

A large, solid green curved banner that spans across the middle of the slide, curving downwards from left to right.

Care planning content using SNOMED CT

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Care planning

Care plans

- Nursing

Treatment plans

- Medicine/Surgery
- Professions allied to medicine

Birth plans

- Midwifery

Support plans

- Social care

Intervention plans

- Mental health

Clinical management plans

- Multidisciplinary for long-term conditions
- May be focused on pharmaceutical management

Aims

Interoperability across clinical pathways of care

- Multiple system suppliers

Reducing variation

- Between professions
- Between organisations

Promoting best practice

- Implementing latest guidelines
 - Regulators
 - Advisory bodies, e.g. National Institute for Clinical Excellence
 - Professional bodies, e.g. Royal/European/International Societies

Background

Widespread consultation across NHS

- Approx 400 practitioners
- Multidisciplinary representation
- High value phrases sourced through multiple workshops
 - Multiple duplication of equivalent concepts phrased differently
 - Rationalisation of content
 - Mapping to SNOMED CT[®] and gap analysis

Terminologies considered

- SNOMED CT[®]
- Bespoke
- International Classification for Nursing Practice - ICNP[®]
- International Classification of Health Interventions – ICHI

Background

The implementation of SNOMED CT in care planning content

- Supplier neutral approach
- Publication of content at a national level
- Initiation of development of English Information Standards Board Standard for care planning building on the SNOMED CT Fundamental Standard
- <http://www.isb.nhs.uk/documents/isb-0034/amd-26-2006/isn.pdf>

Guidance

- Development of a model for association of content
- Editorial guidance for content
- Guidance for implementers

Available content

- Generic needs
- Focused on the needs of early adopter organisations / suppliers

Care Planning Content

Technical Preview

- Initial release of care plan elements on an inclusive basis – April 2011
- More focused subsets in Second Technical Preview – October 2011
- Clinically credible content for test purposes

Content in use at early adopter Trust

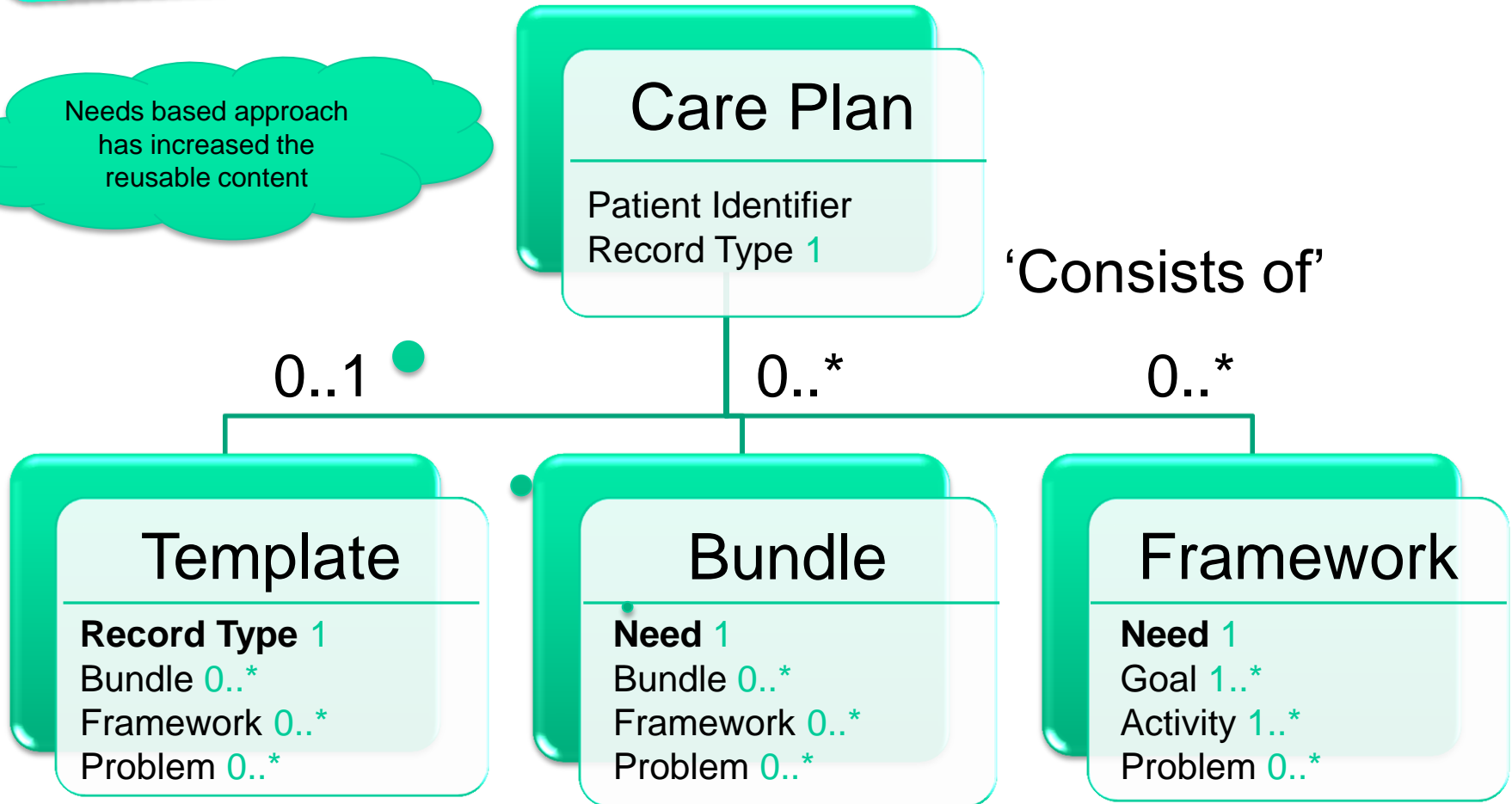
- Successful paper based pilot
- Electronic deployment expected 2012

