

# Safe treatment of Haemophilia patients using GS1 standards

Feargal Mc Groarty



# Agenda

- Background: Haemophilia service
- Our service needed to change
- Problems & Solutions
- Outcomes
- The Future

# 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** to help prevent bleeding emergencies





# 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



# Solutions



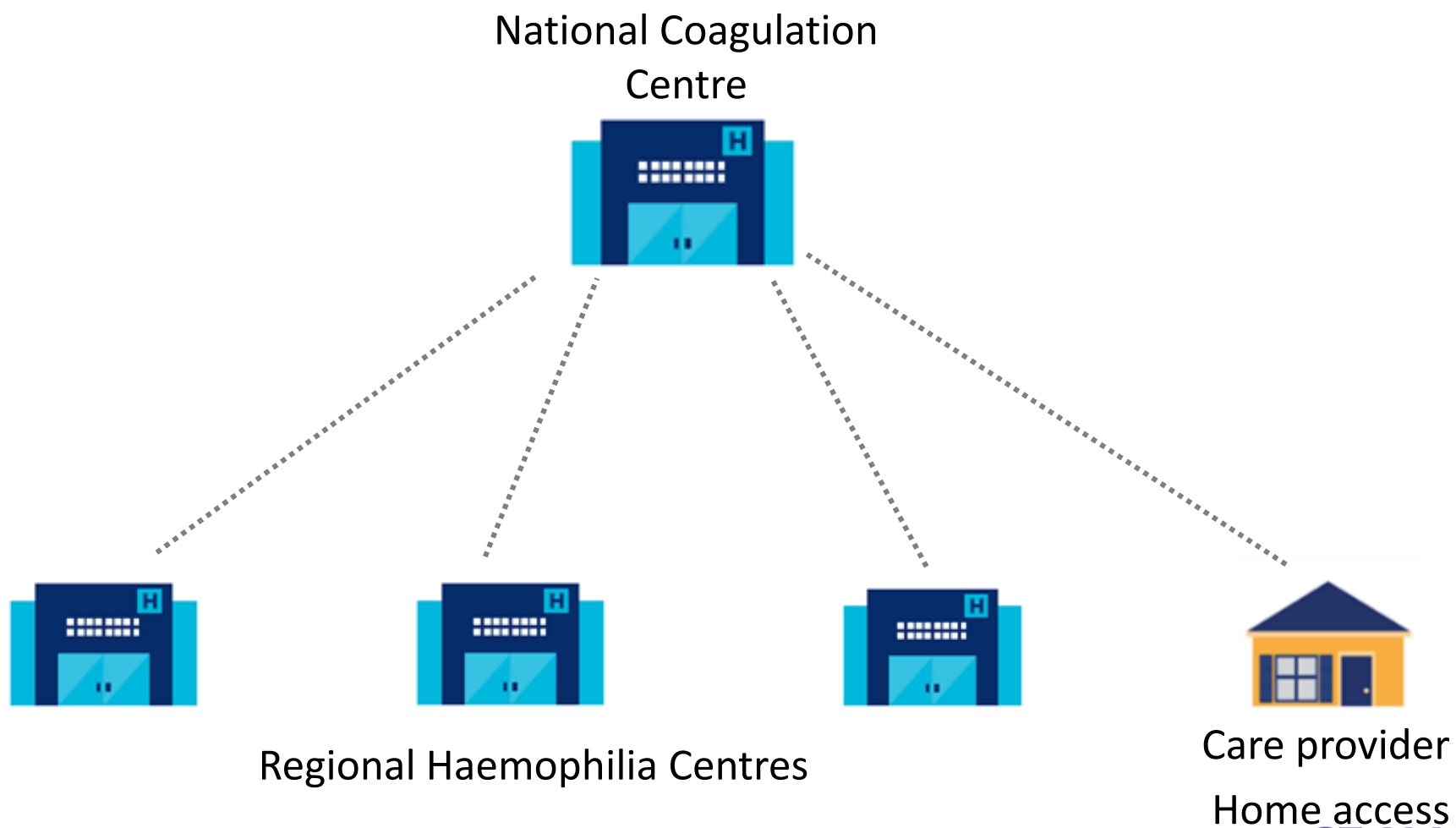
# Patient records : Digitised

The screenshot displays the 'Clintech Manager' application window. The title bar reads 'Clintech Manager'. The menu bar includes 'File', 'Workup', 'Assessments', 'Manage Tx', 'View', 'System Admin', 'Window', and 'Help'. The toolbar contains icons for 'Summary', 'History', 'Notes', 'Flow Sheet', 'Chart', 'Exam', 'Tx Options', 'Rx', 'Drug Admin', 'Prov Appr', 'Reports', 'BT Orders', 'Edit', and 'Bleeding'. The main window is titled 'Patient History - Test, One (Closed) \*\*\* NOT AN ACTUAL PATIENT \*\*\*'. It features a tabbed interface with tabs for 'Procedure/Surgical', 'Medical', 'Gynecology', 'Obstetrics', 'Family', 'Social', 'Allergies/Adv. Reactions', 'Chief Complaint / HPI', 'Clinical Archive', 'Venous