a pilot program will be initiated by the Work Group that will use actual data from behavioral health and human services agencies. The data will be stripped of strictly personal data (and thereby be rendered anonymous) and the number of chosen sites will be representative of the entire organizational delivery system.

The purpose of the pilot project is to establish the level of security required in order to guarantee confidentiality and to insure the feasibility of access to and audit of **inquires of** the *Record*. A secondary objective of the pilot is to investigate the technical architecture required for the consumer and service provider to capture and access data. The pilot project will also include the complete identification of the data elements within the *Record* at each site together with the data mapping and data definition necessary to solidify the electronic consumer record.

Once a prototype is built, automatic transfer of the stakeholder-derived system parameters of core data sets to other locations would not occur. Instead several pilots in systems of care would be run to see if the core data sets are consistently recommended and interpreted in the same way. Although this may or may not lead to a valid and reliable record keeping method, it will at least test a child- and family-driven process to design an information system infrastructure.

Evaluation of the Project

The evaluation is conceptualized in two parts: a system-level evaluation focusing on relationships among organizations, and a client-level evaluation focusing on the impact that the network has on the target population, children and families. Hypotheses to be tested are as follows:

1. Children and their families will become involved in the design, implementation, and evaluation of their system of care through the *Electronic Community*, which uses the virtual child- and family-focused behavioral health and human services record.

2. Family members, health and human service workers, and provider agency staff will increase their computer usage while helping children and families he *Electronic Community*.

3. Children and their families will access appropriate resource and referral information through the *Electronic Community*.

4. Through the *Electronic Community* technology, the various providers, schools, and agencies will have the capability to:
a. Track outcomes for children with families receiving services,
b. Collect cost data necessary to develop a blended funding case rate for bundled services for children and families, and
c. Gather data for mandated reporting requirements.

5. With the consent of the child/family, providers and payers will share information from multiple sources by using a virtual behavioral health and human services record which protects privacy and confidentiality.

6. Children, families, providers, and project staff will increase satisfaction with communication linkages to schools, mental health centers, and other service agencies by using the *Electronic Community*. The methodology for a comprehensive evaluation is given in the appendix.

CONCLUSION

The Work Group recommends that further development and refinement of this draft document support the following:

Thoughtful and inclusive processes - with all input being treated as highly valuable and respectfully considered for inclusion in the document.

Extensive review by all stakeholder groups in the public and private sectors.

Beginning directions in this effort will include:

Solicitation by The Work Group in their website, Newsletter, and facilitated dialogues.

Presentation of all versions of the proposed record at public meetings and national conferences.

Direct mail of revisions of the document by CMHS to relevant stakeholders.

Convene a series of two-day meetings to categorize and reach internal consensus for suggested changes/additions received from stakeholders as well as the development of criteria for inclusion of new data elements.

Convene a meeting(s) under the auspices of CMHS to meet with the various stakeholders to begin the process of external industry consensus building with regard to data elements for different types and levels of care.

APPENDIX I
INDEX TO
THE CONSUMER-FOCUSED VIRTUAL BEHAVIORAL HEALTH AND HUMAN SERVICES RECORD

SCHEMA

I. Service System

Housing	Behavioral Health	Health Care
Criminal Justice	Social Services	Educational

A. Service type - Residential and Non-Residential

1. Service Setting

Non-Residential (Non 24 Hours Care)

Leave in Programs
Clinic Programs
Assessment Programs
Developmentally Disabled/Mental Retardation Programs
Dually Diagnosed Programs
Educational Programs
Early Intervention Programs
Employee Assistance Programs
Foster Care Programs
Health Care-related Programs
Home-based Programs
Outreach Programs
Partial/Day Programs
Prevention Programs
Programs for non heterosexual populations

a. Service Units

Alcohol/Substance Abuse Service
Peer Counseling/ Support Service
Creative Arts Service
Psychiatry Service
Education Service
Psychology Services
Medical/Health Service
Pastoral/Spiritual Counseling Service
Nursing Service
Rehabilitation Service
Occupational Therapy Service
Social Work Service
Therapeutic Recreation Service

II. Encounter Type/Unit of Service/Interaction

1 Data Cluster

a Data Element

	Auspices		
Service System	Public	Private	Consumer Run
Housing			
Behavioral Health			
Criminal Justice			
Health Care			
Social Services			
Educational			

SERVICE SETTING

AMBULATORY

Adult Clinic (Mental Health, Forensic)
Children & Youth Clinic (Forensic)
Day Program (Adult, Children & Youth - Day Care, Day School)
Partial Hospital (Adult, Children & Youth)
Assessment Programs (Educational, Sex Offender, Vocational)
Home Based (Family Support, Medication Administration, Day Care, Respite)
Outreach (Homeless)
Early Intervention
Employee Assistance
Health Services (School Based, Pregnancy)
School Based Services (Health, Mental Health)
Addictive and Chemical Dependency Services
Developmentally Disabled
MICA and MHMR Services
Eating Disorders
Sexual Disorders
Adoption and Foster Care Services
Specialized Education Services (Afterschool Programs, Teen Drop-in Centers)
Methadone Maintenance
Assertive Community Treatment Program

INPATIENT

Acute Care
- Secure (locked) Care Services
- Open (unlocked) Care Services
- Forensic Services

Intermediate Care
- Secure (locked) Care Services
- Open (unlocked) Care Services
- Forensic Services

Long term Care
- Secure Locked) Care Services
- Open (unlocked) Care Services
- Forensic Services

Nursing Homes (Skilled, Extended Care)
Substance Abuse Detox

RESIDENTIAL

Correctional (Detention Center, Local/County Jail, Prison, Halfway House)
Group Home (Therapeutic, Adult)
Halfway house
Supported Apartment Services (Supervised, Rent Stipend)
Transitional Services
Foster Care (Intensive, Non-intensive, Mentor)
Shelters (Homeless, Battered Women, Children & Youth)
Therapeutic Camp
Family Care (Therapeutic Foster Care, Adult)
Respite Care
Adult Congregate Living Facility Not for Profit, For Profit)
Boarding Home (YMCA, YWCA)
Boarding School
Substance Abuse Detox (Social Setting)
Job Corps

EMERGENCY

Hot Line (Crisis, Abuse/Neglect)
Crisis Intervention
Mobile Outreach
Observation/Holding Beds
Crisis Stabilization
Protection Services (Child Abuse/Child Neglect, Elderly)

SELF HELP

AA (Alcoholics Anonymous)
NA (Narcotics Anonymous)
Al Anon
Ala-Teen
ADHD Support Groups (Attention Deficit Hyperactivity Disorder)

D/MDA (Bipolar Support Groups)
AMI/AMI Chapters (Alliance for the Mentally Ill)
OA (Overeaters Anonymous)
ACOA (Adult Children of Alcoholics)
Disease/Health Related Mutual Support Groups
Hotline
On Our Own
Share
Recovery, Inc.

SUPPORT SERVICES

Family/Extended Family (Kinship Care, Foster/Adoptive Parent/Grandparent Training and Support Groups)
Big Brother/Big Sister
Drop-in Centers (Family Support, Peer run)
Parent Education Programs
Boy/Girl Clubs
Boy/Girl Scouts
Food Banks/Meals on Wheels
Transportation (Public, Taxi, Ambulance/Ambulette)
Pastoral Counseling/Spiritually-oriented Services
Case Management (Intensive, Supportive, Generic, Children/Youth Blended Funding, Peer Run)
Judicial Advocates/Legal Aid Services
Probation Services (Adult, Youth)
Income Support (AFDC, HR, SSI/SSDI, Food Stamps)
Vocational Rehabilitation
Sheltered Workshops
Assisted Employment
Vocational Educational Services for Individuals with Disabilities (VESID)
Prevention Services (AIDS/STD, Violence, Stress, Smoking)
Consultation & Education (Drama Workshops, Community Education, Teen Pregnancy Prevention, Planned Parenthood, Nutritional Planning, etc.)
Club House
Socialization Centers
Independent Living Centers
Personal Assistance Programs

A Preliminary Guide to the Content and Structure of the Consumer-focused Behavioral Health and Human Service Record

The scope of services encompassed by the behavioral health and human service industry is extremely broad. In turn, the content and structure of the *Record* varies widely depending upon the service setting involved in documenting of services. There are several factors which contribute to diversity of documentation procedures across settings. On the one hand, the cost or burden of record keeping, as well as concerns about privacy, support the limitation of record keeping to just those elements which are necessary to the assessment of specific needs and provision of specific services. Information irrelevant to the provision of services need not be recorded. On the other hand, there are multiple stakeholders involved in the behavioral health and human service enterprise, each having somewhat different informational requirements. These stakeholders include consumers, providers, provider organizations, case managers, payers, licensers and accreditors. Consequently, a compromise is reached such that each stakeholder's minimum data set, at the minimum, is collected. Typically, the volume of data recorded will bear some relationship to the nature, duration, and cost of a provided service.

