

Terminology in Practice

- The Hospital Authority Experience

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Health Informatician
Hospital Authority

Content

- Introduction
- Hospital Authority Clinical Vocabulary Table (HACVT)
 - Development & Evolution
 - Application
 - Reporting diagnoses & Procedures
 - Data Retrieval
- Maintenance Mechanism



Introduction



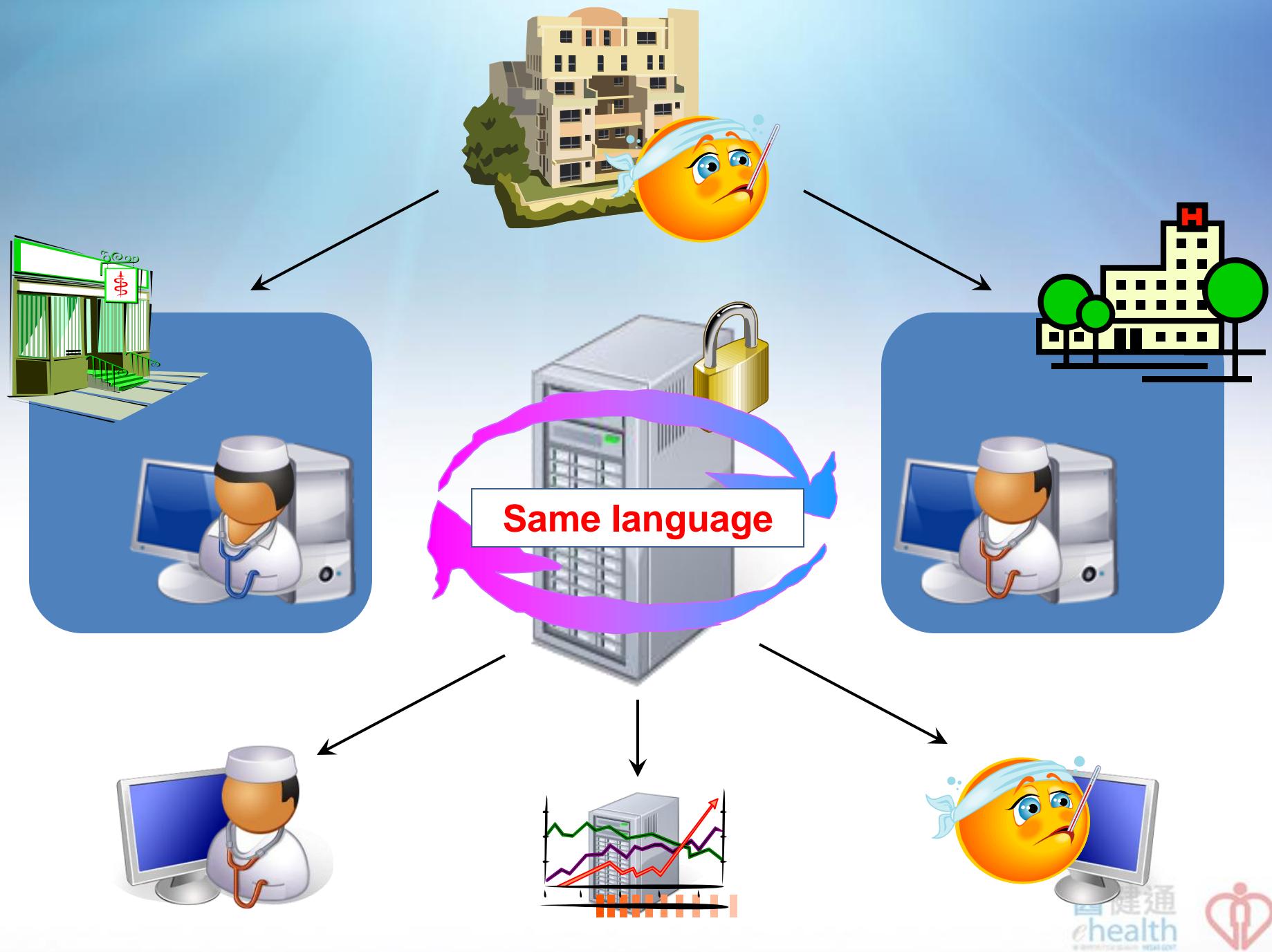
Do you know what they mean?

