



**Healthcare and GS1 Standards**  
**The Continuing Journey**  
**Dennis O’Keefe – 22 March 2012**



# 1991

## *The Journey Begins*

- Supply Manager, Southern Health Service
  - Manual processes
  - Purchasing system – Antiquated and Broken
  - Centralised Purchasing & Supply
  - Resistance to Change
  - 5 Supply Managers = 2 years
  - No standards or structure
    - Item identification
    - Catalogues
    - Inventory
    - Delegation
    - Suppliers
    - Spend
    - Stock outs
    - Total lack of visibility or efficiency



# 1991 Con't

## *CEO Commitment*

- ❑ Improve **data collection** (esp. non-stock) to improve evidence based forecasting and enhance bargaining position.
- ❑ Change from a **transaction** focus to a **strategic** procurement focus.
- ❑ Control high **annual price hikes**.
- ❑ Obtain better **value** from contracts.
- ❑ **Reduce costs** (admin costs, inventory)
- ❑ Implement **user friendly** systems
  - Simplified, web-based ordering systems – EDI (NEIS)
  - Reduction in paperwork - barcode readers.
  - Ability to track status of orders.
- ❑ Reduce **errors** through all components of the system.
- ❑ Provide clinical and financial **feedback** loops



# 1991 - 1995

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## *UN/EDIFACT*

- March 1991 the **Working Party on Facilitation of International Trade Procedures (WP.4)** adopted the Programme of work relating to legal issues.
- Among 6 projects, this programme contained the specific project on ensuring reasonable harmonization of interchange agreements and the development of an internationally accepted version for optional use.
- In the EDI context, rules were developed as interchange agreements within a number of user groups, national organizations and regionally in the **use of UN/EDIFACT standards.**

# 1997



## *Project Electronic Commerce and Communications for Healthcare (PeCC)*

- Emerged from just such a recognition by the federal government concerned over burgeoning costs in Australia's \$37 billion health sector.
- A multi stage Project = **700 suppliers**, automating **pharmaceutical** and other supplies to hospitals and retail pharmacies.
- The focus was on the ***Pharmaceutical Extranet Gateway (PEG)***
- some fairly significant problems with inter-organisational **collaboration emphasis on standards**, ensured that (within limitations) the project data integration objectives were achieved



# 2000



## *The PeCC Story – Macquarie University (Prof.E. More, Dr. M. McGrath)*

### □ Major PeCC demonstration Projects

- Pharmaceutical Extranet Gateway (PEG) project between wholesalers and manufacturers within the supply sector;
- Turnover Order (TOO) project;
- Department of Defence
- Ballarat Project between the supply and hospital sectors;
- NSW Central Coast Scoping Study between the supply and hospital sectors;
- EANnet for Healthcare project encompassing common numbering for all four sectors in the supply chain—supply, retail, hospital, and finance;
- Soul Pattinson chain store applications project for retail pharmacists; trial between the supply and retail sectors;
- St. Vincent’s Hospital assessment project within the hospital sector;
- Australian Private Hospital Association (APHA)
- project within the hospital sector;
- developing ‘standard form electronic documents’ for use by various purchasers (public and private hospitals); and
- education projects.

# 2000 Con't



## PeCC Advantages

- reducing costs of overall procurement (from \$75 to \$5);
- just-in-time ordering
- greater accuracy and efficiency
- error free receipt of orders and integration with order entry systems
- rationalising of other trading documents
- improved inventory management and accountability within the hospital sector;
- increased efficiencies in hospitals and reduced shrinkage
- major move towards standardisation, opening the way for much greater interoperability;
- capability to realise electronic commerce benefits without a massive investment in IT
- greater use of customer usage and ordering patterns information.

## PeCC Achievements

- PeCC's three-pronged approach;
  - the use of the standard EAN numbering system in e-commerce processes,
  - barcoding of products,
  - and the use of low-cost off the shelf web-based software

*Aims to revolutionise the industry, unlock in excess of \$340 million annually*

# 2001

## *NSW Health Financial Incentives*

- spends ~\$1.2bn pa on goods and service - 40% of national expenditure.
- KPMG estimated national savings potential of \$220 million from supply chain reform.
- *NSW Health determined it's share of potential savings amounted to **\$90 million pa.** (8% of current spend)*





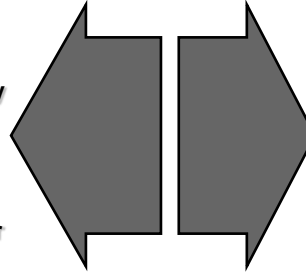
# 2001 PPC Supply Chain Reform Strategy

## OUR VISION

To be the leader in innovation and total cost management of the healthcare supply chain, utilising best practice supply chain management systems, that connect and reduce costs for all supply chain members.

## OUR MISSION

To provide best value products and services to the community by effectively managing the total cost of the healthcare supply chain for NSW Health.



## OUR DRIVERS

- To act as one Public Health Organisation
- To deliver benefits to our staff, patients and the public in line with NSW Health Charter and Codes of Conduct
- To provide a quality logistic service which optimises the value from dollars spent

***Our breakthrough strategies will be:***

### Basic Infrastructure innovation

Network units, centralise supply management and provide basic electronic tools

### E-Commerce

Implement electronic commerce philosophies that deliver a cost effective and efficient supply chain for NSWHealth.

