

Summary Report from the Australian Participants at the HL7 Working Meeting

San Antonio USA, May 2-7 2004

**HL7 AUSTRALIA
HL7 WORKING MEETING SAN ANTONIO, USA
MAY 2-7, 2004
- SUMMARY REPORT -**



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Table of Contents

Back ground:	3
Statistics:.....	3
Highlights:.....	4
International Meeting.....	4
HL7 Version 3.....	5
EHR.....	5
XML schemas	6
Clinical Decision Support.....	6
Compound Document Architecture (CDA).....	7
Archetypes & Templates.....	7
Patient Care.....	7
Pathology	8
Vocabulary	9
HL7 Pharmacy/Medication Information Special Interest Group.....	9
Memorandum of Understanding with American Society for Testing and Materials (ASTM) on Continuity of Care Record (CCR)	10
HL7 and ISO TC215.....	10
List of Australian/NZ participants and sponsors.....	11

This report summarises the observations and contributions of HL7 Australia and New Zealand delegates attending the HL7 Working Group Meeting 2-7 May 2004, San Antonio, Texas. Links to detailed reports provided by individual participants are included in the body of the report. This report builds upon the on site mid-week report previously provided by delegates.

Summary Report from the Australian Participants at the HL7 Working Meeting

San Antonio USA, May 2-7 2004

Background:

Health Level 7 is a multinational health information standards development organisation covering standards for inter-system messaging, vocabulary/terminology, Electronic Health Records structure and Clinical Documents. Australia has been an active participant and has adopted the HL7 approach to messaging in many key areas of health informatics. Participants from Australia and New Zealand attended the recent HL7 Working Group meeting in May 2004. This was the second of four Working Meetings of HL7 for the year.

This report brings together the key issues covered by the Australian participants. This report was edited by Dr Vincent McCauley and Isobel Frean and in some areas summarises issues and groups comments under broad issue headings (since at times more than one of our delegation attended specific sessions due to the requirement for particular expertise). More detailed reports (from which this report was summarised) are available at the HL7 Australia website (www.HL7.org.au). The full reports have been made available to appropriate Federal and State Departments of Health, HL7 and Standards Australia workgroups.

The Working Meetings provide the forum for the various [Technical Committees](#) (TCs) and [Special Interest Groups](#) (SIGs) to meet face to face and advance the definition of the respective HL7 standards and related activities. Between working group meetings, TCs and SIGs progress their work via email, tele/web conference and ad hoc face to face meetings. Each Technical Committee and Special Interest group is chaired by two or more elected co-chairs (a total of 116 volunteers). In his report, HL7 Australia Chair, Klaus Veil comments further on the significance of the Working Meetings for progressing the work of the standards development organisation.

The May Working Meeting saw a further expansion of HL7.org with the approval of the "Public Health & Emergency Response" SIG and the elevation of the EHR SIG to a full Technical Committee (previously a SIG of the Decision Support TC). HL7.org is also expanding its strategic relationships through a MoU with ASTM International (www.ASTM.org) and re-affirming its relationship with the Clinical Data Interchange Standards Consortium (www.CDISC.org). The HL7 Board also accepted the inclusion of the Role-Based Access Control domain into its activities.

Statistics:

- A total of 460 delegates attended, including approximately 85 international delegates (UK: 20, Canada: 15, Australia: 11, Japan & Holland: 9)
- There are now 27 International Affiliate nations attesting to the truly international focus of HL7
- Australia plays a significant role in the HL7 organisational structure, with one board member (Klaus Veil) and 8 Co-Chairs:
 - Klaus Veil (HL7 US Board member, Co-chair International Affiliate Committee; HL7 US Board Electronic Services Committee; Patient Administration TC; Publications Committee)
 - David Rowed (newly elected as Co-Chair Patient Care TC)
 - Max Walker (Co-Chair Community Based Health SIG)
 - Graeme Grieve (Co-Chair Control/Query TC)

