

HL7 Working Group Meeting – San Diego, January 18-23 2004

Report to DoHA and Queensland Health - CONFIDENTIAL

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Representing: IT-14-9 Electronic Health Records and Harmonisation

Overall Impressions :

This was my first HL7 Working Group meeting and I found it a valuable experience, which also provided reassurance to me, that Australia is “in-tune”, or in some instances “leading the way”, with developments in e-Health messaging and exchange. Due to my involvement in the HealthConnect project, my focus was on issues which relate to the messaging and EHR design required to support the HealthConnect concepts and also on the EHR Special Interest Group as a representative of the equivalent Australian Standards Committee (IT-14-9).

Although there were some 600 attendees at the conference, it was clear that some 10-15% of these were viewed by others as ‘experts’ in their field, with their opinions being sought by others, and with the ability to influence decisions being made. Most members of the Australian contingent were in this category, and judging by comments made to me by experts from other countries, Australia is viewed as being pro-active and a “thought-leader” in many areas.

In terms of electronic health records and related issues, it is worthy to note that:

- There is international interest in *HealthConnect*
- Australia’s approach to *HealthConnect* is very similar to the Canadian approach in a project called *Infoway* and close liaison should be fostered
- In the UK, the NHS have announced significant investment in this area and are likely to lead the way with V3 messaging, however their current focus is slightly different from Australia’s (possibly due to their single funder model)
- In the US, the focus is on electronic health record systems WITHIN each sector or setting (ie. hospital, GP or long-term care). Shared records ACROSS settings, such as *HealthConnect*, have not received great attention. In fact, talking to those working in the community or long-term settings, they receive very little electronic information from other sectors and were very interested in the *HealthConnect* concept.

- There was strong interest in the Brisbane Southside trial, due to its testing of OpenEHR concepts, with opportunities for liaison/ learning being proposed.

I attended a number of Special Interest Groups (SIG) across a variety of areas and my observations are noted below.

V3 versus V2 messaging:

There is significant work and discussion around the evolving V3 messaging standards within the HL7 community. However it should be noted that:

- There are very few existing implementations of V3
- Many at the conference refer to the “brave souls implementing V3”, a reference to the existing limitations and evolving nature of the standard
- The key business driver for rapid development of V3 appears to be the NHS project in the UK and they are likely to lead the way in establishing standards in this area
- The UK took the decision to move to V3 due to the substantial investment program they are about to embark upon. They weighed the danger of further investment in ‘legacy technology’ (V2.x) against the risk of investing in new, but as yet untested, technology.

At this point in time, Australia has significant investment in V2 messaging and there appear to be few business drivers to migrate to V3. In fact, such a move could be counterproductive at this time until the UK has established and implemented a range of V3 messages, and the models have stabilised. Too early an investment by Australia could lead to development and implementation of inconsistent standards. However, it is likely that V3 messages will begin to stabilise over the next couple of years, due largely to the significant investment by the UK, and Australia should reassess its continuing commitment to V2 technology prior to significant future investments (eg. such as those which would be required for rollout of HealthConnect, MediConnect or significant statewide Clinical Information Systems).

Patient Care Special Interest Group

Note the focus of most other committees at HL7 was surprisingly (to me) administrative or costings based. This special interest working group was more focussed on issues of direct and shared care. My particular interest was on discussion of the V2 Discharge/ Referral message, which message and standard has largely been developed from work undertaken in Australia and New Zealand.

- The draft version of this standard was implemented and tested by the *HealthConnect* trials in Tasmania and Queensland.
- This early draft standard is currently being further refined by the *HealthConnect* Clinical Information Project. Modifications to accommodate the changes required/ proposed by the HealthConnect-CIP were discussed and passed at the San Diego meeting.
- The NHS project has reviewed Australia’s work and the V2 standard for discharge referral messages, and are planning to incorporate key aspects into their V3 standard. The CDA group are also looking to incorporate this work in a referral document which is under development.

HL7 CDA, Templates and Archetypes:

There has been significant work within HL7 to develop a clinical document architecture as a way of standardising exchange of clinical documents. Note the focus of this has been to develop **human-readable** documents, and much of the discussion at the conference was about the next-step in this development to ensure that documents were also '**machine-readable**' and could support semantic inter-operability.

