



## HL7 Australia and Decision Support

# The Missing Elements A Gap Analysis

HL7 Clinical Decision Support Workshop  
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### The Required Elements – an English language analogy

- Structure – Nouns and Verbs
- Syntax – How the structural elements relate
- Semantics – Meaning from data

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### Nouns and Knowledge

- Patient Demographics
- Patient basic EHR elements
  - Medications, Allergies, Immunisations
  - Pathology and Imaging Investigations/results
- Guidelines
  - Therapeutic
  - Immunisation
  - Pathology and Imaging

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### Verbs and actions

- Notification, events and event monitoring
  - Origin, Timeliness, Audience
- Actions and workflow
  - Triggers, Targets and outcomes
- User alerts

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### Semantics and Terminology

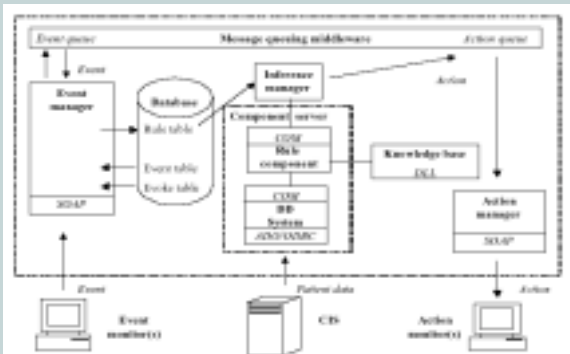
- Terminology –
  - Medication, Immunisations
  - Tests (Pathology, Imaging)
  - Diseases
  - Events
  - Actions
  - Alerts

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## HL7 Australia and Decision Support A Software Vision



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### Interfaces and APIs

Different shoe sizes?

```

    graph LR
      Q[Query Engine] --> A1((API 1))
      Q --> A2((API 2))
      Q --> A3((API 3))
      A1 --> G1[Guideline 1]
      A2 --> G2[Guideline 2]
      A3 --> G3[Guideline 3]
  
```

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### Interfaces and APIs

Or one size fits all?

```

    graph LR
      Q[Query Engine] --> A((API))
      A --> G1[Guideline 1]
      A --> G2[Guideline 2]
      A --> G3[Guideline 3]
  
```

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### The Missing Software Elements

- Patient demographics (PMI) interface
- Notification and Event Manager(s) (NEM)
- Common Electronic Health Record (EHR)
- Medical Logic modules (MLMs) with Australasian context
- Knowledge Interface to Therapeutic Guidelines, Rational pathology usage etc
- Terminology – Drugs, Tests, Diseases

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### Where do we get it? – the HL7 view

- Demographics/Notification –
  - > Context Management Architecture (CMA/CCOW)
  - > Messaging
- EHR
  - > OpenEHR/Archetypes
  - > Clinical Document Architecture (CDA)
  - > Referral message
- SAGE – US \$18M
- Arden Syntax – Bo Johansson (Sweden)
- GEM / GLIF
- Terminology – LOINC, ICD9/10, SNOMED

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### The Missing “Standards”

- Standardised interfaces to existing medical desktop software for demographics and EHR
- Standards for event notification
- Guidelines with multilevel standardised access and terminology
- Standardised terminologies
- Standards for workflow, actions and alerts

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## HL7 Australia and Decision Support

### Standards vs Railway Gauges

- States => Different standards
- Federal => Australian Standards
- Major factors affecting adoption
  - Existence
  - Timing
  - Standards Quality
  - Education
  - Leadership
  - Money
- Avoid “The Winter of our Discontent”

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