Access', 'Treatment History', 'Physiotherapy', 'Medications', 'Diagnoses / Problems', 'Questionnaires', 'Comments', 'Tests', and 'Infection Control'. The 'Diagnoses / Problems' tab is active, showing a table of clinical descriptions, ICD codes, and diagnosis dates. The table is divided into 'Primary' and 'Secondary' sections. At the bottom, there are buttons for 'New...', 'Modify...', 'View...', 'Error...', 'Print All', and 'Close'. The status bar at the bottom shows 'Patient History', 'McGroarty, Mr. Feargal', 'NCHCD', and the date/time 'Oct 9, 2017 16:06'.

Clinical Description	ICD	Date Dx/Status
<b>Source: Clintech-MGR</b>		
<b>Primary</b>		
Hereditary Factor VIII Deficiency - Moderate	D66.03	Diagnosed: Feb 2011 Active: 08 Feb, 2011
Hepatitis C Positive - PCR unknown	B18.209	Diagnosed: 04 Jun, 2008 Active: Unknown
Hereditary Factor VIII Deficiency - Severe	D66.04	Diagnosed: 01 Feb, 2004 Active: 28 Feb, 2008
<b>Secondary</b>		
Predominantly allergic asthma	J45.0	Diagnosed: 13 May, 2008 Active: Unknown
Renovascular hypertension	I15.0	Diagnosed: Apr 2008 Active: Unknown
Hereditary Factor VIII Deficiency - Moderate	D66.03	Diagnosed: 2004 Active: 07 May, 2008

