



# The Hong Kong Hospital Authority and GS1 Hong Kong advise: How to start implementation of standards in hospitals?

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# Some of our hospitals in Hospital Authority Hong Kong (HAHK)





# Our out-Patients waiting to be served at different pharmacies at our hospitals



# Magnitude of our daily business transactions in all HA pharmacies in 2013

Transaction types	Units
No. of Dispensed <u>Items</u>	215,000
No. of Dispensed <u>Prescriptions</u>	66,000
No. of <u>Patients</u> Served	58,000
No. of <u>Suppliers</u> dealt with	60
No. of <u>Purchase Orders</u> made	845
Dollar value of <u>Stock items</u> received in HK\$	36M
No. of <u>stock items</u> involved in stock receipts	1,600
No. of <u>Pharmacy Stores</u> for Stock Receipt/ issue	80
No. of <u>Stock Movements</u> in these stores	2,400





# Ever wonder what is happening at the backend of in our pharmacy stores serving the hospitals, SOPC & GOPC ?

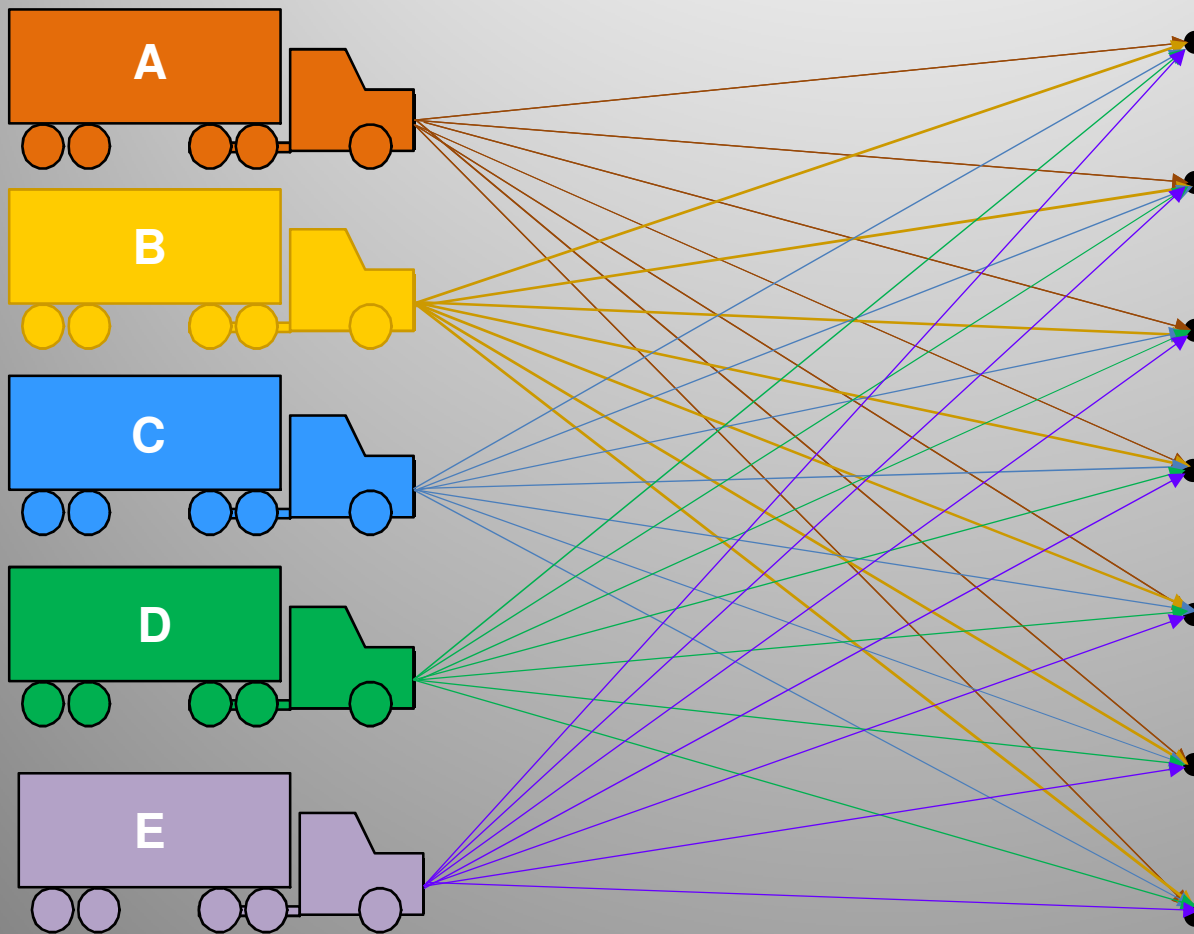
- Where do our drugs come from ?
- How to control and monitor the movement of drugs
- What are the logistics in stock receipts ?
- What are the processes ?
- How to track and trace the Supply Chain ?



# The ordering and delivery processes in our HA pharmacies

**External :**  
From Suppliers (>200)


**Internal :**  
At Pharmacy stores (>100) in 7 clusters





# The overall situation about our pharmacy stores (too many, too small ..... manual processes.....) before 2009




**WONG SHUK YING HOSPITAL**  
**Working Store Replenishment Confirmation**  
 (All quantity fields are in Base Unit)

Stocking Working Store - WONG SHUK YING HOSPITAL  
 Date Recd: (Use Description (When Stock Shipped) Confirmed Date: 25/11/2008

