

National Institutes of Health

University of the Philippines, Manila

The Standards for Health Information in the Philippines

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Program on
Computer Research and Information
Technology (CRIT)

Important! Please read the following:

This document was designed for double-sided printing. In particular, the section on SHIP Data Elements Level One is formatted with the SHIP data elements on the left-hand side (even-numbered page), and the corresponding DEEDS data elements on the right-hand side (odd-numbered page).

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National Institutes of Health, 1999

**The Study Group on Standards for Health Information
National Institutes of Health
Computer Research and Information Technology for Health Program**

Recognizing the important role information technology will play in the health care industry, the National Institutes of Health Manila (NIH) created the Computer Research and Information Technology for Health Program (CRIT). As its pioneering project, the CRIT moved to convene the major stakeholders in the industry and form a study group to determine standards for health information in the country. **In particular, the study group aimed to formulate sets of recommendations for the standardized method of collection, storage, transmission, and dissemination of health data throughout the country.**

This paper will contain the recommendations of the Study Group. It will be divided into three major parts: the recommended standards for data elements, the recommended standards for data interchange, and the recommended coding systems and terminology. This paper will be initially released as a draft that will be subsequently reviewed and criticized by stakeholders in the local healthcare industry.

The paper will be a merging of both newly developed and inherited material. A major part of the collaboration was spent on formulating the recommendations for data elements, the building blocks of any electronic database system. When properly implemented, a system developed using these data elements will be basically compliant with another. Intersystem compliance is one of the priority objectives of the project.

Having agreed not to reinvent the wheel, the study group embarked on a research of all existing standards in the world. These were then evaluated according to several parameters: local applicability, availability, affordability, and capacity for immediate implementation. From these evaluation parameters, final recommendations will then be made.

The Standards for Health Information in the Philippines - Data Elements (SHIP-DE) will be the recommendation of the Study Group for standard data elements. It is a result of a series of meetings by the Study Group's Core Technical Committee culminating with the modified adoption of current international standards, most notably the Data Elements for Emergency Department Systems Release 1.0 (DEEDS) published by the Center for Disease Control in Atlanta, Georgia. The SHIP-DE will be freely available in the public domain but will be copyrighted by the NIH-Study Group on Standards for Health Information for stewardship and for prevention of unauthorized alterations.

Health Level Seven or HL7 is a currently recognized international standard for health data interchange. It is the Core Technical Committee's popular choice for the standardized method of health data interchange between disparate systems.

International Classification of Diseases version 10 is the core technical committee's recommended standard for coding.

Finally, the paper will contain recommendations from the Study Group regarding future courses of action. Standards development is a dynamic process and constant monitoring is required for quality assurance both in development and in implementation. The recommendations will clearly indicate the path to follow for all stakeholders in the industry.

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<http://users.linuxbox.com/~amarcelo/nih.gov.ph/>

<http://www.doh.gov.ph>

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Introduction

The Standards for Health Information in the Philippines Data Elements Level One (SHIP-DE1)

By Alvin B. Marcelo, M.D.

Data elements are critical components in the design of any database system. They are the building blocks from which more knowledge may be deduced. Often, the data elements to be used are decided upon by the information requirements of the enterprise. It is therefore necessary to determine the needs of the company or institution even before attempting to list the data elements that are relevant to the enterprise. It is not surprising therefore that a set of data elements for one hospital may be inadequate for another, or overly detailed for yet another.

This posed a problem for the Study Group because although it is made up of the major stakeholders in the healthcare industry in the country, they are still diverse enough to have varying information requirements.

One of the major issues faced by the study group was to look for the common ground from which all of the stakeholders can work on.

The paper of Dr. Isidore Nepomuceno on the DOH National Health Information Infrastructure (NHII) minimum data set resolved this issue. To quote:

...the development of the minimum data set is based on the following principles:

- reduction of cost requirement for sharing and communicating health data in a heterogeneous systems environment...*
- provision of a standard data set which is consistent with existing requirements as mandated by law*

Clearly, following Dr. Nepomuceno's dictum, only a number systems can be used for this purpose since only a few government institutions are mandated by law to collect medical information:

*To serve scalable users from a simple clinic to a tertiary hospital, it incorporates a comprehensive list of codes to serve all purposes, and recognizes de facto standards being implemented such as 1) **minimum hospital licensing or statistical requirements of the Department of Health**, 2) **minimum Philippine Health Insurance Corporation (PHIC) requirements**, and 3) **other hospital and medical societies' requirements**.*

Dissecting the above paragraph, it is evident that the PHIC comes out as the least common denominator among the three (DOH, PHIC, other hospital and medical societies). The DOH uses aggregated data which effectively eliminates it as an option. On the other hand, properly collected PHIC data elements may provide the DOH a rich resource for such aggregate data. Currently, hospitals and medical societies are not required by law to supply information. Consequently, the PHIC data set emerges as the template for the Study Group's minimum data set.

A minimum data set, by definition, is never complete. This is the reason this version of the Standards for Health Information in the Philippines Data Elements is termed Level One (SHIP-DE1). Further levels of the SHIP (Level Two and above) will require work from another study group or a mandated standards governing body.

The NHII Minimum Data Set

National Health Information Infrastructure (NHII)

By Isidore Nepomuceno, M.D.,M.Sc.
Health Intelligence Service
Department of Health

National Minimum Health Data Set

“Information is a determinant of Health.” It is an important health resource which could improve the delivery of quality health care to everyone. Well-organized and systematic collection, sharing, and use of health data are vital to all health care and health-related organizations. Health data are important for health care management and administration, public health surveillance, risk assessment and management, quality assurance and improvement, health financing, health research, education and training, and many more. It is a health resource which we readily have all along, but have neglected to manage in many ways.

Defining a National Minimum Health Data Set for use by all stakeholders in the health care sector is a necessary step to good health data management. It provides the basis for data exchange and sharing, technical reference for development of health information systems, and baseline data description and dictionary to facilitate understanding and utilization of health data. The National Minimum Health Data Set is one component of the National Health Information Infrastructure, an initiative of the Department of Health under its Integrated Community Health Services Project (ICHSP).

The development of the National Minimum Health Data Set will be participated and agreed upon by all stakeholders. It will be anchored through the works of a core technical group, composed of the ICHSP's Technical Coordinating Team on Health Management Information Systems and the National Institute of Health, University of the Philippines under its Study Group on Standards for Health Information. The development of the minimum data set is based on the following principles:

1. reduction of cost requirement for sharing and communicating health data in a heterogeneous systems environment
2. reduction of cost of developing and maintaining health information systems by providing common definitions to all data elements which will be acceptable nationwide
3. provision of a standard data set which is precise and unambiguous, and acceptable to all stakeholders
4. provision of a standard data set which is consistent with existing requirements as mandated by law

5. provision of a standard data set which is consistent / accepted internationally or at least supported by international standards organizations which assure continuity and efficient updating over a longer period of time
6. provision of a standard data set which is technologically independent of any physical (computer hardware and software) implementation
7. provision of a standard data set which requires the minimum implementation cost in relation to the benefits acquired
8. provision of a standard data set which requires the minimum burden of data collection and paper work of data providers, which in most cases are also the health care providers

Implementation of the National Minimum Health Data Set ensures a uniform recording of health data. It will be shared and made available to legitimate users with appropriate protection to safeguard the identity of patients, health providers and health care facilities. As a component of the National Health Information Infrastructure, it is seen as a catalyst for the improvement and further development of health data/information management and use nationwide. In effect, it promotes better public-private partnership in health care delivery. The ultimate beneficiary of such will be an improved quality of health care for all.

At present, most sharable data outside the domain of health care facilities are aggregated into statistical indicators. This is particularly true for most reporting mechanisms employed at municipal, city, provincial, regional, and national health organizations. In most cases, exchange and sharing of data are done in analog format. At the level of health care administration, it is also an obvious fact that we are still employing paper records which have to be transcribed into digital records, transactions, and statistics. The flow and exchange of health documents, charts, and orders have to be tracked manually. Although these practices are still proven efficient in a lot of ways, the general trend of using digital format in communicating health data across health providers, facilities, and other key players in the health care industry are becoming very popular. This trend could be an inevitable reality in the near future, as many health care organizations globally are now shifting to a computerized health data management for its obvious advantages.

Recognizing this fact, the development of the National Minimum Health Data Set is directed towards its applicability in a digital environment. Part of the definitions of the data elements contains descriptions which will be useful in constructing digital databases such as 'data type' and 'field length'. In order to serve a wide-range of stakeholders which implement their information systems in many different (heterogeneous) ways, the data set is defined in a logical format without biases to any specific choices of software implementation. For some health information systems which have already been developed or implemented, the minimum data set will serve as a nationally agreed data exchange format in order for such systems to interact with other systems. A recommended mapping format with specific naming convention is provided.

The National Minimum Health Data Set follows or adheres to internationally recognized standards to minimize incompatibilities for adjustments, and to maximize acceptability by most stakeholders. Those who will be developing their health information systems for the first time could benefit most by adhering closely to its recommended specifications. To serve scalable users from a simple clinic to a tertiary hospital, it incorporates a comprehensive list of codes to serve all purposes, and recognizes de facto standards being implemented. Examples of de facto standards include minimum hospital licensing or statistical requirements of the Department of Health, minimum Philippine Health Insurance Corporation (PHIC) requirements, and other hospital and medical societies' requirements. Lastly, to maximize secondary usage of health data beyond health care facilities, the data set includes unique identifiers which are national in scope. These identifiers will keep the confidentiality of health data, avoid duplication and redundancies in data aggregation, and promote integrity of the national data set at all times.

The Philippine Health Insurance Corp. (PHIC) Data Elements

As Abstracted by Ronald Allan Pablo

PHILHEALTH PHILHEALTH FORM 1 MEMBER/EMPLOYER CERTIFICATION

Revised 9/97

This form can be reproduced but is not for sale.
Submit one (1) copy only prior to hospital discharge

PART 1: Member Data

(Member to Fill in All Items/Indigent to be assisted by hospital representative.)

1. Name of Member (Last, First, Middle)

Box 1.

- To be filled in with the Member's **FULL NAME**
- Last name **FIRST**
- Note: For names with the affixes such as JR/SR, these are to be placed after the surname

2. Age

Box 2.

- To be filled in with the Member's **AGE**

3. Date of Birth

Box 3.

- To be filled in with the Member's **Date of Birth (MM/DD/YY)**

4. Civil Status Single Married Separated Widow(er)

Box 4.

- To be filled in with the Member's **CIVIL STATUS**
- To be compared with the E1 and/or **ATTACHED DOCUMENTS** (i.e. Marriage Contract, Birth Cert., etc.)

5. Sex () Male () Female

Box 5.

- To be filled in with the Member's **SEX** (M/F)

6. Address of Member (No., Street, Barangay, Municipality/City, Province)

Box 6.

- To be filled in with the Member's complete and permanent **POSTAL ADDRESS**

7. SSS / GSIS / MEC / PHILHEALTH No. Pensioner? () yes () no

Box 7.

- To be filled in with the **MEMBERSHIP NUMBER**

8. Name of Spouse (Last, First, Middle)

Box 8.

- To be filled in with the Member's **SPOUSE NAME**, if applicable

9. If spouse is employed, Name and Address of Employer

Box 9.

- To be filled in with the **NAME** and **ADDRESS** of the Spouse's employer, if applicable

10. SSS / GSIS / MEC / PHILHEALTH No.

Box 10.

- To be filled in with **MEMBERSHIP NO.** of the Spouse

11. Patient Name (Last, First, Middle)

Box 11.

- To be filled in with **PATIENT'S NAME**
- *Note: This item allows the Processors to identify the relationship between the patient and the member if the patient is not the member.*

12. Age

Box 12.

- To be filled in with the **PATIENT'S AGE**

13. Date of Birth (DOB)

Box 13.

- To be filled in with the **PATIENT'S DOB** (MM/DD/YY)

14. Sex () Male () Female

Box 14.

- To be filled in with the **PATIENT'S SEX** (M/F)

15. Relationship to Patient (Check all applicable boxes if patient is dependent)

- Legitimate Spouse not PHIC Member
- Parent who is 60 years old and above, not PHIC member
- Unmarried and unemployed, legitimate, legitimated, acknowledged member and wholly dependent on me for support 21 years old (Pls. Underline)
- Unmarried children above 21 years old with physical/mental disability congenital and/or acquired before reaching 21 years old and wholly dependent on me for support

Box. 15.

- The Member identifies his/her relationship with the patient

16. If Patient was hospitalized within ninety (90) days prior to this admission, state name & address of the hospital and exact confinement period

Box 16.

- If the patient (member or dependent) had been confined within the ninety day allowance, the member indicates the **NAME OF HOSPITAL and the CONFINEMENT PERIOD.**
- *Note: a. Maximum of forty-five (45) days for members; and
b. Maximum of forty-five (45) days for all dependents.*

17. MEMBER'S CERTIFICATION: I certify that the foregoing information is true and correct.

Signature of Member

Relationship to Member

Printed Name & Signature of Witness to thumb mark
If Unable to Write, Affix Thumb mark

Box 17.

- The Member certifies the validity of the information given.

18. Employer's Registered Name

Box 18.

- To be filled in with the Member's EMPLOYER NAME, if applicable
- However, SELF-EMPLOYED/PENSIONERS/ VOLUNTARY MEMBERS need not fill in this item.

19. SSS Employer ID No.

Box 19.

- To be filled in with the **EMPLOYER'S MEMBERSHIP NO.**

20. Address of employer

Box 20.

- To be filled in with the **EMPLOYER'S ADDRESS**

21. Branch/Station, If any (For teachers, indicate name of School)

Box 21.

To be filled in with EMPLOYER'S BRANCH (location)

22. Employer's Certification

This is to certify that three (3) monthly contributions were collected during the 6-month period prior to the month of this certification and that the data supplied by him on part 1 are true and confirm with our available records.

Printed Name & Signature of Authorized Representative

Official Capacity

Date Signed

Box 22.

- The employer certifies the validity of the information given by both employee & employer.

**PHILHEALTH CLAIM FORM
PHILHEALTH FORM 2**

Revised 11/97

This form can be reproduced but is NOT FOR SALE

Submit one (1) copy within sixty (60) days from discharge together with PhilHealth Form 1 and other supporting documents.

Part 1: Hospital Data and Charges (Hospital to Fill in All Items)

1. Hospital Name

Box 1.

- To be filled in with the complete HOSPITAL NAME

2. PhilHealth Acc. No.

Box 2.

- The Hospital fills in their **PHILHEALTH ACCREDITATION NO.**

3. Philhealth Category P S T

Box 3.

- The Hospital checks appropriate category.

4. Postal Address of Hospital (No., Street Barangay, Municipality/City, Province)

Box 4.

- To be filled in with the Hospital Address

5. PhilHealth Acc. Beds

Box 5.

- To be filled in with no. of beds accredited with PhilHealth

6. Patient Name (Last, First, Middle)

Box 6.

- To be filled in with the Patient's name
- Last name FIRST
- For affixes such as JR/SR, these should be indicated after the surname

6a. Relationship Spouse Child Parent

Box 6a.

- To be checked in order to identify the relationship between the member and the patient

7. SEX () M () F

Box 7.

- To be filled in with the SEX of the patient

8. AGE

Box 8.

- To be filled in with the AGE of the patient

9. Name of Member (Last, First, Middle)

Box 9.