In order to delineate the structure and establish the content of the proposed record system, the following hierarchical classification scheme has been used:

Level of Care/ Type of Service
Encounter/Service Setting
Service Unit
Encounter/Service type
Data Clusters
Data Elements

The present section describes the scope or 'universe' of encounters documented across the Behavioral Health and Human Service enterprise (the *Level of Care*, *Encounter/Service Setting*, and *Service Unit* level categories will be addressed in a later section outlining the behavioral health and human service system map). The term "*encounter*" refers to any consumer-provider interaction, such as a diagnostic assessment. (The list **of encounter types** is not yet complete. Further, no one provider or service setting would record all, or, in most cases, most of the types of encounter records **listed here**). *Data clusters* are logically related groups of data elements, for example, substance abuse history and rehabilitative treatment. *Data elements* are specific variables, such as diastolic blood pressure or county of residence.

In addition, we have appended a recent guide developed by Committee E3 1 of the American Society for Testing and Materials that addresses the structure and content of the computerized consumer record in emergency medical care. We believe that this represents a model document for the development of behavioral health and human services information standards at each of the identified service settings.

Although the proposed list of *Encounter/Service* document types is not complete, it is hoped that the outline of the content and structure of the *Record* in Appendix I provides a foundation sufficient to appreciate the varied workflows that exist in the field. In constructing the minimum data set for the *Record*, it is extremely important to consider data elements in the context of a full range of services within an integrated service delivery system.

Encounter/Service Document Types

- Inquiry/Referral
  - Demographic, Identifying, and Vital Information
  - Clinical History and Status Screens
    - Abuse History
    - Activities of Daily Living Skills
    - Behavioral Problems
    - Diagnosis
    - Developmental History
    - Educational History
    - Employment
    - Family History
    - Foster Care/Adoption
    - Health Habits
    - Health Status
    - Home Address History
    - Justice History
    - Marital/Intimacy History
    - Mental Health, Substance Abuse, Developmental Disability Treatment
    - Medical Problems
    - Medical Treatment History
    - Out of Home Placement History
    - Runaway History
    - Substance Abuse Screens
    - Violence History
  - Current Location
  - Significants
  - Professionals

- Benefits/Entitlements/Eligibility
  - Enrollment
  - Eligibility Verification
  - Authorizations
  - Utilization Reporting
  - Claims Submission
- Intake/Enrollment/Registration/Admission
  - Application for Enrollment
  - Psychiatrist's Admitting Note
  - Diagnosis
  - Nursing Admission Note
  - Service/Program/Unit of Service/Bed Assignments

- Administrative
  - Advance Directives
  - Attendance Records
  - Court Orders
  - Educational Course Assignments
  - Guardian/Consumer/Client Releases
  - Living Will

Informed Consents and Assurances
Medical Passport
Member Task Assignments
Service Scheduling

Assessments & Exams
Activities of Daily Living Assessment
Alcohol /Drug Assessment
Art Therapy Assessment
Correctional Services Assessment
Court Assessment
Consumer Needs ant Preferences Assessment
Cultural Assessment
Dance Therapy Assessment
Disability Assessment
Eating Disorder Assessment
Educational Assessment
Empowerment Assessment
Health Status Assessment
History and Physical Examination
Homemaking Assessment
Housing Assessment
Legal Assessment
Mental Examination
Mental Status Examination
Music Therapy Assessment
Nursing Assessment
Nutritional Assessment
Occupational Therapy Assessment
Parole Assessment
Pre-Admission Assessment
Probation Assessment
Psychiatric Assessment
Psychological Assessment
Psychosocial Assessment
Quality of Life Assessment
Rehabilitation Readiness Assessment
Risk Assessment
Self-Help/Peer Support Assessment
Sex Offender Assessment
Social Connections Assessment
Social History
Speech/Language/Hearing
Special Needs Assessment
Spiritual Assessment
Transportation Needs Assessment
Vaccination History
Vocational/Employment Assessment

Clinical Orders
Admission Order

Aggression Control Orders
Communication Order
Consult Order
Diagnostic Test Orders
Diet Orders
Discharge Order
Lab Order
Medical Treatment Order
Nutrition Orders
Physical Activity Order
Physical Monitoring Order
Service Transfer Order
Special Precaution Order
Special Procedure Order
Therapeutic Leave Order

Medication Management

Abnormal Involuntary Movements Scale
Medication Compliance Note
Medication Administration Record
Medication Group Notes
Medication Order
Medication Review/Monitoring
Medication Planning
Prescription Order
Prescription dispensing notes
PRN Administration Notes
Rapid Neuroleptization Note
Side Effect Notes

Medical/Nursing Services

Allergies Record
Antibiotic Evaluation Notes
Chronic Medical Conditions
Bathing and Hygiene Notes
Complaint of Illness or Injury
Dental Care Notes
Detoxification/Withdrawal Notes
Diagnostic Test Report
Diagnostic Test Interpretations
Electro-Convulsive Treatment Notes
Immunization Records
Lab Reports
Medical Emergency Notes
Medical Treatment Note
Nursing Care Note
Nutritional Care Notes
Pain Management Notes
Patient Infection Notes
Routine Monitoring Graphics

Treatment/Service Plans/Critical Pathways/Outcomes Management
- Interdisciplinary Assessment Summary
- Barriers and Limitations to Treatment/Service
- Functional Strengths and Limitations
- Diagnosis
- Problems/Manifestations
- Long Term Objectives/Outcomes Sought
- Modalities of Treatment/Service Planned
- Interventions Planned
- Measurable Objectives
- Re-Assessments
- Interval Progress Summaries
- Medical/Social Justification of Continuing Care/Service
- Case Reviews
- Report Cards

- Progress Notes
- Admission ant Orientation Notes
- Assertive Community Treatment Team Notes
- Behavior Intervention Notes
- Case Management Notes
- Custodial Care Notes
- Day Care Notes
- Detoxification Progress Notes
- Employability Notes
- Day Treatment Notes
- Education Progress Notes
- Family Contact Notes
- Independent Living Notes
- In-Home Service Notes
- Medical Progress Notes
- Milieu Notes
- Monitoring Notes
  - Activity Restriction Monitoring
  - Nursing Home Monitoring
  - Professional Treatment Monitoring
- Prevention Services Notes
- Psychiatrists Progress Notes
- Respite Care Notes
- Shift Notes
- Vocational Progress Note

Therapy/Counseling/Activity Notes
- Group Therapy/Help Notes
  - Alcoholics Anonymous Group Notes
  - Adventure Therapy Group Notes
  - Anger Control Group Notes
  - Art Therapy Group Notes
  - Chemical Abuse Prevention Group Notes
  - Chemical Dependency Group Notes

- Co-Dependency Group Notes
- Creative Arts Therapy Notes
- Cultural Identity Group Notes
- Dance Therapy Notes
- Developmental Group Therapy Notes
- Discharge Planning Group Notes
- Eating Disorder Group Notes
- Expressive Group Therapy Notes
- Activity Group Note
- Multi-Family Group Therapy Notes
- Music Therapy Notes
- Narcotics Anonymous Group Notes
- Occupational Group Notes
- Parent Relations Group Notes
- Pastoral Group Therapy Notes
- Play Therapy Group Notes
- Primary Prevention Group Notes
- Psychoeducation Group Notes
- Recreational Therapy Group Notes
- Separation/Loss Group Notes
- Speech/Language Group Notes
- Support Group Notes
- Therapeutic Outing Notes
- Trauma Group Notes
  - Abuse Survivor Group Notes

Individual Therapy Notes
- Art Therapy Notes
- Music Therapy Notes
- Play Therapy Notes
- Pastoral Therapy Notes

Family Therapy Notes
- Conjoint Therapy Notes
- Telephone Counseling Notes

Education
- Social Training
- Skills Training
- Health Teaching Notes
- Medication Education Notes

Vocational
- Employability Notes
- Transitional Employment Note
- Job Placement
- Work Activities

Critical Events
- Aggression Control Notes
- Allergic Reaction Notes
- Communication Restriction Review Notes
- Contraband Notes
- Consumer/Client/Patient Complaint Notes
- Fall Reports
- Patient Illness or Injury Notes

- Report of Abuse or Neglect Notes
- Report of Code Called
- Restraint and Seclusion Records
- Report of Self-Harm
- Suicidal Behavior Notes
- Treatment Refusal Notes
- Unplanned Leave/AWOL Notes

Reports of Consultation
- Dental Consultation
- Educational Consultation
- Expressive Therapy Consultation
- Medical Consultation
- Neurological Consultation
- Neuropsychological Consultation
- Nutritional Consultation
- Pastoral Consultation
- Physical Therapy Consultation
- Psychiatric Consultation
- Psychological Consultation
- Speech & Audiology Consultation
- Vision Consultation

Discharge/Termination and Aftercare
- Service/Modality Discharge Summaries
  - Art Therapy
  - Clinical
  - Counseling
  - Educational
  - Expressive Therapy
  - Milieu
  - Music Therapy
  - Nursing
  - Psychiatric
  - Vocational
- Post Service/Discharge Contact Notes

- Consumer/Client/Patient Documentation
  - Diary
  - Pre-Service/Treatment Assessments
    - Eating Disorder Assessment
  - Satisfaction Survey