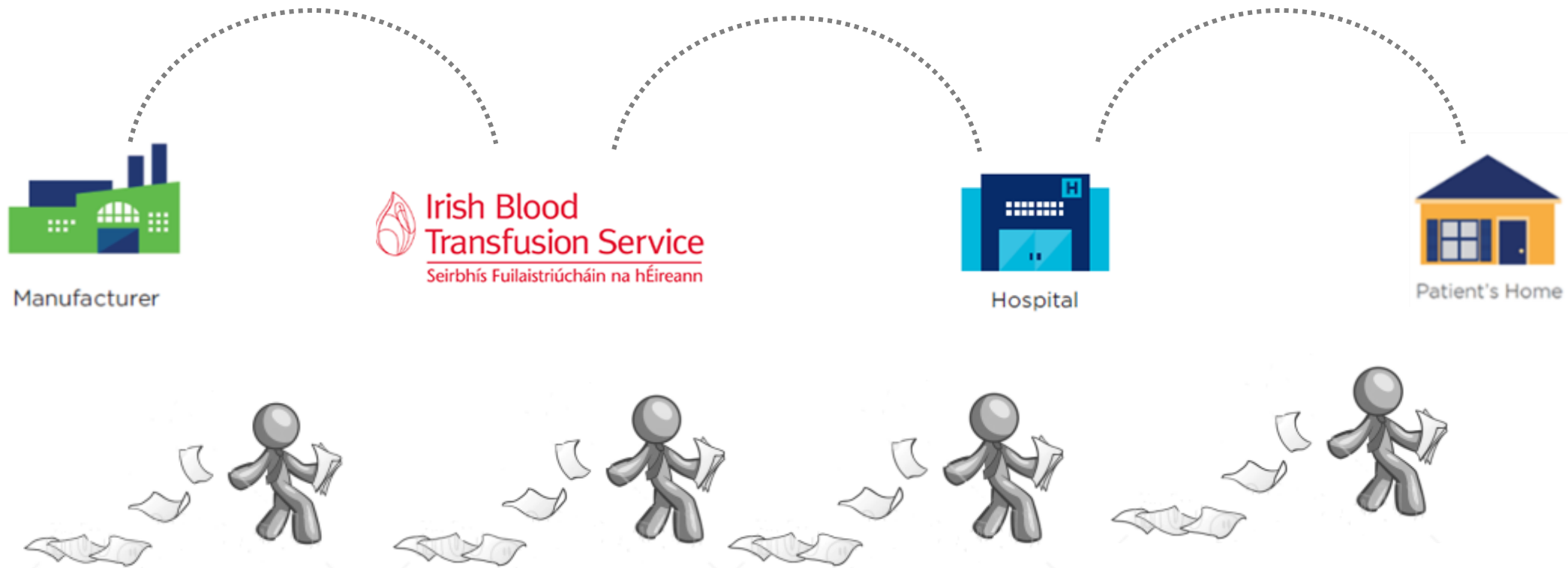
- Clinicians can view a record when and where they need it
- Can be used to populate a Patient Portal

