Advanced Medicines Management

Medication Errors & the Role of Bar-Code Scanning

GS1 Global Healthcare Conference 2019

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Royal Cornwall Hospitals NHS
NHS Trust

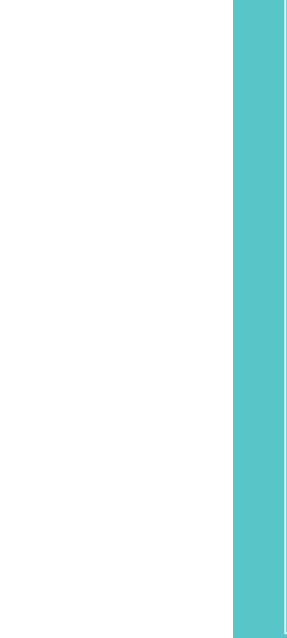
MEDICATION ERRORS: WHERE DO THEY HAPPEN?

Reducing medicines-related harm requires a clear understanding of where and when errors occur. This visual summary shows the latest estimates in England per year.

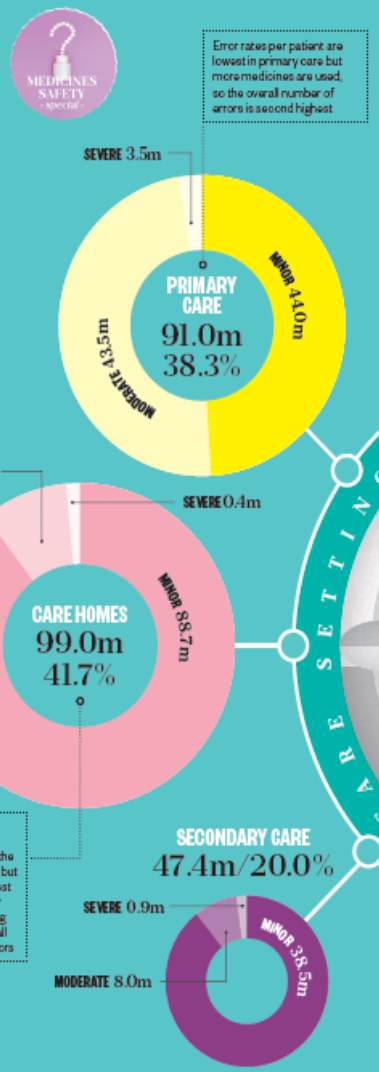
DAWN CONNELLY & MARTIN COTTERELL

TYPES OF ERROR

Around 204,000 medicines-related incidents were reported to England's National Reporting and Learning System during 2017–2018.



Sources: Data obtained via a Freedom of Information request submitted by The Pharmaceutical Journal to NHS Improvement. Incidents reported to the NRLS as occurring between 1 April 2017 and 31 March 2018.



Deaths owing to definitely avoidable adverse drug reactions per year: **712**

NHS costs of definitely avoidable adverse drug reactions per year: **£98.5m**

POTENTIAL SOLUTIONS

Several strategies can be employed to reduce medicines-related harm.

- Roll out and optimise electronic prescribing and medicines administration systems
- Roll out proven interventions, such as PINCER, where pharmacists identify patients who are at risk from hazardous prescribing (see page 95)
- Improve the information available to patients to promote joint decision-making
- Use patient-friendly packaging and labelling
- Improve shared care across different settings
- Embed adequate training in safe and effective medicines use in undergraduate training and continuing professional development
- Encourage reporting of medication errors (see page 120)
- Reduce inappropriate polypharmacy

Sources: Department of Health and Social Care. The report of the short life working group on reducing medication-related harm. February 2018.

> The World Health Organization wants to reduce severe avoidable medication-related harm globally by **50%** by **2022**

Sources: Policy Research Unit in Economic Evaluation of Health & Care Interventions. Prevalence and economic burden of medication errors in the NHS in England. February 2018.

