

The benefits of medicines traceability to the patient home

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Agenda

- Setting the scene
- The Irish Haemophilia story
- Problems & Solutions
- Outcomes
- Conclusion

Sinking video

Medicines are supposed to save lives...

*Dying from a disease is sometimes unavoidable;
dying from a medicine is unacceptable.*

(Lepakhin V. Geneva 2005)

Why do people die from taking medicines

- Intended contamination and falsification
- Unintended contamination and incorrect dose

**Counterfeit medicines may look the part.....
But they are manufactured in squalid conditions.....
...and are have been found to contain harmful ingredients..**



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Africa's Malaria Battle: Fake Drug Pipeline Undercuts Progress

A study published in 2012 by the Lancet medical journal and conducted by a unit of the National Institutes of Health found that 35% of 2,300 malaria drug samples tested in sub-Saharan Africa were of "poor quality"—either fake, expired or badly made. Such pills "are very likely to jeopardize the unprecedented progress and investments in control and elimination of malaria," the paper's authors concluded.



Source: <http://online.wsj.com/news/articles/SB100014241278873244740045784444942841728204>

14 OPINION

The Herald

FOUNDED ON MONDAY JANUARY 27, 1783

Infected blood a prolonged scandal



We know more about where our beef comes from than our medicines....



Beef Labelling

▶ Mandatory Requirements

As a minimum, the following information must appear on beef labels:

1. A reference number or code that would allow the beef to be traced back to the animal or batch of animals from which it was derived.
2. The country of birth of the animal.
3. The country or countries where the animal was reared.
4. The country where slaughter took place (along with approved slaughter licence number).
5. The country where cutting took place (along with approved cutting plant licence number).

If the country of birth, rearing and slaughter is the same then the label may simply state 'country of origin'.

Source: LMC Beef&Lamb–The Natural Choice Booklet

LMC
Livestock & Meat Commission

Implementing GS1 standards to improve patient safety and supply chain efficiency in Ireland

Haemophilia Care in Ireland

- 5,500 patients with inherited bleeding disorders
- 3 Comprehensive Care Centres
 - Dublin SJH
 - Adult
 - Dublin OLHSC
 - Paediatric
 - Cork CUH
 - Adult and Paediatric



What is Haemophilia ?

- A hereditary bleeding disorder caused by a deficiency of protein called a clotting factor
- Characterised by excessive bleeding, even after minor injury
- Very expensive medication: approximately 200 patients with severe form need this medication
- **Patients self-medicate in the home** prophylactically





- Untreated, the condition can have profound effects on morbidity and mortality

Crisis: our service needed to change

- Infection of patients with Hepatitis C and HIV (late 1970's – 1985) due to contaminated blood products
- Infected products remained in the supply chain after recall, leading to subsequent infection
- Over 100 patients suffering from haemophilia died



Corrective action after government investigation:

Improve communication between treatment centres

Blood products supplied to persons with haemophilia should be of the highest standard and of the safest nature that are available

Problems



EXPIRED



Solutions



Where does GS1 Fit?



Where is GS1 in our systems?



GS1 standard barcode on medication (serialised GTIN)



EPR modified to produce **GS1** identifiers, patient identifiers and location (PMGSRN, GLN)
T&T system built to track medication through Hospital



