

The Basic Data Set Standard of Hospital Information

The committee of BDSS
Chinese Hospital Information Management
Association
China National Institute of Hospital
Administration

Li Baoluo liblpumch@sina.com



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BDSS Project Background

- The information standardization is a bottleneck of HIS development for a long time
- SARS outbreak showed the importance and essentiality of information standardization
- More people are using hospital information system, including government leader, officers from hospital insurance, public health, medicine monitoring organization, community medical health care, business investigations, and medical health care system establishment among local areas.
- The behind status of having hospital information standard made most of the investors hesitate to make decisions.



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BDSS Project Background

Leaders from Ministry of Health decided to change the status of hospital information standard which is far behinds information system development:

- The Ministry of Health is going to established a health information standard committee who is responsible for authorizing and promoting of establishing health information standard.
- Developing four important projects
 - The frame structure of health information standard
 - Hospital information basic data set standard(HIBDSS)
 - Public health basic data set standard (PHBDSS)
 - Community Healthcare basic data set standard



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Purpose of BDSS project

- The data set will be used as the information exchange foundation between internal hospital and external hospital, among hospitals, health administration department, hospital and department of medical insurance, hospital and CDC. It also provides the data structure and data base reference for developers to design hospital information system.**



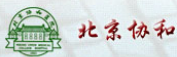
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关于研制中国医院信息最小标准数据集的
Minimum Standard Data Set (MSDS)
Of Chinese Hospital Information
委托书

卫生部医院管理研究所，
中华医院管理学会信息管理委员会：

为满足我国国家公共卫生信息系网络建设的迫切需要,适应我国医院信息化迅速发展的新形势,现特委托卫生部医院管理研究所和中华医院管理学会信息管理委员会立即着手研究,制定我国医院信息最小标准数据集 (Minimum Standard Data Set (MSDS) Of Chinese Hospital Information)。该数据集将被用来作为医院之间,医院和卫生行政主管部门,医疗保险部门之间以及医院和疾病预防控制中心之间进行信息交换的基础,同时也可提供给医院信息系统开发者在数据结构与数据库设计时参考。

此项工作宜早不宜迟,宜快不宜慢,否则会拖全国卫生信息网络建设的后腿,希望你们积极组织协调,广泛联合各方面的专家和技术人员,加倍努力工作,力争今年底之前完成初稿。



“中国医院信息最小标准数据集”工作小组
企业参加办法

为保证“中国医院信息最小标准数据集”制定工作顺利,卫生部医院管理研究所、中华医院管理学会信息管理专业委员会决定邀请部分企业参加此项工作。

此次受邀参加工作小组的企业均为活跃在我国医院信息系统领域中的知名企业,并已经在卫生信息系统领域作出了众所周知的贡献,我们诚挚邀请这些企业参与“中国医院信息最小标准数据集”制定工作。

每家参加此项工作的企业成员均成为本项标准制定工作的赞助商并自愿赞助期限为人民币 50,000 元的赞助费。企业提供的赞助费将全部用于本项标准制定工作的会议费、劳务补贴及出版费用等。

请企业本着自愿参加的原则,慎重考虑,企业在交纳赞助费后将正式成为“中国医院信息最小标准数据集”工作小组成员,参加制定工作,并继续参加工作小组召开的后续工作会议。

请企业将交纳的赞助费存入指定帐户,并将银行入帐单传真给我们。

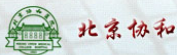
联系人: 马燕 (中华医院管理学会信息管理专业委员会秘书)
电话:010-65296052-803 传真:010-65296052-808