Summary Report from the Australian Participants at the HL7 Working Meeting

San Antonio USA, May 2-7 2004

- Sam Heard (Co-Chair EHR TC)
- Peter MacIssac (Co-chair Medication Information SIG)

Highlights:

- V2.6 is largely ready for balloting and final edits are expected to be complete by the end of June with the first round of balloting to be done before the next HL7 Working Meeting in Atlanta, Sept 26 - Oct. 1, 2004.
- HL7 Australia's proposed radical changes to V 2 which will support structured relationships and contextual information required for Clinical Communication are on course for inclusion in the Version 2.6 ballot
- Work on V2.7 is supported by the HL7.org Board and will commence at the Atlanta Working Meeting.
- A report on the normative implementation of V3 from the Implementation Committee has been completed and will be posted into the V3 area on the website.
- The HL7 membership has passed standards on data types, XML ITS, CMETS and shared messages and these are now awaiting ANSI accreditation.
- A 200 page draft of documentation on HL7 tooling structure, metadata and semantics is close to finalisation.
- EHR – Functional Model and Standard was accepted as a Draft Standard for Trial Use (DSTU)
- EHR SIG elevated to a Technical Committee
- HL7 Australia's David Rowed to chair sub-committee to progress incorporation of UK's 'Clinical statement' concept into generic '*patient care provision*' DMIM for consideration in next ballot
- Public Health and Emergency Response SIG created
- David Rowed elected as co-chair of the Patient Care Technical Committee.
- MoU signed with ASTM on Continuity of Care Record (CCR)
- HL7 Board promoting the theme 'V3 is alive and well'

International Meeting

Netherlands: Version 3 projects fostering early adoption in medication and financial messaging are progressing well in conjunction with the National Institute for Health and IT. They have founded an HL7 University. Planning is in place for the first HL7 working group meeting outside of the USA to be held in the Holland in May, 2005

U.K.: More industry involvement at board level has occurred. HL7 Education has been re-structured on a more commercial basis. HL7 implementations in the NHS EHR and other projects are being fast tracked under enormous cost and time pressures - "A Frightening year behind and ahead"!

Prague - EuroMISE Medical Informatics and Statistics Institute 10 year anniversary celebrated. This is a Europe wide Institute with significant HL7 educational activities

CEN/ISSS – the eHealth Focus Group has been established to advise the European Commission over future directions in eHealth

Summary Report from the Australian Participants at the HL7 Working Meeting

San Antonio USA, May 2-7 2004

Germany: Certification Profiles established for ADT and DRG messages, CDA related SCIPHOX project is on-going and making good progress

New Zealand: - Medications (leveraging mediconnect), pathology, referral (all V2.4) are in process

Croatia: They are attempting to implement CEN 13606 (EHR) in HL7 V3 - harmonisation has already agreed on datatypes and this will be an on-going project

HL7 Version 3

Several of the committees focused on ballot resolution, with more ballot cycles expected. Four out of 20 recently balloted messages were accepted.

Control Query (CQ) in particular concentrated on resolving all the outstanding negative votes on the core V3 specifications. Early adopters, principally UK (NHS), The Netherlands and Japan are well down the path to implementing V3 in areas not well supported by V2. Once important domains like Orders and Observations (O&O) complete their specifications, V3 will be close to the point of being ready for use in the traditional areas currently addressed by V2.

The energy and resources being put into V3 by the UK's NHS (in particular) and The Netherlands certainly provided a more optimistic mood towards V3 than perhaps had been evident at previous meetings. The Board of HL7.Org similarly was much more upbeat about V3, with Chairman Mark Shafferman declaring V3 to be 'alive and well'.

The new dynamic message model, developed (and dynamically evolving) by Rene Spronk from the Netherlands with a great deal of valuable input from Dick Harding from Australia, is moving slowly through the committee process. It is generally being received with enthusiasm and is expected to be incorporated into V3 as part of the next release.