All medication has **GS1** barcode either labelled at source or overlabeled



Each patient home identified with a **GS1** GLN

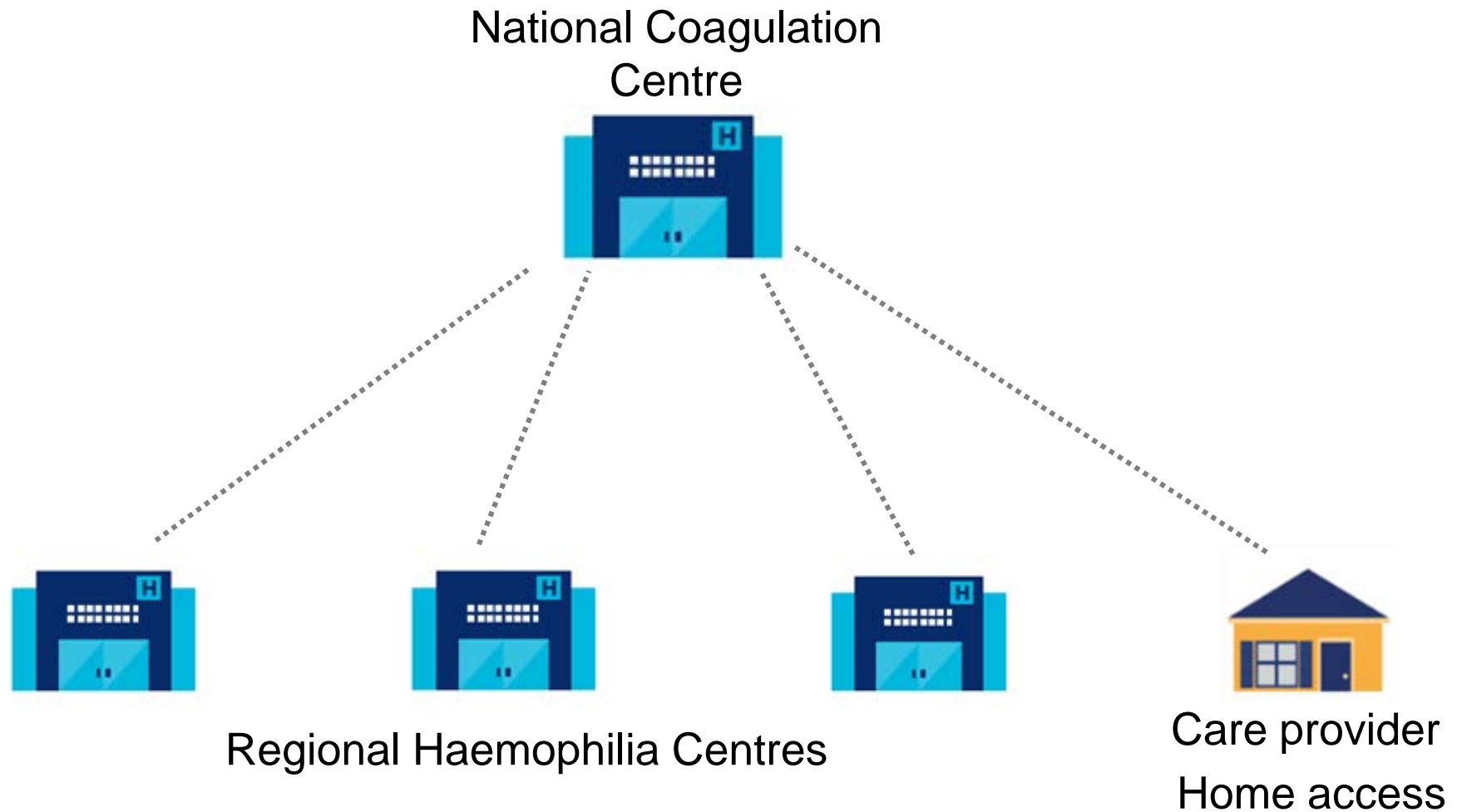


Rewrote their WMS to accept **GS1** identifiers and produce GS1 barcode for medication where necessary

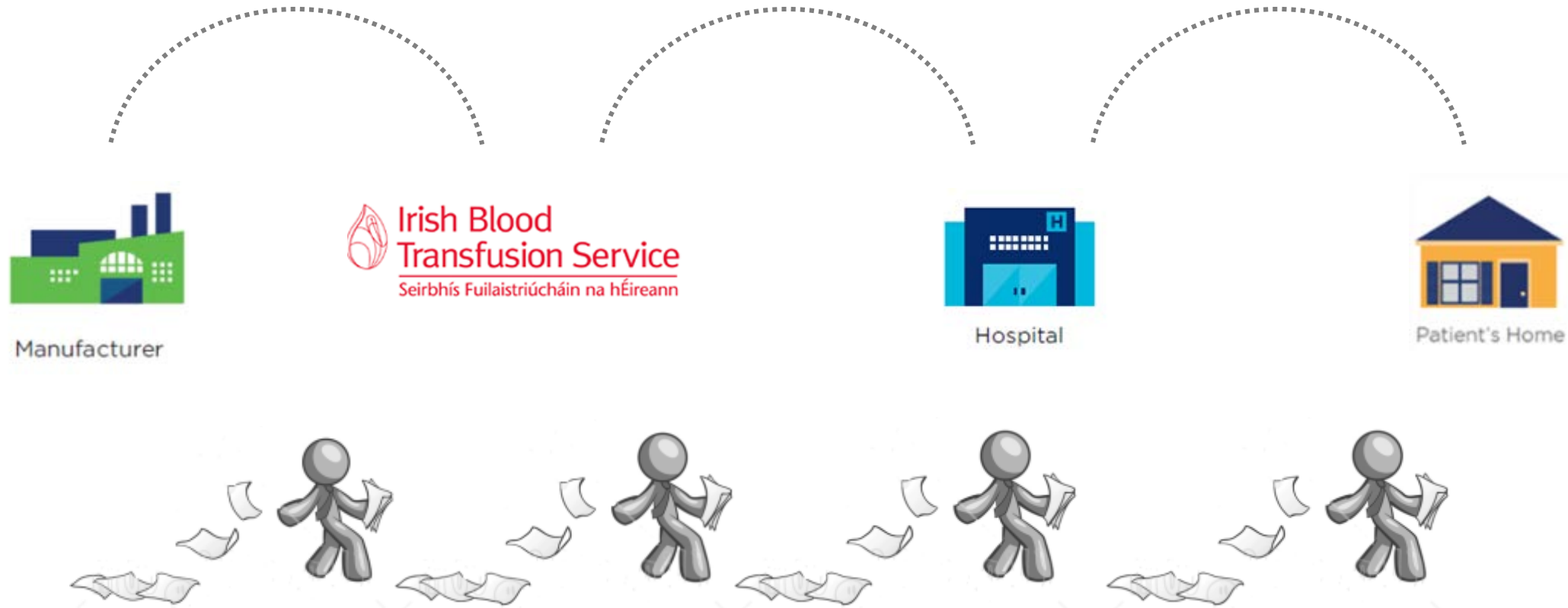


Mobile Phone (cellphone) App used to scan **GS1** barcode and record medication compliance. Each patient has a unique GS1 Identifier

Multi-location deployment



Medication delivery supply chain – where we were then



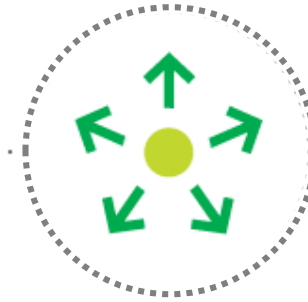
Medication delivery supply chain – where we are now