1. ຍິນດີຕ້ອນຮັບສູ່
2. स्वागत-योग्य
3. Vítejte
4. ترحیب
5. Hoşgeldiniz
6. добро пожаловать
7. ברוכים הבאים
8. كا خير مقدم
9. benvenuto



Do you know what they mean?

- | | |
|---------------------|-----------|
| 1. ຍິນດີຕ້ອນຮັບສູ່ | • Thai |
| 2. स्वागत-योग्य | • Hindi |
| 3. Vítejte | • Czech |
| 4. ترحیب | • Arabic |
| 5. Hoşgeldiniz | • Turkish |
| 6. добро пожаловать | • Russian |
| 7. ברכיכם הבאים | • Hebrew |
| 8. كا خير مقدم | • Urdu |
| 9. benvenuto | • Italian |



HA Clinical Vocabulary Table (HACVT)

Dx9 Px9 Dx10 Alert
 Keyword: myocardial infar

Main Code(s) Asso Code(s) Term ID

Status: All Hospital: All **SEARCH**

<input type="checkbox"/> Select all	Download	Detail	<<	1	>>	60 found(s) in 2 page(s)			
Status	Update Date	Stage	Description	Type	Main Codes	Asso. Codes	Term ID	Hospital	
I	01/01/2003	P	Acute myocardial infarction	Dx9	410 - 0			7585	HO
				Dx10	I21				
I	01/01/2003	P	Acute myocardial infarction, of anterolateral wall	Dx9	410.0 - 0			7586	HO
				Dx10	I21.0				
	01/01/2003	P	Acute myocardial infarction, of anterolateral wall	Dx9	410.00 - 0			7587	HO
				Dx10	I21.0				
	01/01/2003	P	Acute myocardial infarction, of anterolateral wall, initial episode of care	Dx9	410.01 - 0			7588	HO
				Dx10	I21.0				
	01/01/2003	P	Acute myocardial infarction of anterolateral wall, subsequent episode of care	Dx9	410.02 - 0			7589	HO
				Dx10	I21.0				
I	01/01/2003	P	Acute myocardial infarction, of other anterior wall	Dx9	410.1 - 0			7590	HO
				Dx10	I21.0				
	01/01/2003	P	Acute myocardial infarction, of anterior wall	Dx9	410.10 - 0			7591	HO
				Dx10	I21.0				
	01/01/2003	P	Acute myocardial infarction, of lateral wall	Dx9	410.11 - 0			7592	HO



Diagnoses / Procedures

Operating Theatre Reporting System

Endoscopy Reporting System

Generic Clinical Documentation

Clinical Data Framework

HACVT

Status	Update Date	Stage	Description	Type	Main Codes	Ass. Codes	Term ID	Hospital
I	01/01/2003	P	Acute myocardial infarction	Dx9	410 - 0		7585	HO
I	01/01/2003	P	Acute myocardial infarction, of anterolateral wall	Dx9	410.0 - 0		7596	HO
				Dx10	Q11.0			
				Dx9	410.0 - 0		7587	HO
				Dx10	Q11.0			
				Dx9	410.0 - 0		7588	HO
				Dx10	Q11.0			
				Dx9	410.0 - 0		7599	HO
				Dx10	Q11.0			
				Dx9	410.1 - 0		7590	HO
				Dx10	Q11.0			
				Dx9	410.10 - 0		7591	HO
				Dx10	Q11.0			
				Dx9	410.11 - 0			

Obstetrics Clinical Information System

Radiology Information System

Psychiatric Clinical Information System

Terminology Management Principles

- Concept based

Information should be a natural by-product of the systems required to support clinical care.

Rector, 2000

- different descriptions for one concept

Development & Evolution of HACVT



Development & Evolution of HACVT

1995

- HA Master Disease Code Table (HAMDCT) in Clinical Management System
- ICD9CM diagnoses & procedures
- Extensions for locally added terms, alias, associated codes for reporting requirement

HA Master Disease Code Table (HAMDCT)

ITD Hospital Authority Master Disease Code Table - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Mail Print Find Links

Address http://cs4/masterstable/ Go Links

Google

Keyword

ICD9 Code

Classify

Home

Version 1.0
11 Dec 2001

Diagnosis

Procedure

Code : 486 Screen : E Date:Tuesday, September 29, 2009 9:57:13 a.m.