### Electronic Catalogue

Assist purchasing decisions, provide better knowledge to management on spending patterns, enhance negotiations with vendors & improve decision making

### Procurement Practices

Re-engineer tendering and contracting practices to enhance strategic focus and delivering products & services to health personnel at the lowest cost.

### Support Functions

Develop adequate, secure IT & telecommunications infrastructure, provide networking and training opportunities, communicate outcomes and overcome regulatory limitations.



- **Adopt EAN as the unique product numbering standard.**
- **Implement EAN bar-coding systems**
- **Implement barcoded imprest systems to ward level.**
- Agree on data transfer standards
- Establish B2B links with key suppliers
- Automate appropriate supply functions
- Integrate systems with suppliers to enhance info transfer, forecasting etc

***Key measures to our success will be:***

*Improved systems and practices  
Automated processes*

*Lower prices  
Lower costs*

*Lower inventory  
Reduced lead time*

*Simple ordering systems*

## Global Trends – Adoption of EAN•UCC System



**United States** - EAN•UCC bar codes increased from 23% in 1995 to 44% in 1999. Over the same period the use of HIBC decreased from 77% to 56%.

### **Japan**

-JFDMA concluded that “Another reason why the Japanese industry has decided to adopt the UCC/EAN standards is that, judging from industry trends in the US and in Europe and considering the direction of EHCR...barcode symbology applicable only to the medical care industry will not be accepted in the global market”.

-Red Cross Society communicated to the makers to Application Identifier (AI) and UCC/EAN-128 System for the materials and reagents used to process blood for transfusion.

**Thailand** - Piloting the EAN•UCC System covering patient identification, patient record tracking and tracing, purchasing and supply chain processes and inventory control.

**United Kingdom** - Widespread use of the EAN•UCC System in medical devices and pharmaceuticals.

**Spain** - The Catalunya hospitals in Barcelona mandated EAN•UCC (HIBCC not accepted).

**Slovenia, Poland** It is mandatory that all medical products have an EAN-13 number and bar code.

**Russia, Ukraine** - EAN-13 is mandatory for the entire country.

**Slovakia** - Voluntarily adopted EAN-13 numbering and bar coding.

**The Czech Republic, Hungary** - The industry has voluntarily adopted EAN-13 numbering and bar coding.

**France** - The Directors of Private and Public Hospitals Associations in France have recently recommended the adoption of the EAN•UCC System.

**Netherlands** - identified that 43% was EAN and 23% HIBC. Netherlands Pharmaceutical Industry has adopted EAN•UCC after initially going with EHIBCC (the European arm of HIBCC).

**Switzerland** - The Swiss Medical industry adopted UCC/EAN-128 because of its security

**Sweden** - “The public sector electronic trade project commits to EAN bar code standards and stands by this decision.”

**Germany** - The German Healthcare sector has moved to support UCC/EAN-128 following adoption of the EANCOM electronic messaging standard.

# *The EAN Way*

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## PPC EAN/BAR Coding Working Party

- Analysis of Options
  - Need for common solution across products groups
  - Size and mass of EAN Worldwide
- National/International Research/Case Studies
- **Mandate** – *“as from 1 July 2001 preference will be given to EAN Compliant Organisations”*
- Installed a CEO Report Card for monitoring compliance