IDENTIFY



CAPTURE



SHARE



Identify



(01) 20887511007364
(17) 150331
(10) A1B2C3D4E5
(21) 123456789

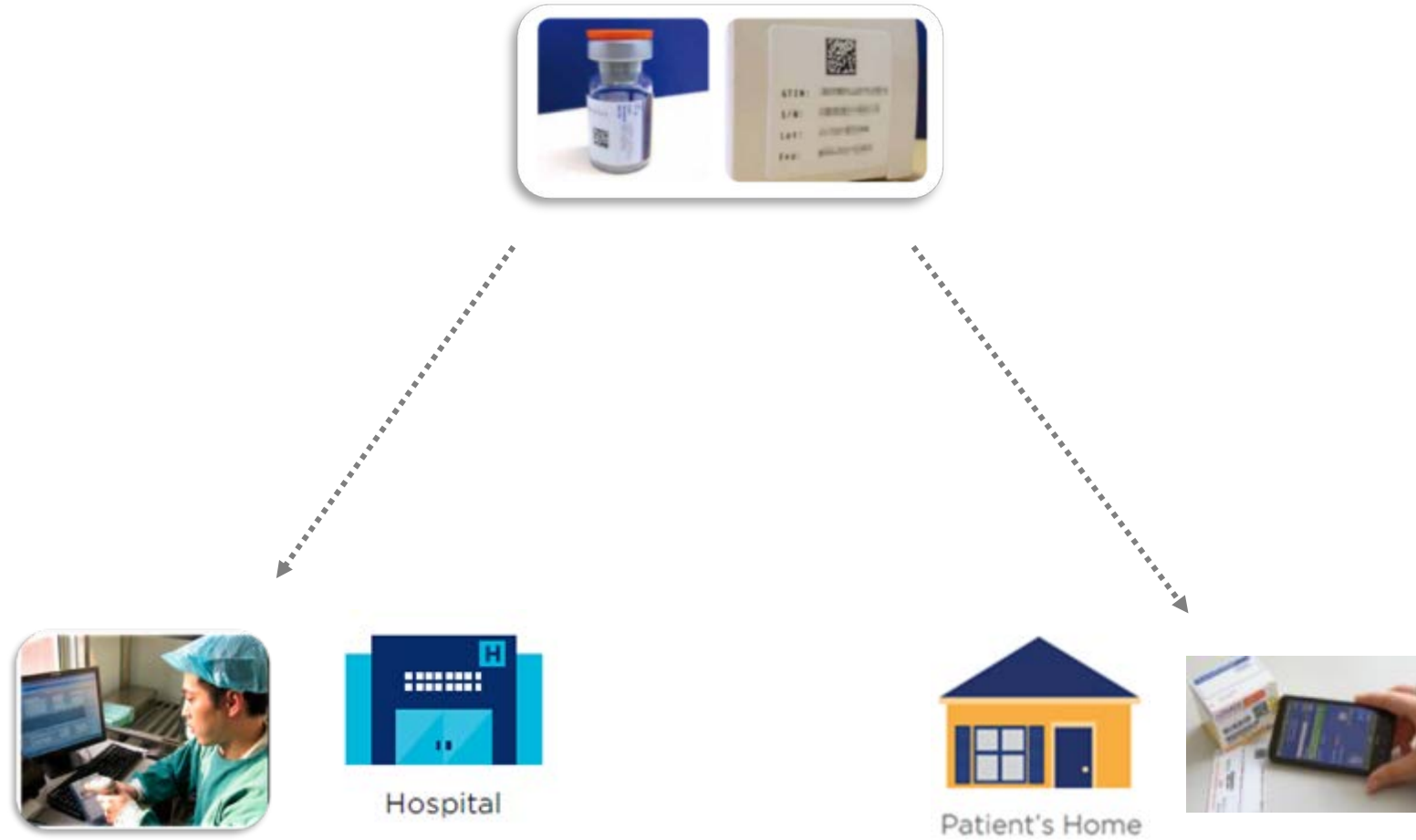
Product Name (GTIN)

