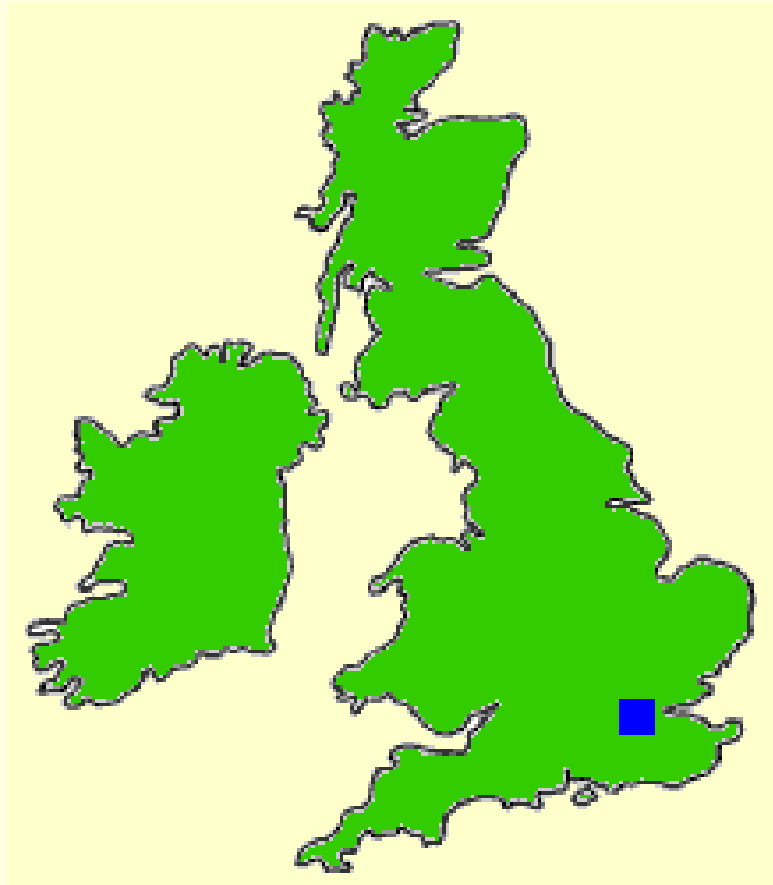


# RFID in Hospital



## INDIA HARDY

B.Pharm MRPharmS



# OVERVIEW

---

- Patient Safety concerns – Why do we want to adopt RFID?
- Electronic Inpatient Prescribing Project – What are we doing?
- GS1 HUG – How does my participation help the hospital?
- Questions & Answers

# Chelsea & Westminster Hospital



## DIRECTORATES

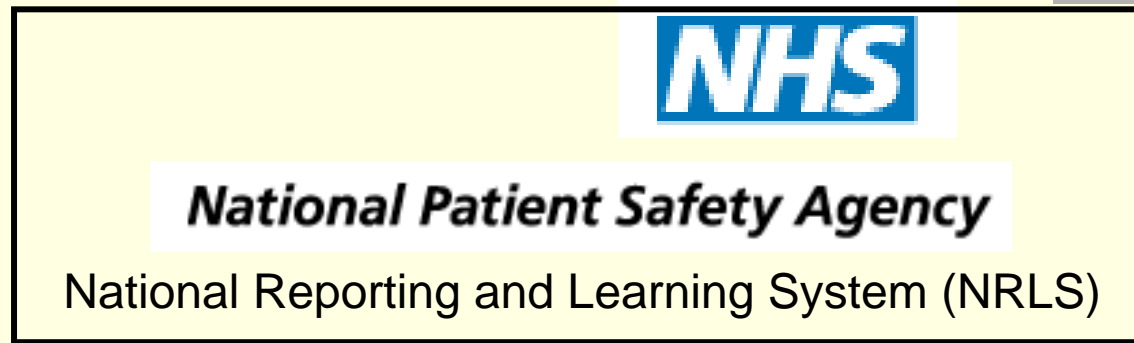
- Anaesthesia & Imaging
- HIV & Sexual Health
- Medical
- Surgery
- Women's & Children's Service