Item No.	Description (When Stock Shipped)	Unit	Quantity	Replenishment	Replenishment
0001	AMPHICILLIN 500 TABLETS 1000	500 TAB	4,000	2,000	2,000
0002	AMPHICILLIN 500 TABLETS 2000	500 TAB	4,000	2,000	2,000
0003	AMPHICILLIN 500 TABLETS 4000	500 TAB	4,000	2,000	2,000
0004	AMPHICILLIN 500 TABLETS 8000	500 TAB	4,000	2,000	2,000
0005	AMPHICILLIN 500 TABLETS 16000	500 TAB	4,000	2,000	2,000
0006	AMPHICILLIN 500 TABLETS 32000	500 TAB	4,000	2,000	2,000
0007	AMPHICILLIN 500 TABLETS 64000	500 TAB	4,000	2,000	2,000
0008	AMPHICILLIN 500 TABLETS 128000	500 TAB	4,000	2,000	2,000
0009	AMPHICILLIN 500 TABLETS 256000	500 TAB	4,000	2,000	2,000
0010	AMPHICILLIN 500 TABLETS 512000	500 TAB	4,000	2,000	2,000
0011	AMPHICILLIN 500 TABLETS 1024000	500 TAB	4,000	2,000	2,000
0012	AMPHICILLIN 500 TABLETS 2048000	500 TAB	4,000	2,000	2,000
0013	AMPHICILLIN 500 TABLETS 4096000	500 TAB	4,000	2,000	2,000
0014	AMPHICILLIN 500 TABLETS 8192000	500 TAB	4,000	2,000	2,000
0015	AMPHICILLIN 500 TABLETS 16384000	500 TAB	4,000	2,000	2,000
0016	AMPHICILLIN 500 TABLETS 32768000	500 TAB	4,000	2,000	2,000
0017	AMPHICILLIN 500 TABLETS 65536000	500 TAB	4,000	2,000	2,000
0018	AMPHICILLIN 500 TABLETS 131072000	500 TAB	4,000	2,000	2,000
0019	AMPHICILLIN 500 TABLETS 262144000	500 TAB	4,000	2,000	2,000
0020	AMPHICILLIN 500 TABLETS 524288000	500 TAB	4,000	2,000	2,000
0021	AMPHICILLIN 500 TABLETS 1048576000	500 TAB	4,000	2,000	2,000
0022	AMPHICILLIN 500 TABLETS 2097152000	500 TAB	4,000	2,000	2,000
0023	AMPHICILLIN 500 TABLETS 4194304000	500 TAB	4,000	2,000	2,000
0024	AMPHICILLIN 500 TABLETS 8388608000	500 TAB	4,000	2,000	2,000
0025	AMPHICILLIN 500 TABLETS 16777216000	500 TAB	4,000	2,000	2,000
0026	AMPHICILLIN 500 TABLETS 33554432000	500 TAB	4,000	2,000	2,000
0027	AMPHICILLIN 500 TABLETS 67108864000	500 TAB	4,000	2,000	2,000
0028	AMPHICILLIN 500 TABLETS 134217728000	500 TAB	4,000	2,000	2,000
0029	AMPHICILLIN 500 TABLETS 268435456000	500 TAB	4,000	2,000	2,000
0030	AMPHICILLIN 500 TABLETS 536870912000	500 TAB	4,000	2,000	2,000
0031	AMPHICILLIN 500 TABLETS 1073741824000	500 TAB	4,000	2,000	2,000
0032	AMPHICILLIN 500 TABLETS 2147483648000	500 TAB	4,000	2,000	2,000
0033	AMPHICILLIN 500 TABLETS 4294967296000	500 TAB	4,000	2,000	2,000
0034	AMPHICILLIN 500 TABLETS 8589934592000	500 TAB	4,000	2,000	2,000
0035	AMPHICILLIN 500 TABLETS 17179869184000	500 TAB	4,000	2,000	2,000
0036	AMPHICILLIN 500 TABLETS 34359738368000	500 TAB	4,000	2,000	2,000
0037	AMPHICILLIN 500 TABLETS 68719476736000	500 TAB	4,000	2,000	2,000
0038	AMPHICILLIN 500 TABLETS 137438953472000	500 TAB	4,000	2,000	2,000
0039	AMPHICILLIN 500 TABLETS 274877906944000	500 TAB	4,000	2,000	2,000
0040	AMPHICILLIN 500 TABLETS 549755813888000	500 TAB	4,000	2,000	2,000
0041	AMPHICILLIN 500 TABLETS 1099511627776000	500 TAB	4,000	2,000	2,000
0042	AMPHICILLIN 500 TABLETS 2199023255552000	500 TAB	4,000	2,000	2,000
0043	AMPHICILLIN 500 TABLETS 4398046511104000	500 TAB	4,000	2,000	2,000
0044	AMPHICILLIN 500 TABLETS 8796093022208000	500 TAB	4,000	2,000	2,000
0045	AMPHICILLIN 500 TABLETS 17592186444160000	500 TAB	4,000	2,000	2,000
0046	AMPHICILLIN 500 TABLETS 35184372888320000	500 TAB	4,000	2,000	2,000
0047	AMPHICILLIN 500 TABLETS 70368745776640000	500 TAB	4,000	2,000	2,000
0048	AMPHICILLIN 500 TABLETS 140737491553280000	500 TAB	4,000	2,000	2,000
0049	AMPHICILLIN 500 TABLETS 281474983106560000	500 TAB	4,000	2,000	2,000
0050	AMPHICILLIN 500 TABLETS 562949966213120000	500 TAB	4,000	2,000	2,000
0051	AMPHICILLIN 500 TABLETS 1125899932466240000	500 TAB	4,000	2,000	2,000
0052	AMPHICILLIN 500 TABLETS 2251799864932480000	500 TAB	4,000	2,000	2,000
0053	AMPHICILLIN 500 TABLETS 4503599729864960000	500 TAB	4,000	2,000	2,000
0054	AMPHICILLIN 500 TABLETS 9007199459729920000	500 TAB	4,000	2,000	2,000
0055	AMPHICILLIN 500 TABLETS 18014398919459840000	500 TAB	4,000	2,000	2,000
0056	AMPHICILLIN 500 TABLETS 36028797838919680000	500 TAB	4,000	2,000	2,000
0057	AMPHICILLIN 500 TABLETS 72057595677839360000	500 TAB	4,000	2,000	2,000
0058	AMPHICILLIN 500 TABLETS 144115191357678720000	500 TAB	4,000	2,000	2,000
0059	AMPHICILLIN 500 TABLETS 288230382715357440000	500 TAB	4,000	2,000	2,000
0060	AMPHICILLIN 500 TABLETS 576460765430714880000	500 TAB	4,000	2,000	2,000
0061	AMPHICILLIN 500 TABLETS 1152921530861429600000	500 TAB	4,000	2,000	2,000
0062	AMPHICILLIN 500 TABLETS 2305843061722859200000	500 TAB	4,000	2,000	2,000
0063	AMPHICILLIN 500 TABLETS 4611686123445718400000	500 TAB	4,000	2,000	2,000
0064	AMPHICILLIN 500 TABLETS 9223372246891436800000	500 TAB	4,000	2,000	2,000
0065	AMPHICILLIN 500 TABLETS 18446744493782736000000	500 TAB	4,000	2,000	2,000
0066	AMPHICILLIN 500 TABLETS 36893488987565472000000	500 TAB	4,000	2,000	2,000
0067	AMPHICILLIN 500 TABLETS 73786977975130944000000	500 TAB	4,000	2,000	2,000
0068	AMPHICILLIN 500 TABLETS 147573959900261888000000	500 TAB	4,000	2,000	2,000
0069	AMPHICILLIN 500 TABLETS 295147919800523776000000	500 TAB	4,000	2,000	2,000
0070	AMPHICILLIN 500 TABLETS 590295839601047552000000	500 TAB	4,000	2,000	2,000
0071	AMPHICILLIN 500 TABLETS 1180591679202095040000000	500 TAB	4,000	2,000	2,000
0072	AMPHICILLIN 500 TABLETS 2361183358404190080000000	500 TAB	4,000	2,000	2,000
0073	AMPHICILLIN 500 TABLETS 4722366716808380160000000	500 TAB	4,000	2,000	2,000
0074	AMPHICILLIN 500 TABLETS 9444733433616760320000000	500 TAB	4,000	2,000	2,000
0075	AMPHICILLIN 500 TABLETS 18889466872233520640000000	500 TAB	4,000	2,000	2,000
0076	AMPHICILLIN 500 TABLETS 37778933744467041280000000	500 TAB	4,000	2,000	2,000
0077	AMPHICILLIN 500 TABLETS 75557867488934082560000000	500 TAB	4,000	2,000	2,000
0078	AMPHICILLIN 500 TABLETS 151115734977868151040000000	500 TAB	4,000	2,000	2,000
0079	AMPHICILLIN 500 TABLETS 302231469955736302080000000	500 TAB	4,000	2,000	2,000
0080	AMPHICILLIN 500 TABLETS 604462939911472604160000000	500 TAB	4,000	2,000	2,000
0081	AMPHICILLIN 500 TABLETS 1208925879823445208320000000	500 TAB	4,000	2,000	2,000
0082	AMPHICILLIN 500 TABLETS 2417851759646890416640000000	500 TAB	4,000	2,000	2,000
0083	AMPHICILLIN 500 TABLETS 4835703519293780832000000000	500 TAB	4,000	2,000	2,000
0084	AMPHICILLIN 500 TABLETS 9671407038587561664000000000	500 TAB	4,000	2,000	2,000
0085	AMPHICILLIN 500 TABLETS 19342814077175123200000000000	500 TAB	4,000	2,000	2,000
0086	AMPHICILLIN 500 TABLETS 38685628154350246400000000000	500 TAB	4,000	2,000	2,000
0087	AMPHICILLIN 500 TABLETS 77371256308700492800000000000	500 TAB	4,000	2,000	2,000
0088	AMPHICILLIN 500 TABLETS 154742512617400995200000000000	500 TAB	4,000	2,000	2,000
0089	AMPHICILLIN 500 TABLETS 309485025234801990400000000000	500 TAB	4,000	2,000	2,000
0090	AMPHICILLIN 500 TABLETS 618970050469603980800000000000	500 TAB	4,000	2,000	2,000
0091	AMPHICILLIN 500 TABLETS 1237940100939207961600000000000	500 TAB	4,000	2,000	2,000
0092	AMPHICILLIN 500 TABLETS 2475880201878415923200000000000	500 TAB	4,000	2,000	2,000
0093	AMPHICILLIN 500 TABLETS 4951760403756831846400000000000	500 TAB	4,000	2,000	2,000
0094	AMPHICILLIN 500 TABLETS 9903520807513663692800000000000	500 TAB	4,000	2,000	2,000
0095	AMPHICILLIN 500 TABLETS 19807041615027327376000000000000	500 TAB	4,000	2,000	2,000
0096	AMPHICILLIN 500 TABLETS 39614083230054654752000000000000	500 TAB	4,000	2,000	2,000
0097	AMPHICILLIN 500 TABLETS 79228166460109309504000000000000	500 TAB	4,000	2,000	2,000
0098	AMPHICILLIN 500 TABLETS 158456332920218619008000000000000	500 TAB	4,000	2,000	2,000
0099	AMPHICILLIN 500 TABLETS 316912665840437238016000000000000	500 TAB	4,000	2,000	2,000
0100	AMPHICILLIN 500 TABLETS 633825331680874476032000000000000	500 TAB	4,000	2,000	2,000