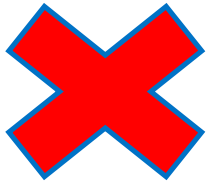
Overworked pharmacist's error led to death of grandmother who died from the 'wrong pills'

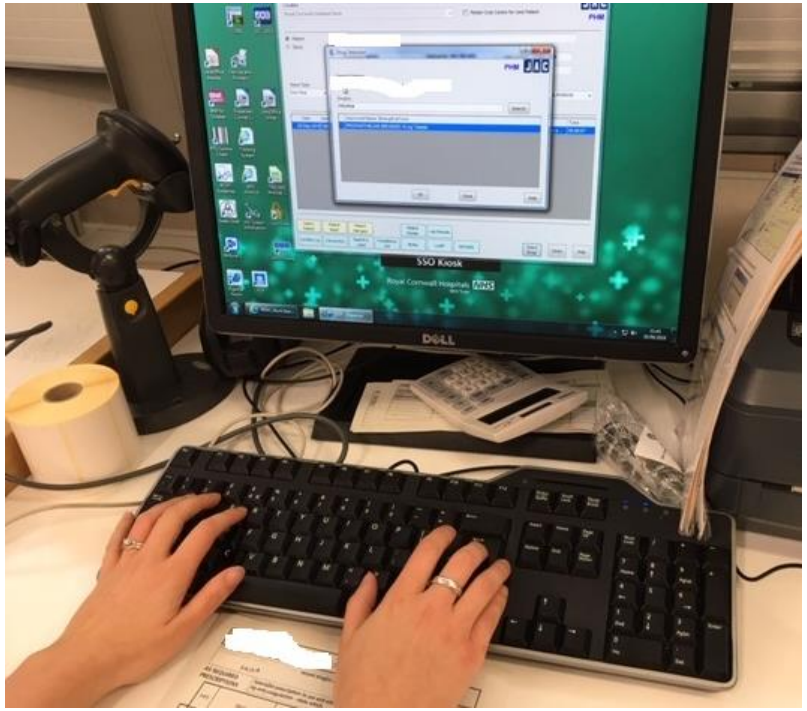
Mr White said the two boxes were “side by side on the shelf and have similar branding”.

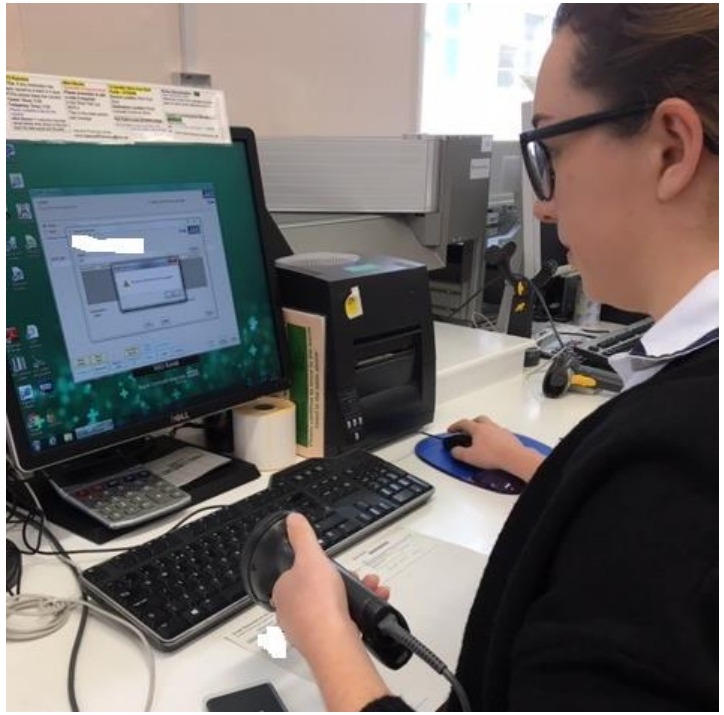
Mr White claimed to have carried out the required checks under the pharmacy standard operation procedures.

