INTRODUCTION

Abstract

- The Primary Care Data Quality Improvement Project was tasked with establishing a community approach to the co-design of a common data model to improve data quality in Primary Care. The model was developed as part of a collaborative process with Clinical and Vendor system participants.

- Phase 1 of the project focussed on core common data to support multiple clinical data exchange use cases (such as practice to practice patient transfer) with the key focus of single provision of data and multiple reuse.

- Phase 2 expanded upon this model to include Family History, Ethnicity, Health Behaviours and Social Determinants of Health to enable better capture of data for common health assessments (e.g. Indigenous Health Assessment, Over 40, and other Age Health Assessments).

- A reusable repeatable data model collecting the information was developed and SNOMED CT and LOINC value sets developed. A FHIR Implementation Guide developed and the FHIR profiles will be published into the HL7 AU base enabling reuse across the industry.

Objectives

- Increase standardisation of data definitions in primary care systems through the development of an agreed core clinical primary care data dictionary.

- Adoption of a common clinical language in primary care systems through the development of SNOMED CT value sets.

- Demonstrate reuse of core common data items.
Develop information models covering Health Assessment data elements

FHIR IG
FHIR Implementation Guide under development for the Practice to Practice patient transfer with view to expanding to enable health assessment information.

http://build.fhir.org/ig/aehrc/primary-care-data-technical/

Valueset/subset development

FHIR Valuesets developed utilizing ECL:

28 new
12 still in development
SNOMED CT- AU content requests

14 Description/Preferred Term changes
37 New concepts

Examples (included in AU release as of June 2020):

- 1472091000168102 | Stable housing|
- 1471851000168109 | Unstable housing|
- 1472081000168100 | Transient housing|
- 1473881000168103 | Restraining order in place|
- 1473891000168100 | No restraining order in place|
- 1471821000168101 | Feels unsafe around family|
- 1471831000168103 | Feels unsafe around friends|
- 1472941000168106 | Problem gambler in family|
- 1471781000168106 | Feels unsafe in neighbourhood|
- 1471791000168109 | Feels unsafe at home|
- 1471811000168108 | Financial insecurity|
- 1471761000168102 | Manual labour job|
- 1471771000168108 | Works long hours|
- 1471751000168104 | Overemployed|
- 1471801000168105 | Underemployed|
- 1471841000168107 | Employment insecurity|
- 1471741000168101 | Employment security|
- 1472931000168102 | Unstable employment|

ECL example for ‘Housing Issues’

(((<< 365512000|Characteristics of home environment - finding|OR << 160720000|Harassment by landlord|OR << 397756006|Lives in damp conditions|OR << 308899009|Unsatisfactory living conditions|)) MINUS ((^ 17199100036103|Clinical finding grouper exclusion reference set|OR 714085000|No stairs in residence|OR << 365515003|Personalisation of home - finding|OR << 224260000|House in good repair|OR << 365521004|Presence of communal areas in accommodation - finding|)))

Results in a Valueset of 80 Concepts

Examples:

- 224235005 | Mold on surfaces in home
- 224235009 | Mold growth in home
- 105532006 | Overcrowded in house
- 224231004 | Sleeping in night shelter
- 140700001 | Homeless single person
- 256935002 | House in poor repair
- 276951005 | Fixed equipment in home
- 71099008 | Living in residence with no sanitation
- 140715000 | House infested
- 140716004 | House liable to vandalism
- 266935003 | Housing lack
- 140708007 | Lack of space in house
Expanding the Primary Care clinical data model in Australia

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INTRODUCTION

METHODS

RESULTS

DISCUSSION

Outcomes

Collaborative co-design, both clinical and technical communities, has promoted adoption of SNOMED CT and FHIR in the primary care sector.

Use and re-use of repeatable data models are better understood by stakeholders, and enthusiasm for data access, transparency and exchange, with patients also, a feature.

SNOMED CT Valueset developments

SNOMED ValueSets are being absorbed into national FHIR AU-Base specifications; terminology-to-information model binding and functionality considered for Questionnaires and Assessments

Interoperation and alignment with Child Health Record terminology artefacts also considered.

Terminology development for Social Determinants of Health concepts will be ongoing, along with Ethnicity.

Value Outcomes

- Agreed Sex and Gender model with valuesets
  - Already implemented in one software vendor
- Expanded tobacco & alcohol models to include other substances
- Social determinants of health
  - With a focus on collection of issue information to supplement the outcomes of Gravity project
- Data about Health Issues/Goals/Achievements will ultimately by accessible also to Patients
- Awaiting screening tool development/ratification in Australia

Future Directions

- FHIR compositions for Practice to Practice patient transfers
- Expansion with all Data models from Health assessment content
- Development of specific FHIR questionnaires for different Health Assessments

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