E-MAIL: ma@csic.pumch.ac.cn

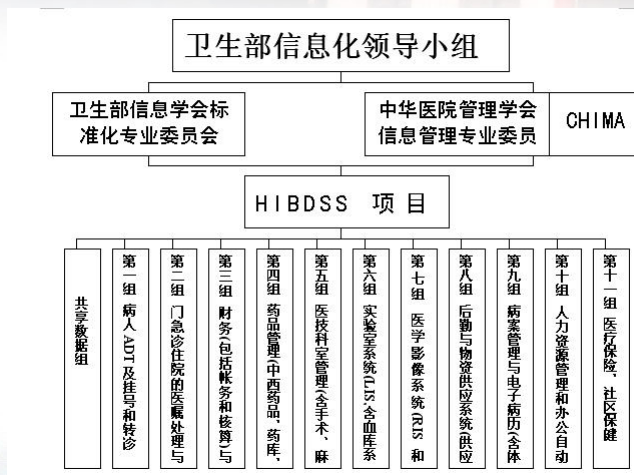
通讯地址: 北京协和医院信息中心 邮政编码: 100730

赞助费存户账号: 0200006209014443582

开户银行: 中国工商银行中关村支行东升分理处



BDSS Project Organization



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BDSS Project Grouping


- WG0** Common (56)
- WG1** ADT & Registration & Refer (85)
- WG2** Medical Order and CPOE (70)
- WG3** Finance and Account (80)
- WG4** Drug Management (83)
- WG5** Ancillary Department (83)
- WG6** Lab System (89)
- WG7** PACS System (100)
- WG8** Logistic & SCM (83)
- WG9** EHR & EMR Management (127)
- WG10** Human Resources & OA (62)
- WG11** Health Insurance & Community Healthcare (19)

Total Element Amount: 937



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分组	单位
1 病人ADT及挂号和转诊	广东省人民医院信息中心
	西安第四军医大学卫生统计教研室预防医学系
2 门急诊住院的医嘱处理与医生工作站	总后卫生部信息中心
	中国医科大学第一附属医院信息中心
	北京众邦慧智计算机系统集成有限公司
3 财务（包括帐务与合算）与病人帐务管理	南京市鼓楼医院信息中心
	天津市第一中心医院信息部网络管理中心
	天津泰达国际心血管病医院信息部
	北京瑞得恒昌计算机系统工程技术有限公司
4 药品管理（中西药品，药库，药房）	北京大学第三医院信息管理中心
	北京卫生局信息办
5 医技科室管理（含手术、麻醉、ICU、CCU，不含RIS、PACS、LIS）	中山市人民医院计算机管理中心
	北京宣武医院医学工程
	解放军150医院信息科
	斯坦科技股份有限公司
	奥迪码信息技术（北京有限公司）
6 实验室系统（LIS，含血库系统）	北京大学人民医院信息中心
	卫生部医院管理研究所信息标准化研究部
	北京智方科技开发有限公司
7 医学影像系统（RIS和PACS）	上海瑞金医院计算机中心
	南京军区福州总医院计算机中心
	西安华海医疗信息技术股份有限公司
	西门子（中国）有限公司医学影像网络系统医疗系统集团
	LG-CNS-China
	天健恒达科技有限公司
	北京协和医院信息中心
北京医院信息中心	
8 后勤与物资供应系统（供应链）	301医院计算机室
	北京同仁医院信息中心
	广州军区广州总医院
	天津东佑科技有限公司
9 病案管理与电子病历（含体检）	解放军第251医院
	四川大学华西医院
10 人力资源管理和办公自动化(办公自动化，含培训、教育、科研、图书馆等)	
11 医疗保险，社区保健	

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What is BDSS project?

- Standardization of data expression.
- Definition of Data Element.
- The foundation of information exchange, is a prerequisite condition, not a sufficient condition.
- The basic data attribute which should be included and treated specially when hospital information system developers design database tables.
- Should provide a basic data set for all of outside hospital information users, only from which they can choose the needed elements.

What BDSS is not about?

- **BDSS is not a data dictionary for HIS, it should be a shared subset standard for HIS data dictionary in all hospitals.**
- **BDSS is not the format standard for data exchange (Like HL7), it explicitly explains the semantic of data element.**
- **BDSS is not classification code (CMV), it should provide the classification code list for the data element as the appendix, Reference in different levels of standards, recommendation reference and user definitions when necessary.**



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The Two Key Problems

- **Which elements should be included in BDSS**
 - To set up some essential principia
 - Discussion Meeting for Consistent Opinions
 - Ballot Finally
- **How to Process the relations between data elements**
 - Can not to set up an abstract information model without enough resources
 - Introduce the hierarchy construction: Common Shared Element and Cross-Reference Element



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Basic principle which BDSS follows