- To be filled in with the Member's name
- Last name First
- For affixes like JR/SR, these are indicated after the surname

10. Membership No. Pensioner () yes () no

Box 10.

- To be filled in with the Member's MEMBERSHIP NO.

11. Employer's SSS ID No.

Box 11.

- To be filled in with the Employer's MEMBERSHIP NO.

12. Postal Address of Member (No., Street, Barangay, Municipality/City, Province)

Box 12.

- To be filled in with the POSTAL ADDRESS of the member

13. Admission Diagnosis

Box 13.

- To be filled in by the hospital indicating the DIAGNOSIS upon admission

14. Confinement Period

- a) Date Admitted _____
- b) Time Admitted _____
- c) Date Discharged _____
- d) Time Discharged _____
- e) Date of Death _____
- f) Claimed No. of Days _____

Box 14.

- To be filled in with the dates of ADMISSION & DISCHARGE, and the no. of days claimed.

15. Detail of Hospital Charges

(PHILHEALTH CLAIM, Actual charges, HOSP, PATIENT, REDUCTION CODE)

- a) Room and Board
- b) Drugs and Meds. (Part 3 for details)
- c) X-ray/ Lab test/ Others (Part 4 for details)
- d) OR Fee
- e) Medicines Bought & Lab. Performed outside hospital during confinement period

TOTAL

Box 15.

- To be filled in to indicated the expenses within the confinement period.

PHILHEALTH FORM 2

PART 3

The hospital fills in the amount claimed, quantity and expenses of DRUGS and MEDICINES that were used within the confinement period.

PART 4

The hospital fills in the X-RAY, LABORATORY, and other expenses.

Choosing a Standard for Data Elements: DEEDS

By Alvin B. Marcelo, M.D.

Creating a standard for data elements is not very difficult. Any institution can actually formulate its own set of data elements for its internal consumption. In the 1950's, American health information systems flourished precisely in this liberal atmosphere. And as history has shown, the diversity of their data elements prevented easy interoperability later on especially in this time of managed care when sharing of data had to be done to decrease the costs.

Such chaos occurs when data element definition is done unilaterally by stakeholders. In these cases, the potential for interoperability is markedly reduced. Unilateral creation of data sets have the real potential of creating a setting of anarchy -- a Tower of Babel of sorts that severely limits connectivity with allies in health care.

The Study Group realized that reinventing the wheel is not only expensive and troublesome, but is also totally unnecessary. Many data element sets are available for free from different institutions around the world. All that needed to be done was to have a thorough understanding of these followed by the combined, unified political will of all stakeholders to embrace only one.

The Study Group decided early in the project to adopt an existing standard for data elements. The following parameters were used to assess the standards:

1. **Availability of the Standard.** It was important to have the standard easily available for distribution. This meant it had to be free and it had to be in a format that is readily distributable to the stakeholders.
2. **Readiness for implementation.** The Standard of choice had to be immediately ready for implementation by the stakeholders. This must not be too technically sophisticated as to preempt use at the soonest possible time.
3. **Suitability.** With a lack of local standards, it was obvious that an international one will be adapted. Cultural differences are inevitable facts in adoption of foreign concepts. It was important for our choice to merge easily with our local healthcare concepts.
4. **Scalability.** Dr. Nepomuceno mentioned in his paper that the data elements had to be usable in all levels of healthcare delivery -- from the small barangay clinic to the tertiary care hospital. (See section on NHII.)

Following the criteria above, the Study Group decided to adopt the Data Elements for Emergency Department Systems (DEEDS) release 1.0 as our basis for structuring a standard set of data elements.

The Data Elements for Emergency Department Systems (DEEDS) release 1.0 Format

DEEDS presents its data elements as follows: (Patient Name is used as an example.)

Metadata Code - a numeric code that is specific to the data element. This is important if we want to map existing information systems to DEEDS.

e.g. Metadata 1.01: Internal ID

Definition - formal meaning of the data element

e.g. the legal name of a person as registered in his official birth certificate.

Discussion - some issues concerning the use or development of the data element

e.g. Commonly, names of Filipinos follow the <Firstname> <Middleinitial> <Lastname> format. However, there are additional pertinent information such as suffixes (e.g. Sr, Jr) that are also relevant. There are also variations like split last names (del Rosario), abbreviated names (Sto.Tomas), foreign sounding (Kim Lee Uy) which further complicate data collection. Note that the PHIC only concerns itself with last name (60 characters), first name-suffix (60), and middle name (60). The National Statistics Office conventions for defining parts of a name will be referenced heavily by this paper.

Data Type (Field Length) - technical specifications needed in creating the database (for programmers)

e.g. Alphanumeric (180).

Repetition – indicates if the element can occur more than once in a record

e.g. identification numbers: one person may have multiple identification numbers depending on the system used (SSS, OWWA, GSIS, etc.)

Access Type - how the element can be called by the system

e.g. Confidential

Field values - components of the data elements

- Component 1 is the family name.
- Component 2 is the given name .
- Component 3 is the middle name or initial .
- Component 4 is the suffix (e.g., Jr) .
- Component 5 is the prefix .
- Component 6 is the degree (e.g., Dr) .
- Component 7 is the code for the name type (defaults to L, indicating legal name). See section on DEEDS for the other types.

For further details regarding DEEDS, please see www.cdc.gov.

Mapping of PHIC Data Elements to DEEDS

After the data elements from the PHIC were abstracted, the Study Group proceeded to map the PHIC data elements to those of the Data Elements for Emergency Department Systems (DEEDS). DEEDS maintains a metadata code for its elements which the Study Group decided to retain.

There were three ways the PHIC data elements mapped to the DEEDS: *fully compatible, compatible with modification, and for study group definition.*

Fully Compatible

If a data element of the PHIC mapped exactly with that of DEEDS and did not need local modification, the Core Group decided to retain the complete DEEDS definition. In such cases, no addendum follows the DEEDS definition. A good example of a fully compatible data element is SEX.

Compatible With Modification

If a data element of the PHIC mapped exactly with that of DEEDS but lacked some specifications for Philippine application or different with DEEDS in terms of the coding system, it was termed compatible with modification. In this case, an addendum containing the local modification follows the DEEDS specification. An example of a data element that is compatible with modification is OCCUPATION. In DEEDS, the coding system used was the National Institute of Occupational Safety and Health (NIOSH). The Study Group recommendation is the Philippine Standard Occupational Classification (PSOC).

For Study Group Definition

If a data element of the PHIC is non-existent in DEEDS or does not map exactly, the Study Group defines its own data element using the data types as prescribed by DEEDS. (See DEEDS technical notes section.) A good example of this is the Universal Patient Index.

The Standards for Health Information in the Philippines

Data Elements Level One (SHIP-DE1)

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SHIP Data Elements

Patient Identification Data

- 1.01 Internal ID
- 1.02 Name
- 1.04 Patient Date of Birth
- 1.05 Patient Sex
- 1.08 Patient Address
- 1.09 Patient Telephone Number
- 1.11 Patient External Number
- 1.12 Patient Occupation
- 1.13 Patient Industry
- 1.19 Patient Place of Birth
- 1.99 Universal Patient Index

Health Facility Identification Data

- 2.01 Health Facility ID

Practitioner Identification Data

- 2.02 Primary Practitioner Name
- 2.03 Primary Practitioner ID
- 2.04 Primary Practitioner Type
- 2.05 Primary Practitioner Address
- 2.06 Primary Practitioner Telephone Number

SHIP Data Element: Internal ID

Metadata Code: 1.01

Data Type: CX

Length: 20

Recommended variable names: INTERNAL_ID, INTER_ID

Mapping (PHIC to DEEDS): Fully Compatible

DEEDS**1.01 INTERNAL ID****Definition:**

Primary identifier used by facility to identify patient at admission (e.g., medical record number).

Uses:

The facility's internal identifier allows appropriate data exchange between approved parties while health care is being delivered and ensures that accessed, entered, or altered records correspond with the proper patient. It also facilitates data linkage for administrative and research purposes.

Discussion:

Until a universal patient identifier is established, a locally assigned identifier is needed. To protect patient privacy and confidentiality, access to this data element must be limited to authorized personnel.

Data Type (and Field Length): CX — extended composite ID with check digit (20).

Repetition: No.

Field Values:

Component 1 is the identifier.

Component 2 is the check digit.

Component 3 is the code indicating the check digit scheme employed.

Components 4–6 are not used unless needed for local purposes.

Enter the primary identifier used by the facility to identify the patient in Component 1. If none or unknown is applicable, then enter "" or Unknown in Component 1, and do not make entries in the remaining components. Components 2 and 3 are for optional use when a check digit scheme is employed.

Example, when M11 refers to the algorithm used to generate the check digit:

Component 1 = 1234567

Component 2 = 6

Component 3 = M11

Data Standards or Guidelines:

Health Level 7, Version 2.3 (HL7, 1996).

Other References:

None. See technical notes in appendix for definitions of data types and other details.

SHIP Data Element: Patient Name

Metadata Code: 1.02

Data Type: XPN **Length:** 180

Recommended variable name: PTP_NAME

Mapping (PHIC to DEEDS): Compatible with Modification

Modification:

DEEDS does not impose the lengths of the components. The Study Group recommends **field** lengths to the **components** (inside parentheses).

Modified Field Values

Field length: (180)

Component 1 is the family name (50).

Component 2 is the given name (50).

Component 3 is the middle name or initial (50).

Component 4 is the suffix (e.g., Jr) (5).

Component 5 is the prefix (5).

Component 6 is the degree (e.g., Dr) (5).

Component 7 is the code for the name type (defaults to L, indicating legal name) (1).

DEEDS**1.02 NAME****Definition:**

Legal name of patient.

Uses:

This basic information enables the ED data user to identify most records without resorting to codified identifiers or cross-reference schemes.

Discussion:

The legal name is usually the name on a birth certificate, a current married name, or another name sanctioned by the legal system. In some cases, it may be the name on a passport or other official immigration documentation. To protect patient privacy and confidentiality, access to this data element must be limited to authorized personnel.

Data Type (and Field Length): XPN — extended person name (48).

Repetition: No.

Field Values:

Component 1 is the family name.

Component 2 is the given name.

Component 3 is the middle name or initial.

Component 4 is the suffix (e.g., Jr).

Component 5 is the prefix.

Component 6 is the degree (e.g., Dr).

Component 7 is the code for the name type (defaults to L, indicating legal name).

Example:

Component 1 = Smith

Component 2 = John

Component 3 = A

Enter Unknown in Component 1 if the entire name is unknown. In other components, "" (none) or Unknown may be entered when appropriate. Entries are not made in Components 4–7 when they are not needed.

Data Standards or Guidelines:

E1238-94 (ASTM, 1994), E1384-96 (ASTM, 1996), and Health Level 7, Version 2.3 (HL7, 1996).

Other References: None.

SHIP Data Element: Patient Date of Birth

Metadata Code: 1.04

Data Type: TS

Length: 26

Recommended variable names: PTP_DATEOFBIRTH, PTP_DOB

Mapping (PHIC to DEEDS): Fully Compatible

DEEDS**1.04 DATE OF BIRTH****Definition:**

Patient's date of birth.

Uses:

Date of birth can be used to calculate the patient's age, to distinguish between patients with the same name, and to provide discriminatory power in probabilistic linkage of patient records.

Discussion:

Time can be included for newborns. Date of birth can be estimated from the patient's age (see method recommended under TS — time stamp in the Technical Notes at the end of this document).

Data Type (and Field Length): TS — time stamp (26).

Repetition: No.

Field Values:

Year, month, and day of birth are entered in the format YYYYMMDD. For example, a birth date of August 12, 1946, would be encoded as 19460812. Date and time of birth are entered in the format YYYYMMDDHHMM. For example, a birth at 10:30 pm on June 1, 1997, would be encoded as 199706012230.

Data Standards or Guidelines:

E1384-96 (ASTM, 1996) and Health Level 7, Version 2.3 (HL7, 1996).

Other References: None.

SHIP Data Element: Patient Sex

Metadata Code: 1.05

Data Type: IS

Length: 1

Recommended variable names: PTP_SEX

Mapping (PHIC to DEEDS): Fully Compatible

DEEDS**1.05 SEX**

Definition:

Sex of patient.

Uses:

The patient's sex is standard demographic and identifying information used in clinical care and for multiple additional purposes.

Discussion: None.

Data Type (and Field Length): IS — coded value for user-defined tables (1).

Repetition: No.

Field Values:

Code Description

M	Male
F	Female
U	Unknown or undetermined

Data Standards or Guidelines:

E1384-96 (ASTM, 1996) and Health Level 7, Version 2.3 (HL7, 1996).

Other References: None.

DEEDS

1.08 ADDRESS

Definition:

Address of patient.

Uses:

The address is useful for patient follow-up and billing. It also is used to determine the agency responsible for potential public health interventions and to link patient-specific data with census data so that incidence rates can be calculated. To protect patient privacy and confidentiality, access to this data element must be limited to authorized personnel.

Discussion:

This information probably is available from registration and billing record systems, in which addresses are routinely entered and stored.

Data Type (and Field Length): XAD — extended address (106).

Repetition: Yes, if the patient has more than one address.

Field Values:

- Component 1 is the street address.
- Component 2 is the second line of the address (e.g., apartment number).
- Component 3 is the city.
- Component 4 is the state or province.
- Component 5 is the zip or postal code.
- Component 6 is the country.
- Component 7 is the type of address (e.g., mailing).
- Component 8 is another geographic designation (e.g., catchment area ID).
- Component 9 is the county/parish code.
- Component 10 is the census tract.

Example:

- Component 1 = 10 Ash Lane
- Component 2 = Apt 3
- Component 3 = Lima
- Component 4 = OH
- Component 5 = 48132
- Component 9 = 019

Enter "" in Component 1 if the patient has no address, and enter Unknown in Component 1 if the patient's address is not known. In either instance, restrict entries to Component 1. If individual address components are not part of the address (e.g., Component 3 for a rural address without a city designation), enter "", and if individual components are not known, enter Unknown. The county/parish code serves a variety of purposes and when used should be entered in Component 9 as the 3-digit Federal Information Processing Standards code. The default values for entries in Components 6 and 7 are USA and M for mailing address (see the definition of XAD in the Technical Notes at the end of this document). Entries should be made in Components 8 and 10 on the basis of local needs.

Data Standards or Guidelines:

Health Level 7, Version 2.3 (HL7, 1996).

Other References: None

SHIP Data Element: Patient Telephone Number

Metadata Code: 1.09

Data Type: XTN

Length: 40

Recommended variable names: PTP_TELEPHONE, PTP_TELE

Mapping (PHIC to DEEDS): Fully Compatible

Codes for Component 2: Telecommunication Use

<u>Entry</u>	<u>Description</u>
PRN	Primary residence number
ORN	Other residence number
WPM	Work number
VHN	Vacation home number
ASN	Answering service number
EMR	Emergency number
NET	Network (e-mail) address
BPN	Beeper number

Codes for Component 3: Equipment Type

<u>Entry</u>	<u>Description</u>
PH	Telephone
FX	Fax
MD	Modem
CP	Cellular phone
BP	Beeper
Internet	Internet address (use only if telecommunication code is NET)
X.400	X.400 e-mail address (use only if telecommunication code is NET)

DEEDS**1.09 TELEPHONE NUMBER**

Definition:

Telephone number at which patient can be contacted.