Expiry Date

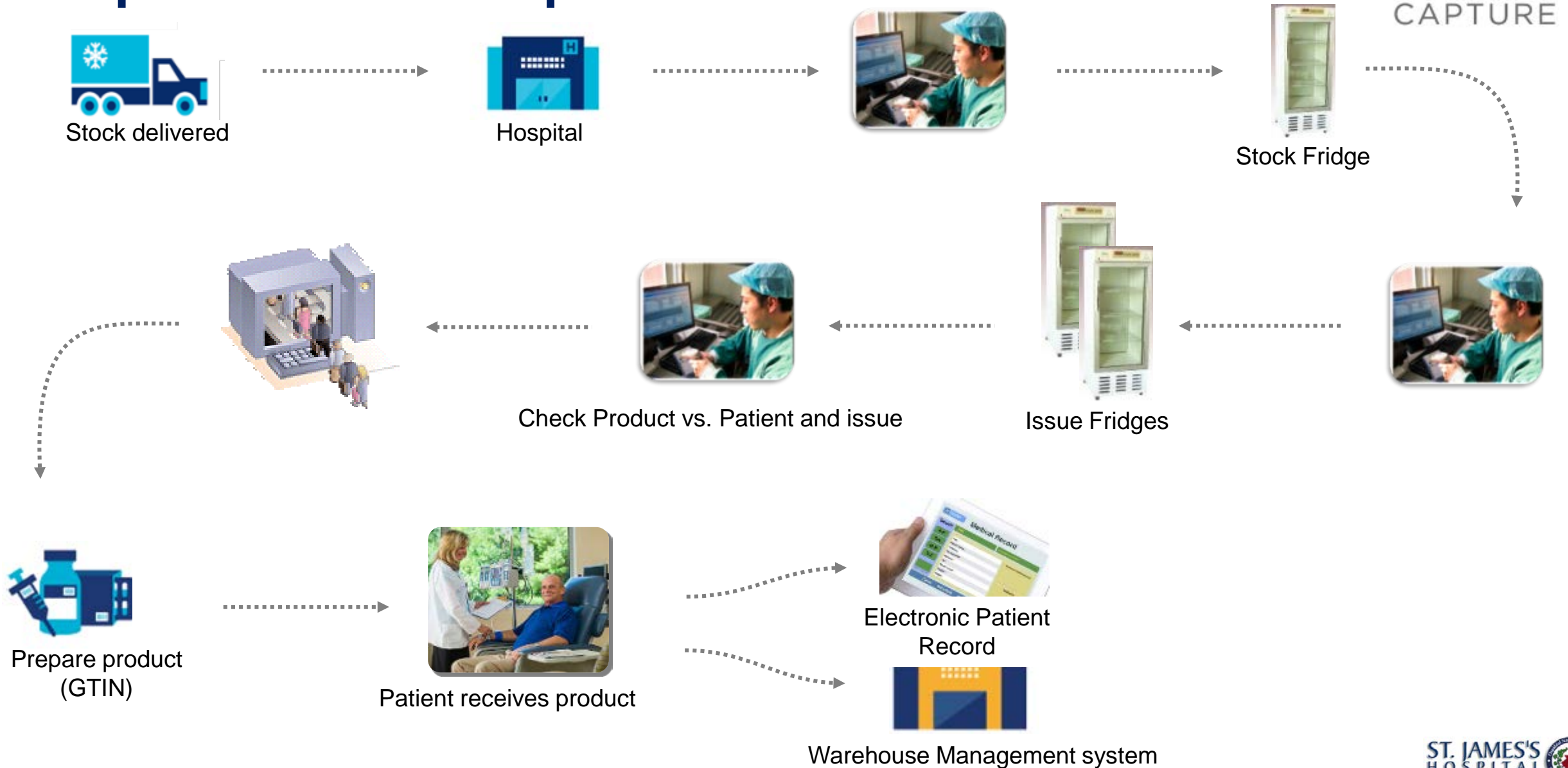
Batch/lot Number

Serial Number

Capture



Capture within Hospital



Share – Stock Management



Company: St. James Hospital		Owner: Feargal		
Source: PharmaTrack		Date: 02/05/07 16:28		
Criteria: (GLN = NCHCD)		Stock Report By Location		
NCHCD				
ProductName	Batch No	Received On	Expiry Date	Quantity
Advate 1.1 1000iu Baxject II Ireland	LE01F515AC	23/03/2007	30/08/2008 23:59	10
Advate 1.1 1500iu Baxject II Ireland	LE01F042AS	26/02/2007	31/08/2008 23:59	6
Advate 1.1 500iu Baxject II Ireland	LE01E127CH	20/10/2006	30/11/2007 23:59	5
Benefix 1000 IU	LE07F021AA	11/04/2007	31/07/2009 23:59	17
Benefix 500 IU	LE07F046AA	09/03/2007	31/03/2009 23:59	9
Fandhi 500 IU	IBVB6MRNT1	23/03/2007	28/02/2008 23:59	4
Novo Seven 2.4mg (120 KIU)	SU60351	05/09/2006	30/06/2008 23:59	1
	SU61573	08/03/2007	31/03/2009 23:59	3
Novo Seven 4.8mg (240 KIU)	SU60724	16/03/2007	30/09/2008 23:59	3
Novo Seven 1.2 mg (60 KIU)	SU60350	16/03/2007	31/03/2008 23:59	2
	SU60785	19/09/2006	28/02/2008 23:59	3
Prothromplex 600 IU	VNP2F001	11/10/2006	31/12/2007 23:59	2
	VNP2F002	02/11/2006	31/05/2008 23:59	4

Smartphones with scanning App

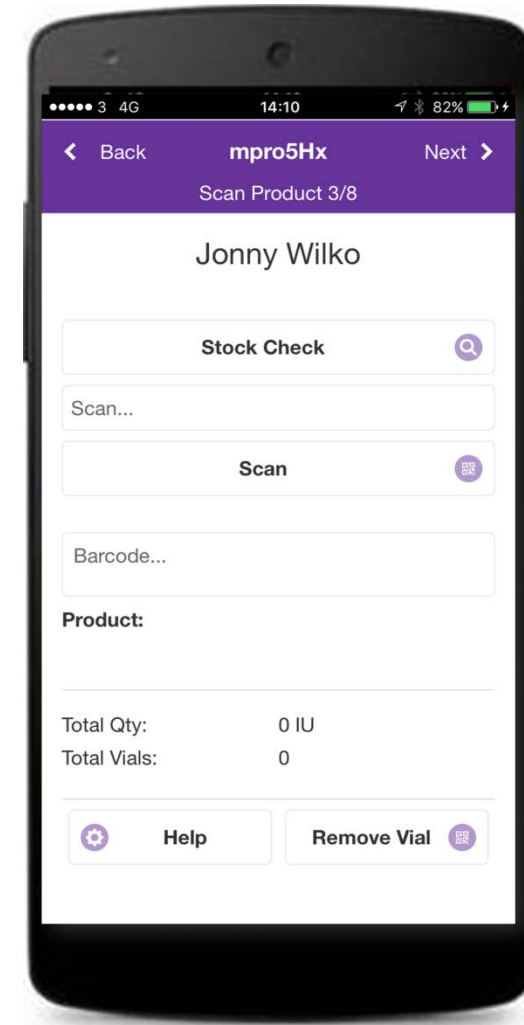
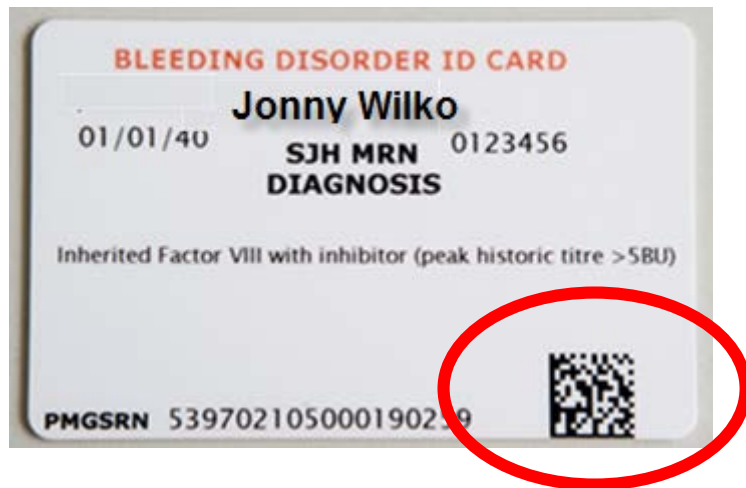
1