**WORKING STORE REPLENISHMENT CONFIRMATION VOUCHER FOR OUT PATIENT**  
 等待簽署

Item Description: API-TERBUTALINE 67" SR TABLETS 1000'S  
 Entry Date: 25/11/2008  
 Quantity: 1000'S  
 P/Ship Summary / Carton / Pellets / Device Id: 0525031 / 1 / 100

**ORIGINAL** (單)

Signature: [Handwritten Signature]  
 Date: 25/11/2008

WONG SHUK YING HOSPITAL  
 香港醫院管理局



# Drug distribution from pharmacy stores to dispensing areas (as it used to be)

Pharmacy main stores



Manual entry of lot no.  
with expiry date – record  
only

Pharmacy working stores  
(for dispensing to out &  
in-patients & issue to  
wards)



No functionality to enable  
track and trace lot no. &  
expiry information



# There are some major issues in our methods of doing things

## Description of the Major Supply Chain Processes

Each of these processes might be performed by different organisations or by a single entity

Industry →→→

Logistics provider →→→

Healthcare facility →→→



### Production ↑

- Receipt of a shipping notice indicating traceability information linked to the raw material and packaging being used.
- Quantity control of merchandise using SSCC.
- Validation of receipt and delivery slip signature.
- Registration of lot/batch numbers and dates.
- Acceptance of primary materials.
- Recording of lot numbers used.
- GTIN assignment and marking for base units and creation of their lot numbers.