Uses:

This number is useful for patient follow-up and billing. Institutional policy should dictate how these data may be used and to whom they will be released. To protect patient privacy and confidentiality, access to the telephone number must be limited to authorized personnel.

Discussion:

This may be a home or business telephone number or the telephone number of a friend, neighbor, or relative. The predominant use of this data element will be to enter the patient's residential or work telephone number, but it also can be used to enter a beeper number, answering service number, fax number, and e-mail address.

Data Type (and Field Length): XTN — extended telecommunication number (40).

Repetition: Yes, if the patient has more than one telecommunication number.

Field Values:

See the definition of XTN in the Technical Notes at the end of this document for complete details.

Component 1 is not used except to indicate there is no phone or it is not known whether there is a phone.

Component 2 is the code indicating the telecommunication use.

Component 3 is the type of telecommunication equipment.

Component 4 is the e-mail address.

Component 5 is the country code.

Component 6 is the area code.

Component 7 is the phone number.

Component 8 is the extension.

Component 9 is a descriptive comment.

Example:

Component 6 = (808)

Component 7 = 555-4321

Component 9 = After 6:00 pm

At a minimum, local phone numbers should be recorded in Component 7 in the format 999-9999. Entries are not made in Components 1–6 and 8–9 when they are not needed.

When the patient has no telephone number, enter "" in Component 1. When it is unknown whether the patient has a number, enter Unknown in Component 1.

Data Standards or Guidelines: None.

Other References: None.

SHIP Data Element: Patient External Number

Metadata Code: 1.11

Data Type: CX

Length: 20

Recommended variable names: EXTERNAL_ID, EXTER_ID

Mapping (PHIC to DEEDS): Compatible with modification

Use:

DEEDS assigned this data element for the Social Security Number (SSN) which is the closest the United States can get to a national patient identifier. Currently, no national patient identifier exists in the Philippines. The Study Group recognizes the authority of the PHIC to develop and implement the PHIC Numbering system. As of this writing however, PHIC has not yet finalized the rules of coding for this element. Temporarily, in this version of SHIP, this data element will be associated with either the SSS, GSIS, OWWA, or a PHIC number which is different from the Patient Internal ID (1.01). A SHIP-defined table was created to designate SSS, GSIS, OWWA, or PHIC numbers (S, G, O, P -- see component 4 below).

Repetition:

Yes. Temporarily, this element allows repetition since a patient may possess both an SSS and a GSIS number, or other combinations of numbers.

Field Values

Component 1 is the identifier.

Component 2 is the check digit.

Component 3 is the code indicating the check digit scheme employed.

Component 4 is the assigning authority

Components 5–6 are not used unless needed for local purposes.

Enter the primary identifier used by the facility to identify the patient in Component 1. If none or unknown is applicable, then enter "" or Unknown in Component 1, and do not make entries in the remaining components. Components 2 and 3 are for optional use when a check digit scheme is employed. Example, when M11 refers to the algorithm used to generate the check digit:

(continued...)

DEEDS**1.11 SOCIAL SECURITY NUMBER****Definition:**

Personal identification number assigned by U.S. Social Security Administration.

Uses:

The Social Security number (SSN) is frequently used as a unique patient identifier, and it may be useful for linkage with some outside data systems. To protect patient privacy and confidentiality, access to this data element must be limited to authorized personnel.

Discussion:

Privacy concerns about the use of the SSN for purposes unrelated to administration of the Social Security system have helped prompt proposals for an alternative universal patient identifier. If implemented, this alternative would make the SSN superfluous as a patient identifier. Several practical factors impede the use of the SSN as a patient identifier or as a data linkage aid. Some patients do not have a SSN (e.g., newborns, people who have never applied for one, illegal aliens, international patients), and some patients have multiple SSNs.

Data Type (and Field Length): ST — string data (16).

Repetition: No.

Field Values:

Enter the SSN in the form NNN-NN-NNNN. Enter "" if the patient or a reliable informant states there is no SSN, and enter Unknown if it is not known whether the patient has one.

Data Standards or Guidelines:

E1384-96 (ASTM, 1996) and Health Level 7, Version 2.3 (HL7, 1996).

Other References: None.

(SHIP-DE 1.11 continued...)

Component 1 = 03-2941927-4 (dashes included)

Component 2 = 6

Component 3 = M11

Component 4 = S

Codes for Component 4:

<u>Entry</u>	<u>Description</u>
S	SSS
G	GSIS
O	OWWA
P	PHIC (e.g. number issued by PHIC for Indigent patients)

SHIP Data Element: Patient Occupation

Metadata Code: 1.12

Data Type: CE

Length: 200

Recommended variable names: PTP_OCCUPATION, PTP_OCCU

Mapping (PHIC to DEEDS): Compatible with Modification

Modification:

DEEDS uses the U.S. National Institute for Occupational Safety and Health (NIOSH) codes for Occupation. Locally, for easier mapping with the National Statistical Coordinating Board, the Study Group recommends using the Philippine Standard Occupational Classification (PSOC - see appendix).

Example:

Component 1: 2212 (the PSOC occupation code)

Component 2: Physician (the occupation descriptor)

Component 3: PSOC (the coding system identifier)

Inclusion of data elements for occupational codes is intended to make transmission to PHIC faster and more orderly.

DEEDS**1.12 OCCUPATION****PART OF THE PATIENT EMPLOYMENT GROUP (1.12 AND 1.13)****Definition:**

Description of patient's current work.

Uses:

Routine screening information concerning the patient's current job activity is used in clinical evaluation and management, and it is needed to assess the patient's eligibility for workers' compensation benefits. Data on occupation and industry also are useful for public health surveillance and epidemiologic research. Occupation and industry together serve as a surrogate for patient socioeconomic status.

Discussion:

A succinct description of the patient's work can be used to encode occupation (or job title) and industry. Incorporating information about both occupation and industry is important, because similar occupations confer different health risks depending on the industry. For example, a painter in a shipyard is subject to different exposures than a painter in a residential setting. Occupation, along with industry, is used frequently as an indicator of socioeconomic status. However, its use for this purpose requires linkage between specific occupation groups and socioeconomic status. By comparison, the patient's educational level is a simple-to-use indicator of socioeconomic status, but occupation and industry are more routinely collected in EDs because of their clinical relevance. The National Institute for Occupational Safety and Health (NIOSH) recommends using the 1990 U.S. Bureau of the Census classification system for coding occupation (U.S. Bureau of the Census, 1992). NIOSH is developing and evaluating personal computer software to encode text entries for occupation and industry.

Data Type (and Field Length): CE — coded element (200).

Repetition:

Yes; the Patient Employment Group repeats if the patient has more than one job.

Field Values:

Component 1 is the occupation code.

Component 2 is the occupation descriptor.

Component 3 is the coding system identifier.

Components 4–6 can be used for an alternate code, descriptor, and coding system identifier.

For example, using the U.S. Bureau of the Census Occupation/Industry code (COI):

Component 1 = 434

Component 2 = Bartender

Component 3 = COI

Text data also can be entered without an accompanying code, as follows:

Component 1 = ""

Component 2 = Bartender

Data Standards or Guidelines:

1990 Census of Population and Housing: Alphabetical Index of Industries and Occupations (U.S. Bureau of the Census, 1992) and E1633-96 (ASTM, 1996).

Other References: None.

SHIP Data Element: Patient Industry

Metadata Code: 1.13

Data Type: CE

Length: 200

Recommended variable names: PTP_INDUSTRY, PTP_INDU

Mapping (PHIC to DEEDS): Compatible with modification

Modification:

The Study Group recommends using the National Statistical Coordinating Board Philippine Standard Industry Classification (NSCB-PSIC - see appendix).

DEEDS**1.13 INDUSTRY****PART OF THE PATIENT EMPLOYMENT GROUP (1.12 AND 1.13)****Definition:**

Description of industry or business in which patient currently works.

Uses:

Routine screening information concerning the patient's current job activity is used in clinical evaluation and management, and it is needed to assess the patient's eligibility for workers' compensation benefits. Data on occupation and industry also are useful for public health surveillance and epidemiologic research. Occupation and industry together serve as a surrogate for patient socioeconomic status.

Discussion:

A succinct description of the patient's work, identifying both occupation (or job title) and industry can be used to encode both occupation and industry. Incorporating information about both occupation and industry is important, because similar occupations confer different health risks depending on the industry. For example, a painter in a shipyard is subject to different exposures than a painter in a residential setting. The Office of Management and Budget (OMB) and the U.S. Bureau of the Census have developed systems for encoding industry (OMB, 1987; U.S. Bureau of the Census, 1992). The National Institute for Occupational Safety and Health is developing and evaluating personal computer software to encode text entries for occupation and industry.

Data Type (and Field Length): CE — coded element (200).

Repetition:

Yes; the Patient Employment Group repeats if the patient has more than one job.

Field Values:

Component 1 is the industry code.
 Component 2 is the industry descriptor.
 Component 3 is the coding system identifier.
 Components 4–6 can be used for an alternate code, descriptor, and coding system identifier.

For example, using the U.S. Bureau of the Census Occupation/Industry code (COI):

Component 1 = 762
 Component 2 = Hotels and motels
 Component 3 = COI

Text data also can be entered without an accompanying code, as follows:

Component 1 = ""
 Component 2 = Hotel industry

Data Standards or Guidelines:

Standard Industrial Classification Manual, 1987 (OMB, 1987), 1990 Census of Population and Housing: Alphabetical Index of Industries and Occupations (U.S. Bureau of the Census, 1992), and E1633-96 (ASTM, 1996).

Other References: None.

SHIP Data Element: Patient Place of Birth

Metadata Code: 1.19

Recommended variable names: PTP_PLACEOFBIRTH, PTP_POB

Mapping (PHIC to DEEDS): For Study Group Definition

**This element is needed to establish the uniqueness of the patient (see UPI).
The coding for this element is based on the coding for patient address.**

Patient Place of Birth: (220)

Modified Field Values:

Component 1: Street postal address (35)

Component 2: Barangay (20)

Component 3: City / Municipality (20)

Component 4: Province (20)

Component 5: Region (2)

Component 6: Zip or postal code (15)

Component 7: type of address (e.g., mailing) (2)

Component 8: HL7 address (106)

Component 8 is used to accommodate addresses that do not fit in the other components, e.g. foreign addresses.

SHIP Data Element: Universal Patient Index (UPI)

Metadata Code: 1.99

Data Type: CX **Length:** 12

Recommended variable names: PTP_UPI

Mapping (PHIC to DEEDS): For Study Group Definition

Discussion

The UPI will be a new element with metadata code 1.99. This would be a twelve (12) digit numeric sequential code ranging from 000000000001 to 999999999999 assigned by the DOH. Since the Philippine Supreme Court prohibits the use of NSO data (e.g. birth certificate) in assigning a national ID number, the DOH proposes that a patient, upon admission to a local health facility, be assigned a temporary UPI with the flag "TEM" meaning temporary. When that patient's record is elevated to higher levels, the uniqueness of the patient is checked using the following criteria: last name, first name, middle name, birth date, place of birth, and sex.

Once the patient is determined to be unique at the national level, a permanent UPI is assigned to the patient with the flag "NAT" meaning "national". This permanent national UPI is then communicated down to the lower levels and local records are updated accordingly.

1.99 Universal Patient Index (15):

Component 1: Patient Identifier (12)

Component 2: flag (3)

<u>Entry</u>	<u>Description</u>
TEM	Temporary
NAT	National (Permanent)

SHIP Data Element: Health Facility ID

Metadata Code: 2.01

Data Type: PL

Length: 80

Recommended variable names: HFP_ID

Mapping (PHIC to DEEDS): Compatible with Modification

Modification:

The DEEDS originally designed this element to represent the hospital managing the patient. The Study Group recommends the renaming of this element as Health Facility ID. Concurrent with this element, the Department of Health is required to supply the Study Group with a health facility identification system (in the form of a look-up table) for Health Facility ID.

DEEDS**2.01 ED FACILITY ID****Definition:**

Identifier for facility where patient seeks or receives outpatient emergency care.

Uses:

The identification of the facility is needed for direct patient care, continuity of care, quality-of-care monitoring, health care administration, reimbursement, and research.

Discussion:

In 1998, the Health Care Financing Administration (HCFA) plans to begin issuing a National Provider Identifier (NPI) to all individual practitioners and organizations that provide health care. The NPI consists of two parts: a 7-position alphanumeric identifier and a 1-position numeric check digit. A locally assigned identifier may be entered until the NPI is issued. To protect confidentiality, disclosure of practitioner- or organization-specific data must be limited to authorized personnel.

Data Type (and Field Length): PL — person location (80).

Repetition: No.

Field Values:

Component 4, an HD — hierarchic designator data type, is a facility identifier that has three subcomponents —

Subcomponent 1 is the name of the facility.

Subcomponent 2 is the facility identifier (including check digit).

Subcomponent 3 is the facility identifier type.

Component 1-3 and 5-15 are not used unless needed for local purposes.

Examples:

Component 4 —

Subcomponent 1 = Gotham Hospital

Subcomponent 2 = 39748213

Subcomponent 3 = NPI

If no facility identifier is available, enter the name only:

Component 4 —

Subcomponent 1 = Gotham Hospital

Data Standards or Guidelines:

National Provider Identifier/National Provider File (HCFA, 1995) and Establishing and Maintaining the National Provider Identifier (NPI) Effort in Intermediary Operations (HCFA, 1996).

Other References:

E1384-96 (ASTM, 1996) and Health Level 7, Version 2.3 (HL7, 1996).

SHIP Data Element: Primary Practitioner Name

Metadata Code: 2.02

Data Type: XPN

Length: 48

Recommended variable names: HPP_NAME

Mapping (PHIC to DEEDS): Compatible with Modification

Modification:

DEEDS does not impose the lengths of the components. The Study Group recommends component lengths (inside parentheses).

Modified Field Values:

Component 1 is the family name (50).

Component 2 is the given name (50).

Component 3 is the middle name or initial (50).

Component 4 is the suffix (e.g., Jr) (5).

Component 5 is the prefix (5).

Component 6 is the degree (e.g., Dr) (5).

Component 7 is the code for the name type (defaults to L, indicating legal name).

See DEEDS for other types.

DEEDS**2.02 PRIMARY PRACTITIONER NAME**

PART OF THE PRIMARY PRACTITIONER GROUP (2.02–2.07)

Definition:

Name of physician or other practitioner who provides patient's overall longitudinal care

Uses:

Contact with and notification of the patient's primary practitioner is common during ED evaluation, treatment, and discharge planning. Communication with the primary practitioner can provide information about the patient's past medical history and can improve follow-up care. To protect practitioner privacy and confidentiality, access to this data element must be limited to authorized personnel.

Discussion: None.

Data Type (and Field Length): XPN — extended person name (48).

Repetition:

Yes; if more than one primary practitioner is responsible, the Primary Practitioner Group repeats.

Field Values:

Component 1 is the family name.
Component 2 is the given name.
Component 3 is the middle name or initial.
Component 4 is the suffix (e.g., Jr).
Component 5 is the prefix (e.g., Dr).
Component 6 is the degree (e.g., MD).
Component 7 is the code for the name type (defaults to L, indicating legal name).

Example:

Component 1 = Smith
Component 2 = John
Component 3 = A
Component 5 = Dr

Enter Unknown in Component 1 if the name is unknown, and enter "" if the patient has no primary practitioner. Entries in all other components can be "" (none) or Unknown when appropriate, and entries in Components 4-7 need not be made when they are not necessary.

