Admitted, Emergency & Elective Surgery Waiting List Redevelopment

Introduction to the Victorian Health Integrated Minimum Data Set (VHI MDS)

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Overview and Process

Overview

The aim of the new Victorian Health Integrated Minimum Data Set (VHI MDS) is to reduce the duplication of data, rationalise the data elements and codesets for the VAED, VEMD and ESIS into a common structure, and particularly in the case of VAED, to bring the technology used for the collections up to date. Many of the codesets will remain the same, however the transmission structure will be very different to all of the current collections. Health Services may take the opportunity to amalgamate data flows into a single submission.

Data users will have access to most of the same data elements they have now, but will also benefit from an increase in the detail available, particularly for admitted episodes.

Project timelines and process

The Data Reform project is being run as part of the HealthCollect & VHIRS Redevelopment project, which will provide the required processing system and databases. The Project Board for HealthCollect & VHIRS Redevelopment provides the governance for the Data Reform project.

The Data Reform project began in November 2008. The first stage involved an assessment of existing data elements and the requirements for the new collection. In June 2009 a reference group comprised of representatives from public and private hospitals, software suppliers and DH observers reviewed the first drafts of Sections 2 *Concepts and Derived Element Definitions* and 3 *Data Definitions* of the new manual. The feedback from this group was incorporated in the drafts now released for comment.

Work has commenced on the transmission and validation specifications. Drafts of those documents will be released for comment by 31 December 2009. The reference group will be re-convened to assist with the development of control reports, and the draft report specifications will be released before 30 June 2010.

Following the incorporation of stakeholder feedback and final sign-off from the Project Board, final versions of Sections 2 and 3 will be released by 31 December 2009. Along with the transmission and validation specifications, these documents will become the specifications for the new collection. The VHI MDS is expected to be implemented 1 July 2011. A period of parallel processing will be necessary for testing purposes, and the system may be piloted prior to 1 July 2011.

Funding and DH Reporting Obligations

In the short term, the new system will replicate the old, in that current business rules will be used to determine the formulation of an episode for funding purposes. In the future, and after careful consideration of the impact of change, funding models may be modified to create a system which provides funding on a more equal basis for all services.

Department of Health (DH) has obligations for reporting to the Commonwealth and to provide data to other bodies such as TAC and DVA. To fulfil the requirements of those organisations, data submitted under the new framework may require episode boundary re-alignment and data element mapping to replicate the applicable business rules.

Summary of changes and new features

Design Principles

- Removing derived data and collecting transactional data
- Leveraging new technologies
- Provide the ability to view the patient journey
- Maintaining the existing data supply

Current collection limitations and new solutions

For admitted patients, the fixed length, flat file structure places limitations on the data that can be collected and how it is collected. For example, it limits the number of diagnosis and procedure codes that can practically be collected, and the number of changes to elements such as Accommodation Type that can be reported. Utilising a more flexible transmission structure will enable unlimited numbers of repeating data elements, like diagnosis codes, to be reported.

The structure of the existing collections means that some derived information is collected, such as Duration of Mechanical Ventilation and ICU Hours. Introducing Events into the reporting structure allows for activities that have logical start and end dates to be reported using those dates. For example, an Event may collect the date and time a patient moved to an ICU and the date and time they left. This will remove the need for the number of hours to be manually calculated.

Although the reporting mechanisms will cater for information to be transmitted 'as it happens', it is not envisaged that this type of reporting will be compulsory.

The new collection aims for common reporting business rules that are applicable for all services. Currently a health service with acute services on a separate campus to sub-acute could report, say, a multiday stay for rehabilitation at one campus and same-day episodes for dialysis at the other campus, whereas a service with acute and sub-acute on the same campus could only report one episode for both the rehabilitation and dialysis. The new system will allow for continuation of episodes across campuses in the same health service, and the reporting of same-day acute services being provided concurrently with a multiday sub-acute episode.

The collection also aims to reduce, wherever possible, the requirement for services to interpret business rules. Instead, services report activity and DH will determine how the activity fits within the business rules, according to a set of published principles and rules.

Options for private hospitals and day surgeries

Private hospitals and day surgeries will have two options:

1. Implement the new system as documented; or
2. Submit the PHDB (Private Hospital Data Bureau) transmission files in a modified or unmodified form. In a modified form, all of the financial information relating to charges can be removed as well as some other data elements not required by DH. If an unmodified file is transmitted, DH will ignore and not store those elements.

For Option 2, decisions need to be made concerning a handful of data elements required by the National Minimum Data Set but not included in the PHDB. For private facilities performing electroconvulsive therapy, the data elements required by the Chief Psychiatrist relating to ECT are also not included in the PHDB. Further information will be provided when solutions to these issues have been determined.

How it works

All codesets and data elements are now common for Admitted, Emergency and Elective Surgery Waiting List, although some data elements will only be mandatory for certain types of episodes.

Patient

There is one common Patient record, although certain information may or may not be required depending on the type of episode the patient has had. The Patient record only needs to be submitted once, regardless of the number of different types of episodes submitted, but will be transmitted if updates are made to any of the data elements in the record.

Episodes

Waiting List, Emergency and Admitted information are all collected as episodes, with the same structure and codesets.

Types of episodes are differentiated by Program/Streams (Care Types).

Patients move from Emergency or Waiting List episodes to Admitted episodes via a change of Program/Stream (a statistical admission).