- **The meanings of word “basic” in BDSS**
 - **BDSS should first consider the requirements of information exchange which HIS uses between**
 - Health Provider: Hospitals, Clinics, Community Healthcare Section
 - Administrative and Payer organizations (health bureau, medical insurance company), hospital and every application system within hospital.
 - **BDSS is the prerequisite of such information exchange, not sufficient condition.**
 - **BDSS should top prioritize and consider the general, frequently used common data element by healthcare Stakeholder.**



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Basic principle which BDSS follows

- **The meanings of word “basic” in BDSS**
 - **BDSS should be the minimum data set among relative information system modules when the information system is been developed by hospital and venders.**
 - **BDSS should not include those data element which only supports the special functions amount those special domain and plays less important role.**



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Basic principle which BDSS follows

● Hierarchy Issues

BDSS data item is the basic data element which can not be subdivided any more. In fact, it implies the hierarchy meanings internally. Here we defined two types of data item which are related to hierarchy

- Shared data element: refers to those data element which is included by more than one HIS subsystems, with common properties and connotations like **name**.
- Cross-reference data element: refers to those data items which are listed in the current system, and initially are created and defined from other systems, their connotation, extension and names are all the same, like the **patient name** used by ADT and PACS.



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Basic principle which BDSS follows

● The Uniqueness of Data Element Name

The data element name should be the same and unique, no matter how many times it is used in data set and there is only one ID associate with it (They can be refer to many times).

● The Length of BDSS Data Element

When under the circumstance of having different character length of the same project from frequently used standards , the maximum of character length should be selected.



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Meta Data Description of BDSS

Identifying Attributes

Version, Registry Organization, Chinese Name, English Name, Abbreviation Name

Definitional Attributes

Definition Description

Representation Attributes

Representational Layout, HL7 Data Type, Length Size, Data Domain Value

Relational Attributes

Domain, Sub-system, Cross-Reference, Source Description, Source Table ID, Source Table Name

Administrative Attributes

Authorization Organization, Current Admin. Status, Admin. Organization, Memo Note

Note: Some of them must be described, some of them are optional



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Data Set Attribute Structure of BDSS

🌐 Main Attributes of a data element

ID: The index number to identify the data element.

Group ID: The discussing group number to identify the data set.

System: The system name in which the current data element belongs to.

Chinese name: The Chinese name of current data element.

Chinese short name: The Chinese short name of current data element.

English name: The English name of current data element.

English abbreviation: The English abbreviation name of current data element.

Data type: The data type of current data element.

Data length: The length of current data element.

Definition: The descriptions of usage of purpose of current data element.

Source Description: What standard reference it uses to make this data element.
For example, the international standard, etc.

Source (CMV) list: To identify if there is a standard code list match to this data element.

Source Table ID: The identification number (ID) of the classification list.

Source Table name: The name of the classification list.

Cross-reference: If the current data element is the hierarchy data element which is referenced by others, indicate the ID of the original data element.



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Data structure of BDSS

An sample of a shared data element:

ID: 1001

Group ID: 00 (Common Domain)

System: People Demography

Chinese name: 性别

Chinese short name: 性别

English name: sex

English abbreviation: sex

Data type: Char

Data type (HL7): CE

Data length: 1

Definition: This segment only indicate human's social sex, will not identify its physical sex.

Source: Chinese National Standard

Source Table ID: GB2261-80

Source Table name: code for human's sex



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Data structure of BDSS

An sample of a shared data element:

ID: 2001 (to be determined)

Group ID: 1

System: adt

Chinese name: 病人性别

English name: patient sex

English abbreviation: p-sex

Cross-reference : 1001(Assume 1001 is the sharing common data element,sex)



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Data type of the BDSS Data Element

- **BDSS introduced two standards to describe the Data Type of Data Element -1**
 - From GB/T 19253, 《Information technology—Notation of format for data element values》
 - Character, Integrity Number, Real Number, Date and Time, Boolean Variable, Variable length Character, Free Text, Big Binary Block
 - GB/T 19253 emphasizes the representation of data element in system implementation technologies



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Data type of the BDSS Data Element

