Utilising standards to create a safer patient environment in our hospitals

Identification standards driving patient safety through compliance with organisational policies to achieve better healthcare within the Australian Capital Territory

Ryan Mavin, Lead Enterprise Architect, ACT Government
Thursday 19th October 2017
ACT Health

• 400,000 of 24,000,000 Australians live in ACT
  - Aging Population: Heavier demand for services
• Geographically manageable
  - Ideal for whole of jurisdiction innovation and standards implementation
• Investment in Digital Health Infrastructure
• Seeking to leverage this investment
3 steps to solve patient safety issues (Theory)

1. **Identify incidents** that require corrective actions
2. **Establish organisational policies** to address the incidents
3. **Ensure policies are consistently complied with** to the letter.

Problem Solved.

**Sounds easy?**
Because a watched bee works harder you see

The Busy Bee optimises their work load in ways that sometimes result in errors.

A Bee-Watcher is assigned to ensure compliance with policy. Issues still occur so a Bee-Watcher Watcher is assigned to watch the Watcher...
3 steps to solve patient safety issues (Reality)

- Near misses go unnoticed and underreported
- Only significant negative patient impact cases result in identification of issues
- Paper-based policy compliance rates are a problem, policing and auditing are resource intensive (*Nurse Watcher Watcher*)
- Introduction of Electronic Medical Records (EMRs) without ID standards only go some of the way to improving this
The Reality

Without robust identification standards embedded within our EMRs, how can we be confident of the information being captured?

What does this mean for care that we deliver based on this information?
ACT Health: Recognising the problem

- Cases of impacted patient outcomes
  - Wrong Patient, Wrong Medication, Wrong … WBIT
- Procedures delayed by avoidable errors
- Near misses being detected by pathology lab
- Benchmark incident reporting trending above national average
- Paper-based policies not making a big enough difference

**Action:** Sought industry expertise for guidance and solutions
Engaging GS1

• **2012: Go to market**
  - Expertise in Location Based Services (LBS)
  - Analyse needs and identify industry solutions

• **2013: GS1 Consultancy**
  - Established LBS Steering Committee
  - Review current state, list changes/priorities

• **2014-17: GS1 Guidance**
  - Developed and validated LBS Framework
  - Working through changes/priorities
  - Keeping stakeholders engaged
Creating a Standards Framework

• Collaboration with GS1 to define an Identification Standard implementation guide (LBS Standards Framework)
• Each Identifier is a building block
• Creates a foundation for transformation
• Example content for each of the building block Identifiers
• Guidelines for consumption and validation of the Identifiers
Building Blocks

- **Patient ID** (GSRN + SRIN)
  - Wristband
  - Clinical Notes Labels
  - Specimen labels
- **Staff ID cards** (GSRN)
- **Location ID** (GLN)
- **Product ID** (Serialised GTIN)
- **Asset ID** (GRAI or GIAI)
- **Document Type ID** (GDTI)
Implementing the Standards Framework

- First Step: Implement building blocks
- Proof of concept NICUCAM: scanning **Location ID (GLN)**
- Focus effort for greatest risk/benefit: **Patient ID (GSRN + SRIN)**
- Created middleware solution to generate GS1 Patient Wristbands without PAS upgrade
- Modified security system produces GS1 Staff Cards: **Staff ID (GSRN)**
- Implement new systems that leverage the building blocks
- Upgrade/replace old systems to leverage the building blocks

**ACT Health implemented the GS1 identifiers with minimal integration, then built value through integrating systems**
Standards Framework Compliance: Mandatory

**Products**
- Products and consumables not supporting GS1 Standards Framework manually managed or not tracked at all
- Cost, Time, Quality impact of manual tracking expected to exceed unit purchase price savings

**Information Systems**
- New procurements include mandatory criteria for the GS1 Standards
- Existing systems upgrade where possible, or replaced at end of life with compliant solutions

*If a product is not part of the solution, it is part of the problem.*
Solving the problem: PPID in focus

Problem: **Wrong Blood in Tube (WBIT)**

Objective:
- Ensure specimen collection and labelling occurs with the patient, after positive identification

Challenge:
- Patient notes labels contained the same local identifier as patient wristband

Solution:
- Implement eOrders with GS1 GSRN + SRIN for patient identification defined in **ISO/TS 18530:2014** to distinguish between types of patient id.
Solving the problem: PPID in focus
Positive Patient Identification

PICADOR, Aileen
BORN 01 Jan 1980 (37y) GENDER Female
MRN 20322976

1. Confirm the patient’s identity as per organisational policy — Confirmed
2. Scan the patient’s wristband
3. Scan the collector’s staff ID badge

Specimen Collection  Cancel all Collections

Phlebotomy

- [ ] Tube
- [ ] Tests
- [ ] Notes
- [ ] Ordered By

- [ ] [Pink] EDTA (4 ml) FBC - Full Blood Count  Add Comment  EMM Nurse21 on 21-Aug-2017

[Collect]
20322976 PICADOR, Aileen 01/01/1980 (37 years)

Positive Patient Identification

PICADOR, Aileen
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MRN 20322976

1. Confirm the patient's identity as per organisational policy Confirmed

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Specimen Collection Cancel all Collections

Phlebotomy

- Tube
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- Notes
- Ordered By

- [Pink] EDTA (4 ml) FBC - Full Blood Count Add Comment EMM Nurse21 on 21-Aug-2017