Data Standards or Guidelines: None.

Other References: None.

SHIP Data Element: Primary Practitioner ID

Metadata Code: 2.03

Data Type: CX **Length:** 32

Recommended variable names: HPP_ID

Mapping (PHIC to DEEDS): Compatible with Modification

Modification:

The Study Group recommends that the practitioner identification (HPP_ID) be based on the PRC number with an attached practitioner identifier. PRC license number is a seven-digit sequential numbering for each accredited profession. It is possible to have a nurse and a doctor with the same PRC numbers. Thus, the attached practitioner identifier is necessary to distinguish licenses between different professions.

Primary Practitioner ID (32):

Component 1: Philippine Standard Occupational Classification + PRC license number
(4 + 7)

Component 2: Check digit

Component 3: Check digit scheme

Component 5: Code indicating identifier type

(see Appendix)

Example

Component 1: 22210073695

DEEDS**2.03 PRIMARY PRACTITIONER ID**

PART OF THE PRIMARY PRACTITIONER GROUP (2.02–2.07)

Definition:

Identifier for practitioner who provides patient's overall longitudinal care.

Uses:

Contact with and notification of the patient's primary practitioner is common during ED evaluation, treatment, and discharge planning. Communication with the primary practitioner can provide information about the patient's past medical history and can improve follow-up care. To protect practitioner privacy and confidentiality, access to this data element must be limited to authorized personnel.

Discussion:

In 1998, the Health Care Financing Administration (HCFA) plans to begin issuing a National Provider Identifier (NPI) to all individual practitioners and organizations that provide health care. The NPI consists of two parts: a 7-position alphanumeric identifier and a 1-position numeric check digit. A locally assigned identifier may be entered until the NPI is issued. To protect confidentiality, disclosure of practitioner- or organization-specific data must be limited to authorized personnel.

Data Type (and Field Length): CX — extended composite ID with check digit (32).

Repetition:

Yes; if more than one primary practitioner is responsible, this data element repeats with the Primary Practitioner Group, and if a single primary practitioner has more than one identifier, this data element repeats within the Primary Practitioner Group.

Field Values:

Component 1 is the practitioner identifier.
 Component 2 is the check digit.
 Component 3 is the code indicating the check digit scheme.
 Component 5 is the code indicating the identifier type.
 Components 4 and 6 are not used unless needed for local purposes.

Example:

Component 1 = 4672093
 Component 2 = 5
 Component 3 = IBM Check
 Component 5 = NPI

Enter "" in Component 1 if the practitioner has no identifier, and enter Unknown if it is not known whether the practitioner has an identifier. Entries in all other components can be "" (none) or Unknown when appropriate, and entries in Components 4 and 6 need not be made when they are not necessary.

Data Standards or Guidelines:

National Provider Identifier/National Provider File (HCFA, 1995) and Establishing and Maintaining the National Provider Identifier (NPI) Effort in Carrier Operations (HCFA, 1996).

Other References: None.

SHIP Data Element: Primary Practitioner Type

Metadata Code: 2.04

Data Type: CE **Length:** 80

Recommended variable names: HPP_TYPE

Mapping (PHIC to DEEDS): Fully Compatible

DEEDS**2.04 PRIMARY PRACTITIONER TYPE****PART OF THE PRIMARY PRACTITIONER GROUP (2.02–2.07)****Definition:**

Primary practitioner's profession or occupation and specialty or subspecialty.

Uses:

Knowledge of the type of primary practitioner responsible for the patient's overall longitudinal care provides immediate patient care benefits. Contact with and notification of the patient's primary practitioner is common during ED evaluation, treatment, and discharge planning. Communication with the primary practitioner can facilitate access to the patient's past medical history and can improve follow-up care.

Discussion:

The Insurance Subcommittee of the Accredited Standards Committee X12 is developing a provider taxonomy in conjunction with the Health Care Financing Administration's (HCFA) implementation of the National Provider System (Accredited Standards Committee X12, 1997). The taxonomy classifies practitioners by their occupation or service group and their specialty. The taxonomy permits further specification within specialties, such as subspecialty or age focus (e.g., adolescents). Until the taxonomy is implemented, a local system may be used to encode practitioner type.

Data Type (and Field Length): CE — coded element (60).

Repetition:

Yes; if more than one primary practitioner is responsible, the Primary Practitioner Group repeats.

Field Values:

Component 1 is the code indicating the practitioner type.

Component 2 is the practitioner type descriptor.

Component 3 is the coding system identifier.

Components 4–6 can be used for an alternate code, descriptor, and coding system identifier.

Example:

Component 1 = 203BP0200Y

Component 2 = Pediatrician

Component 3 = X12

When no coding system exists, enter data in the following manner:

Component 1 = ""

Component 2 = Pediatrician

If the practitioner type is unknown, enter data in the following manner:

Component 1 = Unknown

Data Standards or Guidelines:

None.

Other References:

Accredited Standards Committee X12 Provider Taxonomy, Version 2.0 (ASC X12, 1997).

SHIP Data Element: Primary Practitioner Address

Metadata Code: 2.05

Data Type: XAD

Length: 106

Recommended variable names: HPP_ADDRESS, HPP_ADDR

Mapping (PHIC to DEEDS): Compatible with modification

Modification:

Primary Practitioner Address: (220)

Modified Field Values:

Component 1: Street postal address (35)

Component 2: Barangay (20)

Component 3: City / Municipality (20)

Component 4: Province (20)

Component 5: Region (2)

Component 6: Zip or postal code (15)

Component 7: type of address (e.g., mailing) (2)

Component 8: HL7 address (106)

Component 8 is used to accommodate addresses that do not fit in the other components, e.g. foreign addresses.

DEEDS**2.05 PRIMARY PRACTITIONER ADDRESS**

PART OF THE PRIMARY PRACTITIONER GROUP (2.02–2.07)

Definition:

Address of physician or other practitioner who provides patient's overall longitudinal care.

Uses:

Contact with and notification of the patient's primary practitioner is common during ED evaluation, treatment, and discharge planning. Communication with the primary practitioner can facilitate access to the patient's past medical history and can improve follow-up care. To protect practitioner privacy and confidentiality, access to this data element must be limited to authorized personnel.

Discussion: None.

Data Type (and Field Length): XAD — extended address (106).

Repetition:

Yes; if more than one primary practitioner is responsible, the Primary Practitioner Group repeats.

Field Values:

- Component 1 is the street address.
- Component 2 is the second line of the address (e.g., suite number).
- Component 3 is the city.
- Component 4 is the state or province.
- Component 5 is the zip or postal code.
- Component 6 is the country.
- Component 7 is the type of address (e.g., mailing).
- Component 8 is another geographic designation (e.g., catchment area ID).
- Component 9 is the county/parish code.
- Component 10 is the census tract.

Example:

- Component 1 = 999 Main Street
- Component 2 = Rincon Building, Suite 101
- Component 3 = Atlanta
- Component 4 = GA
- Component 5 = 30333

Enter "" in Component 1 if the practitioner has no address, and enter Unknown in Component 1 if the practitioner's address is not known. In either instance, restrict entries to Component 1. If individual address components are not part of the address (e.g., Component 3 for a rural address without a city designation), enter "", and if individual components are not known, enter Unknown. The county/parish code serves a variety of purposes and when used should be entered in Component 9 as the 3-digit Federal Information Processing Standards code. The default values for entries in Components 6 and 7 are USA and M for mailing address (see the definition of XAD in the Technical Notes at the end of this document).

Entries should be made in Components 8 and 10 on the basis of local needs.

Data Standards or Guidelines: None.

Other References: None.

SHIP Data Element:

Primary Practitioner Telephone Number

Metadata Code: 2.06

Data Type: XTN

Data Length: 40

Recommended variable names: HPP_PHONE, HPP_TELEPHONE, HPP_PHON

Mapping (PHIC to DEEDS): Fully Compatible

DEEDS**2.06 PRIMARY PRACTITIONER TELEPHONE NUMBER**

PART OF THE PRIMARY PRACTITIONER GROUP (2.02–2.07)

Definition:

Telephone number of physician or other practitioner who provides patient's overall longitudinal care.

Uses:

Contact with and notification of the patient's primary practitioner is common during ED evaluation, treatment, and discharge planning. Communication with the primary practitioner can facilitate access to the patient's past medical history and can improve follow-up care. To protect practitioner privacy and confidentiality, access to this data element must be limited to authorized personnel.

Discussion: This data element can be used to enter any type of telecommunication number.

Data Type (and Field Length): XTN — extended telecommunication number (40).

Repetition:

Yes; if more than one primary practitioner is responsible, the Primary Practitioner Group repeats.

Field Values:

See the definition of XTN in the Technical Notes at the end of this document for complete details.

Component 1 is not used except to indicate there is no phone or it is not known whether there is a phone.

Component 2 is the code indicating the telecommunication use.

Component 3 is the type of telecommunication equipment.

Component 4 is the e-mail address.

Component 5 is the country code.

Component 6 is the area code.

Component 7 is the phone number.

Component 8 is the extension.

Component 9 is a descriptive comment.

Example:

Component 4 = drjones@office.com

Component 7 = 555-4321

Component 9 = 9:00 am to 4:00 pm

At a minimum, local phone numbers should be recorded in Component 7 in the format 999-9999. Entries are not made in Components 1–6 and 8–9 when they are not needed. When the patient has no telephone number, enter "" in Component 1. When it is unknown whether the patient has a number, enter Unknown in Component 1.

Data Standards or Guidelines: None.

Other References: None.

Standards for Electronic Data Interchange

Electronic Data Interchange

By Ma. Salva R. Limbo

Definition

Electronic Data Interchange (EDI) is the movement of business data electronically between or within firms (including their agents or intermediaries) in a structured, computer-processable data format that permits data to be transferred without re-keying from a computer-supported business application in one location to a computer-supported business application in another location.

An Example: A Simulation

ABC HMO member was confined in XYZ Hospital. After checking out, XYZ Hospital sends the bill electronically to ABC HMO. When ABC HMO's system receives the bill, it electronically sends acknowledgement of the bill to XYZ Hospital. Simultaneously, ABC HMO's system triggers Claims System to record the confinement. At the same time, Accounting System triggered the Bank System to transfer fund in favor of XYZ Hospital.

Benefits

1. Reduced paper and mail costs because of electronic transactions. EDI aims for a paper-less transaction transmitted over cables and other electronic means.
2. Reduced labor costs because of one-time encoding and zero-paper management. Data will be encoded from the source. That is, data originate only from the sender. It is not re-keyed again by the receiver of the data once it is accepted in its system. Labor costs arising from encoding and re-encoding is kept at bay.
3. Reduced time delays because processing and mailing time is eliminated. Without EDI, data is either type-written, faxed, and re-keyed based on print-outs. Also, without EDI, transmission of data is by courier or fax which takes some time to be received, a day at the very least for couriers.
4. Reduced errors because human intervention is minimized. Once data is keyed in from the source, EDI does not require a re-keying of data. Thus, human error can only be found and traced to where the data originated.
5. Enhanced relationships between business partners because of immediate acknowledgement and response to transactions. Business partners want swift responses to their queries, transactions, and the like. EDI affords this because EDI can be used to trigger systems to auto-respond or auto-acknowledge anything that it receives.

Encouraging Developments to EDI Implementation

1. Low-cost computer hardware. When IBM's monopoly of the PC industry was broken, microcomputer prices became very competitive. With the entry of more PC manufacturers in the market, it is expected that prices will come reasonably down like the trend nowadays.
2. Available software that translates various data format to EDI format standard. The many application and software developers that mushroom in the market right now are zeroing in on translator software that enable EDI encryption and decryption.
3. Development and availability of industry standards. Industries have become conscious of standards in the way they do business. X2, a standard developer for almost all industries, has been very aggressive in developing EDI for applicability in all documents, forms, and reports used in business. ICD-10, a classification standard for diagnosis is being implemented in many countries at present, while the Philippines is shortly following suit.
4. Communication networks and internet. . There are VANs or value-added networks that act, among others, as the mailbox or post office service of businesses using EDI standards. In addition, the developments in the communication industry and the strengthening of the communication infrastructure nationwide help boost EDI possibilities.

Components of EDI Standards

1. **Transaction Set** is an electronic analog of a business paper, document, or form. It is like a billing statement or purchase order in electronic form.
2. **Data Segment** is a group of related information inside a transaction set. For instance, these are the line items in the billing statement.
3. **Data Element** is a piece of data inside a data segment. For example, this is the due date in the billing statement.

Health Level 7

Health Level 7 or HL7 is the EDI standard developed from the X2 standard. HL7 incorporated other information that is not provided by X2. In other words, HL7 is the EDI standard customized for the healthcare industry.

Its mission is to provide standards for the exchange, management, and integration of data that support clinical patient care and the management, delivery, and evaluation of healthcare services. Specifically, to create flexible, cost effective approaches, standards, guidelines, methodologies, and related services for interoperability between healthcare information systems.

Summary

EDI is the sending of structured electronic messages from one business application to another. Because of the many benefits of electronic communications over paper documents, EDI will have a significant impact on the business community. While the paperless world may not be "immediately around the corner" as so many have predicted for years, the movement is solidly in that direction. The technological infrastructure is in place: standards, software, communication networks, and inexpensive computer hardware. The need is unquestionably present. Several industry leaders have already committed themselves to make EDI happen, and it is only a matter of time before EDI becomes the standard mode of corporate-to-corporate information exchange.

Standards for Coding

Standards for Coding

- I. Current Procedural Terminology, 4th edition
- II. Diagnosis Related Groups
- III. Diagnostic and Statistical Manual of Mental Disorders (DSM)
- IV. International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10)
- V. North American Nursing Diagnosis Association (NANDA) Nursing Diagnosis Taxonomy
- VI. National Drug Code (NDC)
- VII. Nursing Interventions Classifications (NIC)
- VIII. Read Codes
- IX. Systematized Nomenclature of Human and Veterinary Medicine (SNOMED)
- X. Unified Medical Language System (UMLS)

Standards for Coding

by Peter Jonas Figueroa

Health information coding systems abound in the international arena. They serve different purposes and have each their own advantages and shortcomings.

The Study Group acknowledges the International Classification of Disease Version 10 (ICD-10) as the global de facto standard for coding morbidity and mortality.

However, the ICD may only represent the minimum coding system for health information systems. It falls short of the requirements of special groups of users especially the clinical practitioners and laboratory system administrators. It definitely does not address the needs of the pharmaceutical industry sector. It is in this regard that the SHIP recommends the creation of special interest groups that will investigate these other coding systems and decide which is best for their fields.

I. Current Procedural Terminology, 4th Edition

1. *Introduction:*

The Physicians' Current Procedural Terminology is a listing of descriptive terms and identifying codes for reporting medical services and procedures performed by physicians. It is published annually by the American Medical Association. In the U.S. CPT-4 is required by the Healthcare Financing Authority (HCFA) and most other payers for physician billing (Form 1500), and is also required in addition to ICD-9 for some technical billing (UB-92). As of this writing the code set is not available on-line.

The CPT coding scheme starts with six broad categories (Evaluation and Management, Anesthesiology, Surgery, Radiology, Pathology/Laboratory, and Medicine). Within these categories the codes are set out in an order that makes sense for that category. For example, anesthesiology codes are arranged by part of the body (head, neck, thorax, etc.), while medicine codes are arranged generally by specialty (ophthalmology, cardiovascular, pulmonary, etc.).