# Multi-location deployment

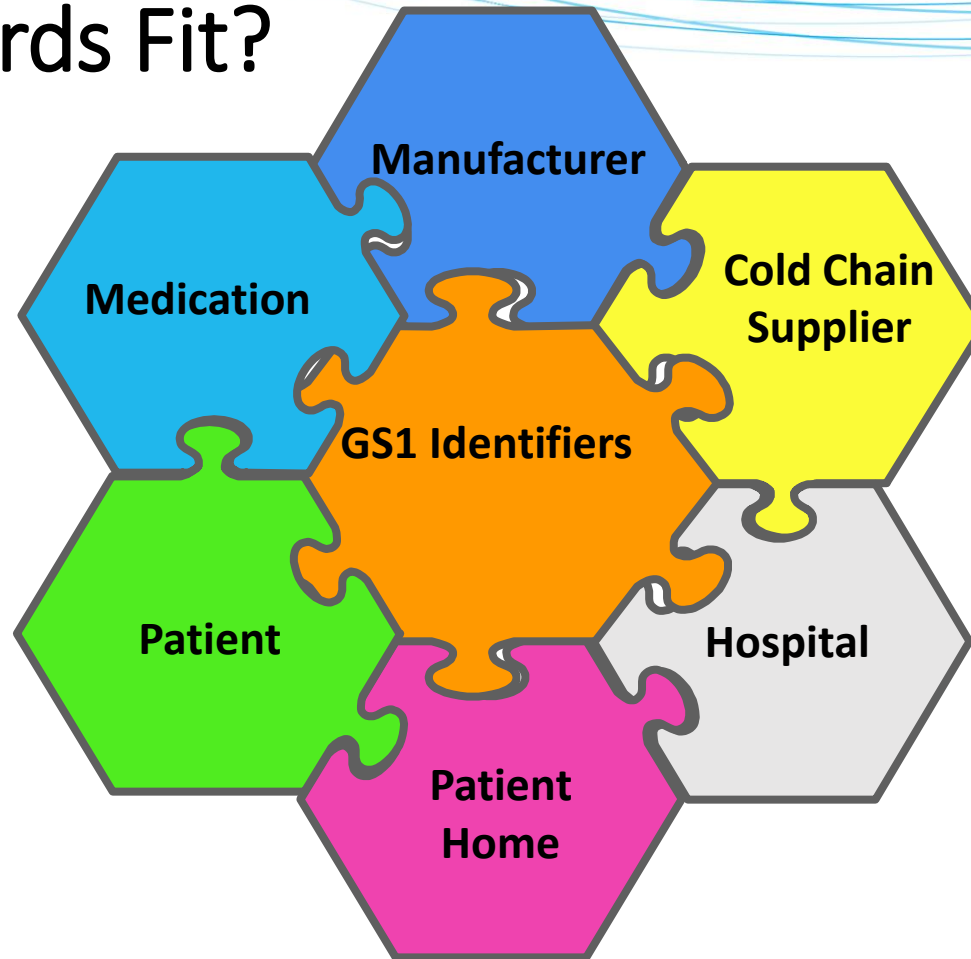




# Medication delivery supply chain – where we were then



# Medication delivery – Where do GS1 standards Fit?



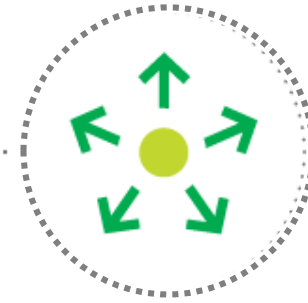
# Medication delivery supply chain – where we are now



IDENTIFY



CAPTURE



SHARE



# Identify



IDENTIFY



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

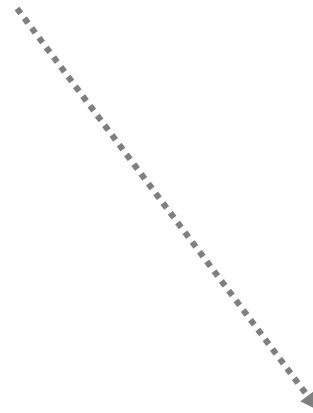
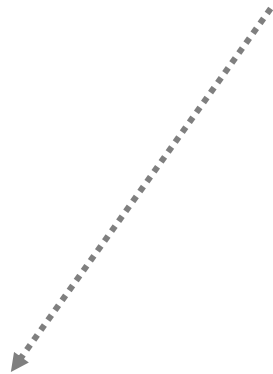
Product Name (GTIN)