- Link between the production lot number and the raw materials used.
- GTIN and SSCC assignment for logistic units.
- Recording the links between SSCC and the content of logistic units: GTIN + lot/batch number + expiration date.

### Warehousing – Preparation ↑

- Management of physical product arrivals and shipments using SSCC.
- Management of the separation and release of lots.
- Assignment of locations.
- Registering the movement of merchandise.
- Physical inventory.
- Order picking.
- Creation of logistic units, assignment and remarking of SSCC.
- Tracking inventory movements, linking SSCC, product, lot/batch number, and delivery destination.

### Shipping ↑

- Loading.
- Handling and registering SSCC.
- Sending shipping notices to recipients with delivery destination.
- Sending shipping orders to the carriers.
- After delivery, the carrier sends a transport status report.
- Integrating information in order to efficiently coordinate orders, deliveries, and invoices.

### Receiving ↑

- For every participant receiving merchandise:
- Planning for receipt of goods based on shipping notices.
- Unloading and SSCC reading.
- Control of receiving through efficient coordination with shipping notices.
- Coordinating orders and deliveries, sending acknowledgements of receipt.
- Entering product data into inventory records.
- Transmitting information to efficiently manage orders and invoices.

### Healthcare Delivery ↑

- Services and functional units identified by their GLN send out internal requests using the product's GTIN.
- Preparation processes, assignment and registration of SSCC, delivery and receiving, all based on the same information as all other logistics processes.
- Sterilization, washing and restoring, are all production processes using the full range of GS1 identifiers: GTIN, SSCC, GAI.

- Tracking internal deliveries is done with the aid of a GAI, which identifies the material and also allows for tracking, washing, disinfecting, maintenance, etc.
- Delivery traceability is enabled by the link between the GAI and the delivery contents as indicated by its SSCC.
- Patients, and the services provided to them, are identified using a GAI, read and registered in a database at each stage and movement of the

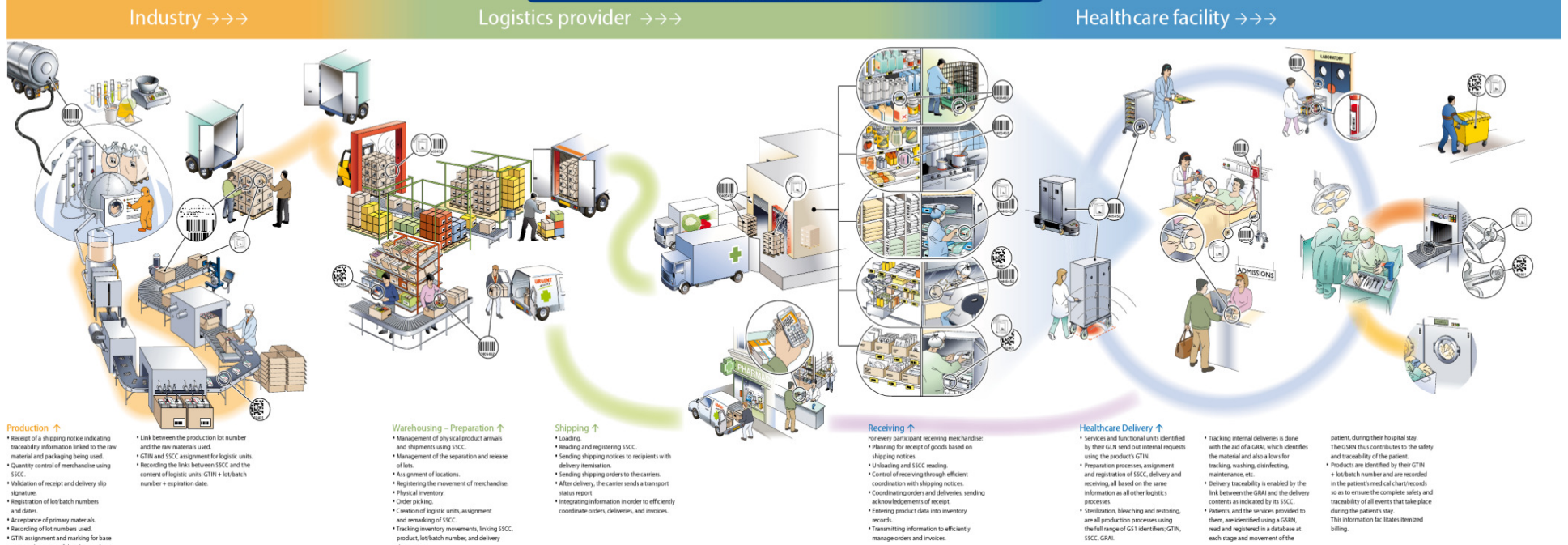
- patient, during their hospital stay. The GAI thus contributes to the safety and traceability of the patient.
- Products are identified by their GTIN + lot/batch number and are recorded in the patient's medical chart records so as to ensure the complete safety and traceability of all events that take place during the patient's stay. This information facilitates itemized billing.

# Need to improve Quality, Safety and Efficiency in drug distribution/medication use



## Description of the Major Supply Chain Processes

Each of these processes might be performed by different organisations or by a single entity





# in March 2009 HA announced – The Key Initiatives to enhance pharmaceutical products' procurement system

- 6. Enhance the HA's Pharmaceutical IT systems to improve controls by moving progressively towards :**
- introducing bar coding
  - automatically check what is received against what was ordered
  - automatically track and trace drugs to the point of issue and
  - prevent dispensing of expired items