APPENDIX II
OUT-TAKES FROM THE CONSUMER-FOCUSED BEHAVIORAL HEALTH AND HUMAN SERVICES RECORD

	AUSPICES	
LEVEL of CARE	**PUBLIC**	**PRIVATE**
AMBULATORY	FREE STANDING - for profit, not for profit GENERAL HOSPITALS - for profit, not for profit PSYCHIATRIC HOSPITALS - for profit, not for profit GOVERNMENT (state, country, local) MSO (HMO, MCO, PPO, etc.) CMHC	INDIVIDUAL PRACTICE GROUP PRACTICE GENERAL HOSPITAL - for profit, not for profit PSYCHIATRIC HOSPITAL - for profit, not for profit MSO (HMO, MCO, PPO, etc.) CMHC
INPATIENT	FREE STANDING - for profit, not for profit GENERAL HOSPITALS - for profit, not for profit PSYCHIATRIC HOSPITALS - for profit, not for profit GOVERNMENT (state, country, local) CMHC SNIFs	GENERAL HOSPITAL - for profit, not for profit PSYCHIATRIC HOSPITAL - for profit, not for profit MSO (HMO, MCO, PPO, etc.) CMHC, SNIFs
RESIDENTIAL	FREE STANDING - for profit, not for profit GENERAL HOSPITALS - for profit, not for profit PSYCHIATRIC HOSPITALS - for profit, not for profit GOVERNMENT (state, country, local) CMHC	PSYCHIATRIC HOSPITALS - for profit, not for profit SHMO (Calif.) FREE STANDING RTC FREE STANDING - for profit, not for profit

EMERGENCY	FREE STANDING - for profit, not for profit GENERAL HOSPITALS - for profit, not for profit PSYCHIATRIC HOSPITALS - for profit, not for profit GOVERNMENT (state, country, local) MSO (HMO, MCO, PPO, etc.) CMHC	GENERAL HOSPITALS - for profit, not for profit PSYCHIATRIC HOSPITALS - for profit, not for profit CMHC
SELF HELP	FREE STANDING - for profit, not for profit GENERAL HOSPITALS - for profit, not for profit PSYCHIATRIC HOSPITALS - for profit, not for profit GOVERNMENT (state, country, local) MSO (HMO, MCO, PPO, etc.) CMHC UNSPECIFIED	PSYCHIATRIC HOSPITALS - for profit, not for profit GENERAL HOSPITALS - for profit, not for profit
SUPPORT SERVICES	FREE STANDING - for profit, not for profit GENERAL HOSPITALS - for profit, not for profit PSYCHIATRIC HOSPITALS - for profit, not for profit GOVERNMENT (state, country, local) MSO (HMO, MCO, PPO, etc.) CMHC	SHMO (Calif.) MSO PSYCHIATRIC HOSPITALS - for profit, not for profit GENERAL HOSPITALS - for profit, not for profit MSO GROUP PRACTICE

APPENDIX III
STANDARD GUIDE FOR VIEW OF EMERGENCY MEDICAL CARE IN THE COMPUTERIZED PATIENT RECORD

Designation: E 1744 – 95

Standard Guide for View of Emergency Medical Care in the Computerized Patient Record[1]

This standard is issued under the fixed designation E 1744; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide covers the identification of the information that is necessary to document emergency medical care in a computerized patient record that is part of a paperless patient record system. The intent of a paperless patient record system will be to improve efficiency and cost-effectiveness.

1.2 This guide is a view of the data elements to document the types of emergency medical information that would be valuable if available in the computerized patient record.

1.2.1 The patient's summary record and derived data sets will be described separately from this guide.

1.2.2 As a view of the computerized patient record, the information presented will conform to the structure defined in other ASTM standards for the computerized patient record.

1.3 This guide is intended to amplify Guides E 1239, E 1384, and F 1629 and the formalisms described in Practice E 1715.

1.3.1 This guide details the use of data elements already established in these standards for use during documentation of emergency care in the field or in a treatment facility and places them in the context of the object models for health care that will be the vehicle for communication standards for health care data.

1.3.1.1 The codes for the data elements referred to in this guide will be developed in consideration of national or professional guidelines whenever available. The EMS definitions are based on those generated from the national consensus conference sponsored by NHTSA and from ASTM F30.03.03 on EMS Management Information Systems. The Emergency Department (ED) definitions will consider those recommended by the CDC workshop on ED definitions scheduled for January 1996. The hospital discharge definitions will be developed in consideration of existing requirements for Medicare and Medicaid payment.

1.3.1.2 The ASTM process allows for the definitions to be updated as the national consensus changes. When national or professional definitions do not exist, or whenever there is a conflict in the definitions, the committee will recommend a process for resolving the conflict or present the various definitions within the document along with an explanation for the purpose of each definition.

1.3.2 This guide reinforces the concepts set forth in Guides E 1239 and E 1384 that documentation of care in all settings shall be seamless and be conducted under a common set of precepts using a common logical record structure and common terminology.

1.4 The computerized patient record focuses on the patient.

1.4.1 In particular, the computerized patient record sets out to ensure that the data document includes:

1.4.1.1 The occurrence of the emergency,

1.4.1.2 The symptoms requiring emergency medical treatment,

1.4.1.3 The medical/mental assessment/diagnoses established,

1.4.1.4 The treatment rendered, and

1.4.1.5 The outcome and disposition of the patient after emergency treatment.

1.4.2 The computerized patient record consists of subsets of the data computerized by multiple care providers at the time of onset/scene and enroute, in the emergency department, and in the hospital or other emergency health care settings.

1.4.3 The computerized patient record focuses on the documentation of information that is necessary to support patient care but does not define appropriate care.

2. Referenced Documents

2.1 *ASTM Standards:*

E 1239 Guide for Description of Reservation/Registration—Admission, Discharge, Transfer (R-ADT) Systems for Automated Patient Care Information Systems[2]

E 1384 Guide for Description of Content and Structure of an Automated Primary Record of Care[2]

E 1715 Practice for an Object-Oriented Model for Registration, Admitting, Discharge and Transfer (RADT) Functions in Computer Based Patient Record Systems[2]

F 1177 Terminology Relating to Emergency Medical Services[3]

F 1288 Guide for Planning for and Response to a Multiple Casualty Incident[3]

F 1629 Guide for Establishing and/or Operating Emergency Medical Services Management Information Systems[3]

2.2 *ANSI Standard:*

[1] This guide is under the jurisdiction of ASTM Committee E-31 on Computerized Systems and is the direct responsibility of Subcommittee E31.12 on Computer Based Patient Records.

Current edition approved Oct. 10, 1995. Published December 1995.

[2] *Annual Book of ASTM Standards*, Vol 14.01.

[3] *Annual Book of ASTM Standards*, Vol 13.01.

X3.172 American National Dictionary for Information Systems 1990[4]

2.3 *Institute of Electrical Electronic Engineers Standards*

610.2 Standard Glossary of Computer Applications Terminology[5]

610.5 Standard Glossary of Data Management Terminology[5]

729 Standard Glossary of Software Engineering Terminology[5]

3. Terminology

3.1 *Descriptions of Terms Specific to This Standard:*

3.1.1 *emergency condition*—change(s) in the patient's health status perceived to require immediate medical attention to prevent unnecessary death or disability.

3.1.2 *emergency department (ED) data set*—that set of data elements collected in the emergency outpatient treatment facility prior to admission as an inpatient.

3.1.3 *emergency encounter*—a single event of health care for an emergency, such as care at the scene, or at the emergency outpatient setting. It concludes when the patient proceeds to the next phase of care for the emergency.

3.1.4 *emergency episode*—a series of encounters relating to an emergency condition that may lead either to death, full recovery, or a clinical steady state.

3.1.5 *emergency episode documentation*—those recorded observations that describe the care rendered during the period of an emergency episode, whether brief or extended.

3.1.6 *other emergency outpatient facility*—emergency facility that is not a licensed emergency department connected to an acute care hospital but which provides emergency stabilization and treatment upon demand. Such facilities may include clinic/health centers, freestanding ambulatory surgery center, physician's office, etc.

3.1.7 *pre-hospital EMS data set*—that set of data elements collected at onset and enroute prior to arrival at the first treatment facility.

4. Significance and Use

4.1 The Emergency Medical Service System (EMSS) in the United States has largely arisen since 1945 and has drawn to a great degree from the experience gained in military conflicts during and since World War II. The documentation of care, however, has remained largely paper record based until very recently.

4.1.1 Beginning in the 1970s both civilian and military agencies have closely examined electronic means of storing and managing patient data about emergency medical care.

4.1.2 The report of the Institute of Medicine on the Computer-Based Patient Record has emphasized the use of information technology in patient care in general and emergency care data in particular.

4.1.3 During this period ASTM has documented the logical structure of the computer-based patient record in Guides E 1239 and E 1384, while Guide F 1629 has defined the patient care data, to be gathered in the pre-hospital record, and the outcome data, relative to the pre-hospital phase of the emergency, which are collected in the emergency department and after inpatient admission.

4.1.3.1 Specifications for the logic model are also presented in Practice E 1715.

4.2 This guide shows how the data gathered for EMS operations and management merge smoothly into the computerized patient record, consistent with the recognition that these data are part of the primary record of care. Several states[6] have formalized that recognition in state law.