Relevant issues/observations include:

- CDA Level 1 is a fairly simple model defining key sections or 'containers' within the document (eg. Header, Body, etc.). The section headings have been harmonised such that HL7 is consistent with CEN (the European Standard) definitions. Note this is also consistent with OpenEHR.
- However one UK expert noted that "*constraints in CDA release 1 are insufficient to ensure consistency when interpreted by different users/ computers. This is a major issue, as CDA entries are therefore insufficient as standards to ensure patient safety*"
- Further development of the CDA standard is occurring, and CDA Level 2 is more closely coupled with the Reference information model (RIM). However, it was acknowledged by the working group that ambiguity, and continuing changes within the RIM were causing problems in refining this standard. There were concerns that CDA was a combination of semantics plus mechanisms to display/ render. Including semantics within the structure was not considered good practice. There was concern about the lack of inter-operability between HL7 specifications as they currently exist (ie. inconsistency between CDS, V3 and V2 message structures)
- Therefore although CDA addresses some issues, it is currently quite limited, and the problems of constraining data (eg. Pathology, medications etc.) within this model were being widely discussed.
- The committee chair for the CDA group indicated that "*the scope of the CDA committee is to standardise clinical documents. This won't solve semantic inter-operability, or the EHR*"
- HL7 templates are intended to address this issue and a separate Templates Special Interest Group (SIG) included experts working in this area
- The relationship between HL7 templates and OpenEHR archetypes was a topic of some discussion, and the Templates SIG was considering the issue of how to apply constraints using different technologies, and in particular whether these were consistent with the HL7 model interchange format.
- The HL7 Chair, Mark Schaffer, outlined the different paradigms and ways of presenting structures and clinical information, including: templates (and CIMS in new HDF); ADL and OpenEHR; CEN 13606. He indicated a belief that these were basically similar concepts which should be able to be mapped. Therefore the HL7 Board has commissioned the modelling workgroup (lead by Jane Curry) to look at the strengths and weaknesses of the various models and constraint languages. The outcomes of this work will be reported back to the committee by March.

The work of this group is particularly relevant to *HealthConnect* and may influence proposed architectures. Note there was particular interest in the Brisbane Southside trial from the co-chairs of the Template group (from Mayo Clinic and University of

California, San Francisco), who expressed interest in future liaison with the OpenEHR group. The OpenEHR concepts are being openly discussed and debated within the HL7 community. The issue of 'harmonisation' between European and US standards was certainly on the agenda at this meeting. In essence none of the existing standards can be viewed as 'stable' at this time, and we can expect significant movement/evolution of existing standards as the groups gradually reach consensus.

Electronic Health Records Special Interest Group:

The focus of this group was on developing a functional specification for EHR systems. This is largely due to interest from the US government in identifying certain 'key' functions which may in the future be linked to payment/ funds. The group was therefore well attended by healthcare providers, funders and vendors. Sam Heard (an Australian representative of IT 14-9) co-chairs this group and facilitated most sessions. The functional specification includes a listing of direct care functions, supportive functions and information infrastructure functions. The intent is that a sub-set of these functions will be relevant to particular care settings, and therefore a "profile" can be established for each setting (eg. some functions will be essential for the hospital sector, but are unlikely to be relevant for long-term care). At the meeting both Canada and Australia proposed that these profiles could actually be setting independent, so that functions for a shared-EHR, which operates across settings could be effectively mapped from the standard.

Overall comments include the fact that:

- Australian thinking appears comparatively well advanced in the area of EHR
- The HL7 functional specification may provide a useful tool to map Australian Functional Profiles for hospital, community, GP and the Shared-EHR (ie HealthConnect). This would clarify the definition of what is 'an EHR' and provide a common understanding for communication.

Conclusions:

- Attendance at this conference was a valuable experience for me and I believe I was able to contribute to the international debate/ understanding of Electronic Health Records as a representative of IT-14-9
- I would recommend other members of the *HealthConnect* Program Office – particularly those from the Design Office – would also find it valuable to attend future working group meetings.
- The current approach within Australia for continued use of the V2 standards appears soundly based. However, this approach should be revisited prior to major future investment.
- The HealthConnect Trials and Clinical Information Project are contributing significant intellectual input to the international standards development effort – particularly in the area of Patient Care.
- The Brisbane Southside Trial has potential to significantly influence current standards debate around the use of templates and archetypes as future technologies to constrain clinical information. Such constraints will be essential if we are to share clinical information, as a common understanding is essential to ensure patient safety.