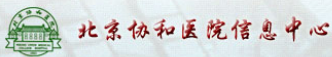
- **BDSS introduced two standards to describe the Data Type of Data Element -2**
 - From HL7 3.0 RIM 2.04
 - HL7 3.0 Data Type emphasizes the Data types define the meaning (semantics) of data values that can be assigned to a data element.
 - Data values can be represented through various symbols but the data value's meaning is not bound to any particular representation. example, the Boolean data type



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BDSS Work Platform and Methods

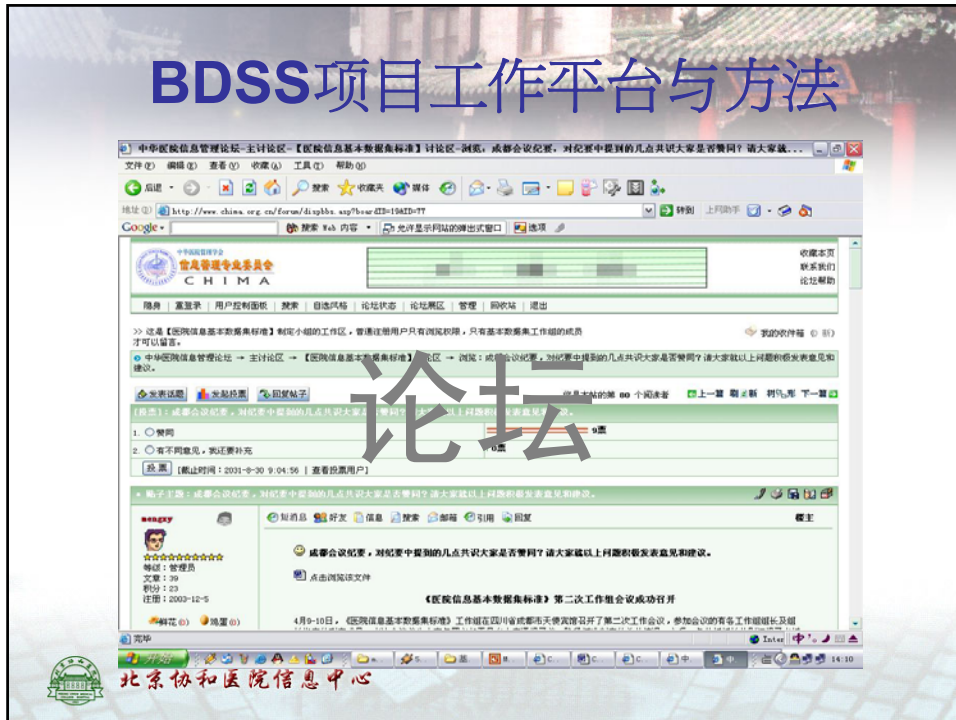
- Website submit
- Website discussions
- Workgroup meeting discussions
- Committee meeting discussions
- Website vote
- Whole committee member vote



BDSS项目工作平台与方法

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BDSS项目工作平台与方法



A	B	C	D	E	F	G	H	I	J
编号	组号	系统	中文名称	中文简称	英文名称	英文缩写	数据类型	据类:据长	说明
1001	0	0	性别	性别	sex	sex	C	1	任 (h17有用户定义表0001, 项目号00111, 与国标h17中无建议值, 六位数字应有10万的容量, 是一个6码, 无其它分类含义 (h17中的)
1002	0	0	职工编码	职工编码	employee code	employee code	C	6	病人的唯一标识码 (h17中的00106项与此有关, 未指明长度, 考虑到身份证号为18位, 暂定20位, 内部又可用于外部)
1003	0	0	病人编码	病人编码	patient id	pid	C	20	未找到国家标准, h17为48位
1004	0	0	姓名	姓名	name	name	C	48	祖居或本人出生的地方 (不采用h17/00126, 不利于统计)如出生在国外, 家码+用户自定义码, 例如: us0010
1005	0	0	籍贯	籍贯	native place	native place	C	6	4 h17中项目号00115 表号0289 (h17 V2.4) 为空表
1006	0	0	出生地	出生地	birth place	birth place	C	6	中国各民族名称的罗马字母拼
1007	0	0	国籍	国籍	country code	country code	C	4	marital status
1008	0	0	民族	民族	nationality	nationality	C	2	phone number
1009	0	0	婚姻状况	婚姻状况	marital status	marital status	C	1	postalcode
1010	0	0	电话号码	电话号码	phone number	phone number	N	40	用于识别每一个邮政投递区 (未找到国标号, 可能部标)在美国, 邮政区码用99999[-9999]的形式, 6大的邮政编码用A9A9A9的形式, 澳大利亚则用9999
1011	0	0	邮政编码	邮政编码	postalcode	postalcode	N	6	身份证号
1012	0	0	身份证号	身份证号	ID card No.	ID card No.	C	18	地址
1013	0	0	地址	地址	address	address	C	250	语种
1014	0	0	语种	语种	language	language	C	25	工作单位名称
1015	0	0	工作单位名称	工作单位名称	employer name	Em name	C	250	工作单位编码
1016			工作单位编码	工作单位编码	employer code	Em code	C	20	支付方式
1017	0	0	支付方式	支付方式	payer catalog	payer catalog	C	??	表示 现金、支票、银行卡、记帐等
1018	0	0	住院次数	住院次数	admission times	admission times	N	4	四位数字9999次足够