Thur, 26 March 2009

## Key initiatives to enhance HA's pharmaceutical products procurement system

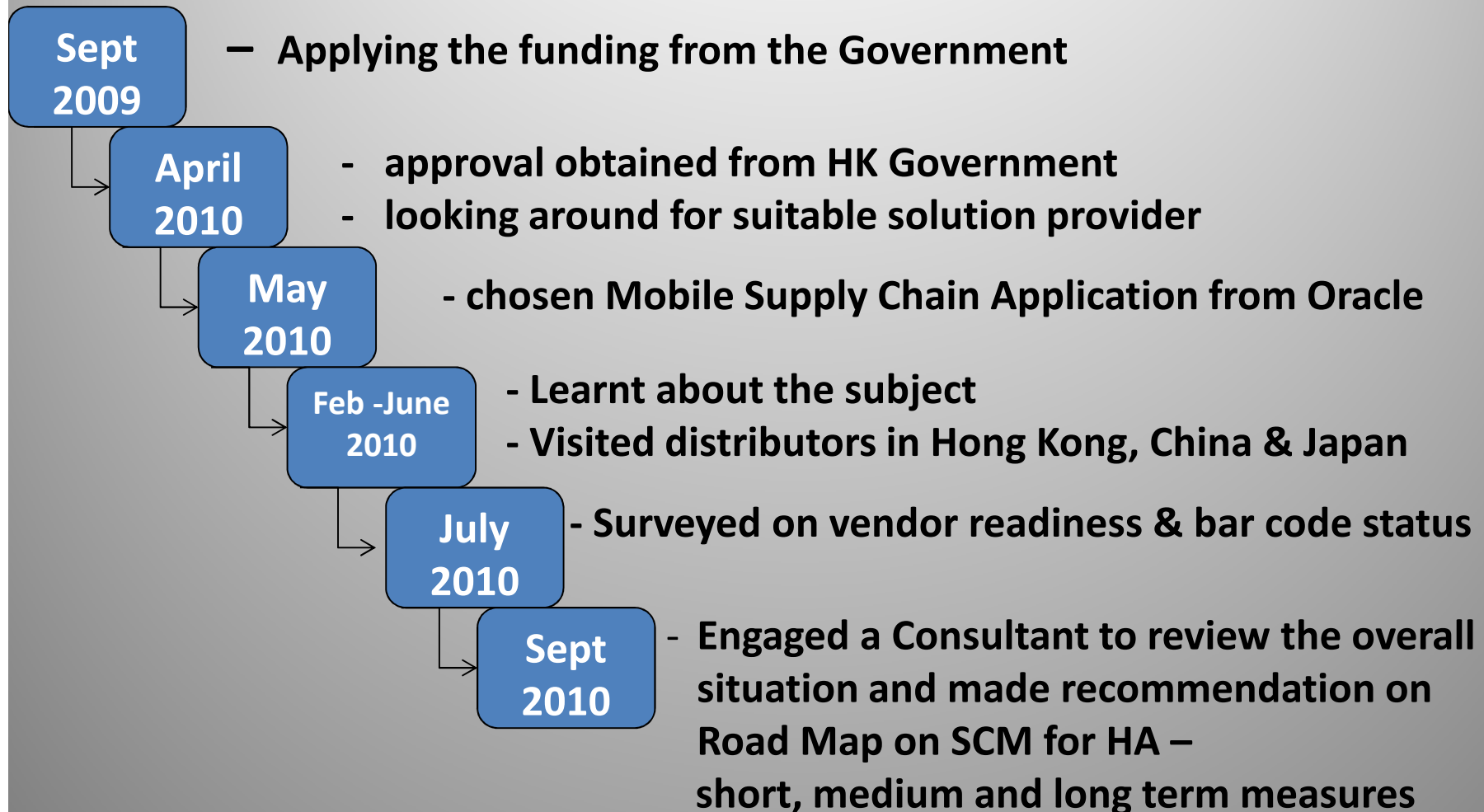
To ensure drug quality and safeguard patient safety, the HA announced today the following key initiatives to enhance our pharmaceutical products procurement system:

1. Require manufacturers to introduce microbiology testing as a prerequisite to procurement for high risk drug items and for provision of batch release reports on delivery of drug products.
2. Enhance the HA's sample testing to include a wider range of drugs and microbiology testing based on risk levels.
3. Require suppliers to provide additional standard information for drug delivery documentation to enable more effective physical checking of goods received.
4. Work with the Department of Health to improve ease of access to key additional registration details, including pack sizes to strengthen regulatory compliance.
5. Consider introducing multi-source for high volume/risk drugs.
6. Enhance the HA's Pharmaceutical IT systems to improve controls by moving progressively towards :
  - Introducing bar coding;
  - Automatically check what is received against what was ordered;
  - Automatically track and trace drugs to the point of issue; and
  - Prevent dispensing of expired items.
7. Establish a Drug Quality Assurance Office to enhance quality monitoring and implementation of improvement initiatives.



Please send your suggestions via fax: 2808 0242 or e-mail: [ehaslink@ho.ha.org.hk](mailto:ehaslink@ho.ha.org.hk)

# Major Milestones for the SCM project in 2009 -2010





# The Hospital Authority of Hong Kong (HA) has set the following goals for the SCM project:

## 1. Operational efficiency

- To enhance speed of operation by replacing manual work processes with system and technology aided processes
- To improve the accuracy of information capturing in all trading documents during a procurement cycle
- To automate the validation procedures during goods receipt processes
- To shorten the operation time of goods receipt processes

# The Hospital Authority of Hong Kong (HA) has set the following goals for the SCM project:

## 2. Traceability of pharmaceutical products

- To uniquely identify
  - A. the logistic units received by HA with serial number
  - B. the received drugs with ID number and batch number
  - C. the drugs suppliers
  - D. the locations of the hospitals
- To link the received logistic unit to the batch number of the drug contained within
- To collect and record traceability information accurately and completely in a timely manner



# The achievement made in SCM project as of April 2014

Some facts and statistics about the magnitude of the Supply Chain Modernisation (SCM) Project  
in the Hospital Authority Hong Kong as at Dec 2013

The total number of public hospitals implemented with the SCM system	42
The total number of goods receiving points in these 42 hospitals	136
Average daily number of Purchase Orders (PO) raised at these 136 goods receiving points	436
Average daily number of EDI Purchase Orders (PO)	229 ( 52.5% of total PO)
Average daily number of deliveries by EDI ASN from Batch I vendors	717

	The total number of vendors engaged in the SCM project	The total number of pharmaceutical product items allocated with GTIN
Batch I * (live run in June 2012)	14 *	2448 (54.61% of total products)
Batch II vendors (live run in April 2014)	13**	436 (9.73% of total products)



# Provide answers to some questions on the SCM project

- Why do we need to transform the Healthcare Supply Chain on pharmaceutical products ?
- What were the problems in the system?
- How did we do it ?
- What challenges did we encounter ?
- What was the outcome ?