Sub-pack available on electronic distribution platform

- 59 registrants at 29st September 2011
- Register for sub-pack on Technology Reference data Update Distribution
- <http://www.uktcregistration.nss.cfh.nhs.uk/trud3/user/guest/group/0/pack/17>

Conceptual model

Needs based approach has increased the reusable content



Framework based on Need

Need

Goal(s)

Activities

Related functionality

Assessment Form

Problem(s)

FrameworkFSN: Seizure management (regime/therapy)	>
Framework: Seizure management	>
Goal 1: Transient abnormality with full recovery	>
Goal 2: Seizure free	>
Goal 3:	>
Activity 1: Neurological examination	>
Activity 2: Assessment of baseline neurological status	>
Activity 3: Review of medication	>
Activity 4: Emergency administration of medication	>
Activity 5: Safety precautions management	>
Activity 6: Airway management	>
Activity 7: Capillary blood glucose measurement	>
Activity 8: 12 lead ECG	>
Activity 9: Ethanol measurement, breath	>
Activity 10: Patient reassurance	>
Activity 11: Referral to doctor	>
Activity 12:	>
Activity 13:	>
Activity 14:	>
Activity 15:	>
Activity 16:	>
Problem 1: Generalised seizure	>

Care Planning Content

Frameworks

- To address core care needs
- Development and peer review by mix of generalist and specialist practitioners

Bundles

- Assembled to minimise effort of clinician for commonly combined needs

Templates

- Assembled to minimise effort of clinician for overall care needs
- Available for general and selected specialist areas

Elements

- Constrained concepts matched to the SNOMED CT concept model
- Record Type, Needs, Goals, Activities, Problems, Context Values Actions, Context Values Goals, Context Values Intents

'Library' of Frameworks

Frameworks are based around “need”

- E.g. Wound care
- Lowest level of association of content
- Currently goals only exist at this level – goals at *Template* and *Bundle* level are under consideration

The same framework can be used within different contexts

- E.g. podiatry, surgical, community
- In multiple pathways

'Library' of Bundles or Templates

A template is a single container prepared for:

- A specialist service for most commonly used needs
- Condition specific, e.g. Total hip replacement care plan


Bundles are prepared for:

- Grouping frameworks for a related need or condition (directly or indirectly in other bundles)
- A specialist service for most commonly used needs
- A particular **need** that is adopted into a particular care plan e.g. diabetic management

Bundles – Number of bundles and frameworks

Bundles are:

- Pre-determined collections of frameworks
- Contain multiple needs related to the principle need
- Perioperative care management
 - Preoperative care
 - Intraoperative care
 - Postoperative care
- May contain multiple layers of bundles



Framework FSN: Preoperative care (regime/therapy)	>
Framework: Preoperative care	>
Goal 1: Physically prepared to undergo surgery	>
Goal 2: Psychologically prepared to undergo surgery	>
Goal 3:	>
Activity 1: Pre-procedure evaluation check	>
Activity 2: Preoperative evaluation, anaesthesia	>
Activity 3: Pressure sore assessment	>
Activity 4: Verification of date of last menstrual period	>
Activity 5: Hypothermia risk assessment	>
Activity 6: Confirming patient identity by direct questioning	>
Activity 7: Verification of operative procedure	>
Activity 8: Verification of consent for planned procedure	>
Activity 9: Verification of surgical site and laterality	>
Activity 10: Marking skin site prior to procedure	>
Activity 11: Nil by mouth	>
Activity 12: Premedication for anaesthetic procedure	>
Activity 13: Preoperative preparation of skin	>
Activity 14: Patient handover	>
Activity 15: Preoperative education including family and support...	>
Activity 16: Referral to anaesthetic service	>
Problem 1: Patient awaiting procedure	>
Problem 2: Fast history of procedure	>