# *EAN V's HIBCC*

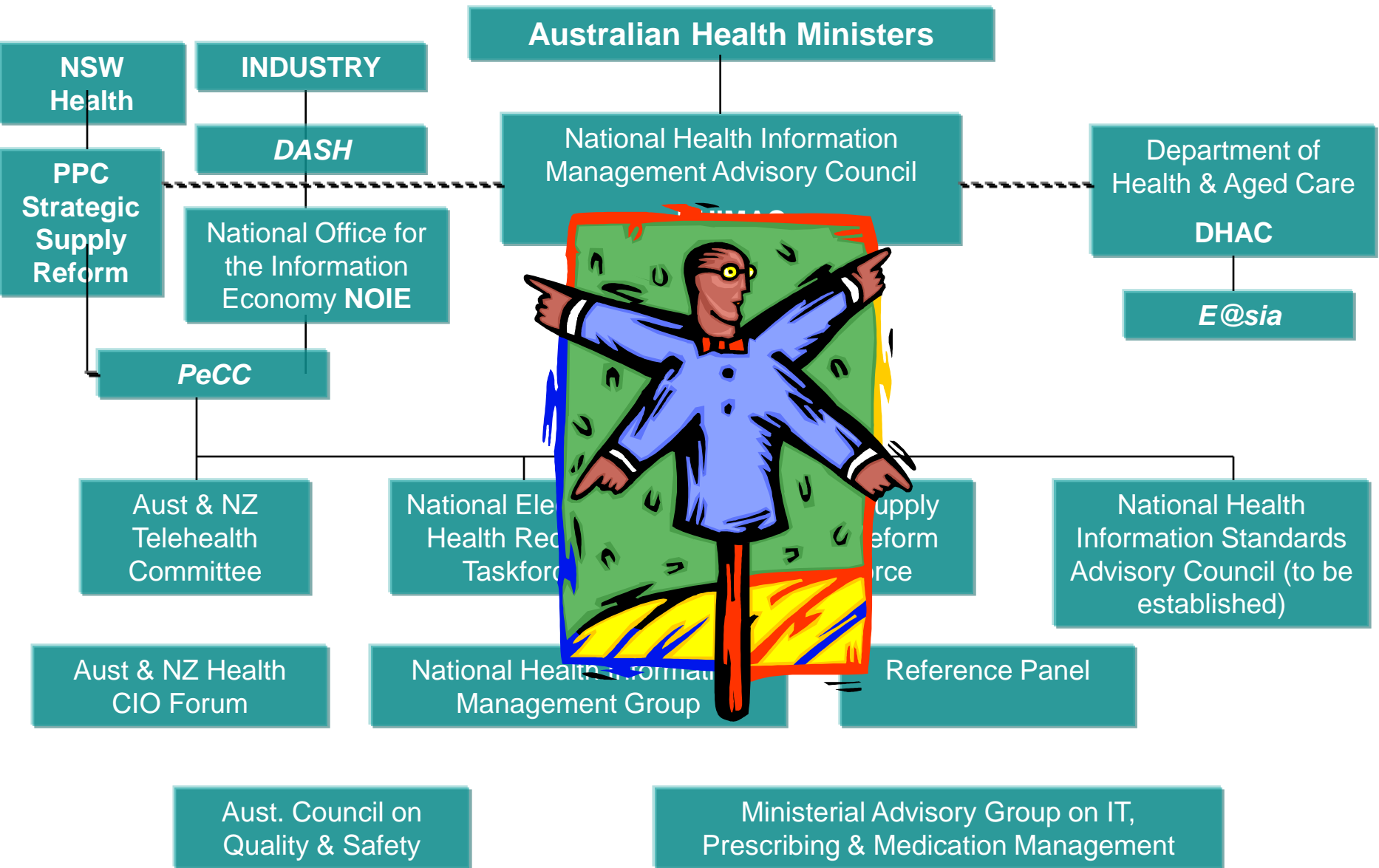
**PPC audits** found that more than;

- 78% grocery items and
- 85% pharmaceuticals are already coded based on the EAN•UCC System.
- 33% Medical and Surgical Devices EAN•UCC bar codes
- 36% No bar codes or proprietary codes
- 28% HIBCC labels.

*The audits confirmed that large medical / surgical devices suppliers code some products with EAN•UCC labels and others with HIBCC labels.*

