HIBCC AU Incorporated

Health Industry Business Communications Council of Australia

HIBCC Patient Safety Systems Task Force

Report from HIBCC AU
Case Studies: The Alfred and Gosford Hospitals
Background

- HIBCC AU the Australian Affiliate of IHIBCC – established March 2002
- Established as Non-profit Association to provide HIBCC Standards to the Australian Health Industry
- Membership includes med/surg suppliers and healthcare providers
- An aggressive growth agenda to recruit supplier and provider members has been embarked on
- HIBCC AU Board represented by:
  - Suppliers: J&J Medical, Stryker, Smith & Nephew
  - Providers: The Alfred Hospital
  - HIBCC: Robert A. Hankin (Vice President)
  - HIBCC AU: Kirk Kikirekov (President)
The Alfred Hospital

Implementation of Point of Use Data Capture System
Background Information
The Alfred Hospital

- Located in Melbourne, State of Victoria, Australia’s 2nd most populous city after Sydney
- Public Hospital within the Bayside Health Area
- Largest Hospital in Melbourne/Victoria
Background Information
The Alfred Hospital

- Number of Beds = 500 (Approx)
- Estimated Annual Admissions = 400,000
- Estimated Annual Budget = AU$400 million
- Staff of Approximately 4,000
- Services:
  - Provides one of the most comprehensive range of specialist medical and surgical services in Australia and accommodates six directorates comprising 42 clinical units, offering every form of medical treatment except obstetrics and pediatrics
Point of Use Auto-ID at The Alfred Hospital

The Alfred accesses data and reports using a web browser.

The Alfred synchronizes data captured during procedure to an application web-server on the Internet.

Application Web Server

Internet

The Alfred accesses data and reports using a web browser.
HIBCC AU Provides the UPN Repository

- A centrally maintained source of master data, to a common standard, is the most efficient and cost effective means of managing the vast amount of data for medical devices.

hTrak is the Point of Use Application System implemented at the Alfred Hospital.
Identify:
Procedure Code
MBS Code
Department
Facility
Cost Centre
Identify Staff:
Individually
Generically
From Staff ID Barcodes
Scan & Collect
Product Data:
- Unique ID
- Lot Number
- Expiry
Usage / Replenishment Reports to Suppliers

Usage/Replenishment Report (based on defined re-order levels)

Internet

J&J Virtual Integration Engine

SAP
Benefits achieved to date

• The Alfred is more accurately and efficiently tracking prostheses to patients using Auto-id technologies at the point of use

• Significant improvement in Rebate recovery for high value medical devices (The UPN Repository of Australia helps them with this).

• Automation of processes, minimizing nursing involvement in inventory management and supply replenishment

• 3X return on investment to date!!!
Gosford Hospital

Pilot of Auto-ID and EDI Messaging for Orthopedic Implants
Background Information
Gosford Hospital

- Located on the Central Coast of the State of New South Wales (NSW) – Approx 75 miles North of Sydney
- Public Hospital within the NSW Health Service
- Largest Hospital in the Central Coast Area Health Service

Approx Location of Gosford
Background Information
Gosford Hospital

- Number of Beds = 450 (Approx)
- Estimated Annual Admissions = 50,000
- Estimated Annual Budget = AU$200 million
- Principal Referral Hospital for Central Coast Area, which serves a population of around 270,000

- Services:
  - Acute Care Medical, Surgical, Intensive Care, Cardiac, Pediatric, Mental Health, Obstetric, Renal Oncology, Diagnostic
Background

- Gosford Hospital has implemented a system called MAQS
- Includes Module for managing inventory in theatre rooms
- Proposal to expand the functionality to include information sharing with suppliers (e-messages)
- Requirements specification workshop on 21 Aug 2003
- Proposed Pilot modified some of the requirements (meeting at Gosford on 21 Oct 2003) resulting in the current document
Pilot Overview

