Unique Identifiers (including allowed uses)

Purpose & Scope
The purpose of the Unique Health Identifiers is to uniquely identify Individuals, Employers, Health Plans and Health Care Providers within the health care system.

1. Individuals

Current practice consists of Medical Record Numbers issued and maintained by individual provider organizations which is also known as Master Patient Index (MPI). HIS vendors have begun to develop software to facilitate cross reference to MPIs across an enterprise often known as Corporate MPI.

1.1. Unique Identifier Standards for Individuals:
1.1.1. UHID by ASTM
ASTM is the only Standards Development Organization that has developed and published standards in this area. Other options listed below are candidate identifiers frequently discussed by industry experts.
1.2. Other Unique Identifier Options for Individuals:
1.2.1. Social Security Number (SSN)
1.2.2. Biometrics IDs
1.2.3. Directory Service
1.2.4. Personal Immutable Properties
1.2.5. Patient Identification System based on existing Medical Record Number and Practitioner Prefix
1.2.6. Public Key - Private Key Cryptography Method

2. Employers, Health Plans and Health Care Providers

None of the Standards Developing Organizations have developed standards in the area of identifying employers, health plans and health care providers. However, HCFA and several other organizations have developed identifiers in this area with input from Federal and state agencies that administer health programs and other stake holders of the industry including standards developing organizations (SDOs).

Employers:

2.1 Unique Identifier Standards for Employers:
None Exists
2.2 Unique Identifier Options for Employers:
2.1.1. PAYERID

Health Plans:

3.1 Unique Identifier Standards for Health Plans:
None Exists
3.2 Unique Identifier Options for Health Plans:
3.2.1. PAYERID

Health Care Providers:

4.1. Unique Identifier Standards for Health Care Providers:
None Exists

4.2. Unique Identifier Options for Health Care Providers:
4.2.1. National Provider Identifier
4.2.2. Unique Physician Identifiers (UPIN)
4.2.3. NABP Pharmacy Number (NABP#)
4.2.4. Health Industry Number (HIN)

1. Individuals

1.1. Unique Identifier Standards for Individuals:

1.1.1. UHID by ASTM

- Category/Classification of Standard:

  Unique Identifiers (including allowed uses) for Individuals

- Standard Development Organization (SDO):

  ASTM

- ANSI Accreditation, ANSI Accreditation applied for or not:
  ANSI Accredited

- Name of the Standard:

  Standard Guide for Properties of a Universal Health Identifier (UHID) "E1734"

- Contact for more information:

  Name: Terry Luthy
  Address: ASTM 100 Barr Harbor Drive
  West Conshohocken, PA 19428
  E-mail: tluthy@local.astm.org
  Phone: 610-832-9737
  Fax: 610-832-9666

- Description of Standard:

  The UHID Scheme consists of a sequential identifier, a delimiter, check digits and an encryption scheme to support data security. This Standards Guide covers a set of requirements outlining the properties of a national system of Universal Health Identifier (limited to the population of United States). It includes positive identification of patients, automated linkage of various computer-based records, mechanism to support data security of privileged clinical information and the use of technology to keep health care operating cost at a minimum.

- Readiness of Standard:

  The Guide provides a detailed implementation sample for the UHID and evaluates the implementation against the criteria outlined by the standards. The method is being implemented by two (2) VA hospitals in Florida.

- Indicators of Market Acceptance:

  ASTM E1714 is an approved American National Standard. Regarded as an ideal standards guide for the Unique Patient Identifier. The VA hospital network (VISN) is planning to expand the implementation of ASTM Standards based identifier. More than 350 copies of the standards have been distributed.

- Level of Specificity:

  The UHID Scheme consists of a sequential identifier, a delimiter, check digits and an encryption scheme to support data security. It supports multiple encrypted IDs for an individual.

- Relationship with Other Standards:

  N/A

- Identifiable Costs:

  ASTM Standards volume 14.01 for Health care informatics that include this Standards Guide can be purchased for a nominal fee.

1.2. Other Unique Identifier Options for Individuals:

1.2.1. Social Security Number (SSN)

- Description of Standard:

  The original scope of SSN was to function as a Social Security Account Number (SSAN). Its scope since the 1935 legislation has been expanded. It is now in use as a personal identifier in a wide area of applications including use by local, state and federal authorities, financial institutions, and numerous consumer organizations.