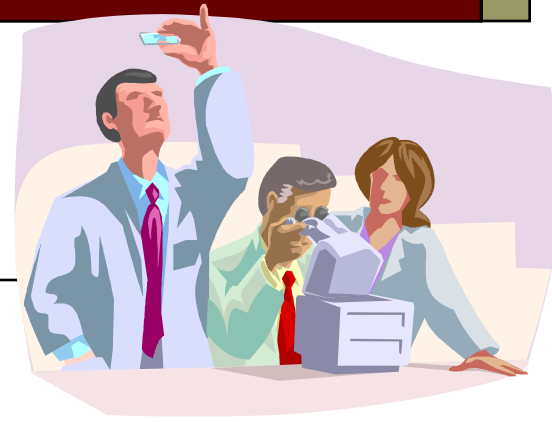


# Government Context



# 2001 Con't

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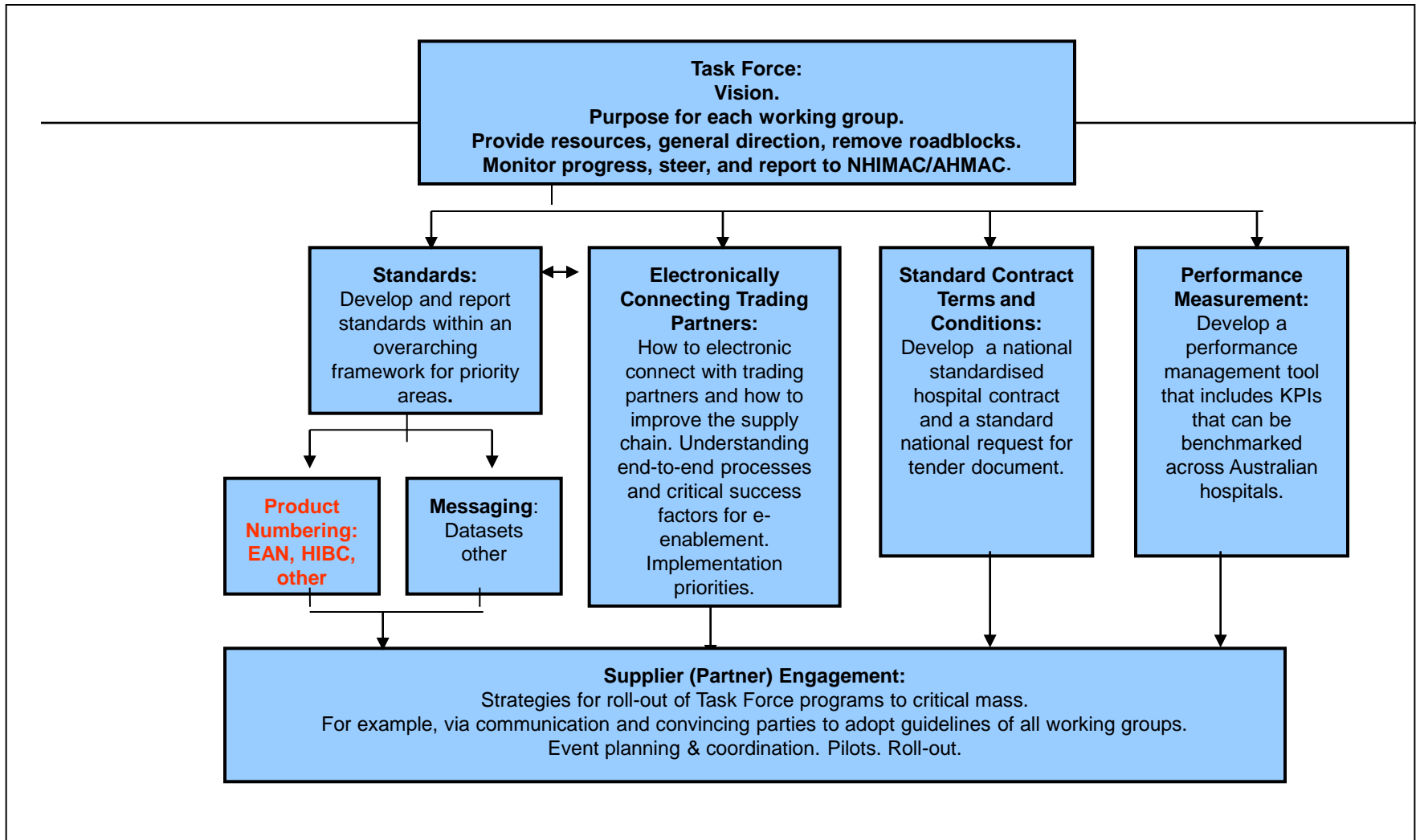


## *The National Supply Chain Reform Task Force was established*

- ❑ Responsibility of **individual jurisdictions**.
- ❑ **Help members** of the supply chain to redesign their business processes and adopt new technologies in a consistent fashion.
- ❑ At 1-2% of the global market, **not viable for Australia** to operate multiple, different approaches to e-commerce
- ❑ **Health Online**: created nationally consistent e-commerce foundations
- ❑ Acknowledged significant cultural and process change
- ❑ International experiences - **government is best placed** to promote behavioural change and accelerate the pace of reform.
- ❑ Supply Chain Reform Task Force continued to **manage national level** activities.



## Task Force and 5 Working Groups – Responsibilities and Interrelationships





# 2002

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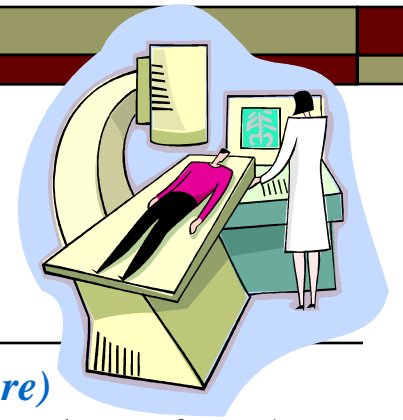
## NSCRTF – Electronically Connecting Trading

### Partners:

### Standards will be interoperable, comply with international, non-proprietary standards

- *The adoption of international standards increases the likelihood of technology cost reductions as a result of proliferation, and the incorporation of interoperability in more “off-the-shelf” solutions.*

# 2003



## *The Alfred Radiology Dept. ( hTrak—Point-of-Use Data Capture in Healthcare)*

- The Alfred captures product information for high value **medical devices (including prostheses)** from the manufacturer's standard barcode at the **point of use**, i.e. during the time of the actual procedure.
- Information captured by using **mobile computing technology and transmitted electronically to suppliers** via a secure web server on a daily basis, reporting the usage of medical devices, and indicating the items needing replenishment.
- **Approach**
  - **Inventory** and consumption
  - **Business processes**
  - **Management and culture**
- **Results**
  - One-Off Inventory Reduction—52% number of individual Items and Product Codes
  - Nursing - more time for patient related tasks and ultimately higher productivity
  - Supply Department - leveraged by applying holistic supply chain management techniques that were poorly applied
  - Administration & Management -comprehensive consumption data available which links into financial systems, facilities management, inventory management and an auto- mated order creation process.
  - Performance measurement enables management to make informed decisions i.e.
    - **Comprehensive Real-Time Consumption Data**
    - **Patient Safety**
    - **Procedure Costing**
    - **Devise Tracking**
    - **System Integration.**
  - Sustainability and Continuous Improvement

# 2004

## *PHARMACY BOARD OF VICTORIA – Guidelines*



### **Scanners**

- ❑ Bar-code scanners can detect the incorrect selection of medications and with effect from 1 July 2004 are **required to be used as part of the dispensing procedure** in pharmacies and pharmacy departments.
- ❑ The Pharmacist Regularly and Usually must ensure that the equipment is **compatible with the computer** program in use and installation should be made in consultation with the software provider.