• Electronic transmission of usage data to suppliers for consignment stock

• Improve process for loan sets, through improved information flow and standards

• Prove the concept and develop business case for substantial “roll-out”
<table>
<thead>
<tr>
<th><strong>Supplier</strong></th>
<th></th>
<th></th>
<th><strong>Supplier</strong></th>
<th></th>
<th></th>
<th><strong>Supplier</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Receives electronic file</td>
<td></td>
<td></td>
<td>Fulfils order for replenish on consumption items</td>
<td></td>
<td></td>
<td>Packs devices</td>
<td></td>
<td>Distributes to hospital</td>
</tr>
<tr>
<td><strong>Supplier System</strong></td>
<td></td>
<td></td>
<td>Updates supplier system with Product Usage</td>
<td></td>
<td></td>
<td>Updates supplier system</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Prepares Invoices for Consumed Items</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Hospital (Theatre)</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>Hospital (Theatre)</strong></td>
<td></td>
<td></td>
<td><strong>Hospital (Theatre)</strong></td>
</tr>
<tr>
<td>Theatre Staff Performs procedure</td>
<td></td>
<td></td>
<td>Replenish on consumption items are flagged in the usage report</td>
<td></td>
<td></td>
<td>Recieves Goods</td>
<td></td>
<td>Packs shelves</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Scans barcode on devices used</td>
<td></td>
<td></td>
<td>Scans barcode</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Product ID</td>
<td></td>
<td>Lot/serial number</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hospital/ward/theatre sent</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Requisition Order Approvals Process</td>
<td></td>
<td>Place Order with Supplier (Includes PO numbers for consumed items)</td>
</tr>
<tr>
<td><strong>MAQS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Updates Inventory file subtracts devices used</td>
<td></td>
<td></td>
<td>Sends by e-mail electronic usage and inventory report batched daily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Updates Inventory file adds devices used</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Business Requirements – Consignment – Replenish on Consumption**

Supplier receives order completes invoices (with PO info) Invoices hospital
**Usage Report to Supplier**

### HEADER DATA - CONSUMPTION

<table>
<thead>
<tr>
<th>Hospital ID</th>
<th>123456</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Name</td>
<td>Gosford Public Hospital</td>
</tr>
<tr>
<td>Hospital Address</td>
<td>Holden Street, Gosford, NSW, 2250</td>
</tr>
<tr>
<td>Department</td>
<td>Orthopaedic Surgery</td>
</tr>
<tr>
<td>Department Code</td>
<td>ORT001</td>
</tr>
<tr>
<td>Facility</td>
<td>Orthopaedic Theatre Room 1</td>
</tr>
<tr>
<td>Facility Code</td>
<td>OR0001</td>
</tr>
<tr>
<td>Cost Centre Code</td>
<td>CCC0001</td>
</tr>
<tr>
<td>Name of Contact Officer</td>
<td>Jennifer Grainger</td>
</tr>
<tr>
<td>Tel. Number Contact Officer</td>
<td>02 4234 2345</td>
</tr>
</tbody>
</table>

### OPERATION DETAILS FOR CONSUMPTION REPORT

<table>
<thead>
<tr>
<th>Patient UR Number</th>
<th>987654321</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Name</td>
<td>No Patient details will be transmitted</td>
</tr>
<tr>
<td>Procedure</td>
<td>Hip Replacement</td>
</tr>
<tr>
<td>Public or Private</td>
<td>Private</td>
</tr>
<tr>
<td>Name of Health Fund</td>
<td>NIB</td>
</tr>
<tr>
<td>Date of Operation</td>
<td>21/08/03</td>
</tr>
<tr>
<td>Surgeon</td>
<td>Dr Sean Legoff</td>
</tr>
</tbody>
</table>

### CONSUMPTION REPORT

<table>
<thead>
<tr>
<th>UPN</th>
<th>Product Trade Name</th>
<th>Lot Number</th>
<th>Serial Number</th>
<th>UOM</th>
<th>QTY</th>
<th>Item Used (Y/N)</th>
<th>Reason for non-use</th>
</tr>
</thead>
<tbody>
<tr>
<td>H6981096931</td>
<td>Hip Type 1, Size Very Big</td>
<td>N/A</td>
<td>DPY0001</td>
<td>EA</td>
<td>1</td>
<td>Y</td>
<td>Pack opened by mistake - wrong size</td>
</tr>
<tr>
<td>H6981096931</td>
<td>Hip Type 1, Size Very Big</td>
<td>N/A</td>
<td>DPY0002</td>
<td>EA</td>
<td>1</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>H6981096941</td>
<td>Needle Type 1</td>
<td>QK4BZDB</td>
<td>N/A</td>
<td>EA</td>
<td>1</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>
## Replenishment Report to Supplier

### HEADER DATA - REPLENISHMENT

<table>
<thead>
<tr>
<th>Requisition No.</th>
<th>No requisition No. for pilot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship To:</td>
<td></td>
</tr>
<tr>
<td>Hospital Name:</td>
<td>Gosford Public Hospital</td>
</tr>
<tr>
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</table>

### REPLENISHMENT ORDER

<table>
<thead>
<tr>
<th>UPN</th>
<th>Product Trade Name</th>
<th>UOM</th>
<th>QTY</th>
<th>Required by time &amp; date</th>
</tr>
</thead>
<tbody>
<tr>
<td>H69810986931</td>
<td>Hp Type 1, Size Very Big</td>
<td>EA</td>
<td>1</td>
<td>12pm, 23/08/2003</td>
</tr>
<tr>
<td>H69810986931</td>
<td>Hp Type 1, Size Very Big</td>
<td>EA</td>
<td>1</td>
<td>12pm, 23/08/2003</td>
</tr>
</tbody>
</table>
**Current Loan Kit Process**

**Supplier**
- Packs loan kit
- Couriers Kit to hospital

**Supplier System**
- Updates supplier system
  - Product ID's
  - Lot/serial numbers
  - Hospital/ward/theatre sent

**Hospital (Theatre)**
- Receives Kit
- Sterilisation Process
  - Theatre Staff Performs procedure documents items used from Kit
  - Sterilisation batch number assigned to kit?
  - enters data re items used from kit?