Please choose the typemation you want on the highlighted ICD9CM code

Code Information

Status	CDF	Code	Ext	Short Desc	Full Desc	Associated Codes
A	<ul style="list-style-type: none">Head InjuryPneumoniaChronic Obstructive Pulmonary Disease	<u>486</u>	0	Pneumonia	Pneumonia	
A		<u>486</u>	1	Atypical pneumonia	Atypical pneumonia	
A	<ul style="list-style-type: none">Appendicitis	<u>486</u>	2	Post-operative pneumonia	Pneumonia, post-operative	997.3 0 E878.8 0
I		<u>486</u>	999	Pneumonia, organism nos	Pneumonia	

Total Rec:4

Locally added terms

ICD reporting requirement

Local intranet

Development & Evolution of HACVT

1995

- HA Master Disease Code Table (HAMDCT) in Clinical Management System
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2001

- HA Clinical Vocabulary Table (HACVT) replacing HAMDCT
- Unique TermID
- ICD9CM diagnosis & procedures, ICD 10 diagnosis



HA Clinical Vocabulary Table (HACVT)

Welcome to HA Clinical Vocabulary Table - Microsoft Internet Explorer

HA Clinical Vocabulary Table Maintenance (HACVT)

Term Account

Search New Validate

Query Query Result

Select all

5 found(s) in 1 page(s)

Status	Update Date	Stage	Description	Type	Main Codes	Asso. Codes	Term ID	Hospital
I	10/05/2005	P	<i>Obstetric wound problem</i>	Dx9	674.30 - 7	E879.8	12538	HO
				Dx10	O90.8			
I	07/04/2005	P	Other genital problems	Dx9	V47.5 - 0		21867	HO
				Dx10	N94.9			
	07/04/2005	P	Genital problem, male	Dx9	V47.5 - 1		31806	HO
				Dx10	Z87.4			
	07/04/2005	P	Genital problem, female	Dx9	V47.5 - 2		31807	HO
				Dx10	Z87.4			
	08/03/2005	P	Problem related to primary support group	Dx9	V62.89 - 4		31788	HO
				Dx10	Z63.9			

ICD10 mapping

Unique TermID



Development & Evolution of HACVT

1995

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2001

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- Unique TermID
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2009

- HACVT in Information Architecture Management System (IAMS)–Concept module
- Other terminologies/classifications, e.g. SNOMED CT, ICPC
- Beyond diagnoses and procedures, e.g. organism, medication

HACVT in IAMS



Entity

Concept

Form

Welcome! Guest |



Search Concept »» Concept Result »» Concept Management

Search Clear

Terminology Data	<input checked="" type="radio"/> HACVT	<input type="radio"/> Reference Terminology
C Nature	<input type="checkbox"/> Diagnosis (Dx) <input type="checkbox"/> Procedure (Px) <input type="checkbox"/> Or	
C Terminology Selection	<input type="checkbox"/> ICD9Dx <input type="checkbox"/> ICD9Px <input type="checkbox"/> IC	
	<input type="checkbox"/> CPO Drug Group <input type="checkbox"/> LOINC <input type="checkbox"/> H	
C Keyword	<input type="text"/>	
C Code Type	<input checked="" type="radio"/> Main Code	<input type="radio"/> Asso Code <input type="radio"/> Term
C Code / ID	<input type="text"/> ~ <input type="text"/>	Extension <input type="button"/>
C Status	<input type="checkbox"/> Active	<input type="checkbox"/> Inactive
C Request Institute	ALL <input type="button"/>	

