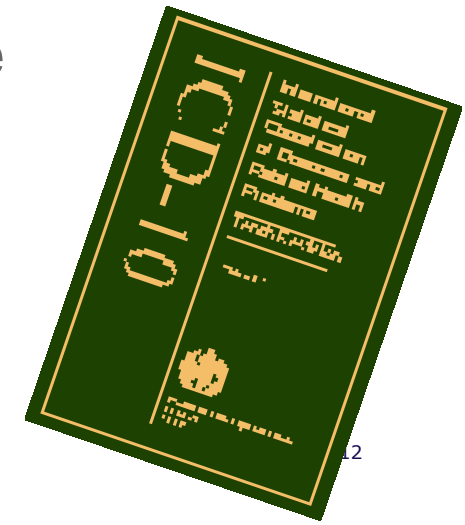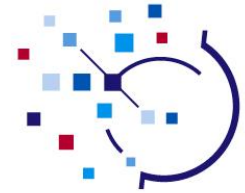# SNOMED CT Implementation Showcase 2012
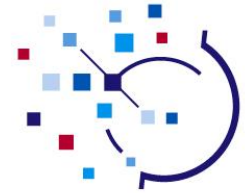
Transitioning from an Mapping Project to a Mapping Service
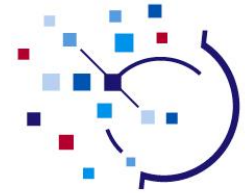
Contents of session

- Overview of the Phase 1 SNOMED CT to ICD-10 MAP

- Transitioning from a Project to a Service

Project History

- Mapping Special interest group MapSIG initiated the project in 2007

- Planned in phases

  - Phase one is mapping 9800 SNOMED CT concepts
  - Phase two is mapping remaining concepts

Key Project Steps

- Establish Use Case!

- Scope

- Develop Mapping heuristics and methodology

- Tooling

- Priority set

- Legacy maps

- Identify required roles for mapping process

- Education plan and training materials

- Quality assurance and validation
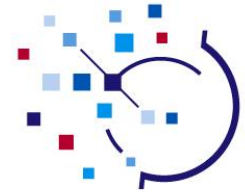
Foundation Development of the MAP 1/2

- MapSIG discussions and workplan

- Definition of use case

- Identification of priority set

- Methodology and exercises

- Tooling

- Workflow

Foundation Development of the MAP   2/2

- Quality Assurance

- Content validation

- Consensus management

- Development of:

  - person specifications
  - education guidance
  - training materials
  - tooling guidance

SNOMED CT to ICD-10 Mapping Project

Use Case – <u>NOT</u> Mortality

Physicians record clinically relevant information about a patient during their hospital stay, using SNOMED CT.

Software employs the knowledge based algorithm of sequential machine readable MAP Rules to identify the most appropriate target code(s) based on the rules and conventions of ICD-10.

An ICD-10 coding professional reviews and edits the same coded record to meet submission requirements for statistical morbidity recording.

# Milestones

- Three different international mapping exercises carried out by volunteers of the MapSIG (2009 – 2010)

- Collaborative Agreement between WHO and IHTSDO (2010)

- Training of donated mapping staff in Toronto (October 2010)

- Joint Advisory Group meets for first time (October 2010)

- Mapping began in November 2010 and took five months to complete first 1000 MAPS
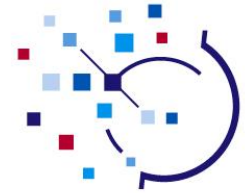
Milestones

- Pause and review after first 500 MAPS concluded that the original mapping process could not facilitate a reproducible map

- Process was adjusted and mapping continued – changed process would result in output of over 19,000 concepts mapped

- Training of employed as well as donated map specialists (March 2011

- Technology preview of first 6000 MAPS released (August 2011)
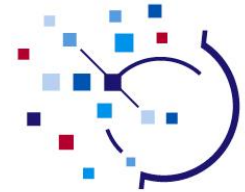
Other work

- Peer review built in to process

- Technical QA

- Content validation exercise developed and organized by Joint Advisory Group using external agency (AHIMA)

- Consensus management panel met twice and agreed resolutions for 29 discordant maps (December 2011 and January 2012)
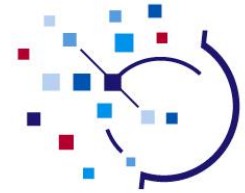
Deliverables