4.2.1 This guide does not instruct physicians how to collect data for patient care.

4.2.2 This guide does not indicate what information needs to be collected at the time of patient care.

4.3 The task now is to document, using standard conventions, the means by which this integration occurs in order to set the stage for the capture and transfer of such emergency care data using information technology and telecommunications in a standardized way consistent with all other settings of care while protecting the privacy and confidentiality of that data.

4.3.1 The computerized patient record has the potential to reduce health care costs by optimizing case management and supporting effective post ED follow-up.

4.3.2 Systemizing the data also enhances its ability to be used consistently, with proper protection, for research into and for management of EMSS operations within the various jurisdictional boundaries.

4.4 The computer based form of the emergency episode documentation utilizes the same logical data model as the computerized patient record, but it focuses on data collected during the different phases of the emergency.

4.4.1 These data sets do not limit what may be recorded, or by whom, but they do identify those data considered minimal essential, when they exist. These data sets include all those data recorded to document instances of emergency medical care.

4.4.2 Data are organized to enhance flexible and efficient management of information.

4.4.2.1 Identifications of practitioners and facilities will be coded to protect confidentiality and to make provider data comparable.

4.4.2.2 Identification codes will be maintained on master lists which include additional information such as specialty, license level, and the like.

4.4.2.3 Pointers on the computerized patient record will automatically link to the master lists and thus eliminate the need for duplicate data entry of reference material in the patient record. Master lists define the codes and care provider identifications listed in the CPR. For example, linkage to the master lists automatically records who is entering the information.

4.4.2.4 Coding systems for emergency reporting (ICD-9-CM,[7] CPT,[8] HCPCS,[9] SNOMED[10]) will be refer-

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[4] Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

[5] Available from IEEE, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331.

[6] State of Washington: Revised Code of Washington 70.168 and Washington Administrative Code 246-976-380.

[7] International Classification of Diseases, 9th edition, Clinical Modifications.

[8] Current Procedure Terminology for physician services.

[9] HCFA (Health Care Financing Administration) Common Procedure Coding System.

[10] Systematized Nomenclature of Medicine.

enced in the master lists as appropriate for the attribute value being coded.

4.4.2.5 The efficient arrangement of the logic model permits output to be generated and identified to mirror the paper record, such as nurse-specific or physician-specific notes.

4.4.2.6 The arrangement of the logic model permits multiple entries of assessment data, using a small group of variables, that can then be used to generate output. For example, sequence of diagnoses by date-time.

5. Phases of Emergency Medical Care

5.1 Patient data are collected throughout the emergency by multiple care providers; the number and type depend on the severity of the emergency.

5.1.1 Figure 1 presents the different phases of the emergency from onset until final disposition, at which point the patient is no longer the responsibility of emergency care.

5.1.2 In some instances, emergency patients are transported from the location of onset to an emergency department and then later transferred to specialty tertiary care centers to receive treatment for life-threatening medical problems.

5.1.3 Multiple records may be completed at different points in time for the emergency patient. These records are unique to the type of emergency response provided and the phase of the emergency.

5.1.4 This guide does not include rehabilitation and outpatient follow-up as part of emergency medical care since this information is recorded elsewhere in the CPR and is not within the scope of this guide.

5.2 Documentation of emergency care is more efficient if the data are computerized at the time of collection so that this information can be incorporated simultaneously into the computerized patient record at the time of data entry.

5.3 A core of patient identification information (age/date of birth, gender, facility identification, times, etc.) is common to all of the medical records.

5.3.1 Other data elements exist that are unique to the type of facility, and still others exist that are unique to a specific care site.

5.3.2 Although many different records may be completed for a single emergency patient, not all of the data collected are incorporated into the computerized patient record.

5.3.2.1 Administrative data, such as the use of lights and sirens and mileage, which are useful for ambulance service management information, have been excluded from the computerized patient record.

5.4 The computerized patient record has the potential to improve data quality.

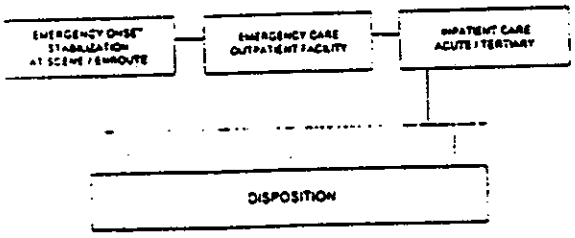

FIG. 1 Data Flow in Emergency Medical Care

5.4.1 Time and date entries will not be subject to the idiosyncracies of the clock at hand, or the memory of the person entering the data but may be automatically recorded by the computer; however, when data are entered retrospectively, the system should allow a manual override to record actual time.

5.4.2 Direct data entry, by voice, dictation, touch, etc., by the care provider will eliminate the need to interpret the care provider's handwriting.

5.5 Each segment of emergency care is cumulative, though not necessarily sequential, to the prior documentation in the computerized patient record. It also may update previous documentation.

5.6 The EMS data set is and will continue to be included in Guide E 1384 and Guide F 1629 EMS-MIS global lists of elements.

5.6.1 Each encounter contains contributions to the various record segments noted in Guide E 1384.

5.6.2 In the future the elements included in this guide will carry the indexes or tags indicating their place in Guides E 1384 and F 1629 EMS-MIS global lists of elements.

5.7 Data elements for the emergency patient to be included in the computerized patient record are grouped first according to three levels of care.

5.7.1 The first level refers to the emergency stabilization and treatment provided immediately after onset and enroute.

5.7.2 The second refers to the emergency diagnostic and treatment care provided at an emergency department/outpatient facility.

5.7.3 The third refers to inpatient care.

5.7.4 Potential data sources are listed for each level.

5.8 The data elements within each level are classified as follows according to the segments of the computerized patient record presented in Guide E 1384:

5.8.1 *Demographic*—Data elements which identify the patient.

5.8.2 *Administrative*—Data elements which clarify the time/date, location, type, and source of encounter or episode.

5.8.3 *Diagnostic Summary*—Narrative statements describing the diagnoses appropriate to each level of care. A recognized coding system will be used to associate codes with narrative statements.

5.8.4 *Chief Complaint/History of Sudden Change in Patient's Health Status*—Indication of the chief complaint or reason why the patient came for care, as reported by the patient or others.

5.8.5 *Physical Exam and Assessment*—Observations of the practitioner(s) during structured and systematic examination of the patient during encounters/episodes. It contains objective observations and measurements that quantify attributes of each body system.

5.8.6 *Orders and Treatment Plans*—An action-oriented message describing an intervention in the health or a specific patient originated by, or under the supervision of, a specific physician or other duly-authorized practitioner(s).

5.8.7 *Diagnostic Tests*—Diagnostic tests ordered and conducted on the patient relative to the emergency.

5.8.8 *Medication Profile*—Data about the therapeutic chemical substances and treatments that have been discon-

tinued or prescribed as interventions relative to the emergency.

5.8.9 *Progress Notes/Clinical Course*—Components which form an ongoing chronological picture and analysis of the clinical course of the patient during the emergency.

5.8.10 *Therapies/Procedures*—Data elements which describe all procedures performed for diagnostic, exploratory, or definitive treatment purposes including transfusions and physical, occupational, respiratory, rehabilitative, or mental health therapies provided as a result of the emergency.

5.8.11 *Disposition*—Data elements which describe the patient's destination and status at discharge, and a brief discharge summary.

5.8.12 *Charges*—Charges represent billing to the patient including procedures and services rendered by care provider/practitioner, and associates during the emergency.

5.9 Authorship, authenticity, and validation are explained as follows for documenting and managing the data included in the computerized patient record. Definitions for these concepts are being developed by another ASTM committee.

5.9.1 Authorship identifies the practitioner who is the author responsible for the action/entry.

5.9.2 Authenticity validates the author via a voluntary secondary process (signature, biometric identifier, computer key, etc.).

5.9.3 Validation provides reference information to evaluate the accuracy of the information being entered.

5.9.4 The specifications for these types of processes are not part of the focus of this guide but will be included within the specifications for the CPR as a whole.

5.10 Attribute values are not included in this version of the guide. These values will be included in the next version as part of an appendix that will reference each data element included within this guide to those elements included in Guides E 1384, F 1629, and other existing standards such as those established by the Joint Commission, Conditions of Participation for Medicare, Uniform Hospital Discharge, Ambulatory Care Data Sets, and others previously identified in 1.2.11.

5.10.1 By including the attribute values in an appendix, this guide will be able to highlight variations in the attribute values for the same data element used by different users in different parts of the computerized patient record.

5.10.2 Once the various parts of the CPR have been defined and coordinated, the final set of attribute values will be incorporated into the main body of the document.

5.11 Financial charges will be defined using a uniform format within all sections of the computerized patient record.

5.11.1 Specifications for these elements are not included in this guide but will be included in the specifications for the CPR as a whole.

6. Emergency Onset and Stabilization Occurring at Scene and Enroute (Pre-hospital EMS)

6.1 The data elements presented in this section document the first level of emergency care. Variables that are included in the data set defined and maintained by ASTM Committee F-30 on Emergency Medical Services are so marked. All of the data elements listed in this section should be completed for patients transported by EMS and for all patients who go directly to the emergency department without receiving care at the scene or enroute. See Guide F 1629.