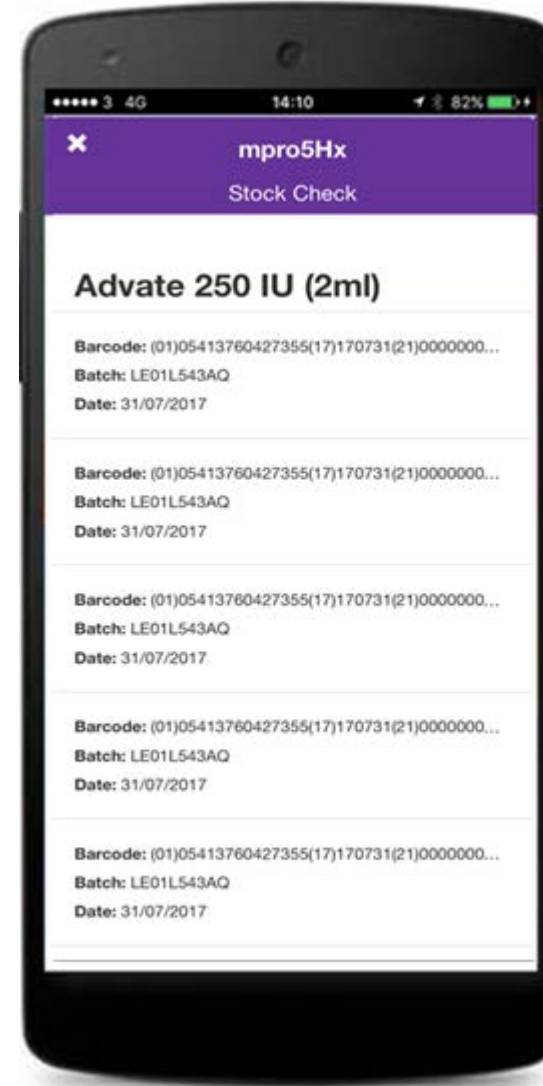
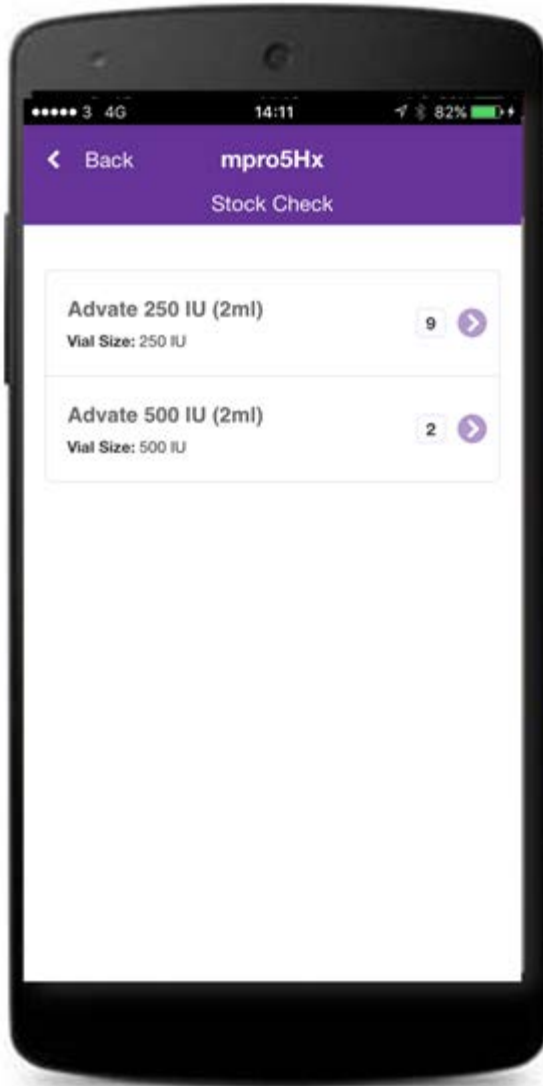