2. *Name of Developer:*

American Medical Association

3. *Contact Person:*

CPT Intellectual Property Services
American Medical Association
515 North State Street
Chicago, Illinois 60610
(312) 464-5022 Phone
(312) 464-5762 Fax

4. *Cost/Price*

The royalty for the use of CPT in a print publication is 7.5% of the licensee's gross revenues, not less than \$10 per distributed publication.

The royalty for the use of CPT in an electronic format is \$10 per product per legal entity with an additional fee of \$10 per user per license.

5. *Type of Standard*

CODING

6. *Type of Implementation*

Government (please see *Current Users in the United States* below)

7. *Current Users in the United States*

In 1983, the CPT code was adopted as part of the Health Care Financing Administration's (HCFA) Common Procedure Coding System (HCPCS). With this adoption, HCFA mandated the use of HCPCS to report services for Part B of the Medicare Program. In October 1986, HCFA also required State Medicaid agencies to use HCPCS in the Medicaid Management Information System. In July 1987, as part of the Omnibus Budget Reconciliation Act, HCFA mandated the use of CPT for reporting outpatient hospital surgical procedures. Today, in addition to use in federal programs (Medicare and Medicaid), CPT is used extensively throughout the United States as the preferred work of coding and describing health care services.

8. *Current Users in Europe*

Unknown at this time

9. *Current Users in Asia/Australia*

Unknown at this time

10. *Current Users in Africa*

Unknown at this time

11. *Current Users in Philippines*

Unknown at this time

12. *Applicability in the Philippines*

Assumedly, medical procedures and treatments are referred to in a similar manner in the Philippines and the U.S. If this is the case, CPT IV should be more than applicable in the Philippines. However, further detailed study of this coding standard is necessary to fully determine its applicability locally.

13. *Hardware Issues, if implemented in the Philippines*

None. This standard is used in reporting so is hardware-independent.

14. *Software Issues, if implemented in the Philippines*

Software applications will just have to include and accommodate CPT IV in their specifications.

15. *Organizational Issues, if implemented in the Philippines*

Considerable training and perhaps even legislature, as ICD-9 has been implemented, will be required to make the use of CPT IV widespread.

16. *Summary of Advantages and Disadvantages of Implementation*

An advantage of implementing CPT IV in the Philippines would be that the vast experience of the HCFA in mandating the use of this coding standard can be used to avoid pitfalls encountered in the U.S. Because CPT IV has been in wide use in the U.S. for some time now, as mentioned above, it is safe to assume that it has been rigorously tested and is still acceptable for use without need for major revision. Due to the wide acceptance of this standard, mechanisms and policies have been set in place in the U.S. that have enforced CPT IV's use. Implementation of CPT IV here in the Philippines can be facilitated by drawing on past experience in the U.S.

A potential disadvantage of implementation may lie in the nature of CPT IV as a billing code. It is arguable that since CPT IV is mandated for physician and technical billing, the coding itself may have a bias towards billing. A question of specificity may arise. Further study is necessary to determine this. (CPT IV must be purchased from the AMA.)

17. *Complete Source*

<http://www.ama-assn.org/med-sci/cpt> and
<http://www.mcis.duke.edu:80/standards/termcode/cpt4.htm>

II. Diagnosis Related Groups

1. Introduction:

A DRG (Diagnosis Related Group) is a classification of a hospital stay in terms of what was wrong with and what was done for a patient. The DRG classification (one of about 500) is determined by a "grouper" program based on diagnoses and procedures coded in ICD-9-CM, and on patient age, sex, length of stay, and other factors. The DRG frequently determines the amount of money that will be reimbursed, independently of the charges that the hospital may have incurred.

2. Name of Developer:

In the United States, the basic set of DRG codes are those defined by HCFA for adult Medicare billing. For other patient types and payors - CHAMPUS (Civilian Health and Medical Services of the Uniformed Services), Medicaid, commercial payors for neonate claims, Workman's' Compensation - modified groupers and additional DRG codes are used.

3. Contact Person:

<http://www.hcfa.gov/> or
7500 Security Boulevard, Baltimore, Maryland 21244, USA.
Phone (410) 786-3000

4. Cost/Price

None.

5. Type of Standard

CODING

6. Type of Implementation

Government

7. Current Users in the United States

U.S. Health Care Financing Administration's (HCFA)

8. Current Users in Europe

Unknown at this time

9. Current Users in Asia/Australia

Unknown at this time

10. Current Users in Africa

Unknown at this time

11. Current Users in Philippines

Unknown at this time

12. Applicability in the Philippines

Further study would be needed to ascertain applicability of DRG in the Philippines because the groupings made by HCFA in the U.S. may not apply in the Philippines.

13. Hardware Issues, if implemented in the Philippines

None. This standard is used in reporting so is hardware-independent.

14. Software Issues, if implemented in the Philippines

Software applications will just have to include and accommodate DRG in their specifications.

15. Organizational Issues, if implemented in the Philippines

Training and legislation, similar to the U.S. implementation would be necessary.

16. Summary of Advantages and Disadvantages of Implementation

An advantage of implementing DRG is that a smaller number of codes would have to be referred to when processing billing or reimbursement.

A potential disadvantage of implementation is that the DRG is a grouping and is geared towards billing in the U.S. This means that there is less specificity and would only be applicable to insurance or healthcare entities only. Also, another disadvantage of implementation is the groupings could have biases peculiar to the U.S. healthcare environment only.

17. Complete Source

<http://www.mcis.duke.edu:80/standards/termcode/drg.htm>

<http://www.hcfa.gov>.

III. Diagnostic and Statistical Manual of Mental Disorders (DSM)

1. Introduction:

DSM-IV (the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition) is a system of codes maintained by the American Psychiatric Association. All DSM-IV diagnostic codes are also valid ICD-9-CM codes. DSM-IV also contains a cross-reference between DSM codes and ICD-10 codes.

2. Name of Developer:

American Psychiatric Association (APA)

3. Contact Person:

American Psychiatric Press, Inc. [1400 K St., NW, Washington DC 20005 USA]
1-800-368-5777

4. Cost/Price

No response at this time from the APA regarding ordering cost and copyright permission.

5. Type of Standard

CODING

6. Type of Implementation

de Facto

7. Current Users in the United States

American Psychiatric Association (APA) members

8. Current Users in Europe

Unknown at this time.

9. Current Users in Asia/Australia

Unknown at this time.

10. Current Users in Africa

Unknown at this time.

11. Current Users in Philippines

Widely used by almost all psychiatrists in the Philippines for diagnoses as per Dr. Hao, Philippine Psychiatric Association.

12. Applicability in the Philippines

Already in use for some time now.

13. Hardware Issues, if implemented in the Philippines

None. This standard is hardware-independent.

14. Software Issues, if implemented in the Philippines

There is a need only to incorporate and accommodate the codes in software applications.

15. Organizational Issues, if implemented in the Philippines

As per the Philippine Psychiatric Association, DSM IV is widely used in the Philippines already.

16. Summary of Advantages and Disadvantages of Implementation

An advantage of using DSM IV is that it is all DSM IV diagnostic codes are valid ICD-9-CM codes. Also, DSM IV contains an Appendix H which provides the ICD-10 codes for all DSM IV diagnoses. In addition, an International Version of the DSM-IV is available for those psychiatrists in countries that use the ICD-10. The DSM-IV International Version features the use of ICD-10 codes and additional text sections describing the relationship between the DSM-IV criteria sets and the ICD-10 Diagnostic criteria for Research.

No distinct disadvantages are apparent this time.

17. Complete Source

http://www.psych.org/clin_res/dsm_iv.html and
<http://www.mcis.duke.edu:80/standards/termcode/dsm4.htm> and
 Philippine Psychiatric Association

IV. International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD – 10)
1. Introduction:

The international standard diagnostic classification for all general and many health management purposes.

- Analysis of general health situation
- Monitoring or incidence and prevalence of diseases and other health problems
- Classification of Diseases and Formal Injuries with a 1) Formal Diagnosis or 2) Signs or 3) Symptoms, or 4) abnormal findings, or 5) complaints or 6) social circumstances
- Can be used to classify data records under 1) Diagnosis 2) Reason for Admission 3) Conditions Treated, 4) Reasons for Consultation

Purpose:

- To permit a SYSTEMATIC RECORDING, ANALYSIS, INTERPRETATION & COMPARISON of MORTALITY & MORBIDITY DATA collected in different countries at different times.
- To translate words into alphanumeric code for easy storage, retrieval, and analysis

2. Name of Developer:

World Health Organization (WHO)

3. *Contact Person:*

General

World Health Organization, 1211 Geneva 27, Switzerland
WHO Collaborating Centers for Classification of Diseases

Ordering Books and Diskettes / Copyright:

Please contact Dr. P. Butler, Office of Publications, for further information.

Mailing address:

World Health Organization, Distribution and Sales
CH-1211 Geneva 27
Switzerland

Fax address: +41 22 791 48 57

Telephone: +41 22 791 24 76

E-mail: If you need help, let us know at publications@who.ch

WHO Collaborating Centres for the Classification of Diseases have been established to assist users with problems encountered in the development and use of health-related classifications and, in particular, in the use of the ICD.

There are three centres for English-language users. Communications should be addressed as follows:

Dr R. Madden, Head, WHO Collaborating Centre for the Classification of Diseases, Director,
Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601, Australia
Tel: 61 6 244 1000 (switchboard) 61 6 244 1103 (direct)
Fax: 61 6 244 1111
email: richard.madden@aihw.gov.au

Dr A. John Fox, Head, WHO Collaborating Centre for the Classification of Diseases,
Office for National Statistics, 1 Drummond Gate, London SW1V 2QQ, United Kingdom
Tel: 44 171 533 5100/5101 (2nd number is secr.no.- Denise Tanner)
Fax: 44 171 533 5103
Email: john.fox@ons.gov.uk

Ms Marjorie S. Greenberg, Head, WHO Collaborating Center for the Classification of Diseases for North America,
Data Standards, Program Development and Extramural Programs,

National Center for Health Statistics, 6525 Belcrest Road, Room 1100,
Hyattsville, MD 20782, USA
Tel: 1 301 436 4253
Fax: 1 301 436 4233
email: msg1@cdc.gov

4. Cost/Price

Diskette Version

2 diskettes + Users' Guide + ICD-10 Volume 2
ISBN 92 4 154488 0
Sw.fr. 600.-/US \$540.00
In developing countries: Sw.fr. 420.
Order no. 1990003

Book Version

Volume 1 - Tabular List

The first volume, which runs well over 1,000 pages, contains the classification at the three- and four-character levels, the classification of the morphology of neoplasms, special tabulation lists for mortality and morbidity, definitions, and the nomenclature regulations. The volume also reproduces the report of the International Conference for the Tenth Revision, which indicates the many complex considerations behind the revisions.

1992, iv + 1243 pages
ISBN 92 4 154419 8
Sw.fr. 130.-/US \$117.00
In developing countries: Sw.fr. 91.-
Order no. 1151331

Volume 2 - Instruction Manual

The second volume consolidates notes on certification and classification formerly included in Volume 1, supplemented by a great deal of new background information, instructions, and guidelines for users of the tabular list. Historical information about the development of the classification, which dates back to 1893, is also included.

1993, vii + 160 pages
ISBN 92 4 154420 1
Sw.fr. 40.-/US \$36.00
In developing countries: Sw.fr. 28.-
Order no. 1152331

Volume 3 - Alphabetical Index

The final volume presents the detailed alphabetical index. Expanded introductory material is complemented by practical advice on how to make the best use of the index. To facilitate efficient coding, the index includes numerous diagnostic terms commonly used as synonyms for the terms officially accepted for use in the classification.

1994, iii + 750 pages [E, F*, S* from PAHO]
ISBN 92 4 154421
Sw.fr. 130.-/US \$117.00
In developing countries: Sw.fr. 91.-
Order no. 1153331

Permission to use or reproduce ICD-10 in a product to be sold, permission to translate part or all of ICD-10 must be obtained from the Office of Publications, WHO.

5. *Type of Standard*
CODING

6. *Type of Implementation*
Government

7. *Current Users in the United States*
Centers for Disease Control (CDC)
U.S. National Center for Health Statistics
In the U.S., however, migration to ICD-10 is complicated by the fact that ICD-9-CM is embedded in hospital billing systems.
See Appendix 1

8. *Current Users in Europe*
“Widely Used in Europe” See Appendix 1

9. *Current Users in Asia/Australia*
See Appendix 1

10. *Current Users in Africa*
See Appendix 1

11. *Current Users in Philippines*
Philhealth

12. *Applicability in the Philippines*
Law passed to use ICD-10 (?)

13. Hardware Issues, if implemented in the Philippines

ICD-10 diskette version from WHO require the following:

- IBM-compatible personal computer, with an 80386sx, 80386 or higher processor
- Sufficient hard disk space (About 6MB for either Word Perfect or ASCII version)
- EGA, VGA or compatible display

14. Software Issues, if implemented in the Philippines

- MS-DOS operating system version 3.1 or later
- Microsoft Windows, Windows 95, Windows for Work Groups, or Windows NT operating system version 3.1 or later (installation under windows)

15. Organizational Issues, if implemented in the Philippines

Since ICD-9 was implemented by legislation, ICD-10 can be implemented similarly. This could entail large-scale training, however, due to improvements made since ICD-9.

16. Summary of Advantages and Disadvantages of Implementation

Compared to ICD-9 CM :

(+) Notable improvements in the content and format include: the addition of information relevant to ambulatory and managed care encounters; expanded injury codes; the creation of combination diagnosis/symptoms codes to reduce the number of codes needed to fully describe a condition; the addition of a sixth character; incorporation of common 4th and 5th digit sub-classifications; laterality; and greater specificity in code assignment. The new structure will allow further expansion than was possible with ICD-9-CM.

(-) Does not have the financial capabilities addressed in ICD-9

(+) Worldwide acceptance and use

(+) World Health Organization Backed

17. Complete Source

<http://dumccss.mc.duke.edu/standards/termcode/icd10.htm> (Duke University)

ICD-10 Home Page

Appendix 1 - Actual and Proposed Implementation Dates of ICD-10

Country	Mortality	Morbidity
Australia	1998	July 1998
Austria	1998	..
Belgium	1998	..
Brazil	1996	1998
Canada	1998	1999
China	2000+	2000+
Colombia	1996	..
Costa Rica	1996	..
Czech Republic	1994	..
Denmark	1994	1994
Estonia	1997	1997
Finland	1996	1996
France	1998	1997
Germany	1998	1998
Iceland	1996	1997
Ireland	1998	..
Jamaica	1995	..
Japan	1995	1996
Kuwait	1995	1996
Italy	1998	..
Latvia	1996	1998
Lithuania	1997	1998
Macedonia	1996	..
Malta	1995	..
Netherlands	1996	1998-2000
New Zealand	1998	July 1998
Norway	1996	1998
Poland	1997	..
Portugal	before 2000	..
Qatar	1995	..
Romania	1994	..
Slovakia	1994	..
Suriname	1996	..
Sweden	1997	1997
Thailand	1994	1994
United Kingdom		
-England and Wales	1999	1995
-Scotland	1998	1996
-Northern Ireland	1998	1996
United States	1999	2000
Venezuela	1996	1997

WHO Member States to implement ICD-10.