Create Concept »» Concept Management

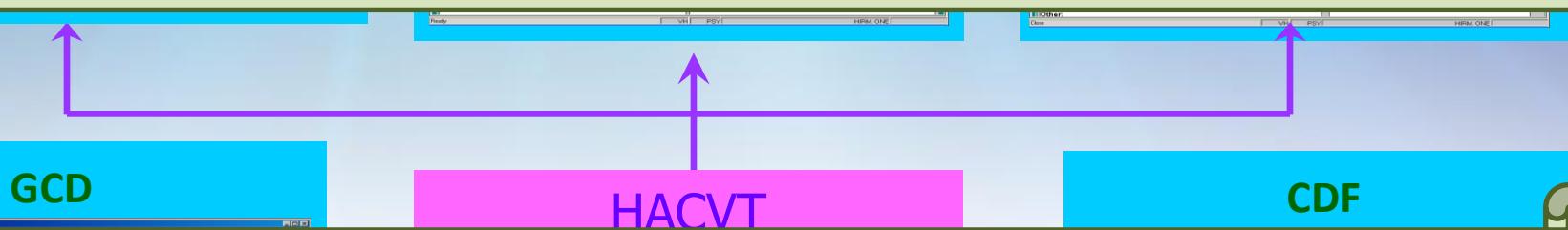
Nature	<input checked="" type="radio"/> Diagnosis (Dx) <input type="radio"/> Procedure (Px) <input type="radio"/> Organism <input type="radio"/> Lab. Antibiotic <input type="radio"/> Alert	
Full Description	<input type="text"/>	
Short Description	<input type="text"/>	
Validation Rules	<input type="text"/>	
Age	<input type="text"/> N/A	
Sex	<input type="text"/> N/A	
Principal	<input type="text"/> N/A	
System Used	<input type="checkbox"/> PsyCIS <input type="checkbox"/> ObsCIS <input type="checkbox"/> Neonatal Form <input type="checkbox"/> RIS	
Status	<input checked="" type="radio"/> Active <input type="radio"/> Inactive (Reason : <input type="text"/>)	
Remarks	<input type="text"/>	
Ref Term Required	<input checked="" type="checkbox"/> ICD9Dx <input type="checkbox"/> ICD9Px <input type="checkbox"/> ICD10Dx <input type="checkbox"/> SNOMED CT <input type="checkbox"/> HKSCT <input type="checkbox"/> CPO Drug Group	
Requested By	<input type="text"/>	Requested Hospital <input type="text"/> HO <input type="button"/>
Alias	<input type="text"/>	
Source	<input type="text"/> HAC	
ICD9Dx	<input type="text"/> - <input type="button"/>	<input type="text"/> - <input type="button"/>
ICD9Px	<input type="text"/> - <input type="button"/> (Px Wt <input type="text"/>)	<input type="text"/> - <input type="button"/>
ICD10Dx	<input type="text"/>	<input type="text"/>
SNOMED CT	<input type="text"/>	<input type="text"/>
CPO Drug Group	<input type="text"/>	

TermID	Type	Long description	ICD9CM	ICD10	SNOMED	Other codes
7252	Dx	Chronic mucoid otitis media	381.20	H65.3	78868004	