Log-in

Secure Login by

- Username/Password
- or
- Scanning unique GS1 ID on Card

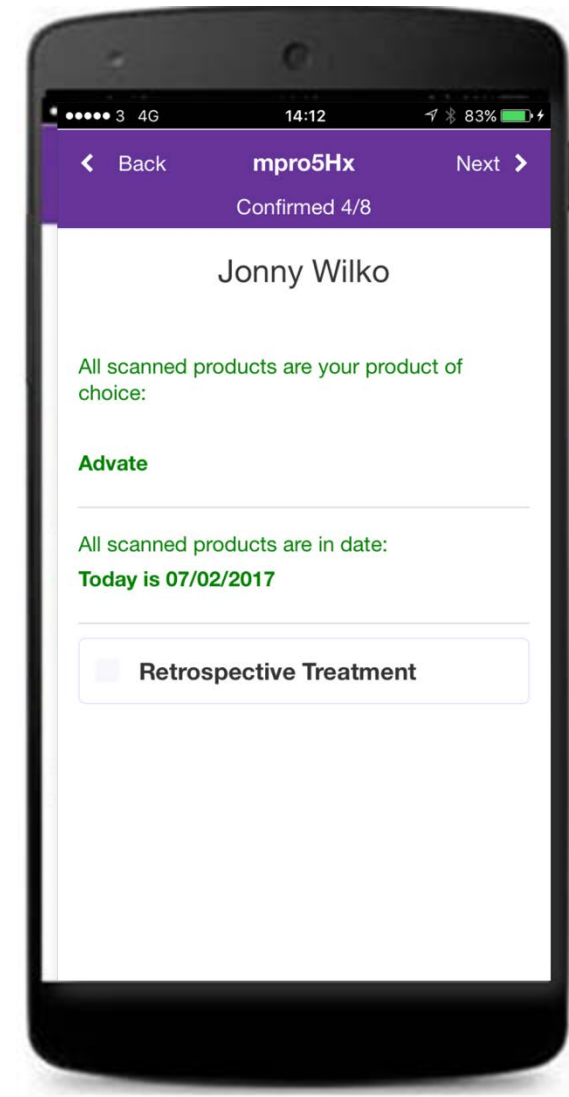




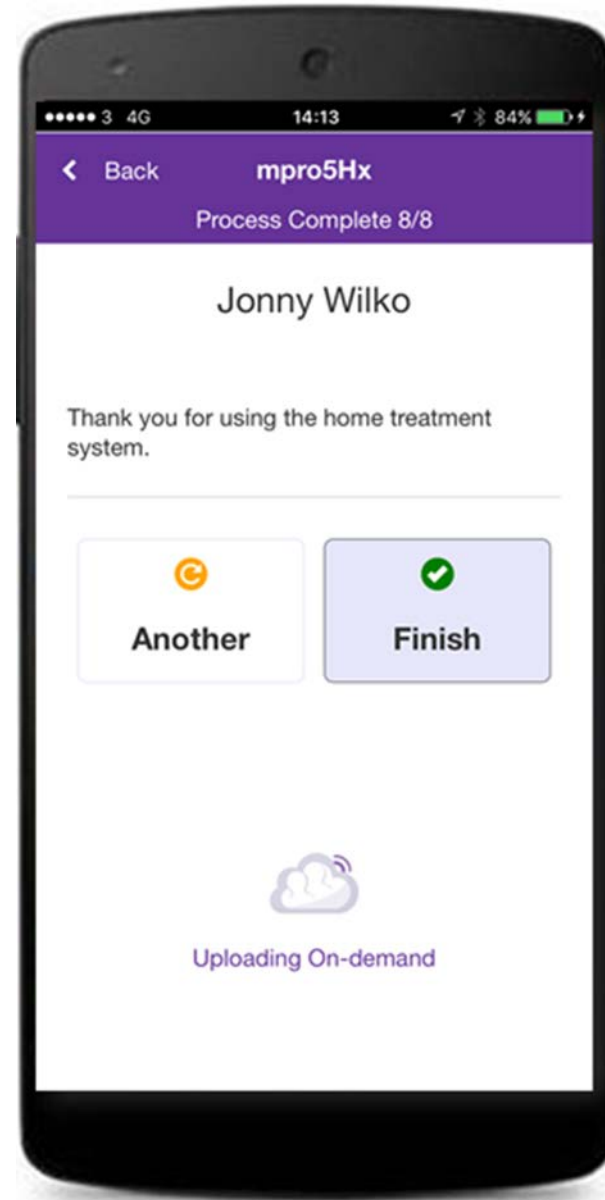
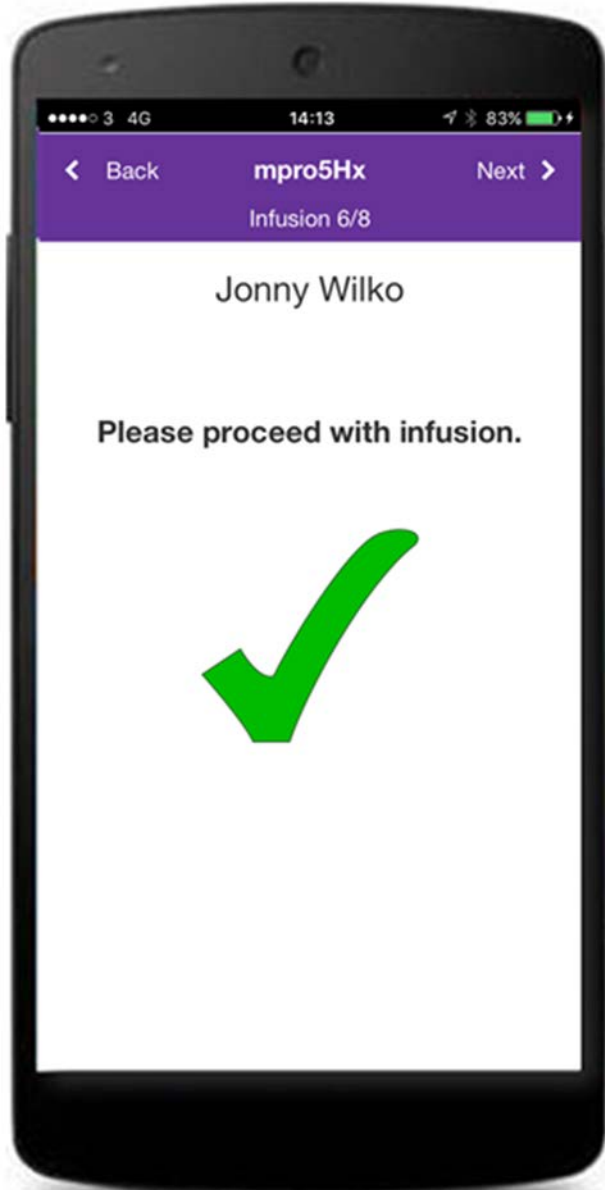
Scan Product

Barcode on Vial box is scanned to check

- Product detail (prescription)
- Expiry date
- Recall status
- **Shorter dated stock**



Scanning Process



Share



Clintech Manager

File Workup Assessments Manage Tx View System Admin Window Help

Summary Hx Notes Flow Sheet Chart Exam Tx Options Rx Drug Admin Prov Appr Reports BT Orders Edit Bleeding

Patient History - Test, One (Closed) *** NOT AN ACTUAL PATIENT ***

Diagnoses / Problems Questionnaires Comments Tests Infection Control Chief Complaint / HPI Clinical Archive



Procedure/Surgical Medical Gynecology Obstetrics Family Social Allergies/Adv. Reactions Medications



Venous Access **Treatment History**

Treatment Regime : BeneFix

Treatment of choice	Regime Type
BeneFix	Major Bleed/Surgery
Dextran 1	Major Bleed/Surgery