# How did we do it ?

## The implementation plan consisted of 2 parts:

### 1. Planning

#### A. Management Endorsement and communication

- The project lead of HA sought management buy-in of the project to secure the necessary resources, such as additional manpower and support from pharmacy department and IT department for the implementation.
- As the project covered all the 41 public hospitals in
- Hong Kong, the project lead had to communicate with the management as well as the pharmacy staff in each hospital for their support to accept and work together to achieve the new changes.

# Leadership & Project Governance

- **Central level**

- User Resource Group (URG)
  - Chaired by Cluster Service Director at Headoffice level
  - members from project team & clusters representatives
  - define project plan & monitor progress
  - allocate resources, prioritise issues & make decision on direction
  - deal with concerns from system vendor and users

- **Cluster level**

- 7 Cluster Implementation Project Resource Groups
  - each Chaired by Cluster Chief Executives
  - members from hospital administrators, finance and pharmacy
  - meet quarterly to report & monitor progress of implementation



# How did we do it ?

## Defining the scope of the Supply Chain Modernisation Project



# How did we do it ?

## Communication and engagement

### External

#### HKGS1:

- Technical guidelines
- industry standards on ASN, SSCC, GTIN, GLN

#### Pharmaceutical vendors:

- System interface to HA
- GTIN on smallest order unit
- bar code readiness to include GTIN, Qty, BN, Expiry date
- Bar coded Labels for shipper case & logistic units
- Testing and preparation

### Internal

#### Hospital side :

- Management buy in
- Support services
- Pharmacies

#### Engagement & support :

- implementing MSCA
- renovating stores & facilities
- adding manpower
- supporting user training





# What is required on the product to enable track and trace

there should be bar coded information on GTIN, Batch, Expiry Date and QTY at the primary packing

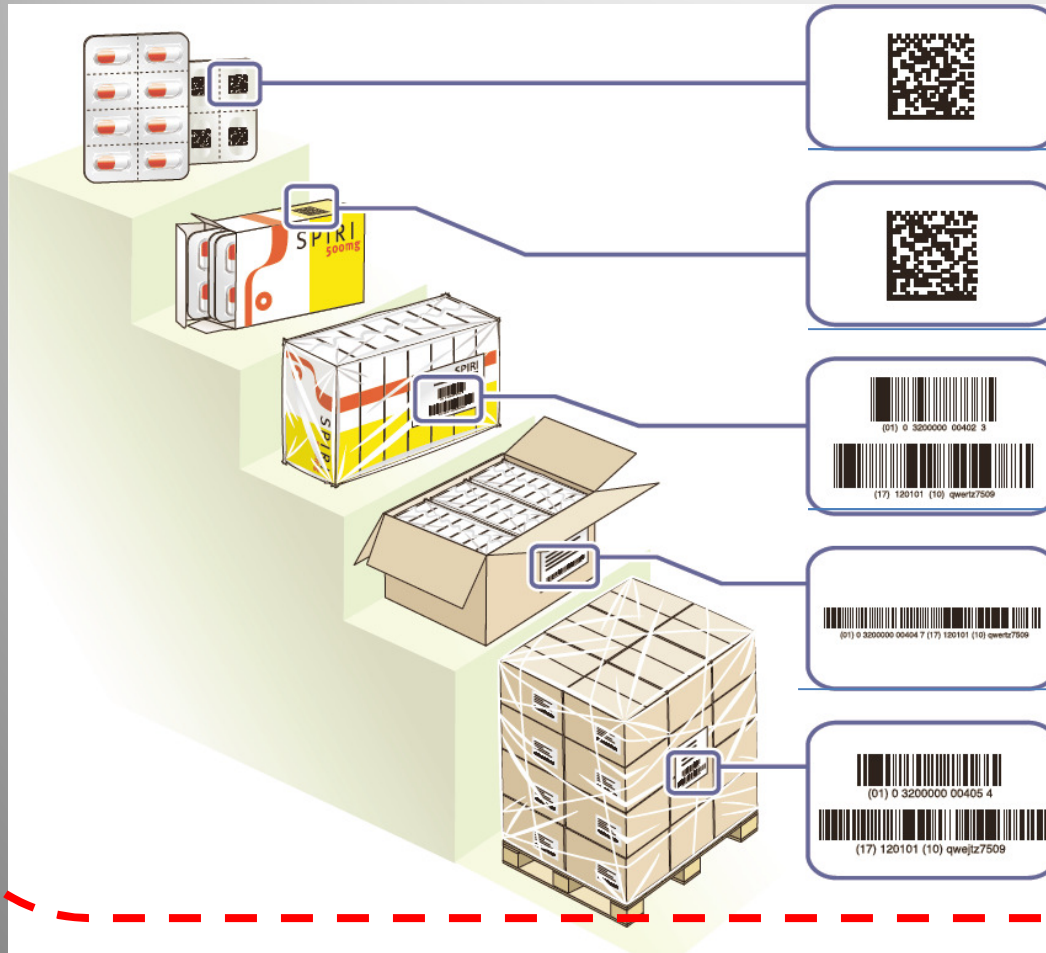


# Legislation in Hong Kong on pharmaceutical products

- Pharmaceutical Product registration requirement by HKSAR
  - no legislative requirement on bar code on drug package
- Pharmaceutical industry not mandate to have the bar code printed
- Generally, the sales and marketing people are not concerned with this need