Expiry Date

Batch/lot Number

Serial Number

# Capture



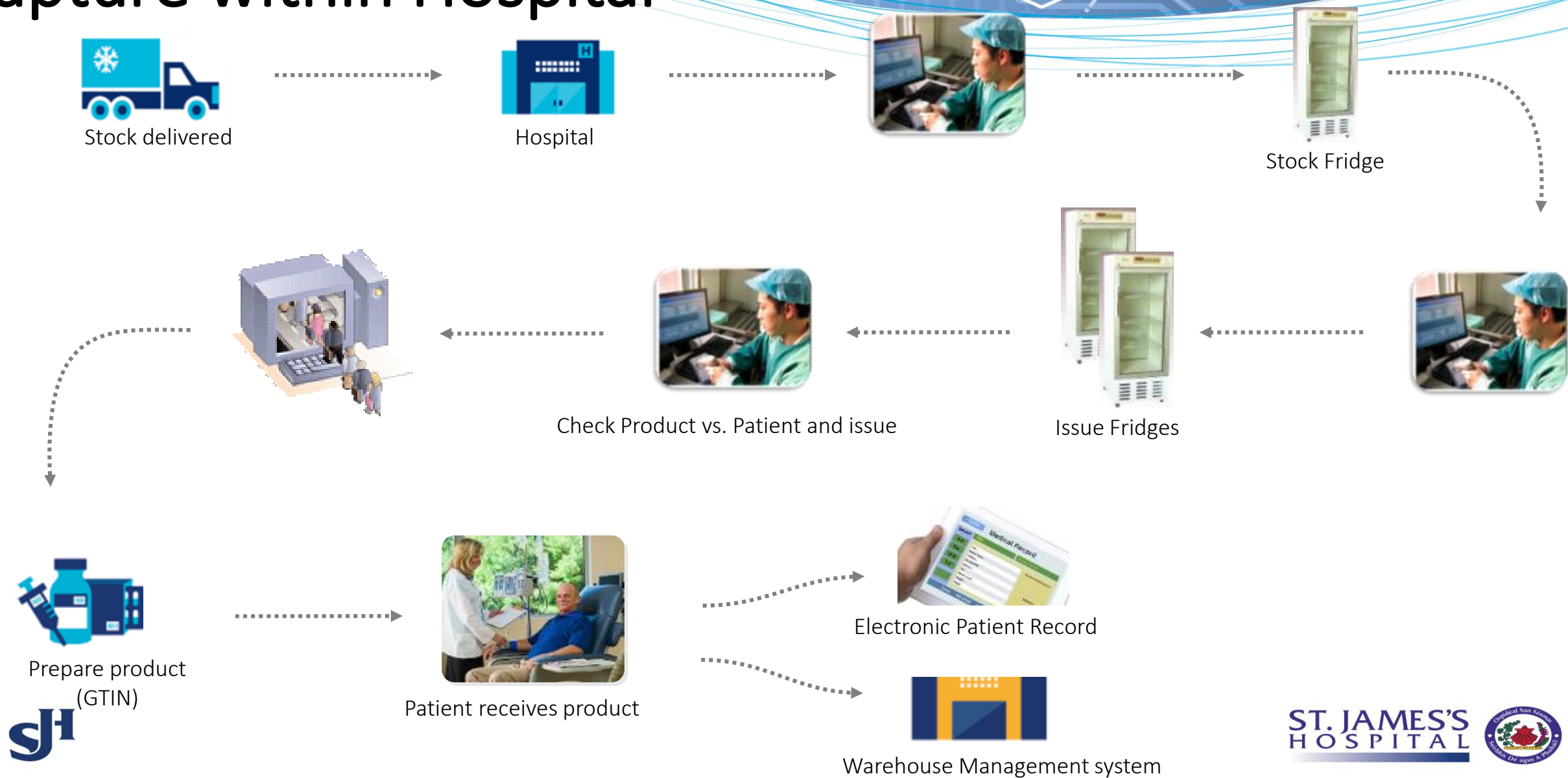
Hospital



Patient's Home



# Capture within Hospital



# Share – Stock Management

Company: St. James Hospital

Source: PharmaTrack

Criteria: (GLN = NCHCD)