TREATMENT SEARCH

From Tx Date: 22/01/2013  

To Tx Date: 22/01/2014  

Search Tx

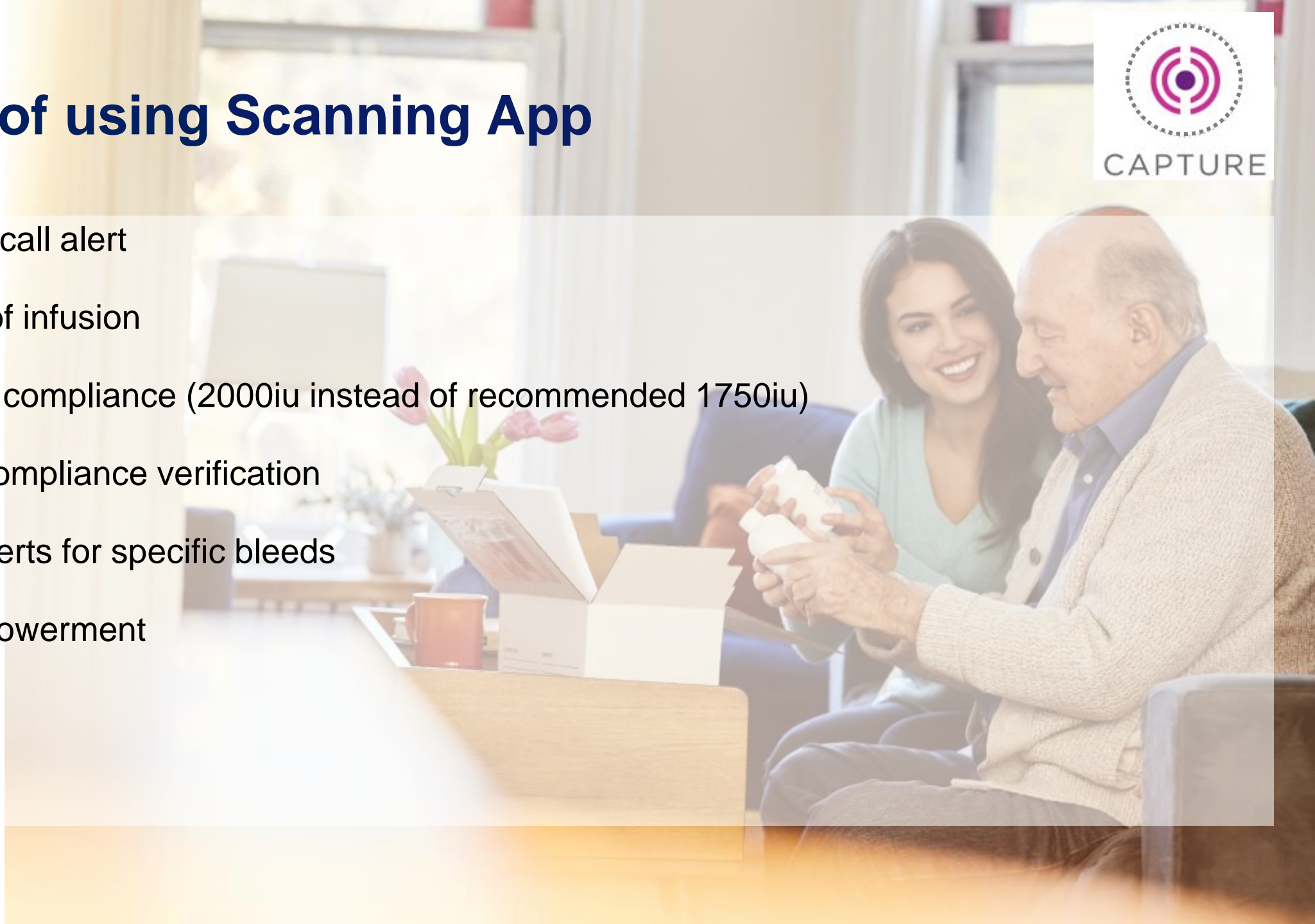
Print All Close

Patient History | McGroarty, Mr. Feargal | NCHCD | Jan 22, 2014 14:00

Benefits of using Scanning App

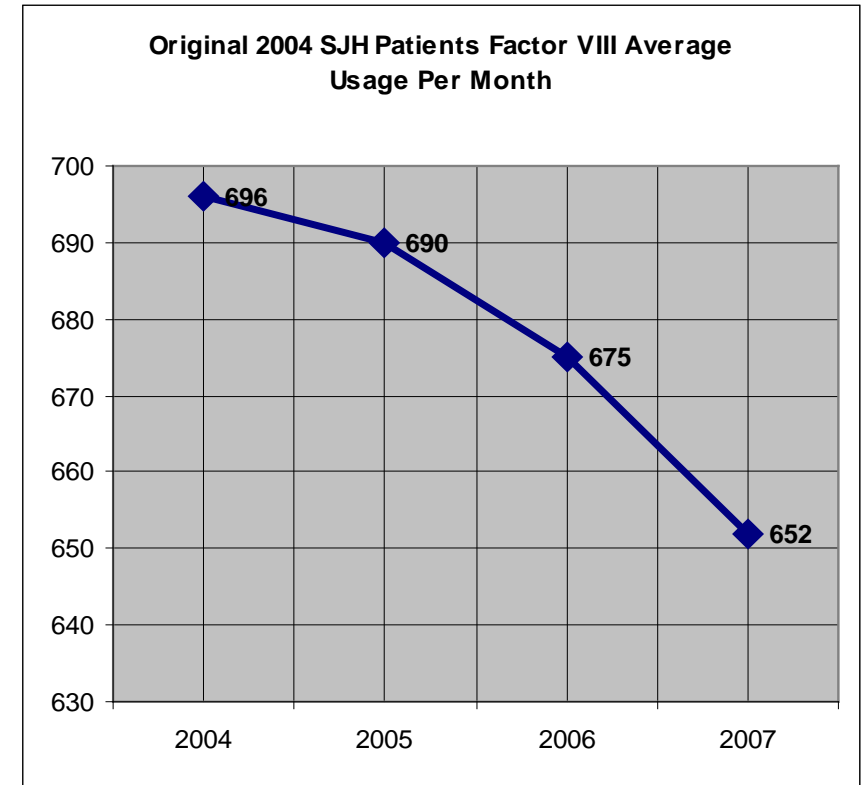


- Real-time recall alert
- Timeliness of infusion
- Prescription compliance (2000iu instead of recommended 1750iu)
- Automatic compliance verification
- Real-time alerts for specific bleeds
- Patient empowerment