**MAQS**
- Receives Kit
- Determines (by deduction) Consumption
  - Updates System with items used from kit
Despatch Advice/Licence Plate

**Suppliers**
- Couriers Kit to hospital
- Packs loan kit places Licence Plate on kit
- Recieves Kit
- Validates contents against electronic file
- Updates supplier system
- Recieves electronic file
- Updates supplier system
- Product ID's
- Lot/serial numbers
- Hospital/ward/theatre sent
- Send electronic despatch advice
- Updates with usage report
- Reconciled
- Unreconciled
- Stores Despatch Advice
- Awaiting physical reciept of kit
- Matches against Despatch Advice
- Allocates kit to procedure
- Stores Product IDs
- Serial Numbers etc of components used from kit
- Send return notice to supplier
- Scan couriers Consignment No.
- Add Courier Company details
- Send electronic file to supplier
- Of usage report

**Hospital (Theatre)**
- Recieves Kit
- Scans Licence Plate
- Scan Kit components to validate kit contents
- separate implants from instruments
- Sterilisation Process
- Theatre Staff
- Scans Licence Plate to assign kit to patient
- Performs procedure
- Checks off items used from kit
- Kit Return
- Prepare electronic message with courier consignment details
- Returns Kit to supplier

**MAQS**
- Stores Despatch Advice
- Awaiting physical reciept of kit
- Matches against Despatch Advice
- Allocates kit to procedure
- Stores Product IDs
- Serial Numbers etc of components used from kit
- Send return notice to supplier
- Scan couriers Consignment No.
- Add Courier Company details
- Send electronic file to supplier
- Of usage report
What is a despatch advice?

**Despatch Advice**

**Header Information**

| Despatch Advice Date and Time: | 11 June 2003, 17:00:00 |
| Despatch Advice Reference No: | 12345 |
| Order No: | ABC123 |
| Order Date: | 10 June 2003 |
| Despatch Date and Time: | 12 June 2003, 09:00 |
| Supplier: | Smith & Nephew Surgical |
| Ship to Location: | Gosford Hospital |
| Additional Ship to Location Information: | Ward 2, Theatre Room 1 |

**Procedure Details**

| Patient Name | Mr Joe Bloggs |
| Surgeon | Dr Sean Legoff |
| Procedure Type and Description | Hip Replacement, left hip |

**KIT DETAILS**

| Split Delivery (Yes/No) | Yes |
| Number of logistical units for split delivery | 2 |

**Surgical Kit Contents Data**

| Licence Plate Number | JLHH123Z987654321 |
| Product ID | Description | Lot Number | Serial Number | Quantity |
| Top Tray: H207ABC001 | Scalpel | 12345 | | 1 |

This number is placed as a barcode on the kit, so that when the barcode is scanned (on receipt), it matches the despatch advice.
Despatch Advice – Split Deliveries

- A single despatch advice may relate to a split delivery.
- Each “logistical unit” that makes up the kit is identified with its own unique “licence plate”.
- The licence plate is a unique number that is encoded in a barcode and placed on each logistical unit of the kit.

![Diagram showing two logistical units with unique licence plate barcodes related to the despatch advice.](image)
**Loan Set Return Report**

- Gosford hospital will send a “Loan Set Return” report.

- Loan set return report advices the supplier:
  - The return of a consigned loan set
  - The consignment number provided by courier
  - The licence plate numbers for the loan set (to identify the actual set)
  - Name of courier company and contact details
Scope for Pilot

• Hospital facility:
  – Gosford Hospital Operating Theatre, Orthopaedic Procedures only.
  – CSSD

• Suppliers:
  – Smith & Nephew Surgical
  – DePuy
Scope for Pilot

• Product Data
  – HIBCC AU will provide data for Smith & Nephew Surgical and DePuy from UPN Repository
  – Suppliers to ensure that their data is up-to-date on the Repository
  – Data will be provided as per the UPN Repository data specs
Scope for Pilot

• Barcoding

  – Suppliers conform to HIBC standard for product data and secondary data (Lot/serial etc).

  – MAQS must ensure that the barcode scanning conforms to the HIBC standard, and is able to interpret the secondary data. Other features, eg link characters must also be programmed

  – Suppliers must comply with the “Licence Plate” barcode for loan sets
Outcomes required of Pilot

• Prove the concept for e-messaging and auto-id technologies.

• Show that there are patient safety benefits in reducing errors associated with auto-id and tracking using electronic messaging.

• Show that there are efficiencies in the supply chain for consignment and loan set prostheses.