6.2 *Demographics of the Emergency Patient.*

6.2.1 *Patient Name*—The current name of the patient receiving emergency medical care services for whom the record is being created and about whom data are being collected. (F-30)

6.2.2 *Patient Street Address*—Street address of patient's residence. (F-30)

6.2.3 *City of Residence*—Patient's city or township of actual residence (if applicable). (F-30)

6.2.4 *County of Residence*—Patient's county of actual residence (if applicable). (F-30)

6.2.5 *State of Residence*—State, territory, province, or District of Columbia, where patient resides. (F-30)

6.2.6 *Postal (Zip) Code of Residence*—Zip code of patient's residence. (F-30)

6.2.7 *Telephone Number*—Patient's primary telephone number. (F-30)

6.2.8 *Age*—The patients age as reported by the patient or estimated by the care provider. (F-30)

6.2.9 *Date of Birth*—Patient's date of birth as reported by the patient or documented on written documentation. (F-30)

6.2.10 *Gender*—The gender of the patient. (F-30)

6.2.11 *Race/Ethnicity*—Patient's ethnic origin coded according to Directive 15 of the Office of Management and Budget. (F-30)

6.2.12 *Social Security Number*—Patient social security number, if available and released by the patient according to the Federal Privacy Act. (F-30)

6.2.13 *Driver License Number*—If available, driver's license number for the patient.

6.2.14 *Emergency Contact*—The person to be notified in case of an emergency. If entered previously, this information should be validated and the record updated.

6.2.14.1 *Relationship of Emergency Contact*—The relationship to the patient of the person listed in 6.2.14 as the emergency contact.

6.3 *Administrative:*

6.3.1 *Incident Address*—Address (or best approximation) where patient was found, or, if no patient, address to which unit responded. (F-30)

6.3.2 *Incident City*—City or township (if applicable) where patient was found, or to which unit responded (or best approximation), coded using the FIPS system. (F-30)

6.3.3 *Incident County*—County or parish (if applicable) where patient was found, or to which unit responded (or best approximation), coded using the FIPS system. (F-30)

6.3.4 *Incident State*—State, territory, or province, or District of Columbia, where patient was found or to which unit responded, coded using the FIPS system. (F-30)

6.3.5 *Location Type/Scene Description*—Type of location where the emergency event occurred coded in terms of the (ICD-9) E849 place of occurrence codes. (F-30)

6.3.6 *Onset Date*—Date of onset of symptoms or injury date. (F-30)

6.3.7 *Date Incident Reported*—Date the call is first received by a public safety answering point (PSAP) or other designated entity. (F-30)

6.3.8 *Time Incident Reported*—Time the call is first received by a PSAP or other designated entity. (F-30)

6.3.9 *Time Dispatch Notified*—Time of first connection with EMS dispatch. (F-30)

6.3.10 *Time EMS Unit Notified*—Time response unit is notified by EMS dispatch. (F-30)

6.3.11 *Date Unit Notified*—Date response unit is notified by EMS dispatch. (F-30)

6.3.12 *Public Safety Incident Number*—Unique number statewide for each incident reported to dispatch. (F-30)

6.3.13 *Time EMS Unit Responding*—Time that the response unit begins physical motion. (F-30)

6.3.14 *Time of EMS Arrival at Scene*—Time EMS unit stops physical motion at scene (last place that the unit or vehicle stops prior to assessing the patient). (F-30)

6.3.15 *Time of EMS Arrival at Patient*—Time response personnel establish direct contact with patient. (F-30)

6.3.16 *Time EMS Unit Left Scene*—Time when the response unit began physical motion from scene. (F-30)

6.3.17 *Time of EMS Arrival at Destination*—Time when the patient arrives at destination or transfer point. (F-30)

6.3.18 *Time EMS Back in Service*—Time response unit back in service and available for response. (F-30)

6.3.19 *Bystander Assistance*—Coded value to indicate which type of first aid was administered by a non-first responder at the scene. (F-30)

6.3.20 *First Responder Organization Identification Number*—A unique alphanumeric sequence assigned by the state which identifies each first responder organization in the state. This number should be listed on the provider run PCR if a trained first responder was present at the scene. (F-30)

6.3.21 *Service Type*—Type of scheduled or unscheduled service requested. (F-30)

6.3.22 *Patient Care Record Number*—Unique number statewide for each patient care record (PCR). (F-30)

6.3.23 *Agency/Unit Number*—Unique number statewide that identifies the agency and unit responding to an incident. (F-30)

6.3.24 *Crew Member Number*—Personnel certification/license number for first crew member. This should be a unique identifier statewide. (F-30)

6.3.24.1 *Crew Member Type*—Type of personnel certification/license level for first crew member. (F-30)

6.3.24.2 *Crew Member Status*—Coded value to indicate if crew member is designated as responsible for the care of the patient, an assistant, driver, etc.

6.3.25 *Highest Available Level of Care*—This is a variable derived by the computer after comparing crew member identification with licensure information on a master list to indicate highest capability level, for example EMS, paramedic, for crew members on the run. (F-30)

6.4 *Chief Complaint/History of Present Illness:*

6.4.1 *Presenting/Chief Complaint*—Patient's chief complaint and reasons why patient requested emergency care. (F-30)

6.4.2 *Signs and Symptoms Present*—Coded values to indicate the signs and symptoms reported to or observed by care provider. (F-30)

6.4.3 *Injury Description*—Coded values to indicate the clinical description of injury type and body site (as defined to calculate the Injury Severity Score (ISS)) to be organized as a matrix for data collection. (F-30)

6.4.3.1 *Injury Intent*—Coded values to indicate the intent of the individual inflicting the injury. (F-30)

6.4.4 *Preexisting Conditions*—Coded values to indicate preexisting medical conditions known to the care provider. (F-30)

6.4.4.1 *Presence of Living Will/Advanced Directive*—Coded values to indicate presence of living will, do not resuscitate orders, or other type of advanced directive that has an impact on the level of emergency medical care to be provided.

6.4.5 *Allergies*—Coded values to indicate the allergies suffered by the patient that will affect the course of emergency treatment.

6.4.6 *Exposure to Hazardous Materials*—Coded values to indicate type of hazardous materials to which patient was exposed.

6.4.7 *Cause-of-Injury Code (E-code)*—The cause of injury code (E-code) is used to indicate the external cause of the injury, poisoning, or adverse effect related to the current emergency. E-codes are assigned according to the subset of the E codes in ICD-9 that are appropriate for use in the field. When possible, the codes should be assigned to indicate what went wrong, what the patient was doing at the time, if any products were involved, and the relationship of the assailant to the victim if an assault occurred or what evidence exists to indicate self-intent, or both. (F-30)

6.4.7.1 *Cause of Injury Code Status*—Coded value to indicate if the designated E-code is the principal cause of the injury or a contributing cause.

6.4.8 *Safety Equipment*—Safety equipment in use or deployed by the patient at time of the injury (airbag, belts, helmet, etc.) (F-30)

6.4.9 *Suspected Alcohol/Drug Use*—Suspected alcohol or drug use by patient at the time of the emergency. (F-30)

6.4.10 *Care Provider Impression*—Coded values indicating the care provider's clinical impression which led to the management given to the patient (treatments, medications, procedures). (F-30)

6.5 *Physical Exam and Assessment: Date, Time, and Value Will Be Recorded for Each Assessment Criteria:*

6.5.1 *Systolic Blood Pressure*—Patient's systolic blood pressure. (F-30)

6.5.2 *Diastolic Blood Pressure*—Patient's diastolic blood pressure. (F-30)

6.5.3 *Pulse Rate*—Patient's palpated or auscultated pulse rate expressed in number per minute. (F-30)

6.5.4 *Respiratory Rate*—Unassisted patient respiratory rate expressed as number per minute. (F-30)

6.5.5 *Respiratory Effort*—Coded values indicating the patient's respiratory effort. (This field is essential for children 18 years or less.) (F-30)

6.5.6 *Skin Perfusion*—Coded values indicating the patient's skin perfusion, expressed as normal or decreased. (This field is essential for children 18 years or less.) (F-30)

6.5.7 *Pulse Oximetry*—Oximetry reading indicating level of oxygen saturation.

6.5.8 *Apgar*—Coded values to measure newborn's responses after birth.

6.5.9 *Time of Witnessed Cardiac Arrest*—Time of witnessed cardiac arrest. (F-30)

6.5.10 *Witness of Cardiac/Respiratory Arrest*—Coded value to indicate the type of person who witnessed the

cardiac/respiratory arrest. (F-30)

6.5.11 *Time of First CPR*—Best estimate of time of first CPR. (F-30)

6.5.11.1 *Provider of First CPR*—Coded value to indicate the type of person who performed first CPR on patient. (F-30)

6.5.11.2 *Time CPR Discontinued*—Time at which medical control or responding EMS unit terminated resuscitation efforts (chest compressions and CPR) in the field. (F-30)

6.5.11.3 *Time of First Defibrillatory Shock*—Time of first defibrillatory shock. (F-30)

6.5.11.4 *Return of Spontaneous Circulation*—Whether a palpable pulse or blood pressure was restored following cardiac arrest and resuscitation in the field. (F-30)

6.5.11.5 *Initial Cardiac Rhythm*—Initial monitored cardiac rhythm as interpreted by EMS personnel. (F-30)

6.5.11.6 *Rhythm at Destination*—Monitored cardiac rhythm upon arrival at destination. (F-30)

6.6 *Orders and Treatment Plans:*

6.6.1 *Treatment Authorization*—Coded values to indicate the type, if any, of treatment authorization. (F-30)

6.7 *Diagnostic Tests/Severity Measures:*

6.7.1 *Serum Glucose*—Patient's blood sugar level.