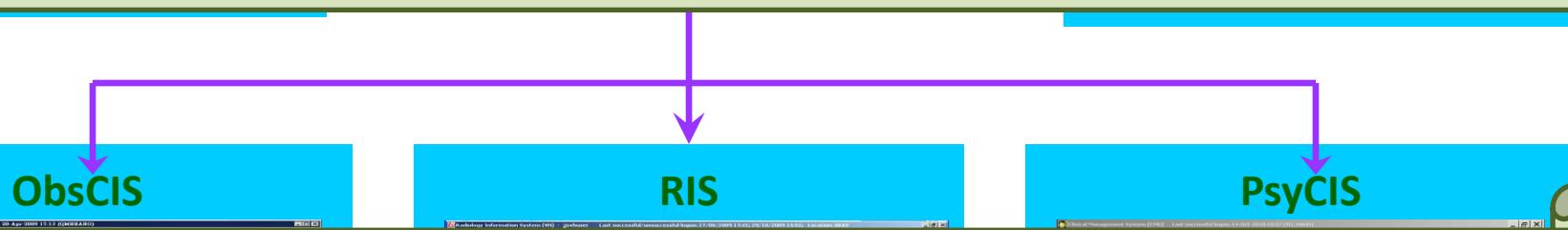
Application of HACVT



CMS diagnosis / procedure service

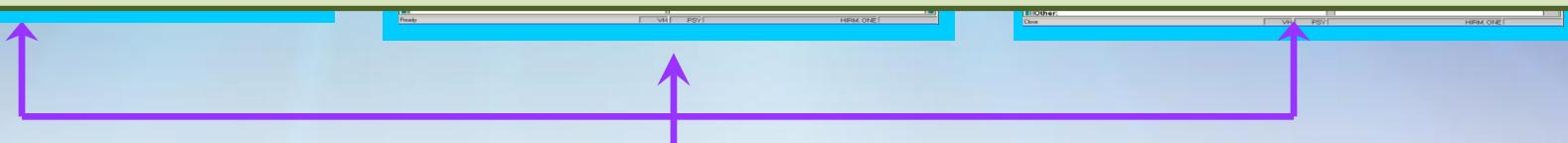


Generic axial approach
in reporting diagnoses / procedures



Local tables map to HACVT

CMS diagnosis / procedure service



60 found(s) in 2 pages						
Status	Update Date	Stage	Description	Type	Main Codes	Assoc. Codes
				Dx9	410 - 0	
I	01/01/2003	P	Acute myocardial infarction	Dx9	410 - 0	
				Dx10	410.0 - 0	
				Dx10	I21.0	
				Dx9	410.0.0 - 0	
				Dx10	I21.0	
				Dx9	410.0.1 - 0	
				Dx10	I21.0	
				Dx9	410.0.2 - 0	
				Dx10	I21.0	
				Dx9	410.1 - 0	
				Dx10	I21.0	
				Dx9	410.10 - 0	
				Dx10	I21.0	
				Dx9	410.11 - 0	
				Dx10	I21.0	

CMS Diagnosis / Procedure Service

- Keyword / code search
- Category list search
 - Shortlist of common diagnoses and procedures on specialty basis
- Classification search
 - Based on ICD structure



HACVT

<input type="checkbox"/> Select all	<input type="button" value="Download"/>	<input type="button" value="Detail"/>	<<	1 [S]	>>	68 found in 2 pages				
Status	Update Date	Stage	Description			Type	Main Codes	Anso. Codes	Term ID	Hospital
I	01/01/2003	P	Acute myocardial infarction			Dx9	410 - 0		7595	HO
I	01/01/2003	P	Acute myocardial infarction, of anterolateral wall			Dx9	410.0 - 0		7596	HO
	01/01/2003	P	Acute myocardial infarction, of anterolateral wall			Dx9	410.0 - 0		7597	HO
	01/01/2003	P	Acute myocardial infarction, of anterolateral wall, initial episode of care			Dx9	410.0 - 0		7598	HO
	01/01/2003	P	Acute myocardial infarction, of anterolateral wall, subsequent episode of care			Dx9	410.02 - 0		7599	HO
I	01/01/2003	P	Acute myocardial infarction, of other anterior wall			Dx9	410.1 - 0		7600	HO
	01/01/2003	P	Acute myocardial infarction, of anterior wall			Dx9	410.10 - 0		7601	HO
	01/01/2003	P	Acute myocardial infarction, of anterior wall			Dx9	410.11 - 0		7602	HO

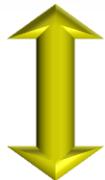
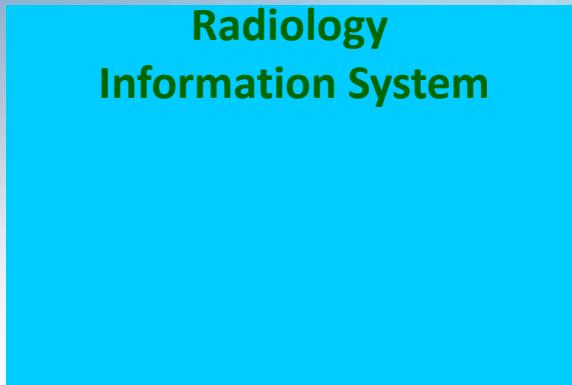
ObsCIS