# Is it feasible to have Bar-code track-and-trace all the way ?



**stop at the  
logistic  
units!**

- item identity, batch no. , expiry date

- item identity, batch no. , expiry date

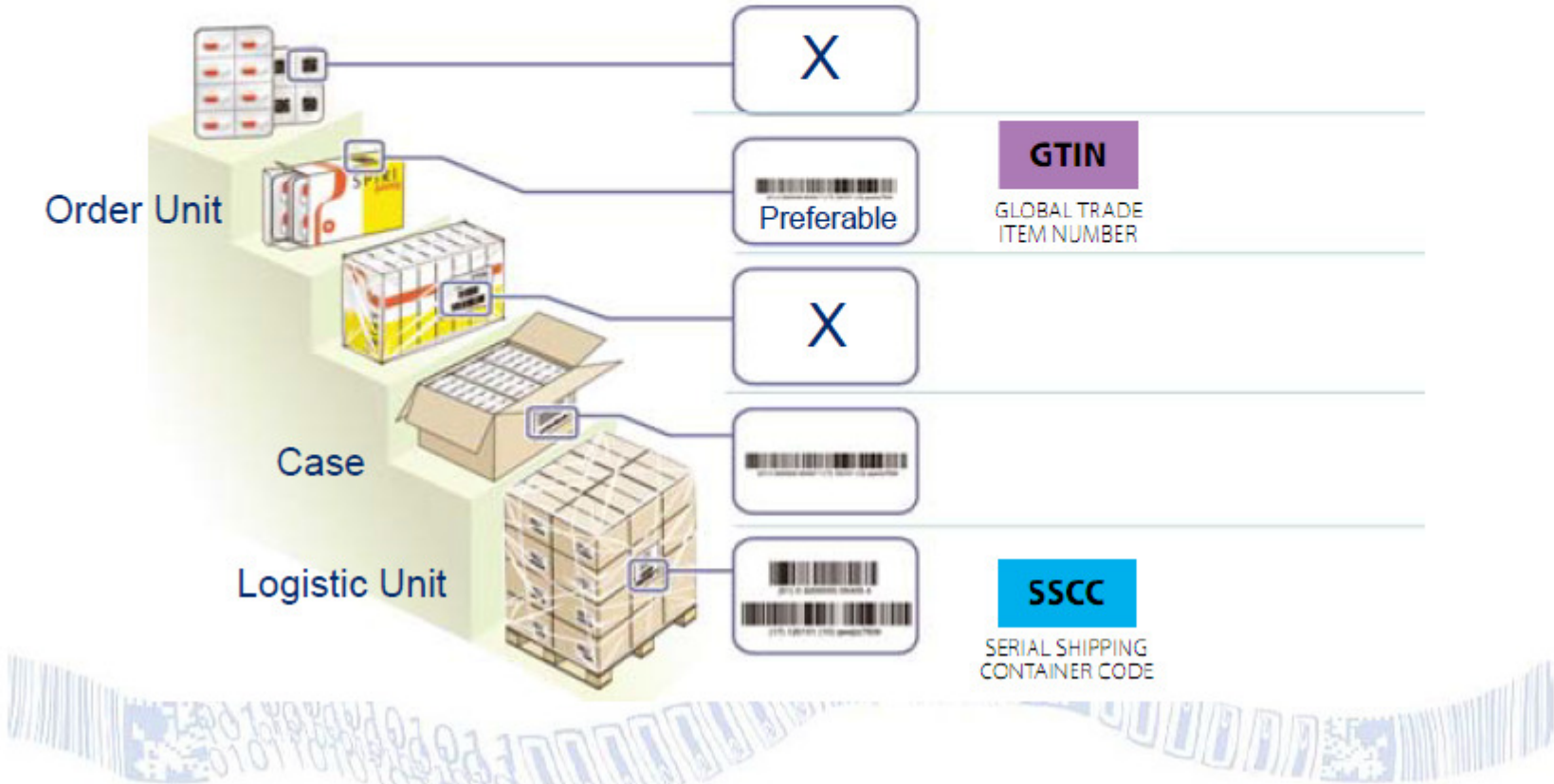
**Target areas for direct-from-supplier bar-coding**



# Knowing the limits on what we can do initially



## GTIN/SSCC and bar code requirement



# How did we do it ?

## Defining time frame for SCM implementation

by phase & batch approach :

### Phase I

- Track from distributors into the main stores
- Applicable to all pharmacy stores in all hospitals
- Involve 2 batches of vendors on all their products

### Phase II

- Track from pharmacy stores to the dispensing stores
- Pilot in two hospitals PWH and QEH on Dangerous Drugs

# How did we do it ?

- using Global Industry Standards with professional service support



## GS1 Standards adopted in the procurement cycle



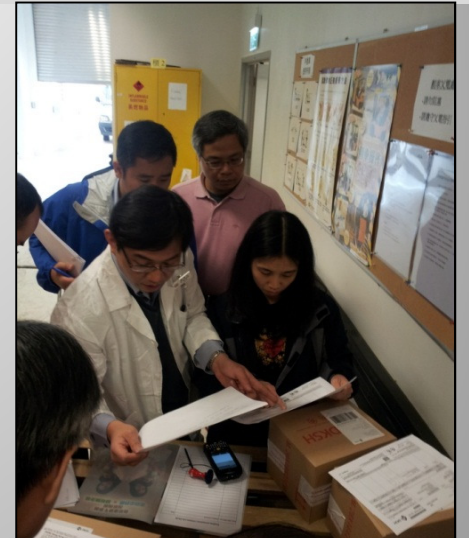
GTIN	✓	✓	✓	✓
GLN	✓	✓	✓	✓
SSCC		✓	✓	
GS1 Bar Code			✓	
EDI	✓	✓	✓	✓



# How did we do it ?

## Vendor Engagement started in 2010

- No less than 6 mega vendor briefings, 25+ meetings, training workshops, testing, emails, etc...
  - Clarifications on project objectives, process, technical requirement, time frame.....
  - Frequently Ask Questions
- Mock ups on bar code labels,
- EDI messages testing
- End to End testing with mock up products
- On site testing at pilot sites
- With HKGS1 assistance and support