Another important V3 activity – the Clinical Statement project, initiated at the San Diego meeting in January, drew significant interest at the end of the week at a joint meeting of O&O, Patient Care and Structured Documents. Endorsement of the UK approach was eventually (and for some, reluctantly) secured, with responsibility given to the Patient Care TC to progress its incorporation into Referral, Shared Care, and Event Summary messages to be hereafter referred to by the more generic term Patient Care Provision message. A sub committee under the chairmanship of David Rowed, involving HL7 Australia members Health Frankel and Isobel Frean, HL7 NZ's Stephen Chu, HL7 UK's Dave Nurse, HL7 Netherlands' William Goossen and the US's Patient Care Co-chair Dan Russler was charged with responsibility for preparing materials for presentation in the next (July) ballot. For more information see David Rowed's report.

EHR

At its meeting on 4 May, the HL7 Board promoted the EHR SIG to a Technical Committee and it is expected that this will rapidly lead to the formation of further SIGs in the EHR area. In particular, there are expected to be different groups focusing on EHR Architecture and Function and the EHR System (EHR-S) specification.

The EHR TC meetings ran for the first three days to reconcile the comments received on the EHR System Functional Model and Standard (EHR-S) balloted in March as a draft standard for trial use

Summary Report from the Australian Participants at the HL7 Working Meeting

San Antonio USA, May 2-7 2004

(DSTU). After breaking into groups for intensive review, the 'dispositions' (what to do in this DSTU and what to do in the future standard) of all sections were accepted. The aim now is have a full ANSI standard within 2 years. This seems a definite possibility.

Australia's support for collaborative harmonisation of CEN 13606, *openEHR* and HL7 activities with a longer-term view toward these being agreed ISO standards for the EHR and EHR-related messaging, appears to be bearing fruit, particularly in the emergence of V3, where the UK-NHS are in the forefront of using V3 paradigms and feeding back the results to HL7. For further information see the full reports by Richard Dixon Hughes and Sam Heard.

XML schemas

There has been a problem with the XML schemas for data types. There have been multiple copies in circulation, all partially wrong, and this has been causing significant problems for early adopters. A small group of dedicated individuals spent some time sorting out a single schema that is correct, and properly supported in an on-going fashion. This work has been completed and the schema distributed. Given the problems that this has caused in the past, this is a major achievement.

Clinical Decision Support

Gello – While the Gello language specification had passed the committee ballot, following consideration of negative ballots, the Decision Support SIG withdrew the specification for rewriting and another committee level ballot. For further details on this issue see Vince McCauley's report.

Templates - The templates specification will be dramatically narrowed and focused on the actual template representation. The important harmonisation work between *openEHR* archetypes and HL7 Templates (Archetype Descriptor Language - ADL to Template mapping) will be prioritised.

EDSML - Brett Esler from PEN Computing presented their work on the Extended Decision Support Markup Language which had been developed as part of the Commonwealth CIP project. This was one of the agreed outcomes of the HL7 Australia EDS workshop held in December, 2003. Whilst the presentation of EDSML was well received it was unclear how the committee was to move forward to an overall standards for EDS, given the mix of XML based and more traditional technologies e.g. Arden Syntax which are currently in play. The committee intends to make a decision prior to the next Working Meeting as to the standard they will be pursuing for an overall decision support architecture. There are a number of different competing approaches, but that of the Australian group is one of the most clinically advanced. For further details see Vince McCauley and Bret Ester's reports.

Prof. Ian Purvis (Newcastle Univ.; NHS Information Authority) presented the NHS guidelines tools which included guideline and drug database models. It is recommended this be investigated particularly with respect to the models employed (believed to be freely available) and the guideline development tools and process employed.

Arden Syntax - Enhancements to this standard for Clinical decision support have been agreed to by the committee to update Arden to a partially object oriented language. This will make this basic building block applicable and usable across a much wider range of problems. These changes will go to ballot in the next ballot cycle. The two main vendors and academic interests were in attendance at the Arden SIG. Investigations into Arden Syntax tooling (tooling and compilers) were undertaken - raw parser files can be obtained; public version of compiler to C++ is available. The Arden Object model will enable enhanced support of RIM based object constructs.