All the information about how a patient came to present to hospital (or join the waiting list), where they came from, who referred them, and why they require care are now reported in a ‘transition’ record. Each episode has a Transition In and a Transition Out record. Information that used to be collected via elements such as Admission Source, Admission Type, Transport Mode, Transfer Destination, Source of Referral, Type of Visit, etc, are now collected via data elements that make up a common Transition record.

Program/Stream changes
Currently there are complicated business rules that determine when an episode closes and a new episode can be opened, particularly for admitted patients. The new system will allow services to report more than one Program/Stream per day, overlapping episodes, and to decide whether a new episode is created or an existing one remains open. DH will apply business rules to the data reported to derive episodes into 'cases' where applicable. Section 4 *Business Rules* will provide details on the options available (to be released before 31 December 2009).

Case
A 'case' is not a structure reported by services, but is derived by DH by grouping together episodes for a patient, where appropriate. Where a patient has multiple episodes overlapping or contiguous episodes, DH may derive episodes into a case. The rules used to create a case will depend on the purpose, and on applicable business rules. For example, if the business rules of the National Minimum Dataset require that a patient be placed on leave when receiving treatment at another campus, but the service has separated and readmitted the patient upon return, DH may derive the two episodes into one case for reporting to the Commonwealth.

Events
Three types of 'events' have been introduced: Service Event Period, Service Event Unit and Status Change Event.

Service Event Periods are events, or activities, that have a start and end date and time, and where the duration of the event is important. So, rather than manually calculating the number of hours of mechanical ventilation where it's performed in an ICU, the start and end dates and times of any mechanical ventilation will be reported as many times as it stops and starts. The system will calculate the duration of the ventilation which overlaps with an ICU Event for the purpose of calculating the co-payment.

Periods of leave will also be collected as a Service Event Period, where the Start Date/time is when the patient goes on leave, and the End Date/time is when they return (or when the episode ends if they don't return within 7 days).

Service Event Units are point-in-time activities. These activities may take a period of time (i.e. have a start and end date/time) but the duration is not important for the collection. For example, FIM™ assessment takes a period of time to perform, but the collection only requires a single date/time to mark when it was completed.

A Status Change Event marks the date/time that the status of the patient changed. A Status Change Event is used to track changes to elements that are collected at episode start and where it's important to know when the value of that element changed. For example, when the patient is admitted they may be accommodated in a ward, but after surgery the patient moves to the ICU. The move to ICU is reported as a Status Change Event, and when the patient leaves the ICU to another location, another Status Change Event is reported. In the current system, changes to a small number of elements are collected via the Status Segments.

New information requirements

Mental Health
Some information about admitted episodes for mental health patients will be removed from the CMI/ODS and reported only to the new collection. The data elements added include Employment Status, Crisis Assessment, CTO Revoked Reason and ECT details. Some information such as Legal Status, Mechanical Restraint, etc, will remain on the CMI/ODS, but the number of elements reported to both systems has been reduced as much as possible.

Early Parenting Centres
Some extra information has been added for Early Parenting Centres to facilitate the identification of family groups.

Further work is yet to be done to identify data elements not required for non-Primary Patients in a family group.

Address
Patient address has been added to facilitate the derivation of mesh block. Mesh block is required for a number of reasons, including the expected requirement to report a mesh block to the Commonwealth, the 'retiring' of the SLA, and the requirement for a smaller unit of measurement for service planning purposes.

Patient address details will not be available for general reporting, and will be used only for the calculation of the Mesh Block. They will be subject to the usual rigorous privacy and ethical controls applied to health data.

Theatre visits
Visits to theatre/operating rooms/angiography suites will be collected as Service Event Periods, that is, with a Start and End Date/time. Each theatre visit in a single episode will be reported as a separate event.

Diagnosis & Procedure Coding
A Coding Completed Flag has been added to allow services to indicate whether the coding for a patient can be considered complete. The coding can still be updated even if it has been flagged as complete, and a hospital's internal auditing process shouldn't influence the use of the flag. Examples of when coding may be considered incomplete may be when insufficient information has been made available before the codes have been transmitted for reasons such a record being detained at the Coroner's office.

In order to associate one or more procedure codes with a theatre visit, each procedure normally performed in a theatre/operating room/angiography suite will require a date and time.

Requests for services currently unavailable
There is an increasing need to identify 'blockages' in the health care system. In order to gather data to analyse where and why the delays are occurring, Service Request information has been introduced which will require a date/time that a service was required, why it was not available, and when it either became available or was no longer required.

AROC
Hospitals will have the option of completing a number of extra data elements required by the Australasian Rehabilitation Outcomes Centre (AROC) and allowing DH to forward data directly to AROC on their behalf. Discussions with AROC are underway and final specifications will be available at a later stage.

The extra elements include:

- Living Arrangement, Carer Availability and Carer Residency Status on Episode Start and Episode End
- Type of Usual Accommodation on Episode Start, and Accommodation Post-Episode at Episode End (same codeset)
- Multi-disciplinary Rehabilitation Plan (Date)
- Treatment Suspension Service Event Period, and Suspension Status sub-element.

Emergency Department diagnoses
Currently, diagnoses for Emergency Department presentations are collected in individual data elements, particularly where the primary diagnosis indicates an injury code. In the new collection, diagnoses codes, including injury surveillance codes, will be collected in the same way that diagnoses for admitted episodes are collected. A library file will be available for use for Emergency Department episodes which will assist in determining which types of codes are required for injury surveillance, depending on the injury code reported.