Templates – Number of bundles and frameworks

Templates are:

- Pre-determined collections of bundles and frameworks
- Normally the starting point for the practitioner



Multilingual possibilities

Swedish

Spanish

Danish

Systems could display multiple languages

English

FrameworkFSN: Seizure management (regime/therapy)
Framework: behandling av anfall
Goal 1: övergående avvikelse med fullständig återhämtning
Goal 2: fri från anfall

Goal 3:
Activity 1: neurologisk undersökning
Activity 2: baseline bedömning av neurologiskt status

Activity 3: granskning av medicinering
Activity 4: akut administrering av läkemedel
Activity 5: handläggning av luftväg

Activity 6: handläggning av säkerhetsåtgärder
Activity 7: mätning av blodsocker i kapillär

Activity 8: mätning av blodsocker i kapillär
Activity 9: mätning av blodsocker i kapillär

Activity 10: mätning av blodsocker i kapillär
Activity 11: mätning av blodsocker i kapillär
Activity 12: mätning av blodsocker i kapillär

Activity 13: mätning av blodsocker i kapillär
Activity 14: mätning av blodsocker i kapillär
Activity 15: mätning av blodsocker i kapillär
Activity 16: mätning av blodsocker i kapillär

Problem 1: generaliserat krampe

FrameworkFSN: Seizure management (regime/therapy)

Framework: Seizure management

Goal 1: Transient abnormality with full recovery

Goal 2: Seizure free

Goal 3:

Activity 1: Neurological examination

Activity 2: Assessment of baseline neurological status

Activity 3: Review of medication

Activity 4: Emergency administration of medication

Activity 5: Safety precautions management

Activity 6: Airway management

Activity 7: Measurement of blood glucose in capillaries

Activity 8: Measurement of blood glucose in capillaries

Activity 9: Measurement of blood glucose in capillaries

Activity 10: Measurement of blood glucose in capillaries

Activity 11: Measurement of blood glucose in capillaries

Activity 12: Measurement of blood glucose in capillaries

Activity 13: Measurement of blood glucose in capillaries

Activity 14: Measurement of blood glucose in capillaries

Activity 15: Measurement of blood glucose in capillaries

Activity 16: Measurement of blood glucose in capillaries

Problem 1: Generalised seizure

Activity statuses

Under consideration

Considered and not done

Not to be done

To be done

In progress

Done

Stopped before completion

Not done

Action status unknown

Strikeout

- Information model only – to correct erroneous entry

Goal achievement statuses

Goal not agreed

Goal agreed

Variance from goal

Progressing towards goal

Not progressing towards goal

Goal achieved

Goal partially achieved

Goal not achieved

Strikeout

- Information model only – to correct erroneous entry

Rationale for more focused elements

Common User Interface (CUI) review of search functionality

- Demonstrated poorly focused search results in application testing
- Focused search is important for users to find and select most appropriate concepts

Reduce risk

- Inappropriate selection
- Distraction by less relevant content

Improve performance

- Concerns around large content libraries

Improvements in search functionality suggested

- Word equivalence
- Alternative descriptions
- “Did you mean” error checking
- Use of patient problem lists to improve search ranking of relevant concepts
- Use of clinician specialty to improve search ranking of relevant concepts

Major challenges

Need – Goal – Activity relationships

Identification of needs

Concept model for goals

Pre-coordination roadmap

Insufficient post-coordination supported by applications

Tension between terminology and preferred / familiar descriptions

Just differing views of the world?