RIS

PsyCIS

Local tables map to HACVT

Radiology Procedure



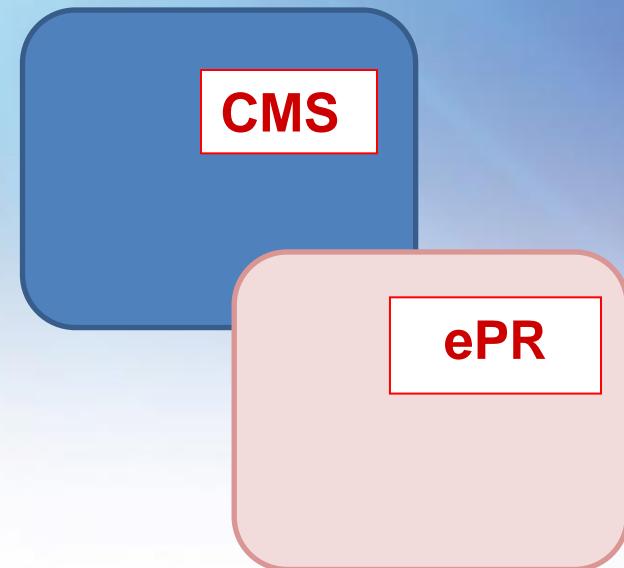
RIS Code Table

RIS code	Examinations	HACVT TermID
1301	Chest	13405
1303	Diaphragm	38904
1601	Skull	28013



HACVT

TermID	Concept Description	ICD Codes
28013	X-ray skull	87.17 - 0
28041	X-ray chest	87.44 - 0
28020	X-ray spine	87.22 - 0
38904	X-ray diaphragm	87.48 - 4



GCD

HACVT

CDF

Generic axial approach
in reporting diagnoses / procedures

Clinical Data Framework (CDF)

- A generic method of dynamic structured entry
 - Axial approach
 - systematic documentation of diagnosis / procedure
 - capturing of essential clinical related data
 - Features
 - Occurrence & progress
 - Diagnosis / procedure statement
 - Code generation

Generic Clinical Documentation (GCD) Form

- A generic form service for capturing clinical data beyond diagnosis & procedure
- Interface clinical data with the other CMS modules, e.g. laboratory, diagnosis, procedure

Data Retrieval



Clinical Data Analysis and Reporting System (CDARS)



Clinical Data Analysis and Reporting System

What's New

Self Learning

Hotlines

Info

Download

Data Dictionary

Login CDARS

Version 2009

User Name: @

Password:

:: Clinical Data up to 27/09/2009 is available
:: Request Submission is available from 08:00 to 23:00 every day

Guidelines on Usage

- For the handling of research data that involves patient-identifying information, the researcher must comply with the Hong Kong Personal Data (Privacy) Ordinance.
- The use and access of data are governed under the Clinical Data Policy Manual of the Hospital Authority.
- It is a good practice to seek endorsement from relevant parties (e.g., Head of Department, COC) in the HA before disclosure and/or publication of research and study results, particularly when the data are not from your own department.

CDARS Data Disclaimer

- Data in CDARS are originally intended for HA internal and operational use. They are drawn from existing HA operational systems and the data quality may not be up to academic study level.
- The researcher of any study project, clinical audit or publication that employs clinical information taken from CDARS should ensure that the data accuracy and completeness fit the definition of the research protocol.

[:: hoitcdars@ho.ha.org.hk](mailto:hoitcdars@ho.ha.org.hk)



NEW CDARS Related Presentations
See presentations with reference to CDARS.
See how CDARS is being used by others.

CDARS 2009 is here
See the summary on the latest features of this release

Learning the new features in CDARS
Get yourself familiar with CDARS 2007 via this new version of self-learning kit, featuring Patient-based analysis and...

[:: HA Home](#) [:: HA Internet](#)

Using HACVT

Diagnosis -- Web Page Dialog

Diagnosis

1. Select Diagnosis Rank: Any Diagnosis
2. Select a Diagnosis related Element: Diagnosis Code (ICD9)
3. Input Criteria Below:

Diagnosis Code (ICD9)

Search Diagnosis Code (ICD9) by:
 Keyword ICD9CM Code

Search by Keyword:

Search Result:
Enter Value(s) Above and Start Searching.