Croatia 1995
Czech Republic 1994, 1995, 1996
Denmark 1994, 1995
Malta 1995
Qatar 1995
Republic of Korea
Slovakia
Thailand

V. North American Nursing Diagnosis Association (NANDA) Nursing Diagnosis Taxonomy

1. Introduction:

NANDA is a set of nursing diagnoses adopted by the North American Nursing Diagnosis Association. As compared to ICD-9-CM codes, which describe a disease or injury, NANDA nursing diagnoses describe a patient's reactions to the disease.

NANDA is a compact code set. The printed list takes up three to four pages. It is organized around nine "Human Response Patterns":

1. Exchanging
2. Communicating
3. Relating
4. Valuing
5. Choosing
6. Moving
7. Perceiving
8. Knowing
9. Feeling

Within each pattern, NANDA lists one to four subcategories. For example, under Exchanging, 1.3.2 is "altered urinary elimination," and 1.3.2.1.3 is "urge incontinence."

2. Name of Developer:

North American Nursing Diagnosis Association (NANDA)

3. *Contact Person:*

Call 1-800-647-9002 in the USA

4. *Cost/Price*

NANDA does not charge a fee for using the Taxonomy in schools of nursing or facilities that provide nursing care. They require permission for use so that they can ensure quality and version control. Only organizations that use the Taxonomy in the development of products that generate income/profit for that organization must pay royalty fees [unknown at this time].

5. *Type of Standard*

CODING

6. *Type of Implementation*

De Facto

7. *Current Users in the United States*

- American Nurses Association
- schools of nursing, all major textbook publishers, and numerous hospitals and other sites of practice

8. *Current Users in Europe*

Unknown at this time

9. *Current Users in Asia/Australia*

Unknown at this time

10. *Current Users in Africa*

Unknown at this time

11. *Current Users in Philippines*

Unknown at this time

12. *Applicability in the Philippines*

It is difficult to ascertain applicability of NANDA in the Philippines at this time. NANDA was designed with U.S. nursing procedures in mind. To determine if NANDA is applicable in the Philippines, an effort must be made to compare how similar or dissimilar nursing roles and/or procedures are in the U.S. and here in the Philippines.

13. *Hardware Issues, if implemented in the Philippines*

None. NANDA is not hardware dependent.

14. *Software Issues, if implemented in the Philippines*

Only inclusion in software applications of NANDA would have to be done. This can be done because NANDA is available in a format readily importable into any software system.

15. *Organizational Issues, if implemented in the Philippines*

As per Ms. Judith J. Warren, Ph.D., RN, FAAN, President of NANDA (from <http://aspe.os.dhhs.gov/ncvhs/97041617.htm>), NANDA is widely used in schools of nursing, by all major textbook publishers, and numerous hospitals and other sites of practice [in the U.S.]. It may be safe to assume that nurses here in the Philippines are already exposed to NANDA terms due to education, which is assumed to be close to U.S. nursing education. If this is the case, formal implementation should not be a large obstacle.

16. *Summary of Advantages and Disadvantages of Implementation*

An advantage to implementing NANDA would be that there would finally be clinical codes for use in administrative transactions for nursing. Before, there was no way to capture charges for nursing care, these charges being embedded in other medical charges. By factoring in nursing care, allocation of resources and patient outcomes may be predicted.

Distinct disadvantages are not apparent at this time.

17. *Complete Source*

<http://www.mcis.duke.edu:80/standards/termcode/nanda.htm> and
<http://aspe.os.dhhs.gov/ncvhs/97041617.htm> and <http://carefacts.com/art3.htm>

VI. National Drug Code (NDC)

1. *Introduction:*

The National Drug Code system identifies pharmaceuticals in great detail, even including the packaging. Its use is required by the U.S. Federal Drug Administration for reporting and it is used in many healthcare information systems. National Council for Prescription Drug Programs (NCPDP) drug transactions use NDC. At the end of 1995 there were over 170,000 NDC codes.

2. *Name of Developer:*

U.S. Federal Drug Administration (FDA)

3. *Contact Person:*

Food and Drug Administration
Information Management Team HFD-095
5600 Fishers Lane

Rockville, Maryland 20857
Internet email: DRUGPRODUCTS@CDER.FDA.GOV
Phone: 301 827-5474
FAX: 301-594-6463.

4. *Cost/Price*

The 1995 hard copy NDC Directory may be ordered from:

Superintendent of Documents
P.O. Box 371954
Pittsburgh, PA 15250-7954
Phone: (202) 512-1800 FAX: (202) 512-2250
Cost: \$56.00 Stock Number: 017-012-00372-9

The INTERNET NDC DIRECTORY can be downloaded at no charge at
<http://www.fda.gov/cder/ndc/index.htm>.

It is not yet known whether there is a licensing fee for using the NDC Directory.

5. *Type of Standard*

CODING

6. *Type of Implementation*

Government

7. *Current Users in the United States*

Its use is required by the U.S. Federal Drug Administration for reporting and it is used in many healthcare information systems.

8. *Current Users in Europe*

Unknown at this time

9. *Current Users in Asia/Australia*

Unknown at this time

10. *Current Users in Africa*

Unknown at this time

11. *Current Users in Philippines*

Unknown at this time.

12. *Applicability in the Philippines*

May be limited. Since drug names differ from country to country, the U.S. NDC may not be useful without a thorough review of the names recorded therein.

13. Hardware Issues, if implemented in the Philippines

None apparent.

14. Software Issues, if implemented in the Philippines

None apparent. It would be just a matter of accommodating the NDC in software applications as a separate database or set of tables.

15. Organizational Issues, if implemented in the Philippines

As mentioned in *Applicability in the Philippines* above, the NDC may not be compatible with drug names locally. Hence, an in-depth review of each and every code found in the NDC would have to be conducted by an appropriately recognized body.

16. Summary of Advantages and Disadvantages of Implementation

A fundamental weakness of the NDC system is that it has no reliable means to cross-link trade names with generics, or even different packages of the same medication. Also, different trade names are used in different countries, so the NDC cannot be relied on verbatim. Besides, the Philippine Bureau of Food and Drugs or other government body most likely already has some sort of coding present that may be adopted formally. The issue in this case could be to see if any revisions or alterations to the current Philippine coding scheme need be done.

17. Complete Source

<http://www.fda.gov/cder/ndc/index.htm> and

<http://www.mcis.duke.edu:80/standards/termcode/ndc.htm>

VII. Nursing Interventions Classification (NIC)

1. Introduction:

The Nursing Interventions Classification (NIC) is a comprehensive, standardized language describing treatments that nurses perform in all settings and in all specialties. NIC interventions include both the physiological (e.g. Acid-Base Management) and the psychosocial (e.g. Anxiety Reduction). There are interventions for illness treatment (e.g. Hyperglycemia Management), illness prevention (e.g. Fall Prevention), and health promotion (e.g. Exercise Promotion). Interventions are for individuals or for families (e.g. Family Integrity Promotion). Indirect care interventions (e.g. Emergency Cart Checking) and some interventions for communities (e.g. Environmental Management: Community) are also included.

Each NIC intervention has a unique number which can facilitate computerization. NIC interventions have been linked with NANDA nursing diagnoses and the Omaha System problems and are in the process of being linked with Nursing

Outcomes Classification (NOC) patient outcomes. There is a form and a review system for submitting suggestions for new or modified interventions.

2. *Name of Developer:*

Center for Nursing Classification at The University of Iowa College of Nursing

3. *Contact Person:*

Barbara Head, RN, Ph.D.

Center for Nursing Classification

College of Nursing

The University of Iowa

407 Nursing Building

Iowa City, IA 52242-1121

Phone: 319-335-7054/7051

Fax: 319-335-7051

Email: barbara-head@uiowa.edu or classification-center@uiowa.edu

4. *Cost/Price*

NIC is available in book form to individuals for a single fee, which in January 1997 was \$36.95. In addition, licenses are granted to distribute NIC for commercial or institutional use by contacting Linda Briesacher at Mosby-Year Book, 800-325-4177, ext. 4917 (linda-briesacher@mosby.com). Licensing fees are determined by the number of users per site and are renewed with each new edition of the book (approximately every 4 years). To obtain permission to use NIC in printed material, contact Till Davenport at Mosby-Year Book 314-872-8370/fax 314-432-1380.

5. *Type of Standard*

CODING

6. *Type of Implementation*

de Facto

7. *Current Users in the United States*

NIC is recognized by the American Nurses Association and is included in the National Library of Medicine's Metathesaurus for a Unified Medical Language. Both the Cumulative Index to Nursing Literature (CINAHL) and SilverPlatter have added NIC to their nursing indexes. NIC is included in the Joint Commission on Accreditation for Health Care Organization's (JCAHO) as one nursing classification system that can be used to meet the standard on uniform data. The National League for Nursing has made a 40-minute video about NIC to facilitate teaching of NIC to nursing students and practicing nurses. Many health care agencies are adopting NIC for use in standards, care plans, and nursing information systems; nursing education programs are beginning to use NIC;

authors of major texts are beginning to use NIC to discuss nursing treatments; and researchers are using NIC to study the effectiveness of nursing care.

8.-10. *Current Users in Europe, Asia/Australia, Africa*

Undetermined at this time although interest in NIC has been demonstrated in several other countries, notably, Canada, Denmark, Iceland, Japan, Korea, Switzerland, and The Netherlands.

8. *Current Users in Philippines*

Unknown at this time

9. *Applicability in the Philippines*

This is difficult to ascertain without further investigation as to the common nursing intervention procedures practiced locally.

10. *Hardware Issues, if implemented in the Philippines*

None. NIC is not hardware dependent.

11. *Software Issues, if implemented in the Philippines*

Only inclusion in software applications of NIC would have to be done. This can be done because NIC is available in a format readily importable into any software system.

12. *Organizational Issues, if implemented in the Philippines*

Large-scale training and legislation for enforcement would seem to be necessary.

13. *Summary of Advantages and Disadvantages of Implementation*

Besides the obvious advantage of having a standard code that can be easily computerized to facilitate processing and record keeping, using NIC should have a similar effect as NANDA in terms of being able to formally have clinical codes for administrative use. Hence, the nursing component of health care can be quantified in greater detail than it is today.

Distinct disadvantages are not apparent at this time.

14. *Complete Source*

<http://www.mcis.duke.edu:80/standards/termcode/nanda.htm>

<http://aspe.os.dhhs.gov/ncvhs/97041617.htm>

<http://carefacts.com/art3.htm>

VIII. Read Codes

1. Introduction:

The Read Codes are a comprehensive list of terms intended for use by all healthcare professionals to describe the care and treatment of their patients. They enable the capture and retrieval of patient-centered information in natural clinical language within computer systems.

The Read Codes cover such topics as occupations, signs and symptoms, investigations, diagnoses, treatments and therapies, drugs and appliances and much more. This enables the recording within the computer system of anything from a summary of the episode of care to potentially a full electronic patient record if desired.

Each term is attached to a unique Read Code which is stored within the computer. This allows storage, retrieval and analysis of data. When the information is returned to the screen, the clinician is presented not with the code, but with the familiar clinical term which therefore retains its usefulness.

The Read Codes can make patient records easily retrievable. The computerized record structure can be accessed both for individual patient care and for purposes such as running practice functions, and in secondary care for cross-mapping to ICD-10 and Office of Population Censuses and Surveys Classification of Surgical Operations and Procedures, Fourth Revision (OPCS-4) for contracting and HES.

2. Name of Developer:

NHS Centre for Coding and Classification (NHS CCC), Information Management Group, Information Management Group, Department of Health, U.K.

3. Contact Person:

COMPUTER AIDED MEDICAL SYSTEMS LIMITED
Tannery Buildings, 58-60 Woodgate, Loughborough,
Leicestershire, LE11 2TQ, England
Tel. +44 (0)1509 611006
Fax. +44 (0)1509 235560
email: support@cams.co.uk

4. Cost/Price

Evaluation License

Standard License 1 (Evaluation) enables assessment of the depth and breadth of the Read Codes through a demonstration program. No clinical or development use is permitted and no updates are provided.

FREE OF CHARGE

Direct User License

Standard License 2 (Direct). Users receive the services outlined above and the charges made depend on the exact usage. Typical user types and costs are outlined below:

Micro/Departmental

Use of Read is restricted to the named departmental micro/file server, but no restriction on the number of screens attached.

Annual Fee £75.00 plus VAT per screen.

Trust or Managed Unit

Use of Read is permitted throughout the 'site' on any and all processors with the proviso that each software supplier providing Read Code compatible software has an active developer license.

Annual Fee £1,800 to £9,000 plus VAT
for single hospital sites.

Developer License

Standard License 3 (Developer). Receive 3 days initial on-site technical consultancy as well as the core services. Provision is also made for a mutually agreed assessment of Read Code functionality.

Initial Fee £4,500 plus VAT.

Annual Fee £2,500 plus VAT (payable in the first year).

GPs, Dentists and Pharmacists

Users in these sectors of the Health Service are normally licensed by their software suppliers as agents for CAMS. Updates and services are also provided via the software supplier.

Annual Fee £75 plus VAT per practice or business unit.

**5. Type of Standard
CODING****6. Type of Implementation
de facto****7. Current Users in the United States**

The National Library of Medicine in the USA are incorporating the Read Codes into their Unified Medical Language System.

8. Current Users in Europe

The Read Codes are used by a significant proportion of family practitioners, within the UK, to record details about patient care and for the business needs of the practice. Increasingly, the UK's acute and community healthcare sectors are using Read for recording patient-centered information and generating statutory returns to the UK Department of Health by use of

the cross-references to international classifications such as the International Classification of Diseases (ICD-9 and ICD-10).

9. *Current Users in Asia/Australia*

A number of overseas pilot studies are underway and New Zealand has obtained a national license for use of Read Codes across all healthcare sectors

10. *Current Users in Africa*

Unknown at this time.

11. *Current Users in Philippines*

Unknown at this time.

12. *Applicability in the Philippines*

Undetermined. Further study is required to ascertain compatibility with current Philippine medical/health practice.

13. *Hardware Issues, if implemented in the Philippines*

None. This standard is hardware-independent.

14. *Software Issues, if implemented in the Philippines*

Software applications will just have to include and accommodate the Read Codes in their specifications. Systems in place now will have to do the same.

15. *Organizational Issues, if implemented in the Philippines*

Extensive training would be required and, most likely, legislation would have to be enacted to enforce the Read Codes' use.

16. *Summary of Advantages and Disadvantages of Implementation*

Because of the wide scope of coverage of the Read Codes, it has the advantage of being an all-in-one standard. This means that several codes would not have to be used together in the creation of a patient record. Since the ICD-9 and soon, ICD-10, are being used in the Philippines, the existing cross-reference of the Read Codes to ICD-9 and 10 can be used. Also, as per the NHS Center for Coding and Classification in the U.K., the Read Codes have better clinical terms than ICD-10 or OPCS-4: "Read Codes provide terms covering the whole of healthcare, supporting shared records and multi-disciplinary working. The terms were developed by clinicians and reflect the language they use in their work. They are recognized by information technology-aware clinicians as an essential step beyond classification terms (which were not developed for constructing patient records)."

--- from
http://www.ncl.ac.uk/~nphcare/PHCSG/emisuser/articles/F6163.htm#read_codes.