6.7.1.1 *Date-Time Serum Glucose Measured.*

6.7.2 *Glasgow Eye-Opening Component*—Patient's eye-opening component of the Glasgow coma scale. (F-30)

6.7.3 *Glasgow Verbal Response Component*—Patient's verbal response component of the Glasgow coma scale. (F-30)

6.7.4 *Glasgow Motor Component*—Patient's motor component of the Glasgow coma scale. (F-30)

6.7.5 *Glasgow Coma Score (GCS)*—Sum total of coded values for the Glasgow eye-opening and verbal and motor responses components. This score will be calculated by the computer at the time the components are entered. (F-30)

6.7.5.1 *Date-Time GCS Measured.*

6.7.6 *Revised Trauma Score (RTS)*—Sum total of coded values for the respiratory rate, systolic blood pressure, and Glasgow coma score components. This score will be calculated by the computer at the time the components are computerized. (F-30)

6.7.6.1 *Date-Time RTS Measured.*

6.7.7 *Field Triage Criteria Implemented*—Coded values to indicate the field triage criteria implemented.

6.8 *Medication Profile:*

6.8.1 *Current Medications Taken by Patient*—Coded value to indicate medications or potential toxic materials as reported by the patient taken during the last 24 h that may affect the course of emergency treatment.

6.8.2 *Medication/Material Name*—Name of medication provided to patient as coded according to groupings used in the American Hospital Formulary Service (1993), nonprescription medications, or unorthodox treatments that may have an adverse effect on the patient. (F-30)

6.8.2.1 *Dosage of Medication/Material.*

6.8.2.2 *Route of Medication/Material.*

6.9 *Progress Notes/Clinical Course:*

6.9.1 *Narrative*—A narrative describing the unique aspects of this patient's emergency, treatment, and disposition not recorded elsewhere.

6.9.2 *Complications*—Coded values identifying different types of complications.

6.10 *Procedure/Therapies:*

6.10.1 *Procedure/Therapy Name*—Coded value to identify the procedure/therapy performed. (F-30)

6.10.1.1 *Total Procedure/Therapy Attempts*—Total number of attempts to complete procedure/therapy. (F-30)

6.10.1.2 *Date-Time of Procedure*—Report date and time for each procedure/therapy listed.

6.10.1.3 *Materials Used*—Coded values to indicate materials used to perform the procedure/therapy listed.

6.10.1.4 *Practitioner ID Who Performs Procedure/Therapy*—Identification number for practitioner who performs the procedure. This number is linkable to a master file that contains descriptive information about the practitioner.

6.11 *Disposition:*

6.11.1 *Destination Determinant*—Coded values identifying the person determining the reason for the transport destination.

6.11.2 *Destination Determination*—Reason a transport destination was selected. (F-30)

6.11.3 *Destination/Transferred to*—Health care facility or pre-hospital care home that received patient from EMS responder providing this record. Facilities should be recorded by identification numbers which are unique statewide. (F-30)

6.11.4 *Incident/Patient Disposition*—End result of EMS response. This will provide information about the reasons for which EMS is notified, correlated with the ultimate incident disposition. (F-30)

6.11.4.1 *Condition on Arrival at Destination*—Coded values to indicate the patient's condition on arrival at the hospital.

6.12 *Data Element Definitions*—The definitions for the data elements listed in 6.1.1 through 6.1.10 duplicate those presented in the Guide F 1629. These definitions will be updated as Guide F 1629 is updated.

6.13 *Sources of Emergency Data Related to Pre-hospital Emergency Care to Be Included in or Linked to the Computerized Patient Record:*

6.13.1 *EMS Patient Care Record*—An EMS record is initiated for each patient transported by an EMS service. EMS services include first responder, basic life support, advanced life support, air transport, other transport, and transfer. The data collected by the EMS record are described in Guide F 1629.

6.13.2 *Police Crash Data*—The police crash data set describes the time of onset, the characteristics of the crash, the type of vehicles involved, the behavior of the occupants in terms of their utilization of protective devices, and the speed of the police response. All of these factors influence patient outcome. The data set as a whole may be linked retrospectively to injury records to evaluate medical and financial outcomes for victims of motor vehicle crashes. However, the computerized patient record needs only the crash data that have a bearing on decisions related to choosing the most appropriate medical treatment.

6.13.3 *Poison Control*—The poison control data include information about the time, type, mode, form, name, and amount of poison ingested.

6.13.4 *Person-specific Uniform Crime Record*—Police

crime data include information about time and the type of weapon used.

6.13.5 *Emergency Medical History Storage Systems (Medic Alert, etc.)*—Patients with unstable chronic conditions which may become emergencies (diabetes, cardiac, etc.) may store relevant portions of their medical history to facilitate health care during an emergency. This information is accessible through a validated access process by all medical personnel who need the information at the time of patient care.

6.13.6 *Other*—Other data sources also should be considered for linkage to the EMS record. These sources include data from workmen's compensation, OSHA data files, etc.

7. Emergency Diagnosis and Treatment at Emergency Department/Outpatient Care Facility

7.1 Data elements are added to the documentation during the second level of emergency care.

7.2 *Demographic:*

7.2.1 *Emergency Contact*—The person to be notified in case of an emergency. If entered previously, this information should be validated and the record updated.

7.2.1.1 *Relationship of Emergency Contact*—The relationship to the patient of the person listed in 7.2.1 as the emergency contact.

7.2.2 *Employment Status*—Coded value to indicate current job status, type of work, and other work-related information important for discharge planning.

7.2.3 *Living Arrangement*—Coded value to indicate level of social support relative to discharge planning.

7.2.4 *Other*—Coded value to indicate religion when appropriate.

7.3 *Administrative/Diagnosis Summary:*

7.3.1 *Facility Identification Number*—The unique identification number statewide for the facility where the patient is provided with emergency treatment and a diagnosis.

7.3.1.1 *Mode of Arrival for Patient*—Coded value to indicate the mechanism of transport for patient seeking emergency treatment.

7.3.2 *Source of Admission to Emergency Department*—Coded value to indicate if visit represents a transfer from another facility or a revisit to the same ED where patient received care prior to admission to the emergency department, etc.

7.3.2.1 *Type of Facility/Unit*—Coded value to indicate the type of facility.

7.3.3 *Date-Time of Registration*—The date and time when the patient is admitted to the emergency outpatient facility.

7.3.3.1 *Person Registering/Updating Record*—The permanent identification number of the individual who is responsible for registering the patient or updating the patient's record. Documentation of this identification is permanent and will not be eliminated when the record is updated the next time in order to ensure creation of an audit trail of actions.

7.3.4 *Practitioner(s) Identification Name*—Name of the practitioner(s) providing/coordinating the medical services to the patient in the emergency department.

7.3.4.1 *Practitioner(s) Identification Number*—Identification number(s) of the practitioner(s) having major responsibility for providing/coordinating the medical services provided in the emergency department to the patient. This number links to a reference file to indicate specialty area, license number, and other pertinent information about the practitioner(s).

7.3.4.2 *Practitioner(s) Status Code*—Coded value to indicate level of responsibility for this emergency patient: in charge, provided care, etc.

7.4 *Chief Complaint/History of Present Illness:*

7.4.1 *Patient Classification at Triage*—Coded value to distinguish patients suffering life-threatening conditions from those with less serious problems.

7.4.1.1 *Time Triage Begun*—Time the patient is seen for initial medical assessment to determine triage status.

7.4.1.2 *Time Triage Ended*—Time triage is completed for the patient.

7.4.2 *Legal Status of Patient*—Patient status as on a police hold or involuntary commitment such as jail hold, etc.

7.4.3 *Chief Complaint*—Narrative and coded value describing the patient's presenting complaint as reported at triage by patient or by EMT.

7.4.4 *Time Assigned to Treatment Room*—Time patient is assigned to treatment room.

7.4.5 *Time Patient First Seen by Physician.*

7.5 *Physical Exam and Assessment*—Assessment of the patient's history and signs relevant to the patient's emergency diagnosis, treatment, and referral activity occurring at the time of illness/injury. (See 6.5 for ASTM F-30 definitions of variables). The system shall allow for multiple assessments at different times by different practitioners.

7.5.1 *Weight*—Estimated or measured weight of patient in appropriate units.

