


HL7 for Clinicians

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IT 14/6/6 –Referrals and health
Service Messaging

HL7 What do Clinicians Need

- Resource Management
- Work Flow
- Business Efficiency
- Improved care



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What is HL7?


- Health Level 7
 - History
- Level 7 of OSI Layer
- Initially North American Hospital focussed
- International Uptake
- HL7 Version 2



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HL7 Version 2 Use

Admin and Finance
Laboratory
Referral and Scheduling
Admin focus
Patient Care



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Who Are HL7?

ANSI Standards
HL7 TCs and SIGs
HL7 International
New Groups
CDS TC: Arden SIG, CDS TC
EHR SIG
CBH SIG
CCOW TC

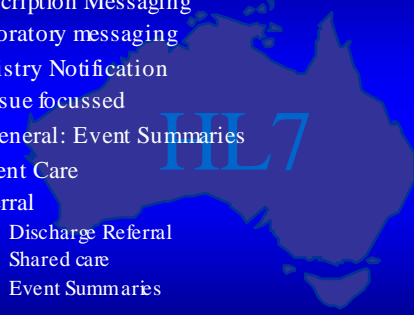


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Version 2 –Clinical

Prescription Messaging
Laboratory messaging
Registry Notification
Issue focussed
General: Event Summaries
Patient Care
Referral

- Discharge Referral
- Shared care
- Event Summaries



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Shared Care –Message types

- Medications
- Results and Clinical Observations
- Diagnoses, Problems,
- Goals and Pathways
- Provider Roles
- Variances



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Shared Care -Referral

- Referral at many states in Shared Care
 - Initiation
 - New developments
 - Discharge
- Definition: Request for Care
- Many types in Entity – Entity
- Comprehensive message content



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HL7 Version 2 Limitations

- Works well for
 - Original message types: Lab and Admin
 - North American jurisdiction
 - Vendor influence
 - XML capability
- Required by Community Health in Australia
- Ambiguities
- Methodology
- Internationalisation
- ~No Implementation Experience with Clinical messages
 - Patient Care
 - Clinical Referral



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HL7 New Clinical Initiatives -- Community Based Health SIG

- Australian Role
 - History
 - Co-chair
- Mental health, CHIME, Victorian DHS
- Home Care and monitoring
- Discharge and Referral
- Patient Care TC Sponsored



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HL7 New Clinical Initiatives --Arden Syntax SIG

- From ASTM
- HL7 ANSI Standard
- Only CDS Standard
- Version 2.1
 - December 2002
 - XML Write statements
- Version 2.5
 - OO notations
 - ?further XML encoding
- Version 3 --possibilities:
 - RIM Compliant?
 - Fully OO ?
 - Gello Expression language



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HL7 New Clinical Initiatives --Guidelines SIG

- GLIF and other Guideline developments
- CPGA
- GEM
- Workflow and Decision models
- Solution not requirements-based directions
 - Need for HDF
- No proposals
- Not in ballotable state



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HL7 New Clinical Initiatives --EHR SIG (1)

- HL7 historical resistance (messaging history)
- Sponsored by CDS TC
- Importance of EHR to CDS
 - Arden Curly Braces
 - vMR
- Initiatives Australian and European
 - GEHR
 - openEHR
 - CEN
- Australian Co-chair



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HL7 New Clinical Initiatives --EHR SIG (2)

- Relationship to CDA and Templates
 - ShARM
 - Archetypes
- Scope has been controversial
 - Different expectations
 - Distinguishing Clinical from Admin
- EHR Issues:
 - Applicability of RIM and V3 Data Types
 - EHR wrt HL7 V3 Messages
 - HL7 V3 Messages vs EHR Extracts



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HL7 Version 3

- Need to deal with ambiguity
- Disciplined model-driven approach--UML
- Development over 5 yrs
- Evolution with HDF
 - Requirements driven
 - High level UML domain model (not RIM)
 - New projects eg V3 Discharge Referral
 - Gradual compliance by TCs
 - Eg Need for CDS / Guideline work



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HL7 Version 3

- Reference Information Model
- V3 data Types
- XML ITS
- XML Schema / Templates
- CDA vs Messages
- Better support for clinical communications



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HL7 V3 --CDA Documents:

- Human readable
- Match workflow
- Make sense on their own
- Intended to persist in time
 - physically vs messages
 - semantically meaningful into future (cf paper records)



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HL7 V3 --Clinical Document Architecture

- XML
- Templates in XML Schema
 - Proposal --unimplemented
 - openEHR Archetypes can deliver
- CDA Levels 1-3
 - Structured header to full structure employing RIM semantics
- CDA version 2 Proposal
 - Single specification
 - Templates specify levels of structure.



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CDA and EHR

- CDA Suitable for use within a DMS
 - Various solutions to authoring
- CDA documents do not constitute an EHR
- CDA aligns closely with openEHR structures
 - transactions / compositions
 - ShARM



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CDA Applications

- CDA Level 1 used in Europe for discharge referral and shared care
- Potential for structured guidelines
- Ease of exchange with EHRs
- IT14/6/6 developing CDA Level 3 specifications for
 - Referral
 - Shared Care



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HL7 What it gives Clinicians:

- Interoperability at Semantic level
- Potential for computer assisted care
- Methodology for project development
- Modularity of applications
- Optimal practice systems
- Opportunities for clinical niche products



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What HL7 needs from Clinicians: --Shared Care

- Model Shared Care
- Agreed Terminologies
- Domain Archetypes
- Identification of clinical niche components
- Pick Low-hanging Fruit
 - SAC
 - Chronic and Complex
 - Agal Care



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What HL7 needs from Clinicians: --EHR

- Domain Archetype development
- Archetype repository Mx
- Validate Requirements
 - Aust / Int'l Standards bodies
- Commitment to Record Architecture Standards



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What HL7 needs from Clinicians: --Clinical Decision Support

- Agree on Development Methodology
 - Use Cases
 - Requirements
 - Models ?RIM
 - Standards: DSS + EHR / Communications
- Assess: Arden 2.1 <-- ? --> Requirements
- Try to Formalising Guidelines
- Pick Low-hanging Fruit
 - Medication Management
 - Immunisation



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HL7 in Practice

HL7 Enables Clinicians to Improve Care
HL7 thrives on stakeholder interference
We must drive its development.



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