Summary Report from the Australian Participants at the HL7 Working Meeting

San Antonio USA, May 2-7 2004

The American dept of health (AHHS) believes that standardization of the EHR is on-track and is therefore negotiating with HL7 USA to fast track standardization of computable EDS/clinical guidelines in America. The current direction that it appears will be adopted is through a focus on Order Sets. This will be an area of intensive work at the next working group meeting in Atlanta.

Compound Document Architecture (CDA)

All CDA referral enhancement requirements submitted by Stephen Chu on behalf of Australia and NZ have been incorporated into the latest revision of the CDA R2 specification. The new CDA R2 RMIM has been released in the San Antonio update revision. Further harmonization work with the Patient Care draft DMIM will occur after completion of the revision of the draft Care Provision DMIM.

The leading work of Australia, NZ and the Netherlands on discharge/referral standards and CDA development were acknowledged at the HL7 Board meeting. For more information on CDA see David Rowed's report.

Archetypes & Templates

There was significant progress in the automation of ADL (Archetype Descriptor Language) to Object Web Language (OWL) constraint definition interconversion. This will provide an excellent basis for archetype definition, registration and execution by systems. This is particularly relevant for decision support modeling and V3 message modeling as well as the implementation of archetype based systems. It also provides excellent support for the development of automated tooling to achieve modeling directly generated from the archetype definitions (or vice-versa). Registration and supply of archetypes via UDDI or the like was seen as a direct consequence with the ability to pick appropriate archetypes for modeling purposes.

Patient Care

Referral Message - Version 2.6 referral changes proposed by Australia were accepted by Patient Care and Orders and Observations. These cover a new Relationship segment, Segment Instance Identifiers and Mood Code segments in OBX, RXO, PRB, GOL, PTH segments, and additional problem information in PRB. As a result, V2.6 is largely ready for balloting and final edits are expected to be complete by the end of June with the first round of balloting to be done before the next HL7 Working Meeting in Atlanta, Sept 26 - Oct. 1, 2004. The expected ballot schedule is contained in Klaus Veil's report. Following ballot acceptance, it is anticipated that a V2.6 based version of the Australian Referral/Discharge standard 4700.6 will be rapidly forthcoming.

V3 Care Provision Message (note name change from use of 'referral') - The draft Care Provision DMIM developed by Australia and NZ following the Sept 2003 and Jan 2004 HL7 meetings was tested by the Netherlands with neonatology and stroke patient management use cases. The Dutch have proposed a number of improvements to the draft DMIM. These were discussed and accepted at the Patient Care TC meetings. An international workgroup comprising Australia, NZ, UK and the Netherlands has been commissioned by the Patient Care TC to harmonize the international requirements and to re-develop the draft R-MIM incorporating the "clinical statement" representation. David Rowed has been nominated to act as the administrative leader of this work group. David was also successfully elected as co-chair of the Patient Care TC.

Summary Report from the Australian Participants at the HL7 Working Meeting

San Antonio USA, May 2-7 2004

Clinical Statement - CDA and Patient Care are addressing IT 14.6.6 requirements for Patient Care communication via a 'Clinical Statement' (based on UK NHS V3 work). This promises to provide a solution for the difficult area which has been a barrier to our progress on V3. The outcome of this work will have implications for the work of IT14-6-5 and IT14-6-6.