- Readiness of Standard:

  Strength: The existing SSA structures, trained personnel, detailed standard procedural guidelines, cost economies, rapid implementation etc. are all in favor of the use of SSN as a valid patient identifier.
  Weakness: Many organizations including those who support the use of SSN as a Health Identifier have identified several serious defects that must be fixed before it can be used as a valid Unique Health Identifier. Examples are:

  1. Not unique
  2. No exit control
  3. Lack of check-digits
  4. Significant error level
  5. Privacy & confidentiality risks
  6. Lack of legal protection
  7. Lack of capacity for future growth
  8. Lack of mechanism for emergency use and timely issue.
  9. Provision for non citizens, etc.
  10.

The Computer-based Record Institute (CPRI) supports a modified SSN with important changes to the process of issue of SSN including check-digits, encryption scheme, a trusted authority, and legislative measures, etc.

- Contact for more information*:*
  Social Security Administration
  6401 Security Blvd, Baltimore, MD 21235

- Indicators of Market Acceptance:
  Used by VA hospitals and Medicare Administration as a patient identifier. Used by many health care organizations as part of the patient demographic information.

- Identifiable costs:
  Expenditure borne by the Government.

1.2.2. Biometrics IDs

- Description of Standard:

  Several sophisticated methods of biometrics identification methods have been proposed, including finger print, retinal pattern analysis, voice pattern identification and DNA analysis.

- Readiness of Standard:
  Law enforcement and Immigration departments use some of the biometrics identification methods. However, the necessary standards, procedures, and guidelines are non-existent for use in health care. Some of the concerns relating to this option are organ transplant, amputation and diseases affecting organs e.g. retinopathy.

- Contact for more information:
  N/A

- Indicators of Market Acceptance:
  N/A

- Identifiable costs:
  Considered very expensive. Specific details not available.

1.2.3. Directory Service

- Description of Standard:
  This method is proposed by Dr. William L. McMullen of Mitre Corporation. It will use existing patient identifiers to provide linkages to records of individuals across systems. The system includes social characteristics (name, SSN, address, driver license etc.) human characteristics (finger print, retina scan etc.) and other groupings such as sex, race, DOB, etc. The directory service would reconcile interactively and heuristically the proper association of the patient identification data at the current point of care with any one of the other prior points of care. This step would be supported by automated capabilities that would facilitate locating the other patient records for which a record linkage is valid. The current point of care location would then be linked with any of the other selected point of care locations by electronically exchanging their network addresses.

- Readiness of Standard:
  N/A

- Contact for more information:
  The Mitre Corporation
  7525 Colshire Drive
  McLean, VA 22102-3481

- Indicators of Market Acceptance:
  N/A

- Identifiable costs:
  Considered expensive. Specific details not available.

1.2.4. Personal Immutable Properties

- Description of Standard:
  Dr. Paul Carpenter and Dr. Chris Chute of Mayo Clinic have proposed a model Unique Patient Identifier (UPI) which consists of a series of three universal immutable values plus a check digit. The three values are a seven-digit date of birth field, a six-digit place of birth code, a five-digit sequence code (to identify the individual born on the same date in the same geographic area) and 4) a single-check digit. For emergency situations the use of temporary UPI with the prefix "T" is recommended.

- Readiness of Standard:
  N/A

- Contact for more information:
  Dr. Paul Carpenter or Dr. Chris Chute
  Mayo Clinic
  Rochester, MN 55905

- Indicators of Market Acceptance
  N/A

- Identifiable costs:
  N/A

1.2.5. Patient Identification System Based on Existing Medical Record Number and Practitioner Prefix:

- Description of Standard:
  Medical Records Institute proposes the use of existing provider institution generate medical record number with a provider number prefix. The solution requires consensus on a practitioner identification system but eliminates the cost of creating, implementing and maintaining nationwide (patient) numbering system. The unique practitioner ID would identify the location of the patient database, and the medical record number would identify the patient's record within that database. The solution also includes the patient designation of a practitioner of choice to be the curator who functions as the gateway for the linking and updating of information.