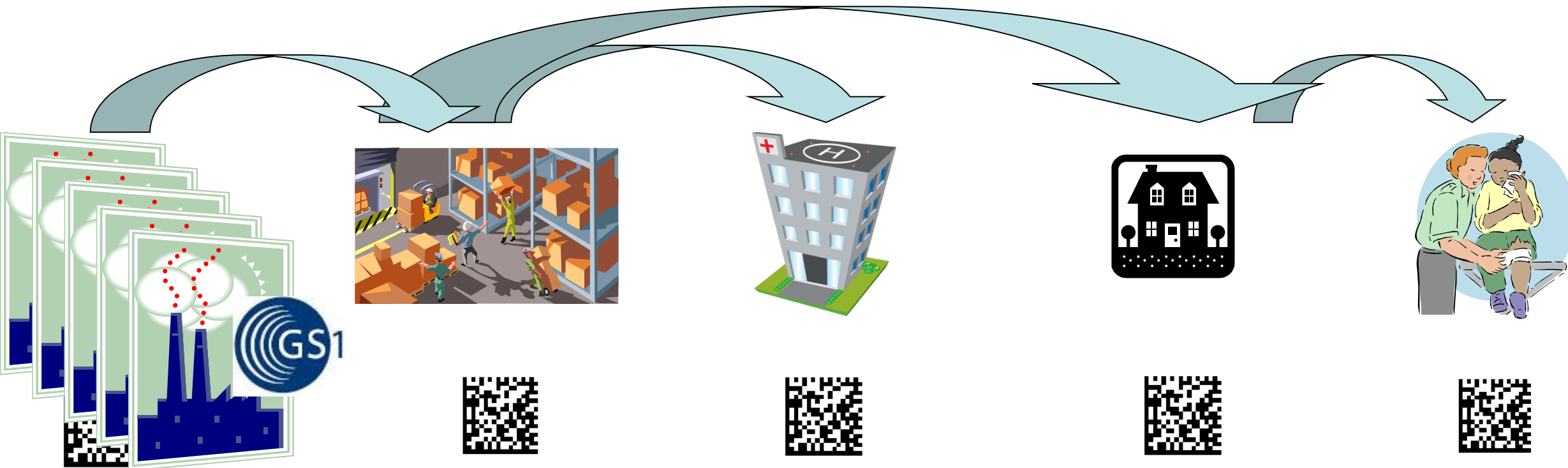
Outcomes

- Validated Cold Chain delivery service ensured all products delivered in the correct temperature range
- €5 M medication stock removed from the supply chain
- Stock rotation saved €600,000 worth of stock
- Mock recall identified location of all medication within 10 minutes; identified quantities of alternate stock available

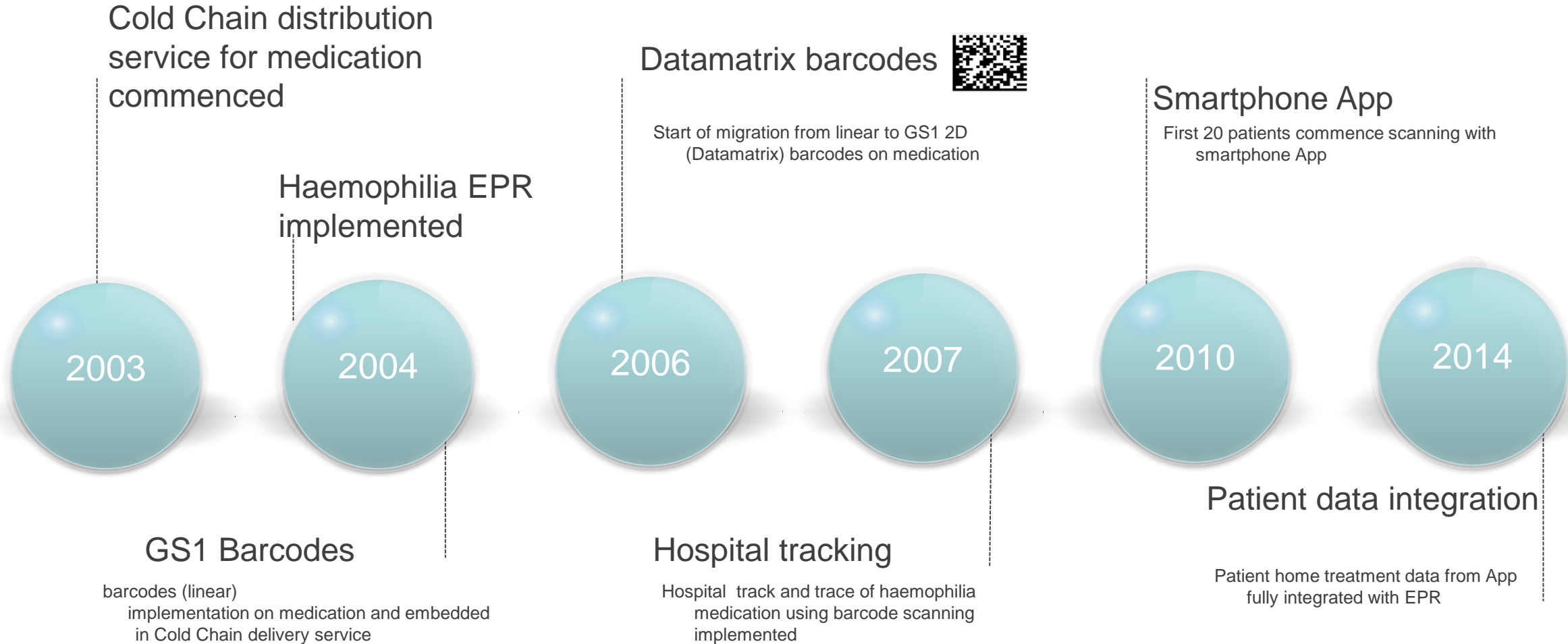


Patient usage trend

Where we are



Haemophilia Project timeline to date



HSE Track and Trace Pilot for Vaccines... 18th February 2014

THE IRISH TIMES
Tuesday, February 18, 2014

Medical Notes

■ Tracking system for vaccines:

A pilot of a “track and trace” system for the distribution of vaccines within the health system has found it could have significant impact on the safety and efficiency of vaccination programmes. The trial, which used 1,800 individually barcoded flu vaccinations, was carried out by UDG Healthcare and the HSE National Immunisation Office.

“The correct implementation of immunisation programmes requires complex specialist distribution systems. Track and trace pro-

vides a level of visibility on the journey of a vial which we don’t currently have,” said Cliona Kiersey, chief pharmacist at the HSE National Immunisation Office.

more individual and personalised treatment of patients with metastatic prostate cancer.

‘...Track and Trace provides a level of visibility on the journey of a vial which we currently don’t have. The information it can provide in the event of a recall is invaluable...’

HSE Track and Trace Pilot for Vaccines... 18th February 2014



Recommendations

- Bar coded batch/bar coded serialisation should be introduced for all vaccines
- Data entry of serialised/batch details should be captured real-time using bar code scanning
- Bar coded technology for all immunisation information systems should be used to capture serialised/batch number and product details, patient identifiers, administration and location identifiers
- Provision of bar coded vaccines (2D) should be a weighted selection criteria in all future vaccine tenders
- Priority should be given to the introduction of a national information system supporting the capture of all vaccination events in Ireland (both public and private)

Bottom line

- Standards are the key!
- Implementing and embedding standards can improve supply chain efficiency, reduce wastage, help to identify counterfeit medication
- Most importantly – Implementing standards can improve patient care!



Our patients, your customers!

Thank you

- Acknowledgements: All staff in National Coagulation Centre, in particular.....
 - Dr. Barry White (Clinical Director)
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 - Rachel Bird (National Haemophilia system data manager)
 - Vincent Callan (Director of Facilities Management)

Any Questions ?



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