At this time, it is difficult to ascertain the distinct disadvantage(s) of implementing Read Codes. It is arguable that since the Read Codes were

developed in the UK, the design of this coding standard may reflect the unique characteristics of the medical/health infrastructure of that country, whatever those might be. These peculiarities may or may not be compatible with current practices in the Philippines. Further in-depth study of the Read Codes is therefore necessary to determine its disadvantages in the Philippine setting.

17. Complete Source

<http://www.cams.co.uk/rcv3.htm> and

<http://www.mcis.duke.edu:80/standards/termcode/read.htm> and

http://www.ncl.ac.uk/~nphcare/PHCSG/emisuser/articles/F6163.htm#read_codes

IX. Systematized Nomenclature of Human and Veterinary Medicine (SNOMED)

1. Introduction:

2. Name of Developer:

College of American Pathologists

325 Waukegan Road

Northfield, IL 60093

USA

+1 800 323-4040 (U.S. & Canada)

+1 847 832-7000

3. Contact Person:

Ms. Kathy Ax

SNOMED Customer Service

College of American Pathologists

325 Waukegan Road

Northfield, IL 60093-2750

Phone: 800-323-4040 ext. 7280 (U.S. & Canada)

Phone: 847-832-7280

Fax: 847-832-8170

Email: kax@cap.org

4. Cost:

\$50.00 excluding shipping and handling for single PC use. Additional fees apply depending on use such as distribution in commercial applications, etc.

5. Type of Standard:

CODING

6. Type of Implementation:

De facto – by virtue of its roots in the Systematized Nomenclature for Pathology from the 1960's.

7.-11. Current Users in the U.S., Europe, Asia/Australia, Africa, Philippines

Russian Academy of Medical Sciences - The Laboratory of Medical Informatics at the Institute of Neurology of the Russian Academy of Medical Sciences is using SNOMED International in medical information systems development.

American Board of Pathology - Investigating using SNOMED International for coding categories of questions on computer-based examinations.

DICOM Standards Committee - (formerly American College of Radiology/National Electrical Manufacturers Association) Adopted SNOMED as the structured reporting vocabulary for the DICOM imaging standard.

American Dental Association - SNOMED forms the basis of SNODENT, the ADA's new dental taxonomy which enables dental practitioners to record dental diagnoses and track clinical outcomes.

American Veterinary Medical Association - Adopted SNOMED International as the nomenclature system for all vet schools and research centers/projects.

Chinese Ministry of Health - Requested licensing terms for using Chinese translation for CPR in 14,000 hospitals (representing one-fifth of the world's population).

Dijon, France - Incorporating Microglossary for Pathology into Pathology Thesaurus (Pathology Bible), developed by Doctor Pierre Dusserre, a tool to assist pathologists in both the gross description and microscopic reporting, regardless of language. Wishes to incorporate SNOMED to permit comparable and meaningful use for statistical and epidemiological studies.

Computer System Vendors - There are currently over 30 domestic and international licensed computer systems vendors, primarily laboratory information system vendors who are licensed to distribute SNOMED.

Managed Care Systems - Several major health care corporations are negotiating for final licensing agreements.

Computer-Based Patient Record System Developers - Numerous developers of computer-based patient record systems which wish to use SNOMED International and are in various stages of completing licensing agreements to incorporate SNOMED into their systems.

12. Applicability in the Philippines:

Long-term – This is due to a lack of known existing systems, both computerized and otherwise, in the Philippines that incorporates SNOMED. Study will have to be conducted on how to make best use of this nomenclature. While there is “greater specificity than the ICD (International Classification of Diseases) and CPT (Current Procedural Terminology)” --- Jeffrey S. Blair, “An Overview of Healthcare Information Standards”, a strategy for making use of SNOMED in mainstream computer-based patient record systems (CPRS) will have to be established. Given that there are few CPRS’s in use at this time, a consensus must first be reached on SNOMED’s inclusion in such systems. Information must then be disseminated about the nomenclature and, perhaps, even its use in CPRS’s be enforced.

13. Hardware Issues If Implemented in the Philippines

Being a nomenclature that is available in text form and, as such, is easily importable into any computer application, there should be no hampering hardware issues in its use. SNOMED’s impact in terms of computer-based patient record systems is at the application level only. Use of SNOMED is therefore hardware independent.

14. Software Issues If Implemented in the Philippines

Similar to the point raised in the previous paragraph, no appreciable software issues in terms of use in existing or under-development systems should arise. Software developers will only have to import the SNOMED nomenclature and provide for interfaces to it in existing and to-be released applications. Again, SNOMED’s impact is at the application level only. It is easily importable into any database application language.

15. Organizational Issues If Implemented in the Philippines

Implementation of SNOMED would have to begin with dissemination of information regarding its usefulness and benefits to a computer-based patient record system (CPRS). A credible entity with support or at least endorsement from public, private, medical and educational sectors would be required to spread information regarding SNOMED and, if necessary, enforce its use in existing and under-development CPRS’s.

16. Summary of Advantages and Disadvantages of Implementation

Advantages – Given SNOMED’s declared comprehensiveness, it allows for “full integration of all medical information in the electronic medical record into a single data structure.” In essence, an all-in-one standard for coding of Topography, Morphology, Diseases/Diagnoses, etc. (please see *Complete Source* below) could be used by implementing SNOMED. This may eliminate the need to use other coding standards and greatly simplify the creation of CPRS’s.

Disadvantages – Although widely used, as evidenced by the list of users listed above in the *Current Users* section of this document, and given its greater clinical specificity than either ICD or CPT, it is not apparent if SNOMED is a standard adopted by other medical-related industries such as Health Insurance and Health Medical Organizations (HMO) of a wide scale. This means that for a seamless or near-seamless interaction or communication between computer-based patient record systems (CPRS) and those made by Insurance or HMO entities, a mapping or interface will have to be developed. Also, since SNOMED is considered “a comprehensive, multiaxial nomenclature classification work created for the indexing of the entire medical record, including signs and symptoms, diagnoses, and procedures” --- Jeffrey S. Blair, “An Overview of Healthcare Information Standards”, an overlap with other pertinent coding standards such as ICD and CPT may occur. If other overlapping standards are to be advocated for use concurrently with SNOMED, a mapping tool or interface may have to be specified or developed to avoid any difficulties.

17. Complete Source

SNOMED International homepage – <http://www.snomed.org>; and
“An Overview of Healthcare Information Standards (April 1996) by Jeffrey S. Blair, Program Manager, IBM Healthcare Solutions, Atlanta, Georgia (found at <http://www.cpri.org/docs/overview.html>).

X. Unified Medical Language System (UMLS)

1. Introduction:

The Unified Medical Language System® (UMLS®) helps health professionals and researchers retrieve and integrate electronic biomedical information from a variety of sources. It can be used to overcome variations in the way similar concepts are expressed in different sources. This makes it easier for users to link information from patient record systems, bibliographic databases, factual databases, expert systems, etc. The UMLS Knowledge Services can also assist in data creation and indexing applications.

The UMLS includes machine-readable "Knowledge Sources" that can be used by a wide variety of applications programs to compensate for differences in the way concepts are expressed in different machine-readable sources and by different users, to identify the information sources most relevant to a user inquiry. The Metathesaurus contains mappings to MeSH (Medical Subject Headings at the National Library of Medicine), ICD-9-CM, SNOMED, CPT, and a number of other coding systems.

The UMLS is not itself a standard; it is a cross-referenced collection of standards and other data and knowledge sources. It is a very valuable resource for solving the most difficult problem in exchanging healthcare information: the multiplicity of coding systems in use today.

2. *Name of Developer:*

National Library of Medicine, Bethesda, MD USA

3. *Contact Person:*

Customer Service – custserv@nlm.nih.gov or call 1-888-FINDNLM

4. *Cost/Price*

Free - License Agreement for use of the UMLS Knowledge Sources includes a list of vocabularies in the UMLS Metathesaurus. The UMLS products are available free of charge to U.S. and international users. Use of the UMLS Metathesaurus may require additional agreements (which may involve fees) with producers of the individual vocabularies it contains.

5. *Type of Standard*

CODING

6. *Type of Implementation*

de facto

7. *Current Users in the United States*

Unknown at this time

8. *Current Users in Europe*

Unknown at this time

9. *Current Users in Asia/Australia*

Unknown at this time

10. *Current Users in Africa*

Unknown at this time

11. *Current Users in Philippines*

Unknown at this time

12. *Applicability in the Philippines*

Given that there are no agreed upon coding standards at this time, use of the UMLS will not be necessary yet.

13. *Hardware Issues, if implemented in the Philippines*

None. This coding standard is hardware-independent.

14. Software Issues, if implemented in the Philippines

There are no appreciable software issues with regard to implementation of UMLS in the Philippines. Developers will only have to incorporate or provide interfaces to accommodate the use of the UMLS in systems.

15. Organizational Issues, if implemented in the Philippines

Since the UMLS is a metathesaurus and not exactly a coding standard, there may be no need to institute formal implementation in the Philippines. Instead, individuals and entities who need to interchange data with systems not fully conformant with agreed-upon national standards can use the UMLS to facilitate exchange of data.

16. Summary of Advantages and Disadvantages of Implementation

The overriding advantage of using the UMLS is that many of the major coding standards are accommodated by this metathesaurus. This means that the great variety of vocabularies and classifications as well as the large number and wide distribution of information sources need no longer be barriers to utilizing available information and to developing effective querying interfaces to these information sources.

There is no apparent disadvantage to the use of UMLS at this time.

17. Complete Source

<http://www.nlm.nih.gov/research/umls>

Appendix

Codes used by the National Statistical Office

Prepared by Alexius E.G. Sandoval, M.D.

Name of code: Philippine Standard Occupational Classification
 Abbreviation: PSOC
 Source of code: NSO, 1992
 Coding System:

Example:	Medical Doctor = 2221				
Where:		2	2	2	1
Professionals (Major Group 2)	2				
Life science and health professions	2				
Health professionals (except nursing)	2				
Medical Doctor	1				

Name of code: Philippine Standard Industry Classification
 Abbreviation: PSIC
 Source of code: NSO, 1994
 Coding System:

Example:	Fruit Wine Manufacturing = 15621	15	6	2	1
Division	(Manufacture of Food Products & Beverages)	15			
Group	(Manufacture of Beverages)	6			
Class	(Manufacture of wines)	2			
Subclass	(Fruit wine manufacture)	1			

Name of code: Philippine Standard Geographic Code
Abbreviation: PSGC
Source of code: NSO, 1996
Coding System:

Example: Barangay 1 in Tondo = **99 39 01 001 u**

Where: **99 39 01 001 u**

1st level: Region Code 99

2nd level: Province Code 39

3rd level: Municipality Code 01

4th level: Barangay Code 001

Urban/Rural Classification (U = urban, P = partly urban, R = rural: 1970 Definition)

The Nation Statistics Office (NSO) Codes are available at:
The National Statistics Coordination Board Library
Ground Floor
Midland Buendia Building
403 Gil Puyat Ave.
Makati City

SHIP-Defined Tables:

SHIP-DE / DEEDS 1.09 Patient Telephone Number

A. Codes for Component 2 (Code indicating telecommunication use):

<u>Entry</u>	<u>Description</u>
PRN	Primary residence number
ORN	Other residence number
WPM	Work number
VHN	Vacation home number
ASN	Answering service number
EMR	Emergency number
NET	Network (e-mail) address
BPN	Beeper number

B. Codes for Component 3 (Type of telecommunication equipment):

<u>Entry</u>	<u>Description</u>
PH	Telephone
FX	Fax
MD	Modem
CP	Cellular phone
BP	Beeper
Internet NET)	Internet address (use only if telecommunication code is NET)
X.400	X.400 e-mail address (use only if telecommunication code is NET)

SHIP-DE 1.11 Patient External Number

Codes for Component 4 (Assigning Authority):

<u>Entry</u>	<u>Description</u>
S	SSS
G	GSIS
O	OWWS
P	PHIC

Data Elements for Emergency Department Systems 1.0 (DEEDS) Technical Notes

(Reprinted with permission from Technical Notes section of DEEDS release 1.0.)

These notes provide technical information about how the data elements in *DEEDS* conform to the data types defined in *Health Level 7, Version 2.3 (HL7, 1996)*; conventions for addressing missing, unknown, and null data values; and recommendations for dealing with data elements or components of data elements that do not apply to certain patients. For more comprehensive information about the *HL7* data types and the technical terms used in these notes, please refer to *HL7, Version 2.3*.

Data Types Used in *DEEDS*

CE	-	coded element
CX	-	extended composite ID with check digit
EI	-	entity identifier
HD	-	hierarchic designator
ID	-	coded value for <i>HL 7</i> tables
IS	-	coded value for user-defined tables
MO	-	money
NM	-	numeric
PL	-	person location
ST	-	string data
TQ	-	timing/quantity
TS	-	time stamp
XAD	-	extended address
XCN	-	extended composite ID number and name for persons
XON	-	extended composite name and ID number for organizations
XPN	-	extended person name
XTN	-	extended telecommunication number

Symbols

In the data type descriptions that follow, these symbols are used to denote structural features of the data types or to indicate how entries are made in data fields.

- < > Angle brackets demarcate each component of a multicomponent data type. For example, the two components of the MO data type are represented as <quantity> and <denomination>.
- () Parentheses enclose the abbreviation of component data types. For example, in the MO data type description, (NM) specifies that the <quantity (NM)> component is a numeric data type
- ^ The carat separates adjacent components of a multicomponent data type. For example, the MO data type is represented as <quantity (NM)>^<denomination (ID)>.
- [] Square brackets specify a part of a component in which data entry is optional. For example, the [SS] in the TS – time stamp data type indicates that entering seconds is optional.
- ~ The tilde separates multiple occurrences of a single component. For example, in the family name component of the XPN data type, Rodriquez~Garcia indicates that the person has a compound name.
- "" Double quotes represent null values in alphanumeric fields. For example, the entry of "" in the middle name component of an XPN data type field indicates that the person has no middle name or initial.

CE - coded element

Components:

```
<identifier (ST)>^<text (ST)>^<name of coding system (ST)>^
<alternate identifier (ST)>^<alternate text (ST)>^<name of alternate coding system
(ST)>
```

This data type is composed of two parallel triplets, each of which specifies a coded identifier, a corresponding text descriptor, and a designation for the coding system from which the coded identifier is taken. The CE data type permits use of different coding systems to encode the same data. Components 1-3 comprise a triplet for the first code,

and Components 4-6 comprise a triplet for the alternate code. When a code from a locally developed coding system is entered in Component 1 or 4, then L is recommended for entry in Component 3 or 6 to designate a local coding system. An example of a chief complaint entry using a local coding system is:

K01^chest pain^L

Text may be used without an accompanying identifier and name of coding system in the absence of an available coding system, in which case the text is entered in Component 2. An example of a chief complaint entry without a coding system is:

""^chest pain

An entry "" or Unknown in Component 1, without entries in other components, indicates that the value for the entire data element is null or unknown.

CX - extended composite ID with check digit

Components:

<ID (ST)>^<check digit (ST)>^
 <code identifying the check digit scheme employed(ID)>^
 <assigning authority (HD)>^<identifier type code(IS)>^<assigning facility (HD)>

This data type is used for certain fields that commonly contain check digits (e.g., internal facility patient identifier). Component 1 contains an alphanumeric identifier. The check digit entered in Component 2 is an integral part of the identifier but is not included in Component 1. Component 3 identifies the algorithm used to generate the check digit. Component 4, <assigning authority>, is the unique name of the system that created the identifier. Component 5, <identifier type code>, is a code for the identifier type, such as MR for medical record number (see Table 0203 in *HL7*, Version 2.3). Component 6, <assigning facility>, is the place or location where the identifier was first assigned to the patient (e.g., University Hospital).