***50% of reported dispensing errors are selection errors and the use of a scanner in the dispensing process will assist in reducing the potential for human error. However, it will not detect an error due to incorrect data entry.***

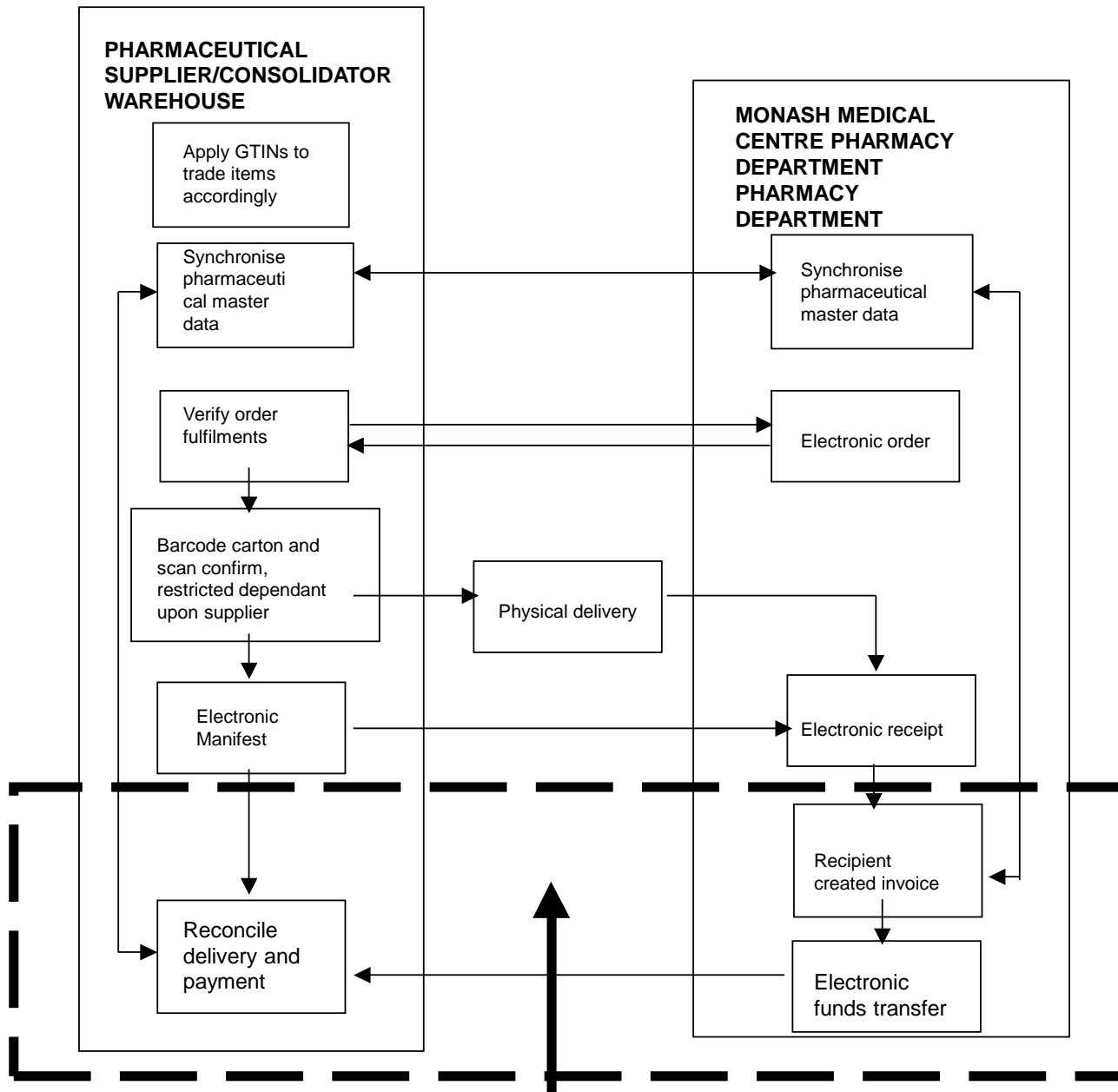
# 2004 Con't

## *E-commerce within the hospital pharmaceutical Supply Chain (Monash Project)*

- **\$50,000 grant** issued to Clifford Hallam Pharmaceuticals by the Victorian Government's Commerce Exhibition Projects Program
- The scope Monash Medical Centre pharmacy department and their suppliers by **introducing the concepts of e-commerce using EAN•UCC standards and EANCOM** (ordering, processing, picking, packing, despatch and receipt of goods).
- **Conclusion;**
  - Significant amount of work was achieved in **bringing the parties** to the current stage of the project most of the **parties chose to overlay new technology on existing** business processes.
  - During the live period of the project, suppliers recorded increased order processing times and minimal changes to accuracy. Whereas the receiver noted **distinct increases in the speed and accuracy of goods receipt**.