性别代码

H-000002

标识类属性:

版本: BDSS1.0
 注册机构: 中华人民共和国卫生部
 中文简称: 性别
 英文名称: Codes for Sexual Distinction
 英文缩写: Sex

定义类属性:

定义: 表示人员的社会性别, 没有正确判定生理性别责任

表示类属性:

数据类型: C
 数据类型_参考HL7: CE
 数据长度: 1
 合法值域: 0,1,2,9

关系类属性:

组号: 共享组
 系统: 个人基本信息
 交叉引用:
 依据: 中华人民共和国国家标准 (hl7有用用户定义表0001, 项目号00111, 与国标冲突不采用)
 列表编号: GB/T 2261.1-2003
 列表名称: 个人基本信息分类与代码 第1部分:人的性别代码

代码	性别
0	未知的性别
1	男性
2	女性
9	未说明的性别

管理类属性:

主管机构: 中华人民共和国卫生部
 注册状态: 注册
 提交机构: 中华医院管理学会信息管理专业委员会



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Australia National Health Data Dictionary

National Health Data Dictionary Version 12

- Updates the data definitions endorsed as national standards for use by those collecting health data in Australia.
- Includes definitions for all the National Minimum Data Sets agreed for mandatory collection and reporting at a national level in Australia's health sector.
- Also includes a significantly expanded number of nationally endorsed data definitions for use by clinicians.
- Use of the Dictionary will help ensure that health data in Australia are uniform and of high quality.**
- Based on the international standard for defining data elements issued by the International Organisation for Standardization.
- The Dictionary is also available in a searchable database form on CD and the Knowledgebase - Australia's Health, Community Services and Housing Metadata Registry on the Institute's internet home page (www.aihw.gov.au).



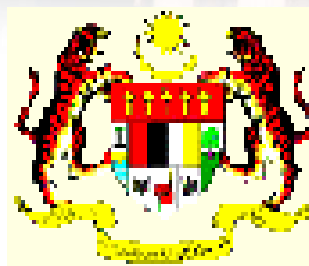
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Australia National Health Data Dictionary



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MALAYSIA NATIONAL HEALTH DATA DICTIONARY



VERSION 1.0

TELEHEALTH UNIT msc-kkm
MEDICAL SERVICES DIVISION
MINISTRY OF HEALTH, MALAYSIA
MARCH 2003



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The Current Status of BDSS

- Finished the Data Elements Collection 2004.02-2004.12
- Finished the Data Elements Selection Version 0.0 2005.9
- Finished the Data Set Ballot of Version 1.0 2005.11
- Repairing & Polishing the final version 2006.02
- Submit to MOH to coordinate and harmonize with other Government Department for the Final Permit 2006.3 -



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The Further Tasks and Vision of BDSS

- Publish V1.0 and Spread Application
- Compliant the National Health Information Framework
- Pick-up the National Health Standard Data Set
- Harmonization of other Health Information Standards
- Abstract the General Information Model



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Thank you for your attention.

Q and A ?

<http://www.chima.org.cn>

Liblpumch@sina.com

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