- 19,000 plus concepts mapped to ICD-10 released as a technology preview

- Stand-alone mapping tool

- User guidance for mapping tool

- Technical specification for mapping

- Education guidance

- Training materials

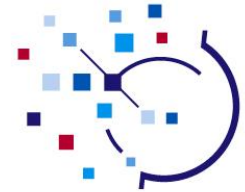- Release notes

- Content validation report
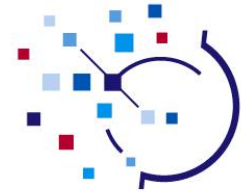
Example of results

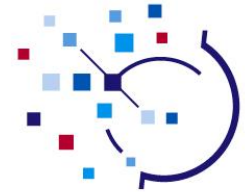| id	sctName	mapGroup	mapPriority	mapRule	mapAdvice	mapTarget	icdName	mapCategoryValue
217a9bea-	Chronic pharyngitis (disorder)	1	1	IFA 90979004 | Chron	IF CHRONIC TONSIL	J35.0	Chronic tonsillit	Map of source concept is context dependent
69703317-	Chronic pharyngitis (disorder)	1	2	IFA 232406009 | Chro	IF CHRONIC PHARY	B37.8	Candidiasis of c	Map of source concept is context dependent
174a7931-	Chronic pharyngitis (disorder)	1	3	OTHERWISE TRUE	ALWAYS J31.2	J31.2	Chronic pharyn	Map source concept is properly classified
02dc8b54-	Severe manic bipolar I disorder without psychotic fe	1	1	TRUE	ALWAYS F31.1	F31.1	Bipolar affectiv	Map source concept is properly classified
4586ab94-	Hemorrhagic bronchopneumonia (disorder)	1	1	TRUE	ALWAYS J18.0	J18.0	Bronchopneum	Map source concept is properly classified
545ccdec-	Autoimmune pancytopenia (disorder)	1	1	TRUE	ALWAYS D61.8	D61.8	Other specified	Map source concept is properly classified
1319fd71-	Congenital syphilitic hepatomegaly (disorder)	1	1	TRUE	ALWAYS A52.7	A52.7	Other symptom	Map source concept is properly classified

Transitioning from a Project to a Service
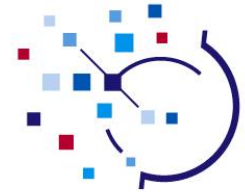

IHTSDO Mapping Service

Requirements for a Mapping Service

- Establish business case

- Receive approval and funding

- Obtain resources
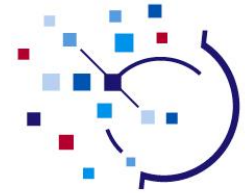
    - Staff
    - Tooling
    - Data

Milestones

- **December 2011**
  - GA approval
- **January 2012**
  - Planning meeting
- **March – May 2012**
  - Recruit, interview and hire mapping staff
- **May 2012**
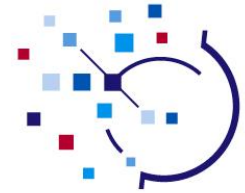 - Face-to-face training

Milestones

- June – July 2012
    - Staff on-board

- June – September 2012
    - Continue staff training
    - Update tools
    - Obtain member/affiliate feedback on next set of priorities to map

- October 2012
    - Begin map maintenance

Framework

- Work plan

  - Quality assurance
  - Risk management

- Validation plan
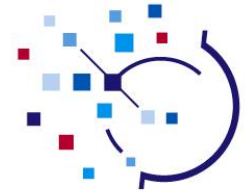
  - Content
  - Usage

Framework

- Feedback mechanism

  - Content request
  - Help desk

- Training plan

  - Minimum one face-to-face meeting per year
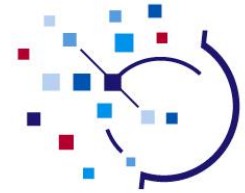 - Proposed accreditation

Mapping Service interdependencies

- SNOMED content development

- Map target systems

- Tooling development

    - Transition to an integrated tooling solution

- Member and Affiliate forum feedback

Requirements advised via Member Forum

- **Map prioritisations**

- **Training needs**

  - **Week of 20 May 2013 hosted by the UKTC/IHTSDO**

    - Early planning underway
      - Location: UK
      - Length of training: Four and a half days