By keyword / code search

Diagnosis -- Web Page Dialog

Diagnosis

1. Select Diagnosis Rank: Any Diagnosis
2. Select a Diagnosis related Element: Diagnosis Code (by ICD9 Classification)
3. Input Criteria Below:

Dx Classify

Classify List

- Classify List
 - + 001 to 139 Infectious & parasitic
 - + 140 to 239 Neoplasms
 - + 240 to 279 Endoc./Nutrit./Metab./Immunity disorders
 - + 280 to 289 Blood & blood forming organs
 - + 290 to 319 Mental disorders
 - + 320 to 389 Nervous system & sense organs
 - + 390 to 459 Circulatory system
 - + 460 to 519 Respiratory system
 - + 520 to 579 Digestive system
 - + 580 to 629 Genitourinary
 - + 630 to 676 Pregnancy, childbirth & puerperium
 - + 680 to 709 Skin & subcutaneous tissue
 - + 710 to 739 Musculoskeletal & connective tissue
 - + 740 to 759 Congenital anomalies
 - + 760 to 779 Perinatal period
 - + 780 to 799 Symptoms, signs & ill-defined conditions
 - + 800 to 999 Injury & poisoning
 - + V01 to V82 V code
 - + E800 to E999 External causes

Selected Criteria

>> Add << Remove

*Press 'Ctrl' for multiple selection.

By Classification search

By CDF

CDF Diagnosis -- Webpage Dialog

CDF Diagnosis

Search CDF by Keyword Contain

Display by All CDF Diagnosis Disease Chapter Body System

(*) = retired axis / domain value

CDF Myocardial Infarction

Axis of CDF Myocardial Infarction

- Dx Confirmed
- Provisional
- Principal \ Secondary
- Status
- Site
- Canadian Anginal Class
- NYHA Functional Class
- LVEF (%)
- Stress Test
- Common Complications
- Other Complications

Selected Conditions

>> Add << Remove

Criteria Preview

Axis allows multiple domain values in CMS.
Axis does not allow multiple domain values in CMS.

By GCD

Clinical Form - Universal Neonatal Hearing Screening -- Webpage Dialog

Clinical Form - Universal Neonatal Hearing Screening

Entity List

Clinical Form - Universal Neonatal Hearing Screening

- 2-stage AABR Screening Result
- Diagnosis BAER
- ENT Follow-up

Selected Criteria

>> Add << Remove

*Press 'Ctrl' for multiple selection.

Criteria Preview

Entity allows multiple values.
Entity does not allow multiple values.

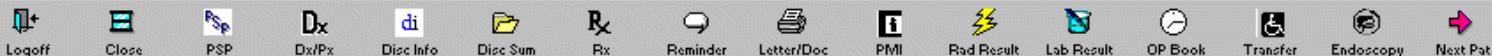
Maintenance Mechanism



CMS Feedback

- Communication channel for clinicians to provide feedback
- Feedback button available in the generic search panel





CMS Feedback Form

Input Enquiry

CMS Feedback Form

Function Subject

Reporting Diagnosis / Procedure / Clinical Data Framework

Comment

A large text area for comments with a vertical scroll bar on the right side.

Contact Phone (Whenever necessary, we may get in touch with you)

Feedback Received via Email by Hospital Disease Classification Coordinator (HDCC)

Message:
The following is a screen dump on Feedback on Reporting Diagnosis / Procedure / Clinical Data Framework.
Please contact the requestor by phone, if required.