Community Based Health - This Special Interest Group (SIG), which has been struggling over the past year to avoid being dissolved through lack of involvement and ability to deliver, has received a new lease of life and mandate following an initially tumultuous start. Discussion over the revision of the SIG's Charter elicited much debate around the definition of 'community based health' and whether the previous home health device based messaging development and testing work really belonged. Isobel Frean's (University of Wollongong) ARC funded doctoral research was welcomed and will form the basis for progressing V3 work on behalf of the SIG. Agreement was also made in the Joint meeting with Patient Care to use Isobel's work to provide further validation of the Dutch Care Provision DMIM. This SIG also has strong support from a large US long term care provider, whose interest complements the Australian messaging interests in aged care. This provider however is also looking to this SIG to link in their recent contributions to the EHR functional specifications on long term care. Max Walker, DHS Victoria, CBH –SIG Co-Chair, has expressed his concerns about some pushes to expand the CBH SIG scope, particularly in the area of LAPOCT & IIEEE. He has also expressed some unease about being a "feed" to EHR. He reported there was interesting debate in the establishment of the Charter for the Public Health & Emergency Response (PHER) around trying to make the SIG both interesting & representative, while at the same time giving it the chance to deliver (and hence become effective). (Max Walker, who is sponsored by DHS Victoria, can be contacted on Max.Walker@dhs.vic.gov.au for more information). Isobel Frean's report provides more details.

Public Health & Emergency Response (PHER) SIG – The establishment of this new SIG not only brings in a new realm of message types (or sub types) around notifications (e.g. Syndromic Surveillance) & requests (e.g. multiple but different plant & animal samples from the same sight requiring tests), but also the interaction with non health agencies, such as government departments & emergency services.

Pathology

The LAB V3 message once again did not pass the committee ballot. All negative votes were reconciled at the Working Meeting and re-balloting will occur in the next ballot cycle prior to the next working group meeting. Australia's Vince McCauley will continue to work with the SIG members on their weekly conference calls (the time of which has been moved to facilitate Australian participation) to make the necessary changes to deal with specimen and non-specimen related orders. It is anticipated that the LAB V3 messages will pass committee level ballot at the next cycle, immediately prior to the next working group meeting in September.

Co-chair elections were held and the co-chairs remain unchanged.

There was a move from a number of US Pathology system vendors to further limit the scope of the V3 LAB message to make a specimen mandatory and from a predefined vocabulary that did not include a patient. This was thought to be a good idea because Pathology laboratories in the US never see patients. In Australia this is relatively common for ECG's, Holter monitoring etc. This proposal was not proceeded with after the committee was made aware of practices outside of the U.S.

Summary Report from the Australian Participants at the HL7 Working Meeting

San Antonio USA, May 2-7 2004

The Orders and Observations (O&O) Technical Committee has been addressing the issue of messaging a generalized clinical history (clinical statement) which had been previously largely removed from the current V3 work because it was delaying the ballot process due to its complexity. As a result O&O will await with interest the outcome of the work by the Patient Care working group to integrate the clinical statement into the '*patient care provision*' message. For more information on pathology refer to Dr. Vincent McCauley's report.

Vocabulary

The week saw a focus on issues related to V3 implementation, specifically on the binding of vocabularies to messages in the production environment. While V3 aims to standardise the message architecture with a core model (in a way similar to the development of Australia's IT14-6-5 pathology implementation handbook) inter-operability also requires standardisation of terminologies. In the US a process is continuing to recommend vocabulary standards in a range of domains for use both by the US Government agencies and the private sector (by legislation mandating approaches to claiming in some cases, and governing electronic transfer of clinical information, when such occurs, in others). On behalf of the joint US, UK and Australian team, HL7 Australia's Peter MacIssac presented a review of current progress on drug dose form terminology, which will be out for initial public comment by end of May. The meeting also provided an opportunity to further review the UK Drug and Device Dictionary and the National Library of Medicine's RxNORM project, in the context of plans to implement an Australian Medicines Terminology, and explore opportunities for collaboration and sharing of resources.

SNOMED-CT has been integrated with the UMLS and will be available on CD or for download in Australia for research and review purposes, after completing an online licence agreement. Research licences and some technical support are also available through the National Centre for Classification in Health (University of Sydney).