7.5.2 Systolic blood pressure. (F-30)

7.5.3 Diastolic blood pressure. (F-30)

7.5.4 Pulse rate. (F-30)

7.5.5 Respiratory rate. (F-30)

7.5.6 Respiratory effort. (F-30)

7.5.7 Skin perfusion. (F-30)

7.5.8 Pulse oximetry. (F-30)

7.5.9 Cardiac rhythm. (F-30)

7.5.10 Apgar score (if newborn). (F-30)

7.5.11 Visual acuity.

7.5.12 Fetal heart tones.

7.5.13 Intake (by mouth, by vein).

7.5.14 Output (nasal gastric, chest tubes, urine, emesis).

7.5.15 Arterial pressure.

7.5.16 Intracranial pressure (ICP).

7.5.17 Central venous pressure (CVP).

7.5.18 *Glasgow Coma Score (GCS)*—Sum total of coded values for eye opening, verbal, and motor responses to specific stimuli.

7.5.18.1 *Date-Time GCS Measured.*

7.5.18.2 *Mental Status*—Mental status as indicated by the mental status exam criteria (affect, hallucinations/delusions, suicidal ideation, homicidal ideation, basic intelligence, judgment, insight, sensorium).

7.5.19 *Practitioner(s) Identification Number(s) for Assessment*—Identification number of the practitioner(s) performing/updating the assessment of patient history of the emergency. The practitioner may be a physician, nurse, or allied health professional. This number links to a reference file to

indicate name, specialty area, license number and other pertinent information about the practitioner(s).

7.5.19.1 *Date-Time of the Assessment*—Date and time the assessment is performed.

7.5.19.2 *Practitioner(s) Status Code*—Coded value to indicate level of responsibility for this emergency patient: in charge, provided care, etc.

7.5.20 *Risk/Complicating Factors*—Coded value to indicate allergies, contagious conditions, complications, past medical history, current medications that may have an impact on the diagnosis and treatment of the emergency.

7.5.21 *Work/Activity Relatedness*—If applicable and known, a coded value to indicate if onset occurred or was caused at the work place, or both.

7.6 *Orders and Treatment Plans:*

7.6.1 *Order/Treatment Plan Code*—Coded value to indicate order or treatment plan.

7.6.1.1 *Practitioner(s) Identification Number Generating the Order/Plan*—Identification of the practitioner(s), including physicians, nurses, and allied health professional, generating the order/treatment plan.

7.6.1.2 *Patient Acuity*—Indication of patient acuity by the practitioner(s).

7.6.1.3 *Date-Time of Order/Plan.*

7.6.1.4 *Date-Time of Compliance.*

7.7 *Diagnostic/Severity Tests:*

7.7.1 *Severity Measure:*

7.7.1.1 *Burn Severity*—(*1*) Percent of body burned with first-degree burns. (*2*) Percent of body burned with second-degree burns. (*3*) Percent of body burned with third-degree burns.

7.7.1.2 *Date and Time Burn Severity Measured.*

7.7.2 *Diagnostic Test Type Identification Number*—Identification number of test(s) taken in the emergency outpatient facility.

7.7.2.1 List of tests important to emergency medical care to include: Xrays, if needed, toxicology screen, pregnancy test, SMA-6, CBC, arterial blood gases, EKG, urinalysis, blood type and screen, and amylase.

7.7.2.2 *Specimen Taken Identification Number*—Identification number of type of specimen if collected.

(*1*) *Time of Order for Specimen.*

(*2*) *Collection Date-Time*—Date-time when specimen collected.

7.7.2.3 *Measurement Identification Number*—Identification number of test performed. This data element includes X-ray, radiographic, diagnostic testing, etc.

(*1*) *Time of Order for Test.*

(*2*) *Testing Date-Time*—Date-time when test performed.

(*3*) *Value*—Results of the test identified.

(*4*) *Units*—Unit of measure for the test identified.

7.8 *Medication Profile:*

7.8.1 *Medication Code(s)*—Coded value for all medications given to the patient during the encounter.

7.8.1.1 *Date-Time of Medication(s)*—Report date and time for all medications listed.

7.8.1.2 *Dose of Medication.*

7.8.1.3 *Route of Medication.*

7.9 *Progress Notes/Clinical Course (see 6.5):*

7.9.1 *Consultant/Specialist Identification Number*—Identification number(s) of the specialist(s) who examine the patient in the emergency outpatient facility. This number links to a reference file to indicate specialty area, license number, and other pertinent information about the consultant/specialist.

7.9.1.1 *Date-Time Consultant/Specialist is Called*—Date and time consultant/specialist is called to see patient in the emergency outpatient facility.

7.9.1.2 *Date-Time of Phone Response by Consultant/Specialist*—Date and time of phone response by consultant/specialist.

7.9.1.3 *Date-Time Consultant/Specialist Arrives in ED*—Date and time consultant/specialist arrives to see patient in the emergency outpatient facility.

7.10 *Therapy/Procedure:*

7.10.1 *Procedure/Therapy Name*—Coded value based on standardized coding schemes (such as the HCFA Common Procedure Coding System (HCPCS)) for all significant procedures/therapies (nursing, surgical in nature, carry a procedural risk, carry an anesthetic risk, require specialized training, etc.).

7.10.1.1 *Date-Time of Procedure/Therapy*—Report date and time for each procedure listed.

7.10.1.2 *Materials Used*—Materials used to perform the procedure/therapy listed.

7.10.1.3 *Practitioner ID Who Performs Procedure/Therapy*—Identification number for practitioner who performs the procedure/therapy. This number is linkable to a master file that contains descriptive information about the practitioner.

7.11 *Disposition:*

7.11.1 *Patient Outcome/Diagnosis at Discharge*—Coded values to indicate the final assessment/diagnosis describing reason for treatment at the emergency department and reason for disposition.

7.11.1.1 *Practitioner ID Who Performs Final Assessment*—Identification number for practitioner who performs the final assessment of the patient at discharge. This number is linkable to a master file which contains descriptive information about the practitioner.

7.11.2 *Date-Time Admitting Contacted for a Bed*—Date and time when process begun to admit patient as an inpatient.

7.11.2.1 *Date-Time Bed Assigned*—Date and time bed assigned to patient.

7.11.3 *Date-Time Patient Discharged from ED*—Date and time patient discharged from emergency department.

7.11.4 *Disposition To*—Coded value to indicate disposition of the patient.

7.11.4.1 *Date-Time of Death*—Date and time of patient's death while admitted as an inpatient.

7.11.4.2 *Discharge Transport Mode*—Mode of patient transport after discharge.

7.11.5 *Patient Instructions*—Coded values to indicate next level of care for the patient.

7.12 *Sources of Emergency Data for Computerized Patient Record:*

7.12.1 *Emergency Department/Outpatient Emergency Facility Record*—Different types of data are collected after the patient arrives at an emergency outpatient emergency facility. This information includes patient registration, symptoms, complaints, diagnostic information, medical treat-

ment, and disposition. During severe emergencies, diagnostic and treatment information may be collected simultaneously with the patient registration information.

7.12.1.1 *Patient Registration*—Patient registration data are uploaded from the EMS record when the patient is transported by EMS or collected at the time of admission from patients who go directly to the emergency department for treatment.

7.12.1.2 *Symptoms/Complaints/Diagnostic*—Diagnostic tests are ordered by means of clinical orders, described in Guide E 1384. The time, date, and results of such tests will be filed in the Diagnostic Test Segment of the care record.

7.12.1.3 *Medical Treatment*—Attending and consulting medical/mental health professionals may be utilized during a given emergency episode.

7.12.2 *Emergency Department Log Data Set*—The log is produced from a very rudimentary computer-based abstract of the patient record. Having the log computerized provides a database, which is a valuable management tool. It allows a number of reports to be produced to meet accrediting and licensing needs.

7.12.2.1 *Description*—The emergency department log documents the activity of the ED. It records patient identifiers, mode of arrival, presenting complaint, date and time of admission, discharge diagnosis, etc. All of the information may be exported from the patient record to create the log.

8. Emergency Surgical and Medical Therapy at the Inpatient Acute Care (Secondary or Tertiary Care) Facility:

8.1 Data elements added to the documentation during the inpatient level of emergency care.

8.2 *Demographics* (see 6.2 and 7.2).

8.3 *Administrative/Diagnostic Summary:*

8.3.1 *Hospital Identification Number*—A unique institutional number statewide to allow for tracking and linkage of multiple records.

8.3.2 *Patient Inpatient Identification Number*—A unique identification number applicable to the patient only.

8.3.3 *Date-Time Patient Admitted as an Inpatient*—Date and time the patient is admitted as an inpatient.

8.3.4 *Type of Admission*—Coded value to indicate whether patient admission was unscheduled or scheduled with less than 24-h notice.

8.3.5 *Source of Admission*—Coded value to indicate where patient came from prior to being admitted as an inpatient.

8.3.6 *Attending Physician Identification Number*—The identification number of the clinician of record at discharge who is responsible for the discharge summary.

8.3.6.1 *Professional Specialty of Attending Physician*—Professional specialty of attending physician.

8.3.7 *Discharge Diagnoses Code(s)*—ICD-9-CM discharge code(s) indicating reason for admission or treatment as an inpatient.

8.3.7.1 *Discharge Diagnosis Code Status*—Coded value to indicate if the code is the principal or other reason for admission/treatment.