# AIMS & VALUES

- **Clinical Governance and Safety** – to improve continuously patient outcomes and assure patient safety.
- **Patient Experience** – improve all aspects of the patient's experience, make the patient the centre of everything we do through a focus on customer care, and consequently to be the provider of choice.
- **Service Line Reporting** – to develop a service portfolio and business model based on a clear understanding of our income and cost base through service line reporting.
- **Teaching and Research** – to provide excellent undergraduate and multi-professional teaching.
- **Specialist Services** – to maintain and develop our specialist services.
- **Strategic Partnerships** – to develop effective partnerships with all stakeholders, including the Members' Council.
- **Workforce** – to ensure we have a highly skilled, motivated, diverse, productive and customer focused workforce.
- **Modern Infrastructure** – to ensure clinical care is supported and enabled by effective, modern support services.
- **Innovation** – to be innovative with our clinical services and business models, in particular by using our new Foundation Trust freedoms.
- **Integrated Governance** – to develop further the Trust's framework for integrated governance.

# Patient Safety Reporting



Local Risk Management  
Systems (LRMS)

Local Risk Management  
Systems (LRMS)

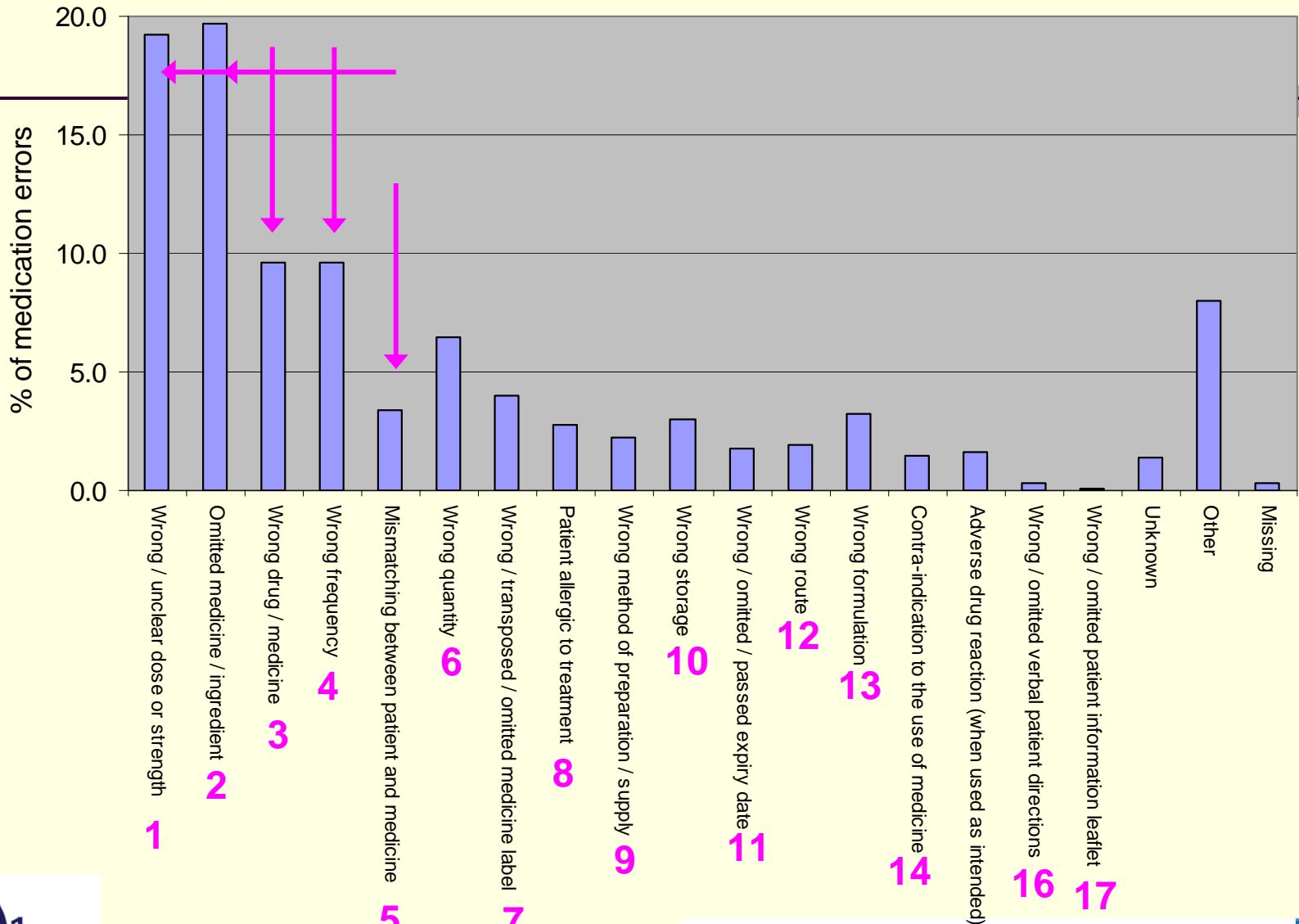
Local Risk Management  
Systems (LRMS)