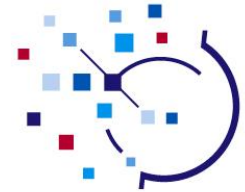# Meet the Mapping Service team

Kathy Giannangelo, Map Lead

Nicki Ingram, Map Specialist

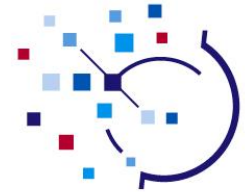Donna Morgan, Map Lead/
Map Specialist

Krista Lilly, Map Specialist

Goals

- Update all training materials and stand-alone mapping tool

- Build on the existing skills base to provide a 'core' team of map specialist individuals who are kept at a level of skills, including volunteers and actual map specialists in Member countries

- Update Phase 1 SNOMED CT to ICD 10 maps based on the latest releases of SNOMED CT and ICD 10

- Publish the updated version of the maps in 2013

Goals

- Map new additions to SNOMED CT as they are added to the International Release

- Outline a process for collating and reviewing priority lists of requirements for mapping

- Undertake mapping of priority sets

- Create and maintain maps from SNOMED CT to other classifications and terminologies, e.g., ICPC2
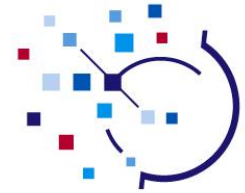
Challenges

- Prioritise 110,000 in a way that country requirements are met

    - e.g., all clinical findings and events in relation to the care of individual with diabetes

- Transitioning from a stand-alone mapping and workflow tools to an integrated tooling solution to support mapping activity in the international workbench

- Resources to perform usage validation

Example

- A patient is seen by a clinician for a number of problems. An EHR module for clinical documentation is using a set of SNOMED CT terms to record the items listed on a problem list. The clinician performs a search for a term that represents the patient's problem, selects the appropriate term, and saves that term to the patient's problem list, where it is displayed. The problems are encoded with SNOMED CT IDs.

  - Essential hypertension (59621000)
  - Hemarthrosis of knee (202413005)
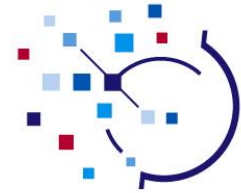 - Cystocele (252005008)
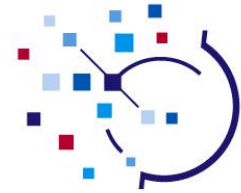
Example continued

- Once the clinician has completed the problem list, the mapping application is applied. The results for the SNOMED CT concepts recorded are:

| 59621000	Essential hypertension (disorder)	1	1	PC	TRUE	ALWAYS I10 | DESCENDANTS NOT EXHAUSTIVELY MAPPED	I10	Essential (primary) hypertension

- SNOMED CT ID for Essential hypertension (59621000) has a one-to-one map to ICD-10 code I10 and is properly classified (PC). This map requires no human review.

Example continued

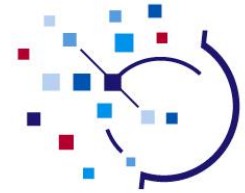| 202413005	Hemar-throsis of knee (disorder)	1	1	CD	IFA 281523003 | Traumatic hemarthrosis of the knee joint (disorder)	IF TRAUMATIC HEMARTHROSIS OF THE KNEE JOINT CHOOSE S83.6 | POSSIBLE REQUIREMENT FOR AN EXTERNAL CAUSE CODE | CD	S83.6	Sprain and strain of other and unspecified parts of knee
202413005	Hemarthrosis of knee (disorder)	1	2	PC	OTHERWISE TRUE	ALWAYS M25.06	M25.06	Hemarthrosis (with modifiers)

SNOMED CT ID for Hemarthrosis of knee (202413005) has a one-to-many map and is context dependent (CD). The coding specialist reviews the record where no trauma is documented. The ICD-10 map assigned is M25.06.
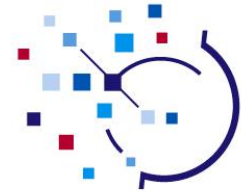
Example continued

252005008	Cystocele (disorder)	1	1	CD	IFA 248153007 | Male (finding) |	CD	N32.8	Other specified disorders of bladder
252005008	Cystocele (disorder)	1	2	CD	IFA 1086007 | Female (finding) |	CD	N81.1	Cystocele
252005008	Cystocele (disorder)	1	3	NC	OTHERWISE TRUE DESCENDANTS NOT EXHAUSTIVELY MAPPED	NC		

SNOMED CT ID for Cyctocele (252005008) has a one-to-many map and is context dependent (CD). The EHR module captures the patient's sex as female. The ICD-10 map that is automatically assigned is N81.1.

QUESTIONS?