Need

Goal

- Activity
- Activity

Goal

- Activity

Need

Goal

Goal

Activity

Activity

Activity

Need – Goal – Activity relationships

Many similarities may exist including the same goal

FrameworkFSN: Hyperglycemia management (procedure) >
Framework: Hyperglycaemia management >
Goal 1: Blood glucose normal >
Goal 2: >
Goal 3: >
Activity 1: Capillary blood glucose measurement >
Activity 2: Review of medication >
Activity 3: Emergency administration of medication >
Activity 4: Sliding scale insulin regime >
Activity 5: Referral to diabetes nurse >
Activity 6: Referral to endocrinologist >
Activity 7: Patient referral to dietitian >

FrameworkFSN: Hypoglycemia management (procedure) >
Framework: Hypoglycaemia management >
Goal 1: Blood glucose normal >
Goal 2: >
Goal 3: >
Activity 1: Capillary blood glucose measurement >
Activity 2: Review of medication >
Activity 3: Emergency administration of medication >
Activity 4: Glucose gel administration >
Activity 5: Intravenous fluid dextrose solution administration >
Activity 6: Referral to diabetes nurse >
Activity 7: Referral to endocrinologist >

Critical differences in the activities related to the need

A goal to activity linkage in the absence of the need has been found to be inappropriate

Identification of *needs*

Granularity may change over time

- ***needs*** may also be identified as ***activities***
- wound care as an ***activity*** may be enough post-op
- wound care may become a ***need*** if the wound breaks down

Content inconsistencies

- Legacy terminologies and classifications
- Regime/therapy hierarchy tidy up pending

Identification of needs

Care regimes management

+ 119270007	Management procedure
+ 408766003	Procedure with a procedure focus
+ 392134007	Care regimes management
+ 370884004	Abuse prevention management
+ 370885003	Activities of daily living management
+ 370865002	Activity care management
x 774231000000103	[UK] Advanced cardiovascular support management
x 782281000000104	[UK] Aggression control care management
x 782181000000105	[UK] Alcohol rehabilitation and detoxification care management
x 385802008	Allergic reaction control management
x 370873006	Ambulation therapy management
+ 410322005	Anatomy/physiology case management
x 425360004	Anger management case management
x 774241000000107	[UK] Basic cardiovascular support management
x 385886008	Bed rest care management
+ 385963002	Bladder care management
+ 385975007	Bowel care management
+ 385717003	Cardiac care management
x 410327004	Caretaking/parenting skills case management
x 385697006	Cast care management
x 385911009	Cataract care management
x 385788001	Chemotherapy care management
+ 385897008	Comfort care management
+ 410216003	Communication care management
x 781901000000106	[UK] Community care management
x 424085009	Community outreach worker service case management
x 423779001	Continuity of care management
x 784341000000106	[UK] Control and restraint management
x 410328009	Coping skills case management
x 385724002	Coping support management
+ 408905008	Crisis therapy management
x 782271000000101	[UK] Critical care medicine care management
x 410329001	Day care/respite case management
x 385939005	Denture care management
+ 385806006	Diabetic care management
+ 410175003	Dietary regime management
x 385946001	Drainage tube care management
+ 385949008	Dressing change management
x 782191000000107	[UK] Drug rehabilitation and detoxification care management
x 385900001	Ear care management
x 410243008	Ear wax removal management
x 386264009	Eating disorders management
x 385934000	Edema control management
+ 385727009	Emotional support management
x 765381000000104	[UK] Epistaxis care management

Used principally for “bundles”

Regimes and therapies

+ 11927 71388002	Procedure
+ 243120004	Regimes and therapies
x 110461004	Adjunctive care
+ 372038002	Advocacy
x 386513007	Anesthesia management
x 231401000000102	[UK] Assessment NOS
x 413648008	Biological treatment
+ 225365006	Care regimes
x 228114008	Child health procedures
+ 309466006	Clinical observation regimes
+ 183280009	Deafness remedial therapy
x 367428009	Desensitisation therapy
x 229341000000107	[UK] Directly observed therapy
+ 311569007	Dysphagia therapy regime
+ 384760004	Feeding and dietary regimes
x 231391000000100	[UK] Functional therapy session
+ 225302006	Insulin regime
+ 225334002	Intervention regimes
x 439372005	Management of increased intracranial pressure
x 416269009	Manual medicine
+ 391279004	Mental Health Care Program Approach
+ 229319000	Mobilizing of body part
+ 239516002	Monitoring procedure
+ 225318000	Personal and environmental management regimes
+ 74251004	Physiatric mobilization of joint
x 57443006	Physiatric stretching of fascia
x 398259002	Physiatric stretching of muscle
+ 225332003	Physical and psychosocial approaches
x 443425001	Preparation for procedure
+ 439993001	Prevention of deep vein thrombosis
+ 440358008	Primary prevention of cardiovascular disease
x 440089000	Sleep restriction therapy
x 754851000000109	[UK] Soft tissue technique
+ 243114000	Support
+ 133877004	Therapeutic regimen
+ 276239002	Therapy
+ 225367003	Toileting regimes
+ 303163003	Treatments administered under the provisions of the law

Used principally for “frameworks”

Action plan

Supplier testing and deployment

- Early adopter testing planned for single specialty hospital
- Consultation ongoing with a number of suppliers and NHS organisations