- Readiness of Standard:
  N/A

- Contact for more information:
  Medical Records Institute
  567 Walnut Street, P.O. Box 600770
  Newton, MA 02160

- Indicators of Market Acceptance:
  N/A

- Identifiable costs:
  N/A

1.2.6. Public Key - Private Key Cryptography Method

- Cryptography-based health care identifiers:
  Dr. Peter Szolovits, Massachusetts Institute of Technology proposes a Health care Identifier System based on public-key cryptography method. Anyone who wants to use this method needs to acquire two keys that allow arbitrary messages to be encoded and decoded. These two keys contain mathematical functions that are inverses of each other. The method consists of a patient private-key and a organizational (provider) public-key together generating and maintaining IDs that are both organization specific as well as unique to individual patients within that organization. The ID can be revealed to other institutions or practitioners only with the private-key of the patient. Both centralized and decentralized controls are possible. Under the decentralized scheme the patient has the ultimate control over the degree to which the lifetime collection of medical information is made available to others. Under the centralized scheme an umbrella organization (trusted authority) handles all patient private-keys via an ID Server, and the patient will have the public-key.

  At the request of authorized institutions the ID Server will generate Patient ID with the use of both the patient's private-key and public-key. Under both schemes, the use of smart card and computer are required.

- Readiness of Standard:
  N/A

- Contact for more information:
  Dr. Peter Szolovits
  Massachusetts Institute of Technology
  Laboratory for Computer Science
  545 Technology Square
  Cambridge MA 02139

- Indicators of Market Acceptance:
  N/A

- Identifiable costs:
  N/A

2. Employers

2.1 Unique Identifier Standards for Employers:
None Exists

2.2 Unique Identifier Options for Employers:

2.1.1. PAYERID

- Description of Standard:
  The PAYERID has a nine numeric digit identifier which includes a 6-digit base number, a 2-digit suffix and a check digit. For those plans and employers requiring many different numbers the ID is issued as a 6-digit base number, a 2-digit suffix and a check digit. For those not requiring different numbers, it is issued in the form of one or more 8-digit numbers with a check-digit. The PAYERID was planned a national identification system to facilitate health care claims. In view of the HIPAA 1996 Legislation, HCFA will be proposing PAYERID as the standard health identifier for both health plans and employers.

- Readiness of Standard:
  HCFA's Schedule for implementing PAYERID is listed below.
  - Notice of Proposed Rule Making (NPRM) February '97
  - Voluntary use of PAYERID for Medicare Claims April '97
  - Publish Final Regulation July '97
  - Require for Medicare January '98
  - Require for Industry July '99
  -
- Contact for more information*:*
  Robert Moore
  HCFA
  7500 Security Blvd.
  Baltimore, MD 21244

- Indicators of Market Acceptance:
  N/A

- Identifiable costs:
  N/A

3. Health Plans

3.1 Unique Identifier Standards for Health Plans:
None Exists

3.2 Unique Identifier Options for Health Plans:

3.2.1. PAYERID
Same as 2.2.1 above.

4. Health Care Providers

4.1. Unique Identifier Standards for Health Care Providers:
None Exists

4.2. Unique Identifier Options for Health Care Providers:

4.2.1. National Provider Identifier (NPI)

- Description of Standard:
  The NPI is an eight-position alphanumeric identifier. The eighth position is an International Standards Organization-approved check digit, which will allow a calculation to detect keying or transmission errors. The National Provider System will assign the NPI and will also assign two-position alphanumeric location identifiers to indicate practice locations of the provider. Neither the NPI nor the location identifiers will have embedded intelligence. That is, information about the provider, such as the type of provider or state where the provider is located, will not be conveyed by the NPI. This information will be recorded in the system, but will not be part of the identifier. Individual and group providers will receive location identifiers for their office practice locations. Individuals and groups will not receive location identifiers for the hospitals or other organization providers where they practice, since these organization providers will receive their own NPIs. The NPIs of individual providers who are members of a group will be linked to the NPI of the group. The relationships defined among organization providers differ, depending upon the specific business rules of different health programs. The National Provider System will enumerate organization providers at the elemental level, so that different health programs can link these providers according to their program-specific business rules. Each organization provider in a separate location will receive a separate NPI. Each member of an organization chain and each part of an organization provider that needs to be identified will receive a separate NPI. The National Provider System will have a query facility that will link organization providers that have a common Employer Identification Number. Organization providers will have only one active location identifier.