*'any unintended or unexpected incident that could of or did lead to harm for one or more patients receiving NHS-funded healthcare'*

Chelsea and Westminster Hospital **NHS**

NHS Foundation Trust

# Type of Medication Errors



# Electronic Patient Record (EPR)



GE Healthcare



00301371 REALISATION, Benefit - F

File Edit Patient Session Navigate Help

Patient Information | Requests/Results | Allergies | Inpatient Functions | Outpatient Functions | Other Options

**Clinical Data - Height/Weight & Allergies/Intolerances** (Last reviewed by: HARDY, INDIA 22May2006)

**Enter Height and Weight**

Height (cm):  Date: 22May2006 Weight (kg):  Date: 22May2006  
 or Height (feet):  or Weight (lb):  Body Surface Area (m2):

Medication (Allergy or Intolerance)	Reaction	Update/Delete Reason	Update	Delete
PENICILLINS	Anaphylaxis		<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

**Food Intolerance** | Update/Delete Reason | Update/Delete | **HELP** | help

**Contrast Media Intolerance**

**Other Intolerances**

Food  Medication

All Data Reviewed and Saved

Allergies reviewed:  HARDY, II CW REGCLIN1

# Project Workflow

Step 1: Dr prescribes Rx

Step 2: Pharmacist verifies Rx

Step 3: Dispensary supplies Rx

Auto-ID of patient via  
RFID wristband

Step 4: Nurse administers Rx

Supply chain



Robotic Dispensing





# Step 1: Dr prescribes Rx

Drug	Nicorette Pato		10mg/16h	0700	✓	✓	✓
Dose	10mg	od	tp	Start date			
Frequency				Stop date			
Route				Pharmacy			
Additional instructions	Remove patch at bedtime						
Doctor's signature							

00301498 RICHMOND-TERRACE, Nicole - F

File Edit Patient Session Navigate Help

Prescribe In-Patient Medication

Help

Allergy: NO KNOW

IP MEDICATIONS (970)

NICOT

- NEOMYCIN 500MG TABLET
- NEOSTIGMINE 2.5MG/ML INJECTION
- NERISONE FORTE OILY 0.3% CREAM
- NERISONE OILY 0.1% CREAM
- NETILMICIN IN GLUCOSE 100ML INFUSION
- NETILMICIN IN GLUCOSE 250ML INFUSION
- NETILMICIN IN GLUCOSE 50ML INFUSION
- NETILMICIN IN NACL 100ML INFUSION
- NETILMICIN IN NACL 250ML INFUSION
- NETILMICIN IN NACL 50ML INFUSION
- NEVIRAPINE 200MG TABLET
- NEVIRAPINE 50MG/5ML SUSPENSION
- NICORANDIL 10MG TABLET
- NICORANDIL 20MG TABLET
- NICOTINE PATCH 10MG IN 16 HOURS**
- NICOTINE PATCH 15MG IN 16 HOURS
- NICOTINE PATCH 5MG IN 16HOURS
- NIFEDIPINE 10MG CAPSULE
- NIFEDIPINE 10MG SR CAPSULE
- NIFEDIPINE 10MG SR TABLET
- NIFEDIPINE 20MG SR CAPSULE
- NIFEDIPINE 20MG SR TABLET
- NIFEDIPINE 30MG TABLET PD
- NIFEDIPINE 5MG CAPSULE
- NIFEDIPINE(SLOFEDIPINE XL) 60MG MR TAB
- NIFEREX 100MG/5ML ELIXIR
- NIMODIPINE 10MG INJECTION
- NIMODIPINE 30MG TABLET
- NIMODIPINE 60MG/5ML SUSPENSION
- NIOFAM 200 INJECTION