8.3.7.2 *Qualifier for Diagnoses Code*—Coded value to indicate for each diagnosis whether onset occurred before or after admission.

8.3.7.3 *Cause of Death Code*—Coded value to indicate the primary cause of death.

8.3.8 *Cause-of-Injury Code (E-Code)*—The cause of injury code (E-code) for the external cause of the primary injury, poisoning, or adverse effect related to the current emergency. E-codes are assigned according to the subset of the E-codes in ICD-9 that are appropriate for use in the field. When possible, the codes should be assigned to indicate what went wrong, what the patient was doing at the time, if any products were involved, and the relationship of the assailant to the victim if an assault occurred or what evidence exists to indicate self-intent, or both.

8.3.8.1 *Cause of Injury Code Status*—Coded value to indicate if the code is the principal cause of the injury or a contributing cause.

8.4 *Chief Complaint/History of Present Illness*—See 7.4 and complete this section if the emergency patient was admitted directly as an inpatient without receiving care at the scene by EMS or in the emergency outpatient/department facility.

8.5 *Physical Exam and Assessment*—Assessment of the patient's history and signs relevant to the patient's emergency diagnosis, treatment, and referral activity occurring at the time of illness/injury. The system must allow for multiple assessments at different times by different practitioners.

8.5.1 *Weight:*
8.5.2 Systolic blood pressure.
8.5.3 Diastolic blood pressure.
8.5.4 Pulse rate.
8.5.5 Respiratory rate.
8.5.6 Respiratory effort.
8.5.7 Skin perfusion.
8.5.8 Pulse oximetry.
8.5.9 Cardiac rhythm.
8.5.10 Apgar score (if newborn).
8.5.11 Visual acuity.
8.5.12 Fetal heart tones.
8.5.13 Intake (by mouth, by vein).
8.5.14 Output (nasal gastric, chest tubes, urine, emesis).
8.5.15 Arterial pressure.
8.5.16 Intracranial pressure (ICP).
8.5.17 Central venous pressure (CVP).

8.5.18 *Glasgow Coma Score (GCS)*—Sum total of coded values for eye opening, verbal, and motor responses to specific stimuli.

8.5.18.1 *Date-Time GCS Measured.*

8.5.18.2 *Mental Status*—Mental status as indicated by the mental status exam criteria (affect, hallucinations/delusions, suicidal ideation, homicidal ideation, basic intelligence, judgment, insight, sensorium).

8.5.19 *Practitioner(s) Identification Number(s) for Assessment*—Identification number of the practitioner(s) performing/updating the assessment of patient history of the emergency. The practitioner(s) may be a physician, nurse, or allied health professional. This number links to a reference file to indicate name, specialty area, license number, and other pertinent information about the practitioner(s).

8.5.19.1 *Date-Time of the Assessment*—Date and time the assessment is performed.

8.5.19.2 *Practitioner(s) Status Code*—Coded value to in-

dicate level of responsibility for this emergency patient: in charge, provided care, etc.

8.6 *Orders and Treatment Plans:*

8.6.1 *Name of Order/Treatment Plan*—Coded value to indicate name of order or type of treatment plan.

8.6.1.1 *Practitioner(s) Identification Number Generating the Order/Plan*—Identification of the practitioner(s), including physicians, nurses, allied health professional, generating the order/treatment plan.

8.6.1.2 *Patient Acuity*—Indication of patient acuity by the practitioner(s).

8.6.1.3 *Date-Time of Order/Plan.*

8.6.1.4 *Date-Time of Compliance to Order/Plan.*

8.7 *Diagnostic/Severity Tests:*

8.7.1 *Severity Measure:*

8.7.1.1 *Burn Severity*—(*1*) Percent of body burned with first-degree burns. (*2*) Percent of body burned with secondary-degree burns. (*3*) Percent of body burned with third-degree burns.

8.7.1.2 *Date and Time Degree of Burn Thickness Measured.*

8.7.2 *Diagnostic Test Type Identification Number*—Identification number of test(s) taken in the emergency outpatient facility.

8.7.2.1 List of tests important to emergency medical care to include: Xrays, if needed; toxicology screen; pregnancy test; SMA-6; CBC; arterial blood gases; EKG; urinalysis; blood type and screen; and amylase.

8.7.2.2 *Identification Number of Specimen Taken*—Identification number of the type of specimen collected.

(*1*) *Time of Order for Specimen.*

(*2*) *Collection Date-Time*—Date-time when specimen collected.

8.7.2.3 *Measurement Identification Number*—Identification number of the test.

(*1*) *Time of Order for Test.*

(*2*) *Testing Date-Time*—Date-time when test performed.

(*3*) *Value*—Results of the test.

(*4*) *Units*—Unit of measure for the test.

8.8 *Medication Profile:*

8.8.1 *Medication Code(s)*—Coded value for all medications given to the patient during the encounter.

8.8.1.1 *Date-Time of Medication(s)*—Report date and time for all medications listed.

8.8.1.2 *Dose of Medication.*

8.8.1.3 *Route of Medication.*

8.9 *Progress Notes/Clinical Course* (see 6.5 and 7.5):

8.9.1 *Consultant/Specialist Identification Number*—Identification number(s) of the specialist(s) who examine the patient in the hospital inpatient facility. This number links to a reference file to indicate specialty area, license number, and other pertinent information about the consultant/specialist.

8.9.1.1 *Date-Time Consultant/Specialist is Called*—Date and time consultant/specialist is called to see patient in the inpatient facility.

8.9.1.2 *Date-Time of Phone Response by Consultant/Specialist*—Date and time of phone response by consultant/specialist.

8.9.1.3 *Date-Time Consultant/Specialist Arrives in ED*—Date and time consultant/specialist arrives to see patient in the inpatient facility.

8.10 *Procedure/Therapy:*

8.10.1 *Procedure/Therapy Name*—Coded value based on standardized coding schemes (such as the HCFA Common Procedure Coding System (HCPCS)) for all significant procedures/therapies (nursing, surgical in nature, carry a procedural risk, carry an anesthetic risk, require specialized training, etc.).

8.10.1.1 *Date-Time of Procedure/Therapy*—Report date and time for each procedure listed.

8.10.1.2 *Materials Used*—Materials used to perform the procedure/therapy listed.

8.10.1.3 *Number of Days on Ventilator*—Number of days patient required ventilator support.

8.10.1.4 *Practitioner ID who Performs Procedure/Therapy*—Identification number for practitioner who performs the procedure/therapy. This number is linkable to a master file that contains descriptive information about the practitioner.

8.11 *Clinical Service Providing Treatment:*

8.11.1 *Name of Clinical Service*—Coded value to indicate clinical services provided to patient for conditions that affected the hospital stay.

8.11.1.1 *Date-Time Admission to Clinical Service*—Date-time when room, board, and continuous nursing service are begun for specific clinical service.

8.11.1.2 *Date-Time Discharge from Clinical Service*—Date-time when room, board, and continuous nursing service are discontinued for specific clinical service.

8.11.2 *Patient Transfer Type*—Coded value to indicate movement of inpatient either physically or administratively between nursing interclinical care units and services.

8.11.3 *Complications*—Coded value to indicate complications.

8.12 *Disposition:*

8.12.1 *Date-Time Discharge from Inpatient Care*—Date-time when room, board, and continuous nursing services are discontinued and the hospital formally releases the patient from the hospital as an inpatient.

8.12.2 *Patient Status at Discharge*—

8.12.2.1 *Name of Discharge Functional Independence Measure (FIM)*—Coded value at time of patient discharge from inpatient care to indicate test criteria for levels of movement, daily activities of living, cognitive functioning, etc.

8.12.2.2 *Value of FIM Element*—Coded value to indicate level of functioning relative to the measurement criteria reported.

8.12.3 *Patient Disposition Destination*—Coded value to indicate disposition destination of the patient.

8.12.3.1 *Date-Time of Death*—Date and time of patient's death while admitted as an inpatient.

8.12.3.2 *Cause of Death*—Coded value to indicate primary cause of death.

8.12.3.3 *Discharge Transport Mode*—Model of patient transport after discharge.

8.13 *Sources of Inpatient Data for or to Link to the Computerized Patient Record—Inpatient Medical Record*—The inpatient medical record documents the detailed clinical information describing the sequence of diagnostic and treatment procedures provided to the patient after admission to an inpatient acute or tertiary care facility.

9. Other Documentation of Instances of Emergency Care

9.1 Emergency care is also documented in the registries for trauma and head/spinal cord injuries.

9.1.1 *Trauma, Head/Spinal Cord Injury Registry Data Set*—The registry data sets relevant to emergency care include the trauma and the head/spinal cord injury registries. Sometimes poisonings are also tracked.

9.1.1.1 *Description*—Registry data includes a subset of the data provided by emergency medical services at the scene, enroute, at the emergency department, and after admission as an inpatient. In addition it usually includes detailed clinical information that is useful to support activities related to trauma epidemiology, quality assurance, case management, medical outcome, injury prevention, and risk management. Some registries include level of functioning information at the time of discharge.

10. Keywords

10.1 computerized patient record; emergency department data set; emergency medical care; inpatient data set; prehospital EMS data set

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