Requestor Information

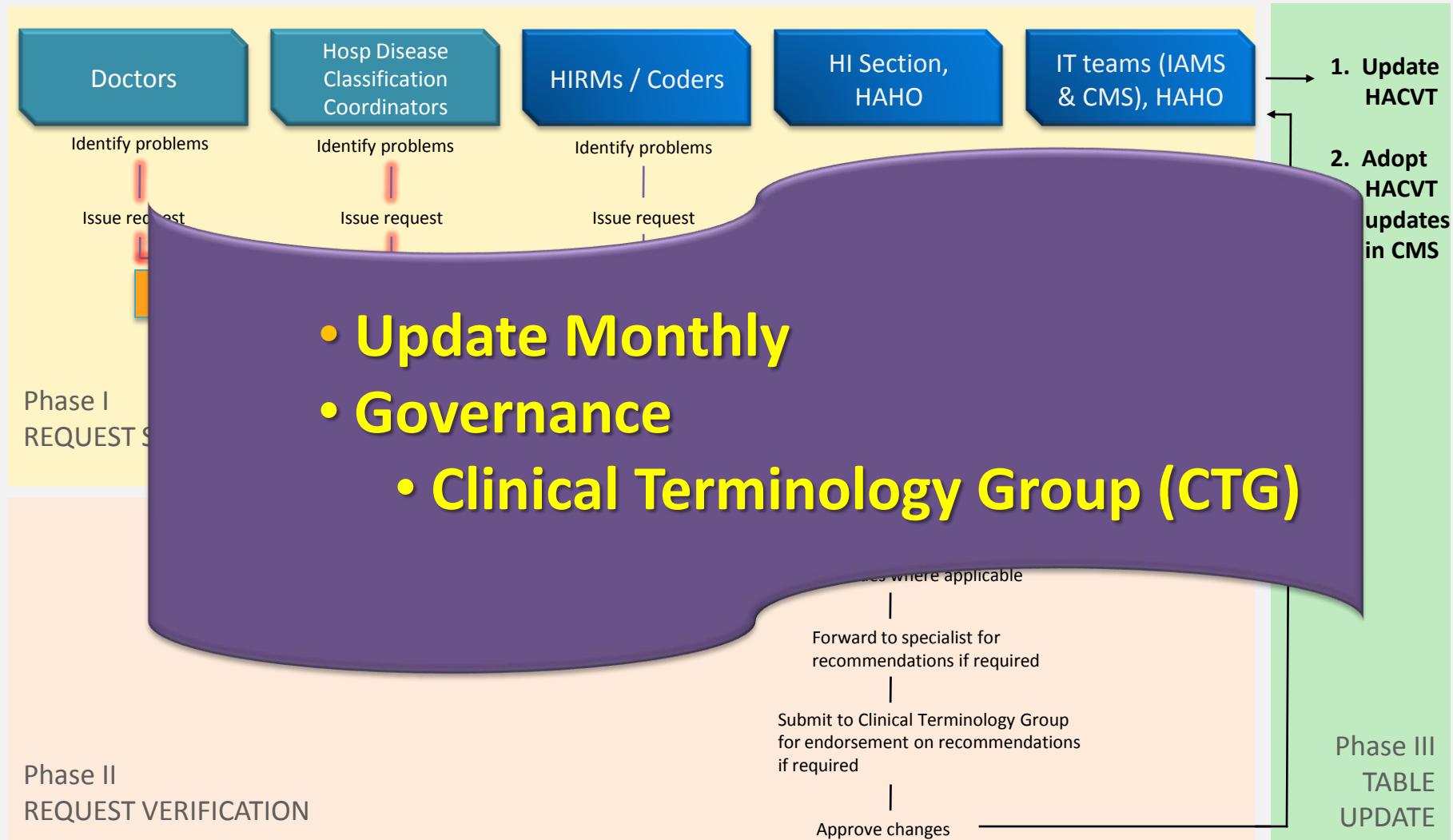
Hospital:
Name:
User Specialty:
Phone:
Episode Number used:

CMS Feedback Form

Function	Subject
Reporting Diagnosis / Procedure / Clinical Data Framework	

Comment

HACVT Maintenance Flowchart



Clinical Terminology Group (CTG)

- Membership



Clinicians



Health Information &
Record Managers



IT colleagues



Health Informatics
colleagues

HACVT – Statistics on Dx & Px

(as at 31 January 2011)

	Active	Inactive	Total
Diagnosis	18,743	7,265	26,008
Procedure	7,244	1,953	9,197
Total	25,987	9,218	35,205

	Original ICD terms	Added terms	Total
Diagnosis	15,571	10,437	26,008
Procedure	4,431	4,766	9,197
Total	20,002	15,203	35,205

Conclusion

- Terminology management principles
- Local standard terminology for clinical documentation and information sharing
- Reference to international standard terminologies / classifications for different purposes
- Documentation tools
 - Clinical Data Framework
 - Generic Clinical Documentation Forms
- Maintenance mechanism
 - Communication with users
 - Ongoing

Thank You