***This result alone provided the basis for future full-scale adoption of this technology throughout Southern Health.***





OUT OF SCOPE  
 TO BE CONSIDERED IN LATER PROJECTS  
 Figure 1: Proposed fully electronic Monash Medical Centre pharmacy department supply chain for inward goods.



# 2005 - National E - Health Transition Authority - NEHTA



Created jointly by the Governments of Australia and all states and territories.

- NEHTA's Reason for Being
  - Frustration about **lack of progress** in e-health
  - **Inadequate coordination** – unconnected initiatives
  - **Missing pieces of infrastructure** – develop once nationally
  - **Limited resources** to develop specifications and infrastructure needed to facilitate
    - Reduced delivery cost
    - Improved decision-making
    - Reduced jurisdiction implementation costs
  
- The Supply Chain initiative is made up of 3 Projects:
  - A **national product catalogue** across all procurement categories;
  - An **e-procurement** hub to facilitate relevant data transfer, and to potentially provide electronic workflow tools; and
  - **Business intelligence** tools to further enhance analysis and reporting



# *National Product Catalogue (NPC)*

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- In December 2005 NEHTA's Board endorsed the **National Product Catalogue (NPC)** for pharmaceuticals, medical devices and other items purchased by public health institutions in all States and Territories.
- The NPC will establish a **central repository of uniquely identified procurement data** according to established **international** accepted standards.
- Built on **EAN net, hosted by GS1** Australia

# 2006

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## *Health Purchasing Victoria A-Z Pharmaceutical Case Study*

- Data

- 102,000 lines extracted
- Value = \$450M
- Included approximately 20,000 lines of non pharmaceutical or related products
- Over 50 data fields were requested

- RFT

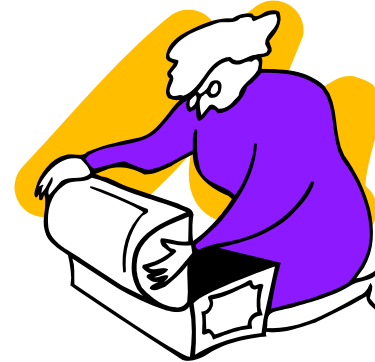
- Detailed each data set in an attempt to correctly identify products
- Provision of 2 levels of GTIN's (Preference scored)
- Provision of Images of all products being tendered

# Discoveries

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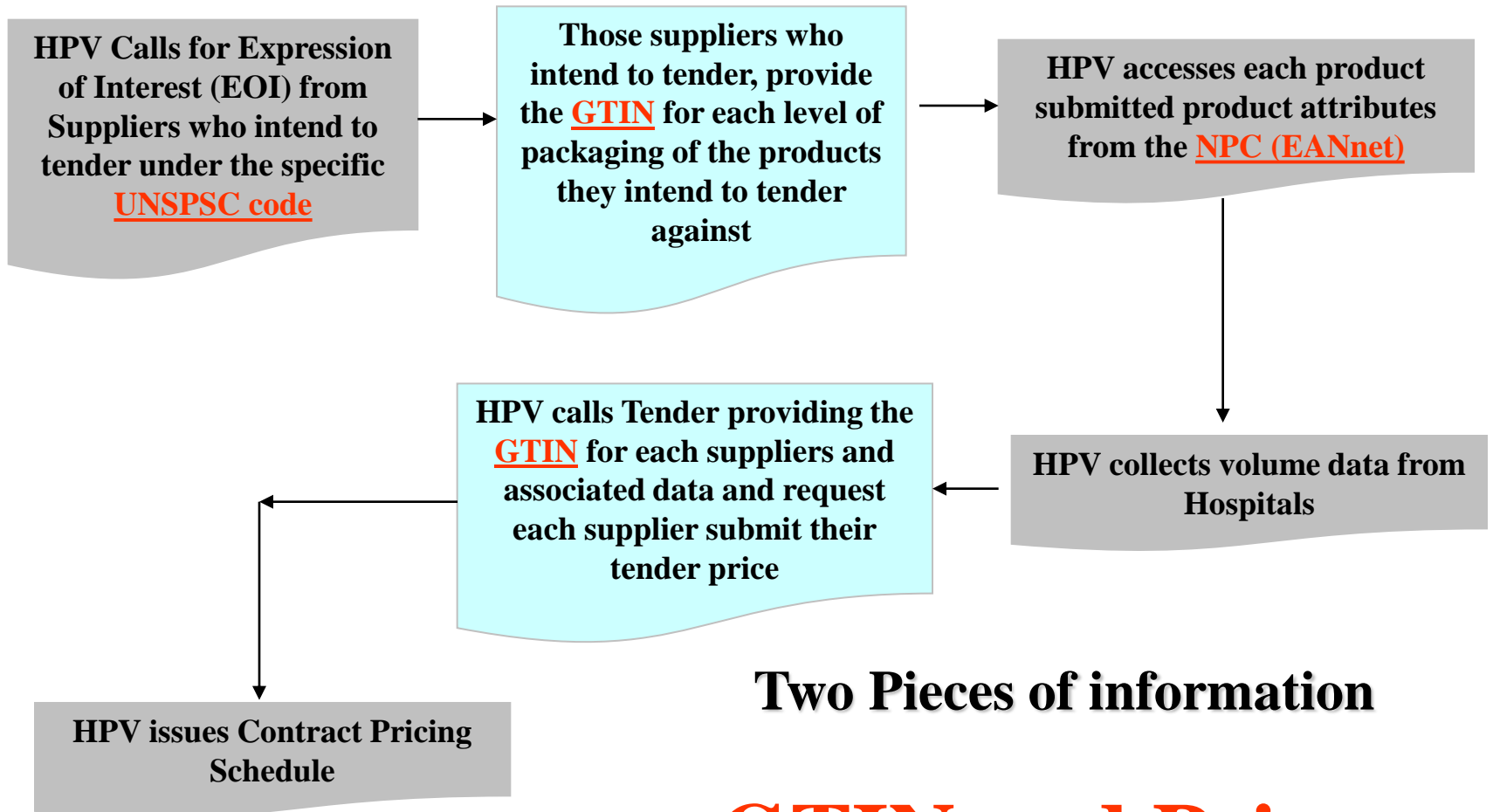
## □ Tender Evaluation