Update Allergies

Process Orders

Clear List

Backout

19.2% Med errors due to unclear dose

# Order Sets

Drug <i>Nicorette Patches</i>	<i>10mg/16hr</i>		<i>0800</i>	✓	✓	✓										
Dose <i>10mg</i>	Frequency <i>od</i>	Route <i>top</i>	Start date <i>3/10</i>													
Additional instructions <i>Remove patch at bedtime</i>			Stop date													
Doctor's signature			Pharmacy <i>reverse 22.00</i>													

3

00301498 RICHMOND-TERRACE, Nicole - F

File Edit Patient Session Navigate Help

ALLERGY DRUGINFO DSUM IPPFUNCT IPPMED LABR NOTE PFS PT INFO RX RPTS VLMENU

**REQUEST SET FOR NICOTINE PATCH**

Default: All selected

#	Request	Start Date Time	Stop Date Time
1.	<input checked="" type="checkbox"/> NICOTINE 15MG/16HR PATCH	6-Oct 06:00	600
2.	<input checked="" type="checkbox"/> Remove Nicotine Patch	6-Oct 22:00	2200

Prescribe Order Set

5-Oct06 110316 EPIG\_PRE CW OCSETSMP

# Default dosing

1.9% of Rx errors wrong route

19.2% of Rx errors wrong dose

9.6% of Rx errors wrong frequency

Drug	Dose	Frequency	Route	Start date	Stop date	Pharmacy
Nicorette Patches	10mg	od	top	3/10		remove 22-00

Medication	Dose	Frequency	Units	Route	Freq	PRN	Comments	Start Date	Stop Date	I	A	D	Pharm	Status
NICOTINE 10MG/16HR PATCH	1	od	patch	trans	q24h			6-Oct06 0600						

# Step 3: Dispensing of Rx

---



- Dispensary is technician lead to free pharmacist up for clinical duties
- over 80% of lines are dispensed automatically from robot
- robot picks over 100,000 pack per month

# Step 4: Nurse Charting

Drug	Nicorette Patches 10mg/16hr			0700	✓	↓ ↓ ↓														
Dose	10mg	Frequency	od	Route	top	Start date	3/10													
Additional instructions						Stop date														
Remove patch at bedtime						Pharmacy	release 22:00													
Doctor's signature																				



LASTWORD CLIENT

File Edit Patient Session Navigate Help

ADT PATIENT CARE VIEWER DRUGS REQUESTS / RESULTS

### Drug Chart

Charting of Regular/Once Only Drugs

**Current**  
Date: 6-Oct2006  
Time: 1142

**Worklist**  
Start Date: 6-Oct2006 Time: 2400  
End Date: 6-Oct2006 Time: 2400

Allergy	Reaction	Date
NO KNOWN DRUG ALLERGIES...		5-Oct2006

Ln	DO	Status	Date	Time	ACTION	Medication	Dose	Units	Volume	Freq	PRN	Route	C
1		Active	6-Oct	0600		NICOTINE 10MG/16HR PAT	1	patch		q24h		Trnsderm	
2		Active	6-Oct	2200		Remove Nicotine Patch	0			q24h			

SELECT ITEM

#	Text	#	Text
1	Given		
2	Not Given		
3	ADMIN BY		
4	STAT Given		
5	DownTime		
6	PHARnotify		
7	REACTION		
8	RGN-VERIFY		
9	STN given		
10	time:		

Select Action

Single Signing    Doc

Print Options  
Printer:

Result Detail    Audit

Intranet Guidelines    Back Out

10

ct06    EPIG, PH/    CW    FHLPLCSB

# Why RFID?

---

- Non contact data transmission
  - Improved infection control
- No direct line of sight required
  - Can scan through bed sheets etc...
- Less read failures
  - saves nursing time

# Error Reduction

Medication Errors	How Reduced?
1. Wrong / unclear dose or strength	FDB Compendium
2. Omitted medicine / ingredient	Order Sets
3. Wrong drug / medicine	FDB Compendium; Robotic Dispensing
4. Wrong frequency	Default Dosing
5. Mismatching between patient and medicine	Auto-ID using RFID wristband
6. Wrong quantity	FDB Compendium; Robotic Dispensing
7. Wrong / transposed / omitted medicine label	No transcription
8. Patient allergic to treatment	Allergy checking
9. Wrong method of preparation / supply	2.2%
10. Wrong storage	3.0%
11. Wrong / omitted / passed expiry date	1.8%
12. Wrong route	Default Dosing
13. Wrong formulation	FDB Compendium
14. Contra-indication to the use in relation to drugs or condition	Allergy/Interaction Checking
15. Adverse drug reaction (when used as intended)	1.6%
16. Wrong / omitted verbal patient directions	0.3%
17. Wrong / omitted patient information leaflet	0.1%
Total Not addressed by project	9%



# Why is it important for Chelsea & Westminster Hospital to be part of HUG?



## 5 RIGHTS of the PATIENT

- right PERSON
- right MEDICINE
- right DOSAGE
- right TIME
- right ROUTE of ADMINISTRATION

AUTHENTICITY

TRACEABILITY

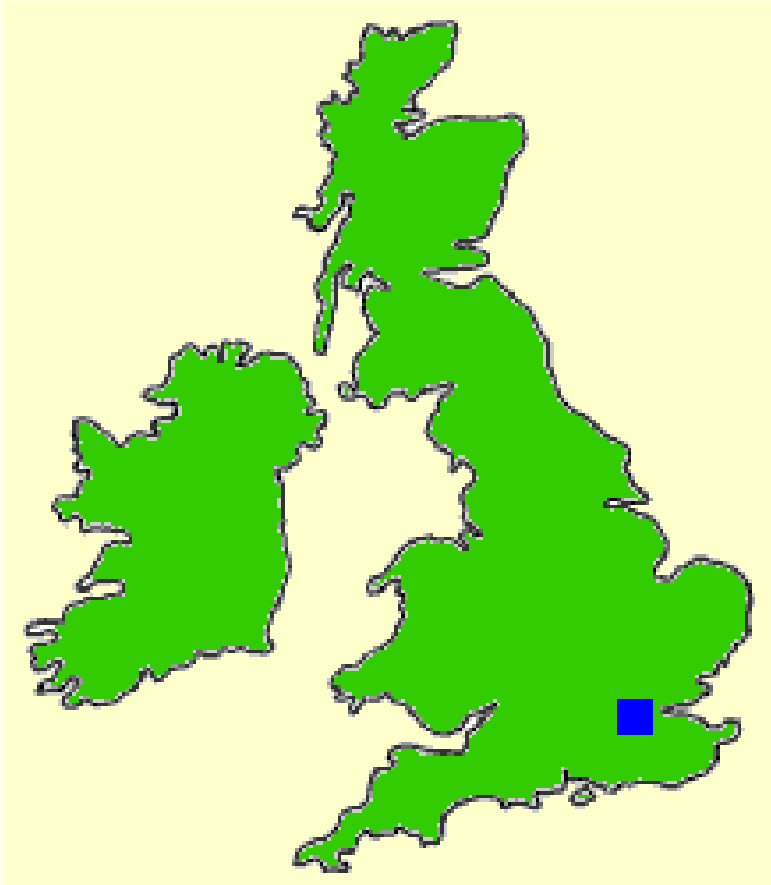


# Why is it important for Chelsea & Westminster Hospital to be part of HUG?



- interface with manufacturers, wholesalers, other hospitals
- assists process planning, horizon scanning, workflow design and project direction
- timeline and decision making

# RFID in Hospital



## INDIA HARDY

B.Pharm MRPharmS