- Readiness of Standard:
  HCFA's schedule for implementation of NPI is listed below.
  - Notice of Proposed Rule Making Published in
  - Federal Register 02/21/97
  - Final Regulation Published in Federal Register 07/02/97
  - NPIs Issued to Medicare Providers No Later Than 08/01/97
  - Required Use of NPI for Medicare claims 12/01/97

- Contact for more information:
  Robert Moore
  HCFA
  7500, Security Blvd.
  Baltimore, MD 21244

- Indicators of Market Acceptance:
  N/A

- Identifiable costs:
  None

4.2.2. Unique Physician Identifier Number (UPIN)

- Description of Standard
  HCFA created UPIN as required by COBRA to identify physicians who provide services for which payment is made under Medicare. UPIN is a six-place alphanumeric identifier. The UPIN Registry is the carrier that maintains the UPIN. A total of 704,926 UPINs have been assigned to 2,088,309 physicians.

- Readiness of Standard
  UPIN addresses only a small segment of the provider community i.e. physicians with dedicare practice. HCFA's current proposal of National Provider File/NPI replaces UPIN with NPI.

- Contact For More Information
  Robert Moore
  HCFA
  7500, Security Blvd.
  Baltimore, MD 21244

- Indicators of Market Acceptance
  N/A

- Identifiable costs
  None

4.2.3. National Association of Boards of Pharmacy Number
(NABP Number)

- Description of Standard
  Each licensed pharmacy in the United States is assigned a unique seven-digit number by the National Council for Prescription Drug Programs (NCPDP), in cooperation with the National Association of Boards of Pharmacy. The purpose of this system is to enable a pharmacy to identify itself to all third-party processors by one standard number. The first two digits of the NABP Number denotes state designation. The second group four digits identify the pharmacy and assigned sequentially from 0001 up. The last digit is a check-digit.

- Readiness of Standard
  NABP Number is currently in use by pharmacies in United States.

- Contact for more information
  Noe Gomez
  NCPDP/NABP
  4201 North 24th Street, Suite 365
  Phoenix, AZ 85016

- Indicators of Market Acceptance
  NABP Number is currently in use by pharmacies in United States.

- Identifiable Costs
  None

4.2.4. Health Industry Number (HIN)

- Description of Standard
  HIN is used as an identifier for contract administration in the health industry supply chain, as a prescriber identifier for claims processing and for market analysis applications. It enumerates prescriber by location, provider establishments and other entities in the health industry supply chain. The Identifier includes a "base HIN" consisting of seven (7) character identifier and a two (2) character suffix to identify the location of the prescriber.

- Readiness of Standard
  HIN has been in use since 1987 in the health industry supply chain and in state-administered claims processing.

- Contact for more information
  Robert A. Hankin, Phd, President,
  HIBCC
  5110 North 40th Street, Suite 250
  Phoenix, AZ 85018

- Indicators of Market Acceptance
  According to HIBCC, HIN is endorsed or being implemented by the following:
  - American Hospital Association (AHA)
  - American Medical Association (AMA)
  - American Nurses Association (ANA
  - American Society for Automation in Pharmacy (ASAP)
  - American Veterinary Distributors Association (AVDA)
  - Animal Health Institute (AHI)
  - Centers for Disease Control & Prevention (CDC)
  - Health Industry Distributors Association (HIDA)
  - Health Industry Group Purchasing Association (HIGPA)
  - Health Industry Manufacturers Association (HIMA)
  - Healthcare Information and Management Systems Society (HIMSS)
  - National Wholesale Druggists' Association (NWDA)
  - Pharmaceutical Research and Manufacturers Association (PhRMA)
  - State of Tennessee, TennCare Program
  - US Department of Defense (DoD), Defense Personnel Support Center (DPSC)
  -
- Identifiable Costs
  There is no cost to entities enumerated on the database.