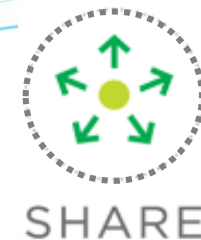
Owner: Feargal

Date: 02/05/07 16:28

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

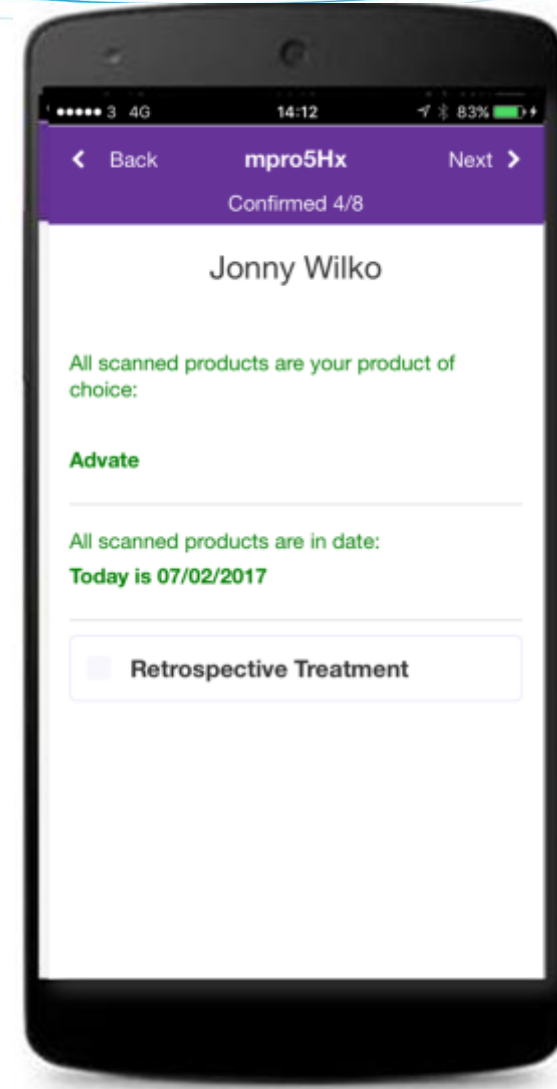


# Capture at home



Barcode on Vial box is scanned to check

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



# Benefits of using Scanning App

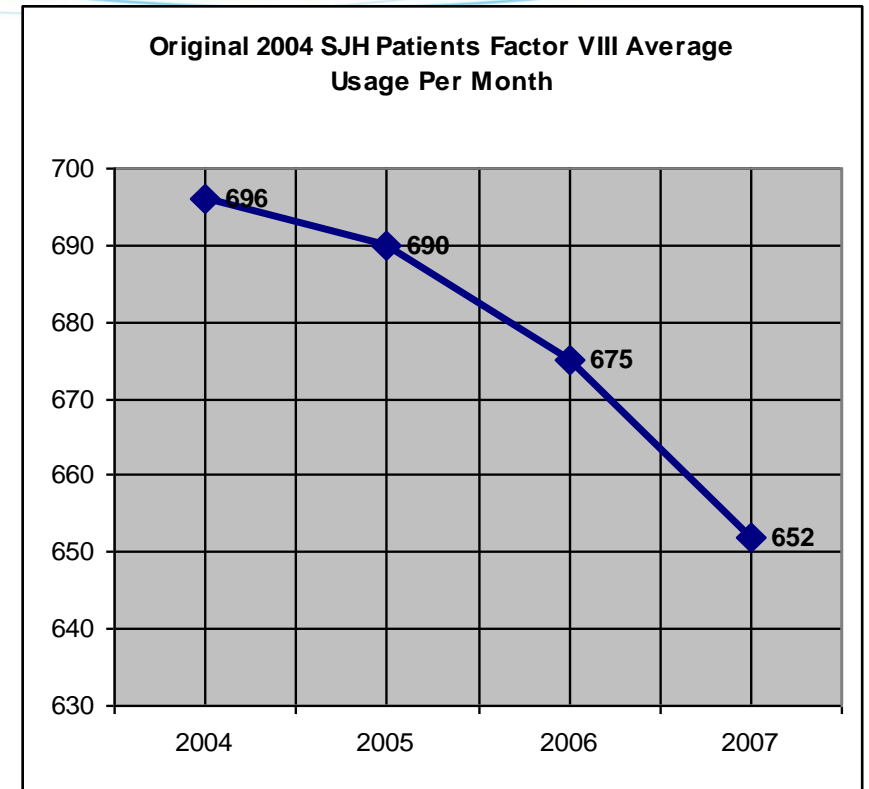
- Real-time recall alert
- Timeliness of infusion
- Prescription compliance (2000iu instead of recommended 1750iu)
- Automatic compliance verification
- Real-time alerts for specific bleeds
- Patient empowerment

SHARE

[illegible]

# 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

# The Future



## Lighthouse Projects

eHealth Ireland is working to deliver an Electronic Health Record (EHR) for Ireland in 2016. As part of this, eHealth Ireland is investing resources into 3 project areas known as the 'Lighthouse Projects' to build an understanding of the benefits of an EHR in the Irish healthcare system. These projects are in the clinical disciplines of Epilepsy, Haemophilia and Bipolar Disorder and will be carried out over a 12 month period with specific deliverables. They are the first chronic disease related areas for eHealth Ireland to focus on as part of the eHealth Ireland strategy. Specific feedback will be made available during the whole of 2016 as these projects provide patient, public and clinical benefit. eHealth Ireland will be working in collaboration with a number of organisations to deliver these projects (see individual projects). eHealth Ireland will also be working with ARCH across all three projects to research the implementation of a flexible and re-usable EHR model. ARCH is the industry-driven technology centre for connected health research in Ireland. Through the projects the many positive outcomes and benefits for patients as well as healthcare professionals associated with using information technology within health will be showcased. It will develop a new paradigm of healthcare delivery for Ireland.



# Thank you

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