- **97%** of all tender products had a **GTIN assigned**
- **70%** of lines submitted with GTIN's were provided in non standard formats.
  - 90-103-1032-1022
  - 90-103-1032-1022-c
  - `90-103-1032-1022
  - 90 103 1032 1022
  - 9010310321022-c
  - 90103103210221



- ***Market as with Hospital have no uniform approach to product nomenclature***

# Pharmaceutical Tendering - THE NEXT GENERATION



**Two Pieces of information**

**GTIN and Price**

# 2006-2011

## 2006

- ❑ NPC initiative commenced and GTIN selected as product identifier
- ❑ Healthcare user group Australasia formed

## 2007

- ❑ UK Department of Health announce their support for GS1 Standards
- ❑ GS1 and HL7 sign an MOU
- ❑ NEHTA eProcurement Solution using GS1 XML and AS 5023 announced
- ❑ Monash Pharmacy Project Phase 2 finalised

## 2009

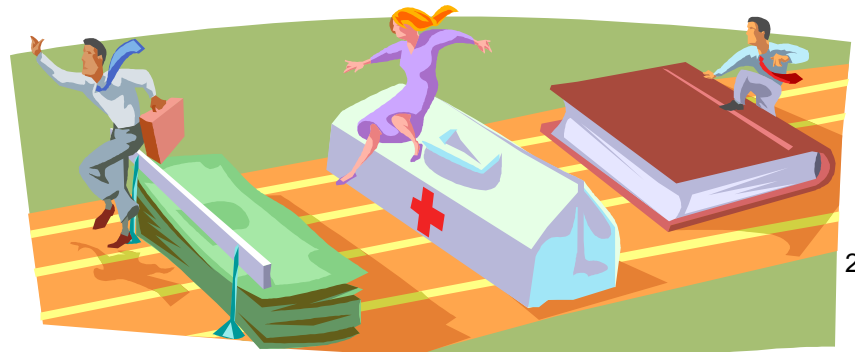
- ❑ GS1 global traceability for healthcare released