EI - entity identifier

Components:

<entity identifier (ST)>^<namespace ID(IS)>^<universal ID (ST)>^
 <universal ID type (ID)>

Component 1, <entity identifier>, is used in *DEEDS* as an authorization identifier, and Components 2-4 are not used unless needed for local purposes. Components 2-4 are equivalent to the HD - hierarchic designator data type.

HD - hierarchic designator

Components:

<namespace ID (IS)>^<universal ID (ST)>^<universal ID type (ID)>

The HD data type is used only as a part of the CX, EI, PL, XCN, and XON data types. In *DEEDS*, the HD data type is used as a facility identifier. Component 1, <namespace ID> is a locally defined name that is consistent with the IS data type. Component 2, <universal ID>, is an identifier formatted in accordance with the system defined by Component 3, <universal ID type>. If data are entered in Component 1, data entry in Components 2 and 3 is optional. If data are not entered in Component 1, then Components 2 and 3 must be used together. Component 3 is used to designate the type of identifier entered in Component 2. See *HL7* Table 0301 for identifier types. Among the types listed is the identifier L, which is used in *DEEDS* to designate a locally defined identifier system.

ID - coded value for HL7 tables

Entries into fields of this data type follow the formatting rules of an ST field and are drawn from tables that are defined within *HL7*, such as medication order control codes used in the *DEEDS* ED Discharge Medication Order Type data element.

IS - coded value for user-defined tables

Entries into fields of this data type follow the formatting rules of an ST field and are drawn from tables that are defined by the user. For example, a locally defined table for sex could be:

Entry	Description
M	
F	Female
U	

MO - money

Components:

<quantity (NM) >^<denomination (ID)>

Component 1 is a monetary amount, and Component 2 is a currency type. Currency types are coded from ISO 4217-90 *Currency and Fund Codes* (International Organization for Standardization, 1990), in which the code for the U.S. dollar is USD.

NM - numeric

An entry into a field of this data type is a number represented by a series of ASCII numeric characters consisting of an optional leading sign (+ or -), one or more digits, and an optional decimal point. In the absence of a + or - sign, the number is assumed to be positive. Leading zeros, or trailing zeros after a decimal point, are not meaningful. The only nonnumeric characters allowed are the optional leading sign and decimal point.

PL - person location

Components:

<point of care (IS)>^<room (IS)>^<bed (IS)>^<facility (HD)>^<location status (IS)>^
<person location type (IS)>^<building (IS)>^<floor (IS)>^<location description (ST)>

In *DEEDS*, only Component 4, <facility>, is used, and it follows the formatting rules for the HD hierarchic designator data type.

ST - string data

Entries into a field of this data type are left-justified alphanumeric data, with trailing blanks optional.

TQ - timing/quantity**Components:**

<quantity (CQ)>^<interval (CM)>^<duration (ST)>^<start date/time (TS)>^
 <end date/time (TS)>^<priority (ST)>^<condition (ST)>^<text (TX)>^
 <conjunction (ST)>^<order sequencing (CM)>

The TQ data type is used to describe when a service is to be performed and how frequently. Only Components 1-3 are used in *DEEDS*. Component 1, <quantity>, is a distinct *HL7* data type, CQ composite quantity with units, comprised of two subcomponents, quantity (NM) and units (CE). In *DEEDS*, the quantity subcomponent is set to the default value of 1, indicating one administration of the specified medication dose. The units subcomponent is not used unless Unknown is entered in this field to indicate that the medication schedule is not known.

Component 2, <interval>, is a distinct *HL 7* data type, CM - composite data type, that specifies the frequency with which medication is administered. The following excerpts from *HL7 Table 0401* provide examples of data entry for Component 2:

Entry	Description
Q<integer>H	Every <integer> hours
Q<integer>D	Every <integer> days
BID	Twice a day
TID	Three times a day
QID	Four time a day
<integer>ID	<integer> times per day (for 5 or more times a day)
QAM	Once in the morning
QOD	Every other day (same as Q2D)
QHS	Every day before the hour of sleep
QPM	In the evening
PRN	Use as needed
PRNxxx	Use as needed, where xxx is a frequency code (e.g., PRNQ6H)

Component 3, <duration>, specifies how long medication administration is to continue after it is started. The following excerpts from *HL section 4.4.3* provide examples of data entry for Component 3:

Entry	Description
D<integer>	<integer> days
W<integer>	<integer> weeks
L<integer>	<integer> months
INDEF	Indefinitely (default value)

TS - time stamp

Form:

YYYY[MM[DD[HHMM[SS[.S[S[S[S]]]]]]] [+/-ZZZZ]

A data element of this type is string data that contains the date and time of an event. YYYY is the year, MM is the month, and DD is the day of the month. The time, HHMM, is based on a 24-hour clock in which midnight is 0000 and 2359 is 11:59 pm, and +/-ZZZ is the offset from Greenwich Mean Time (for example -0500 is Eastern Daylight Time, and -0600 is Eastern Standard Time). If the optional +/-ZZZZ is missing, local time is assumed.

A TS data field should be left blank when the informant is not asked about the time of an event or the information is not recorded (missing data). As a *DEEDS* convention (not an *HL 7* standard), 99 can be used to indicate that the informant does not know:

Entry	Description
Leave blank	Date/time not asked or not recorded
99	Date/time asked and unknown
1996	Year known; remainder of date/time not asked or not recorded
199699	Year known, nothing else known
199608	Year and month known; remainder of date/time not asked or not recorded
19960899	Year and month known; nothing else known

Examples:

199608011600-0500 A complete date/time indicating EDT
 199608011600-0600 A complete date/time indicating EST

For some events (e.g., onset of illness or injury), the exact date or time may be unavailable and an estimate is preferable to leaving the date/time blank or entering 99. For example, if the event is estimated to have occurred 4 days ago (assuming that today's date is June 6, 1997), then 1997060299 would be entered. If the event is estimated to have occurred about 3 months ago, then 19970399 would be entered.

XAD - extended address**Components**

<street address (ST)>^<other designation (ST)>^<City (ST)>^<state or province (ST)>^
 <zip or postal code (ST)>^<Country (ID)>^<address type (ID)>^
 <other geographic designation (ST) >^<county/ parish code (IS)>^<census tract (IS)>

Component 2, <street address>, contains the street address, rural route designation, or post office box. Component 2, <other designation>, qualifies the address (e.g., Apt 1). Component 3, <city>, is the city name, where appropriate. Component 4, <state or province>, is represented by the U.S. *Postal Service* code. Component 5, <zip or postal code>, takes the form 99999 [-9999] for a zip code or has 6 alphanumeric characters for a Canadian postal code. Component 6, <country code>, is assumed to be USA if no entry is made. Component 7, <address type>, is coded as follows:

Entry	Description
C	Current or temporary
P	Permanent
M	Mailing
B	Business
0	Office
H	Home
F	Country of origin

Component 8, <other geographic designation>, is a user's choice that could include such designations as catchment area, EMS region, and health services area. Component 9, <county/ parish code>, represents the county or county equivalent in which the specified address is located (see *HL7* Table 0289 - County/Parish). Component 10, <census tract>, is a code that represents the census tract (or enumeration district) in which the specified address is located (see *HL 7* Table 0288 - Census Tract).

Example:

1234 Easy Street^Suite 123^San Francisco^CA^95123^USA^B^^SF

XCN - extended composite I D number and name for persons

Components:

<ID (ST)>^<family name (ST)>^<given name (ST)>^<middle initial or name (ST)>^
<suffix (ST)>^<prefix (ST)>^<degree (ST)><source table (IS)>^
<assigning authority (HD)>^<name type (ID)>^<identifier check digit (ST)>^
<code identifying check digit scheme employed (ID)>^<identifier type code (IS)>^
<assigning facility (HD)>

Only Components 1 and 13 are used in *DEEDS*. Component 1, <ID>, contains an alphanumeric identifier, and Component 13, <identifier type code>, is a code for the type of identifier, such as MR for medical record number. Refer to *HL7* Table 0203 for other identifier types.

XON - extended composite name and ID number for organizations

Components:

<organization name (ST)>^<organization name type code (IS)>^<ID number (NM)>^
<check digit (NM)>^<code identifying the check digit scheme employed (ID)>^
<assigning authority (HD)>^<identifier type code (IS)>^<assigning facility (HD)>

Component 1, <organization name>, is the name of the specified organization, and Component 2, <organization name type code>, is a code that represents the type of name (see *HL7* Table 0204), Components 4-8 are equivalent to Components 2-6 of the CX data type, except that the check digit in the XON is restricted to the NM data type.

XPN - extended person name

Components:

<family name (ST)>^<given name (ST)>^<middle initial or name (ST)>^<suffix (ST)>^
<prefix (ST)>^<degree (ST)>^<name type code (ID)>

Last name or surname is equivalent to <family name>, and first name is equivalent to <given name>. Component 4, <suffix>, refers to hereditary order, such as Jr, Sr, III or W. Component 5, <prefix>, refers to title, such as Mr or Mrs. Component 6, <degree>, refers to an academic degree, such as PhD. Component 7, <name type code>, is defined by *HL7* Table 0200 as follows:

Entry	Description
A	Alias name
L	Legal name
D	Display name
M	Maiden name
C	Adopted name

Examples:

Jones^Ralph^""^^Dr^MD	No middle initial
Unknown	Name not known
^John John	Last name missing
Smith^Unknown	Given name unknown
Rodriguez~Garcia^Alvaro	Compound family name
Omalley^Mary~Margaret^A^^Mrs	Compound given name

XTN - extended telecommunication number

Components:

```
<*>^<telecommunication use code (ID)>^
<telecommunication equipment type (ID)>^<e-mail address (ST)>^
<country code (NM)>^<area/city code (NM)>^<phone number (NM)>^
<extension (NM)>^<any text (ST)>
```

*In *DEEDS*, Component 1 is not used except to indicate that there is no telecommunication number or that the number is not known (Component 1 is a TN data type retained in *HL7*, Version 2.3 for backward compatibility). Components 2 – 9 are used to record telecommunication information.

Component 2, <telecommunication use code>, is a code that refers to a specific use of a telecommunication number, as follows:

Entry	Description
PRN	Primary residence number
ORN	Other residence number
WPM	Work number
VHN	Vacation home number
ASN	Answering service number
EMR	Emergency number
NET	Network (e-mail) address
BPN	Beeper number

Component 3, <telecommunication equipment type>, is a code that refers to a type of telecommunication equipment, as follows:

Entry	Description
PH	Telephone
FX	Fax
MD	Modem
CP	Cellular phone
BP	Beeper
Internet	Internet address (Use only if telecommunication use code is NET.)
X.400	X.400 e-mail address (Use only if telecommunication use code is NET.)

Use Component 4 to record an e-mail address. Component 5 is an optional 3-digit country code. Component 6, <area/city code>, is optional, with data entered in the following form:

(999)

Component 7, <phone number>, is the only required component, with data entered in the following form:

999-9999

Component 8, <extension>, is an optional telephone number extension. Component 9, <any text>, is an optional free-form comment limited in length to the number of characters remaining in the data field after all other information has been entered.

When the person or organization has no telecommunication number, enter "" in Component 1. When the existence of a telecommunication number is not known, enter Unknown in Component 1.

Examples:

^^^^^^123-4567

""

Unknown

^^^^^(404)^123-4567^^patient's mother

^^^^^^123-4567^9876^8:00 am to 5:00 pm

Design Considerations for Record System Implementers

Missing, Unknown, and Null Data Values

Missing, unknown, and null data values must be identifiable and differentiated from one another in patient records. The following definitions and *DEEDS* conventions are recommended:

Missing values are values that are either not sought or not recorded. Typically, no keystrokes are made in a computerized record system, and as a result alphanumeric fields remain as default characters (most often blanks) and numeric fields are identifiable as never having had entries.

Unknown values are values that are recorded to indicate that information was sought and found to be unavailable. In *DEEDS*, various conventions are used to enter unknown values: the word "Unknown" or a single character value (9 or U) for the ST - string data type; 99 for two or more unknown digits for the TS - time stamp data type; and 9 or a series of 9s for the NM - numeric data type. Note: the use of Unknown, U, and 9s in this document to represent values that are not known is an arbitrary choice. Other notations may be used for unknown value entries.

Null values are values that represent none or zero or that indicate specific properties are not measured. For alphanumeric fields, the convention of entering "" in the field is recommended to represent none (e.g., no telephone number), and the absence of an inquiry (e.g., not asking about a telephone number) requires no data entry and results in missing data. For numeric fields, the convention of entering 8 or a series of 8s is recommended to denote that a measurement was not made, preserving an entry of zero for a number in the measurement continuum. For example, 888 is the entry recommended when a patient's systolic blood pressure is not measured, and zero indicates the absence of systolic blood pressure in an asystolic patient. Note: the use of "" and 8s in this document to represent null values is an arbitrary choice. Other notations may be used for null value entries.

In *DEEDS*, null or unknown values in multi-component data types (i.e., CE, CX, EI, HD, PL, TQ, XAD, XCN, XON, XPN, and XTN) are indicated in the first alphanumeric component. For example, in an XAD data type, "" or Unknown would be entered in the <street name (ST)> component to indicate there was no address or that the address was not known, and no data would be entered in the remaining components.

Data Elements and Components That Are Not Applicable

Data entry is not required in certain fields when the data elements or their components do not pertain (e.g., Pregnancy Status Reported in ED is not applicable to male patients, ED Discharge Medication Group is not applicable to patients discharged without a prescription for medication, academic degree may be irrelevant in Emergency Contact Name). Skip patterns should be used as needed to reduce data entry burdens.

HL7

2.8.5.3 Code identifying the check digit scheme employed (ID)

The check digit scheme codes are defined in HL7 table 0061 – Check digit scheme.

Table 0061 – Check digit scheme

Value Description

M10 Mod 10 algorithm

M11 Mod 11 algorithm

The algorithm for calculating a Mod 10 check digit is as follows:

- Assume you have an identifier = 12345.
- Take the odd digit positions, counting from the right, i.e., 531, multiply this number by 2 to get 1062.
- Take the even digit positions, starting from the right (i.e., 42), prepend these to the 1062 to get 421062.
- Add all of these six digits together to get 15.
- Subtract this number from the next highest multiple of 10, i.e., 20-15 to get 5.
- The Mod 10 check digit is 5.

The Mod 10 check digit for 401 is 0; for 9999, it's 4; for 99999999, it's 8.

The algorithm for calculating a Mod 11 check digit is as follows:

Terms:

d = digit of number starting from units digit, followed by 10's position, followed by 100's position, etc.

w = weight of digit position starting with the units position, followed by 10's position, followed by 100's position, etc. Values for $w = 2, 3, 4, 5, 6, 7, 2, 3, 4, 5, 6, 7, \text{etc.}$ (repeats for each group of 6 digits)

c = check digit

(Step 1) $m = \text{sum of } (d * w) \text{ for positions } 1, 2, \text{etc. starting with units digit}$
for $d = \text{digit value starting with units position to highest order}$

(Step 2) $c1 = m \text{ mode } 11$

(Step 3) if $c1 = 0$ then reset $c1 = 1$

(Step 4) $(11 - c1) \text{ mode } 10$