HL7 Pharmacy/Medication Information Special Interest Group

The V3 Ballot (March) addressed a limited range of pharmacy messages relating to electronic prescribing, dispensing, administration and medication history (in both community and institutional settings). It came very close to receiving the required degree of support to allow progress to "Draft Standard for Trial Use" (DSTU). Once this has occurred the message standard will be reviewed over 12-24 months and then passed as a definitive standard after input from early adopters. Given the progress made and prospect of V3 pharmacy messages moving forward it will be important for Australian organisations to review the next and probably final draft (Ballot 8.) While Australia is using version 2 messages for pharmacy, other countries (eg UK, Netherlands and Canada) have made national policy decisions to adopt V3 and are now implementing the current draft message format and contributing their experiences back into the development process. Pharmacy information is a core input in many other domains (patient care, financial management, regulatory, clinical decision support) so when V3 is adopted in other areas in Australia, there are likely to be flow-ons to drug information messaging. More detail on the Pharmacy and Medical Information SIG is contained in Dr. Peter MacIssac's report.

Summary Report from the Australian Participants at the HL7 Working Meeting

San Antonio USA, May 2-7 2004

Memorandum of Understanding with American Society for Testing and Materials (ASTM) on Continuity of Care Record (CCR)

HL7 has announced that it has executed a Memorandum with ASTM with a view to ensuring that the ASTM Continuity of Care Record standard is compatible with HL7s CDA framework. This seeks to ensure that CCR and CDA:

- Have a common basis in the HL7 V3 RIM so that information can be interchanged using v3 messages; and
- Provide CCR with a migration path and XML-tagging structures compatible with integration into the CDA and future development of the CDA and templates.

The Australian delegation indicated its support for current HL7 collaboration with CEN 13606 and was assured that this would not be adversely affected.

HL7 support for new participants

Australia had two first-timers at this Working Meeting, Bret Esler (Pen Computer Systems) and Richard Dixon-Hughes (Board Member of Standards Australia). Both attended the special induction for first-time attendees and had the opportunity to meet and interact with Board members and senior HL7 mentors. These were useful networking sessions at which issues such as pressure for cross-industry and global harmonisation of standards, executive-level marketing of HL7 and the need to make HL7 more user-friendly were discussed informally. See both Brett and Richard's reports for further information.

In addition, HL7 sponsored University of Wollongong PhD student, Isobel Frean, to attend the meeting. Student sponsorship requires the student provide tangible support to the running of the meeting or to the operation of one of the committees. Isobel was specifically assigned to the Community Based Health SIG and the Patient Care TC. Her responsibilities included minute taking of CBH SIG meetings and submission of post meeting documentation to the HL7 HQ. Her comments on the benefits of this experience are contained in her report.

HL7 and ISO TC215

A number of HL7 delegates attended the International Standards Organisation (ISO) TC 215 Health Informatics Plenary meeting held the following week in Washington, DC. This was the first time the TC215 meeting had been held in the US. It was also the first occasion in which HIMSS managed the event in their capacity as the new secretariat to ISO for TC 215. For a full report on this meeting and the links to HL7 see the Standards Australia website.

Summary Report from the Australian Participants at the HL7 Working Meeting

San Antonio USA, May 2-7 2004

List of Australian/NZ participants and sponsors

Klaus Veil	Department of Health and Ageing
David Rowed	Department of Health and Ageing
Vincent McCauley	Department of Health and Ageing – Quality Use of Pathology Programme
Isobel Frean	Department of Health and Ageing, Wollongong University (PHD student)
Brett Esler	Department of Health and Ageing, Pen Computer Systems
Peter MacIsaac	Department of Health and Ageing – Information and Communication Division
Richard Dixon-Hughes	Department of Health and Ageing – Electronic Health Record, Standards Australia
Stephen Chu	New Zealand Ministry of Health, HL7 NZ
Max Walker	Dept of Human Services, Victoria
Graeme Grieve	Kestral/HL7 Connect
Sam Heard	Department of Health and Ageing – Electronic Health Record
David Rowlands	Department of Health and Ageing , Standards Australia