## 2010

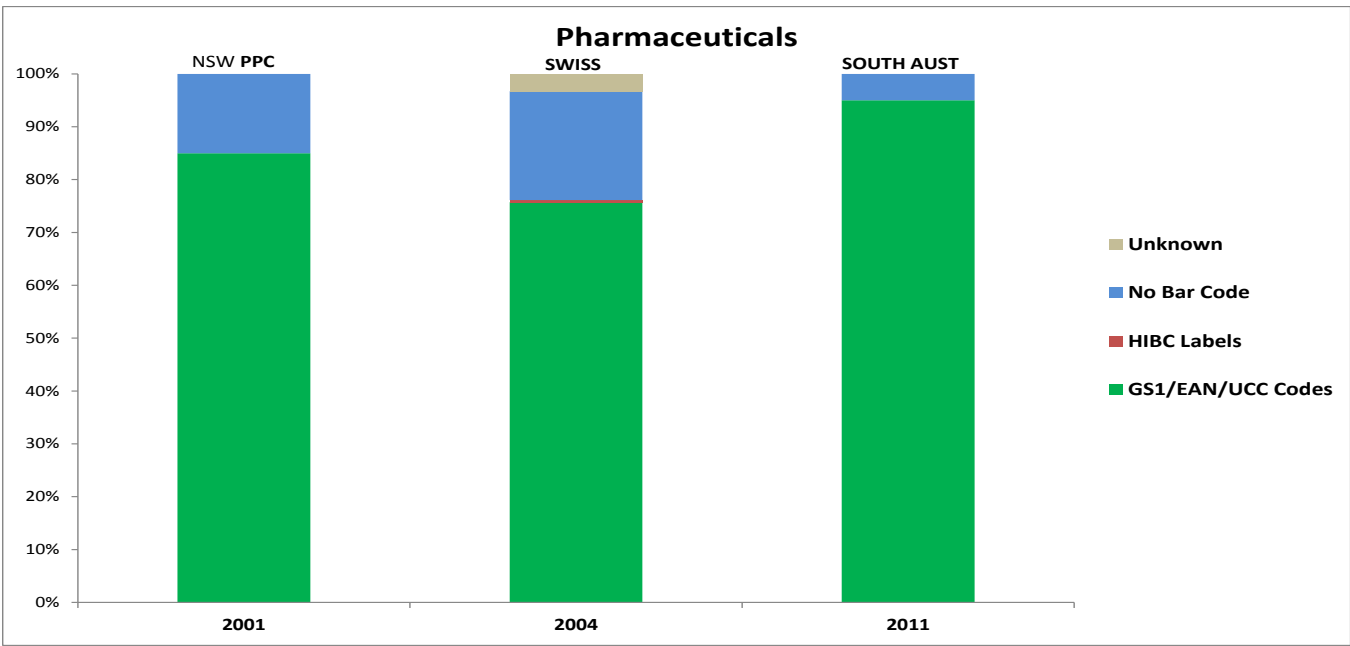
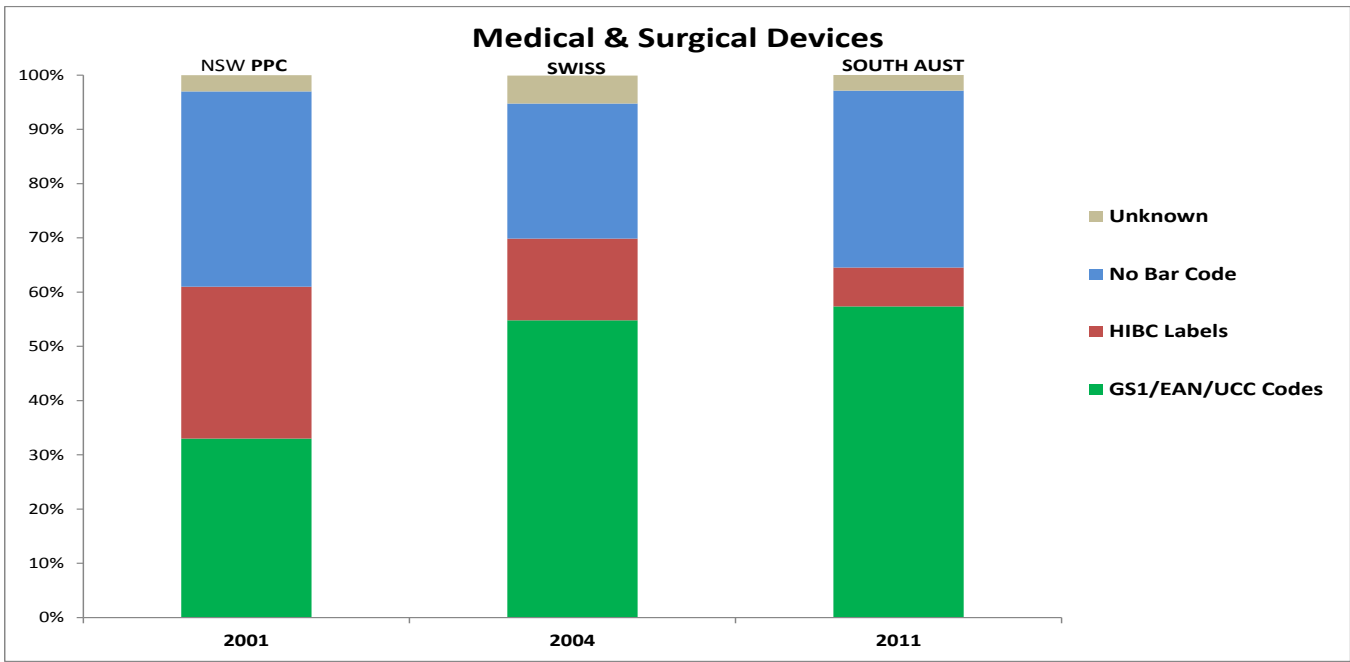
- ❑ Work with GS1 Recallnet in healthcare commenced
- ❑ Indian Ministry of Health and Family Welfare publishes GS1 Barcode requirements & User Manuals for all medical supplies procured by MoHFW
- ❑ GHFT released final document about a Unique Device Identification (UDI) system for Medical Devices
- ❑ GS1 and IHTSDO sign an MOU

## 2011

- ❑ Work with GS1 GoScan in healthcare commenced
- ❑ US FDA published draft UDI legislation







# The Big Picture

In October 2010, UnitingCare commenced a diagnostic review to substantively assess the potential of a shared services business model and the associated benefits, in line with UnitingCare NSW.ACT's Strategic Directions 2009-2012 which states:



***“UnitingCare will continue to consolidate business and administrative functions to achieve greater efficiencies, better practices, improved accountability and better reporting and sharing of information across UnitingCare NSW.ACT.”***

More specifically, Strategic Direction 5 sets out an explicit focus on shared services:

***“We will collaboratively develop and commence implementation of shared business and administrative services across UnitingCare in the areas of IT, finance, purchasing, human resources, fundraising and communication.”***



# *The Journey Continues*



March 2012 21st GS1 Healthcare conference held in Sydney, Australia