Collect
Positive Patient Identification

PICADOR, Aileen
BORN: 01-Jan-1980 (37y) GENDER: Female
MRN: 20322976

1. Confirm the patient’s identity as per organisational policy - Confirmed
2. Scan the patient’s wristband
   The patient that you scanned does not match the selected patient.
3. Scan the collector’s staff ID badge

Specimen Collection

Phlebotomy

- Tube
- [Pink] EDTA (4 ml)
- FBC - Full Blood Count
- Add Comment
- Ordered By: EMM Nurse21 on 21-Aug-2017
- Collect
Positive Patient Identification

PICADOR, Aileen
BORN 01-Jan-1980 (37y) GENDER Female
MRN 20322976

1. Confirm the patient's identity as per organisational policy  ✔ Confirmed
2. Scan the patient's wristband
3. Scan the collector's staff ID badge

Specimen Collection  Cancel all Collections

Phlebotomy

<table>
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<tr>
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<tr>
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<td>Add Comment</td>
<td>EMM Nurse21</td>
</tr>
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</table>

PICADOR
123 Test St
Garran ACT 2600
1/1/1980
20322976

Aileen
F

1/1/1980
20322976
TCH
Admission date 8/1/2017
Positive Patient Identification

PICADOR, Aileen
BORN 01-Jan-1980 (37y) GENDER Female
MRN 20322976

1. Confirm the patient's identity as per organisational policy - Confirmed

2. Scan the patient's wristband - Resume Scanning
   Problem Scanning? The scanned barcode was not recognized. Please try again.

3. Scan the collector's staff ID badge

Specimen Collection - Cancel all Collections

Phlebotomy

[ ] Tube  [ ] Tests  [ ] Notes  [ ] Ordered By

[ ] [Pink] EDTA (4 ml)  [ ] FBC - Full Blood Count  [ ] Add Comment  [ ] EMM Nurse21

Collect
Positive Patient Identification

PICADOR, Aileen
BORN 01 Jan 1980 (37y) GENDER Female
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3. Scan the collector's staff ID badge

Specimen Collection

Phlebotomy

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<td>EMM Nurse21 on 104</td>
</tr>
</tbody>
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Collect
Positive Patient Identification

PICADOR, Aileen
BORN 01-Jan-1980 (37y) GENDER Female
MRN 20322976

1. Confirm the patient’s identity as per organisational policy
   - Confirmed

2. Scan the patient’s wristband
   - Confirmed

3. Scan the collector’s staff ID badge
   - Manualy Enter Name

Specimen Collection

Phlebotomy

- [Pink] EDTA (4 ml) FBC - Full Blood Count
- Add Comment
- EMM Nurse21

Collect
## Specimen Collection

### Phlebotomy

<table>
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<td>[Pink] EDTA (4 ml)</td>
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### Non-Phlebotomy

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Specimen Container</th>
<th>Tests</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Unknown</td>
<td>[FLDP] Generic</td>
<td>Referral Test</td>
<td></td>
</tr>
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</table>
PICADOR, Aileen
BORN 01-Jan-1980 (37y) GENDER Female
MRN 20322976

Patient Positively Identified

Specimen Collection  Cancel all Collections

Phlebotomy

- Tube
- Tests
- Notes
- Ordered By

[ ] Pink EDTA (4 ml) FBC - Full Blood Count Add Comment EMM Nurse21 on 21-Aug-2017

- Collect

Non-Phlebotomy

- Specimen Type
- Specimen Container
- Tests
- Notes

- Unknown [FLDP] Generic Specimen

- Referral Test

Referral Test Collection Instructions: Please enter the name of the Referral test: Test...

Name: PICADOR Aileen
DOB: 1/1/1980
URN: 20322976

Executive

OMS Section

EMM Nurse21
Outcomes and Benefits

• Electronic Ordering and Collection has eliminated paper order readability and transcription incidents, and reduced Lab data entry effort
• GS1 standards applied at point of printing specimen labels ensure the collector performs job steps as per the organisational policy
• 100% compliance to the organisational policy ensures patient safety is preserved
• > 40% reduction in WBIT incidents recorded in initial wards, with remaining incidents only occurring during system maintenance periods, or with orders that remained on paper due to patient transfers
• Once the solution is fully deployed to all services, ACT Health will be leading the nation

The easiest way for staff to do their job is now the correct way
Further Focus Areas

eOrders & PPID being rolled out as a package with:

- Electronic Medication Management (EMM)
- Early Recognition of Deteriorating Patients (ERDP)
- Computers on Wheel (COW) hardware fleet

Where new systems do not natively support the standards, PPID will be integrated to provide this capability over time.

Enterprise wide review of capabilities:
- EMR stacks
- Clinical Support Systems
All require mandatory compliance with the standards.
Epilogue

The Busy Bee now has confidence in the solution and has named the COW Clarabelle.

Many of the Bee-Watcher Watchers are now able to shift their focus onto organisational transformation and preparing to meet the challenge of an aging population.

The flower has renewed confidence the care it receives is the right care for its needs.

The GS1 Standards just work.
Take home Message

• Equipping EMRs with identification standards closes the patient safety loop across the continuum of care

• ACT Health has achieved this in the focus area of Pathology ordering and collection

When everything we need to track is uniquely identified, we can deliver care safely, with confidence in the information we use to make clinical decisions and drive improvement.
Ryan Mavin
Lead Enterprise Architect

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