# SCM Project implementation: by batch & phase approach

Batch I (live run in June 2013)	Batch II (live run in April 2014)
<ul style="list-style-type: none"> <li>➤ <b>13+1 vendors</b></li> <li>➤ <b>= about 70% of order lines</b></li> <li>➤ <b>About 38% of item sources</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>+ 13 vendors</b></li> <li>➤ <b>= about 16% more order lines</b></li> <li>➤ <b>About 13 % item sources</b></li> </ul>
BAXTER HEALTHCARD LTD	EUROPHARM LABORATOIRES CO. LTD.
DKSH H.K. LTD	HK MEDICAL SUPPLIES LTD
FERRING PHARMACEUTICALS LTD	JOHNSON & JOHNSON (HK) LTD
FRESENIUS MEDICAL CARE HK LTD	MEDIPHARMA LTD
GAMBRO HK LTD	MEKIM LTD
HIND WING CO LTD	PRIMAL CHEMICAL CO LTD
JACOBSON MEDICAL HK LTD	STAR MEDICAL SUPPLIES LTD
JEAN-MARIE PHARMACAL CO LTD	SYNCO (HK) LTD
KERRFLEX SUPPLY CHAIN SOLUTIONS LTD	THE INTERNATIONAL MEDICAL CO. LTD.
LF ASIA (HONG KONG) LIMITED- HEALTHCARE DIVIS	TRENTON-BOMA LIMITED
LF ASIA (HONG KONG) LIMITED- UNIVERSAL DIVISIC	UNITED ITALIAN CORPORATION (HK) LTD.
LUEN CHEONG HONG LTD	VICKMANS LAB LTD
U S SUMMIT CO LTD	Y. C. WOO & CO. LTD.
ZUELLIG PHARMA LTD	



# How did we do it ?

## Making available improved storage facilities





# The Change - Goods Receipts from batch I vendors using ASN & SSCC



# SMART Achievement





# Way Forward

**Patient & Medication Safety**



**Visibility**



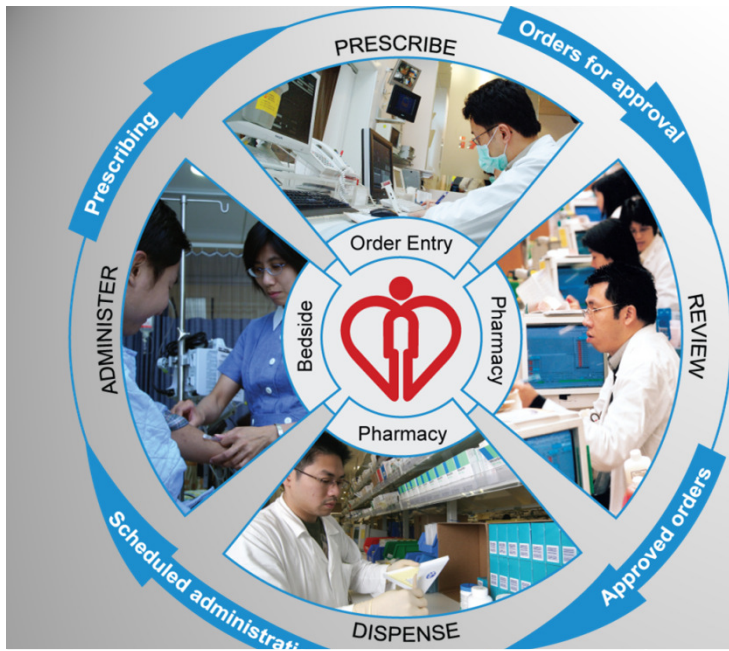
**Traceability**



where we want to go  
via the SCM Project



# Track and Trace to the point of care



IPMOE \*/ DDAS\*\*



Doctors

pharmacy

Nurses

PHS IPMOE Enquiry Report File Maintenance System Configuration CD04 Help

Save Profile Vet Verify Suspend Pending Urgent

陳文文 Chan, Man Man  
DOB: 18-Dec-1970 HOSP: A12345(7) MED: A2(7) HR02112345(7) Weight: 62.3 kg Height: 160.1 cm BSA: 1.85 m2

PHS Spec: MEDA PHS Ward: A2 Patient Cat: M1 Other Doc: Pregnancy Contraindication Checking

Drug	Dosage	Frequency	Duration	Total Qty Adj./ Issue Qty
1 Paracetamol - PAINADOL - tablet According to pain scale	500 mg	qid		
W PARAS1 - Paracetamol Tablet 500mg Qty 12.00	1 tablet(s)	qid		8 TAB
Phenylephrine - injection 1% bolus	100 mg	q8h		
PHEN14 - Phenylephrine Injection 50mg/ml 5ml Today 15.00	100mg	q8h		1 500mg VIAL
3 Enoxaparin Sodium - prefilled syringe SC bolus	40 mg	q24h		
ENOX02 - Enoxaparin Sodium Prefilled Syringe 40mg/0.4ml	40mg	q24h		1 40mg VIAL
4 Gentamicin - injection IV intermittent infusion in 100mL NS over 30min	240 mg	q24h		
GENT02 - Gentamicin Injection 40mg/ml 2ml 16/6/2011 10:00	240mg	q24h		1 40mg VIAL

Start/End	Drug	Reviewed By	Administered
01-07-2007	LASK (FROISENDE) tablet oral: 40mg om	WED:CHUN, TH:MAN	<input checked="" type="checkbox"/>
01-07-2007	ATEMOLOL tablet oral: 40mg qid	WED:CHUN, TH:MAN	<input checked="" type="checkbox"/>
01-07-2007	PARACETAMOL tablet oral: 500mg q4h	WED:CHUN, TH:MAN	<input checked="" type="checkbox"/>
01-07-2007	MAXOLON (RITTOLOPRAMIDE) IV bolus oral: 500mg q8h	WED:CHUN, TH:MAN	<input type="checkbox"/>
01-07-2007	ASKASANTIN Injection 1.2g parenteral: 1.200mg q8h (intravenously (IV/IO))	WED:CHUN, TH:MAN	<input checked="" type="checkbox"/>
01-07-2007	GENTAMICIN SULPHATE Injection 40mg/ml 2ml	WED:CHUN, TH:MAN	<input type="checkbox"/>

- Electronic prescribing by clinicians
- Vetting & dispensing with workflow reengineering at Pharmacies
- Drug administration by nurses using Bar Coded Medication Administration (BCMA)