Standard development

- Technical Preview – to April 2012
- Draft for Trial Use – provisionally October 2012
- Supported Product – provisionally April 2015

Terminology to support care planning

- Further refinement of element subsets
- Specialty content development – care planning content
- Regime/therapy clean up – IHTSDO/UKTC

Workshop discussion

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Concept model for *goals*

Terminology model

- restricted to *findings*
- increasing amounts of content being identified as *situations*
- specific issues with negation in goals (absence of problem, e.g. vomiting)
- multiple contexts could make expressions ambiguous as the relationships may not be clear cut
- Context values for goals (achievement statuses)

SMART goals are difficult to represent in full

- interdependency on the information model for time
- Consistency between applications

Context model – Goals

Findings

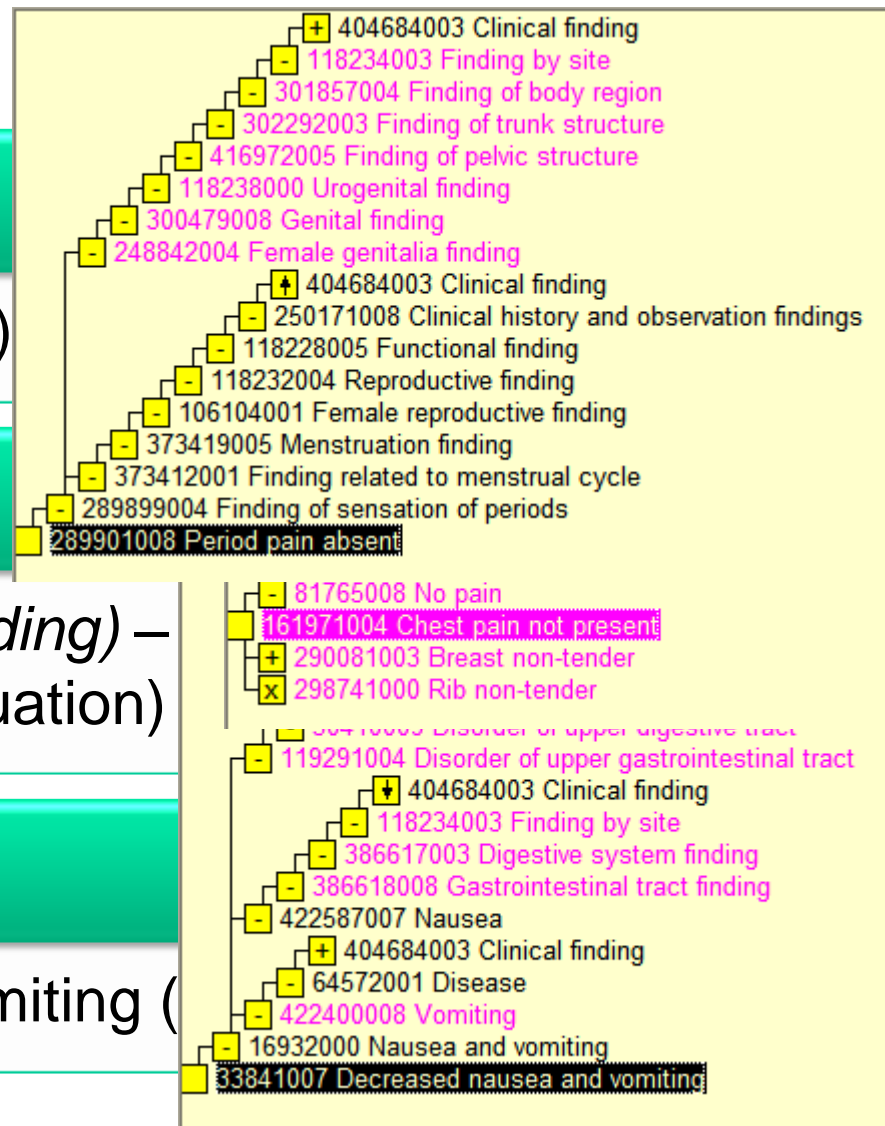
- Period pain absent (finding)

Situations

- *Chest pain not present (finding)* –
- Chest pain not present (situation)

Disorders

- Decreased nausea and vomiting (



Workshop discussion

Goal context model

- Should a wider group of concepts be available as goals?
 - If yes, situations?
 - If yes, disorders?
 - If yes, others?

Care planning model

- Should goals be available within other logical associations?
 - Goals for bundles?
 - Goals for templates?

Procedures context model

- Is identification of a procedure concept as a “need” desirable?

Feedback on the approach overall

Actions from the workshop