RESEARCH & EVALUATION

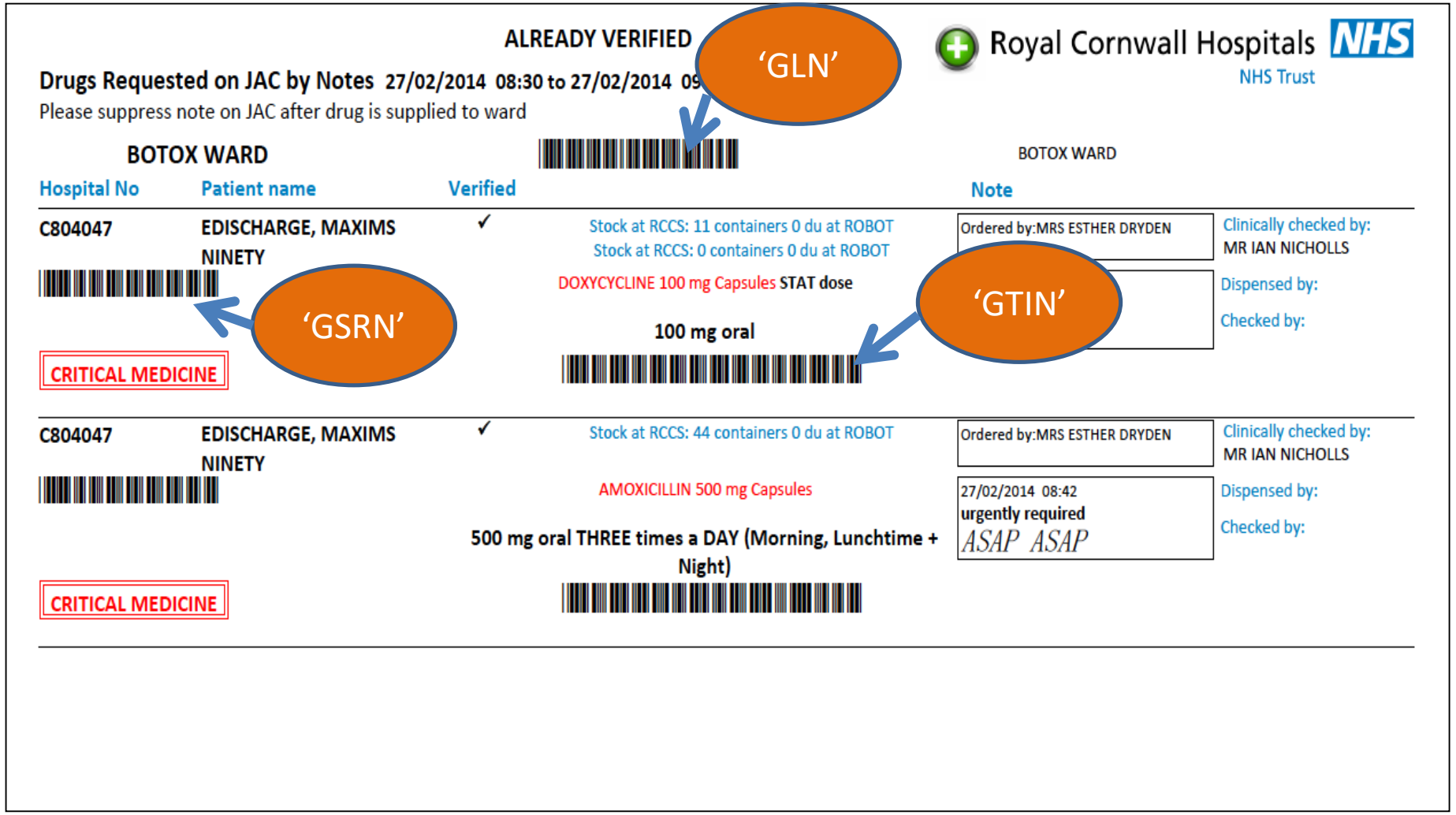
The Adoption of Barcode Scanning Technology in an Acute NHS Hospital Pharmacy




SSO Kiosk
DELL



Barcode Enabled Dispensing



RESULTS

Safer Dispensing (P<0.001)
Prevented Error Rates Reduction

	Error type	Dispensing Error Monitoring Period 1 (barcode non mandatory)		Dispensing Error Monitoring Period 2 (barcode mandatory)	
		Prevented Incidents	Rate (%)	Prevented Incidents	Rate (%)
Bar-code Insensitive Errors	Administrative	4	0.11	2	0.04
	Label directions	13	0.35	7	0.15
Total Bar-code Insensitive Errors		17	0.46	9	0.19
Barcode Sensitive Errors	Wrong patient	1	0.03	**0**	
	Drug strength	5	0.13	**0**	
	Drug form	3	0.08	**0**	
	Drug name	2	0.05	**0**	
	Cost centre	1	0.03	**0**	
Total Bar-code Sensitive Errors		12	0.32	**0**	
Total Number of prevented Errors		29		9	
Number of non-stock items dispensed		3730		4667	
Prevented Error Rate (%)		**0.78**		**0.19 (P <0.001)**	

Results

76%
Reduction in Prevented Error Rates
(p<0.001)

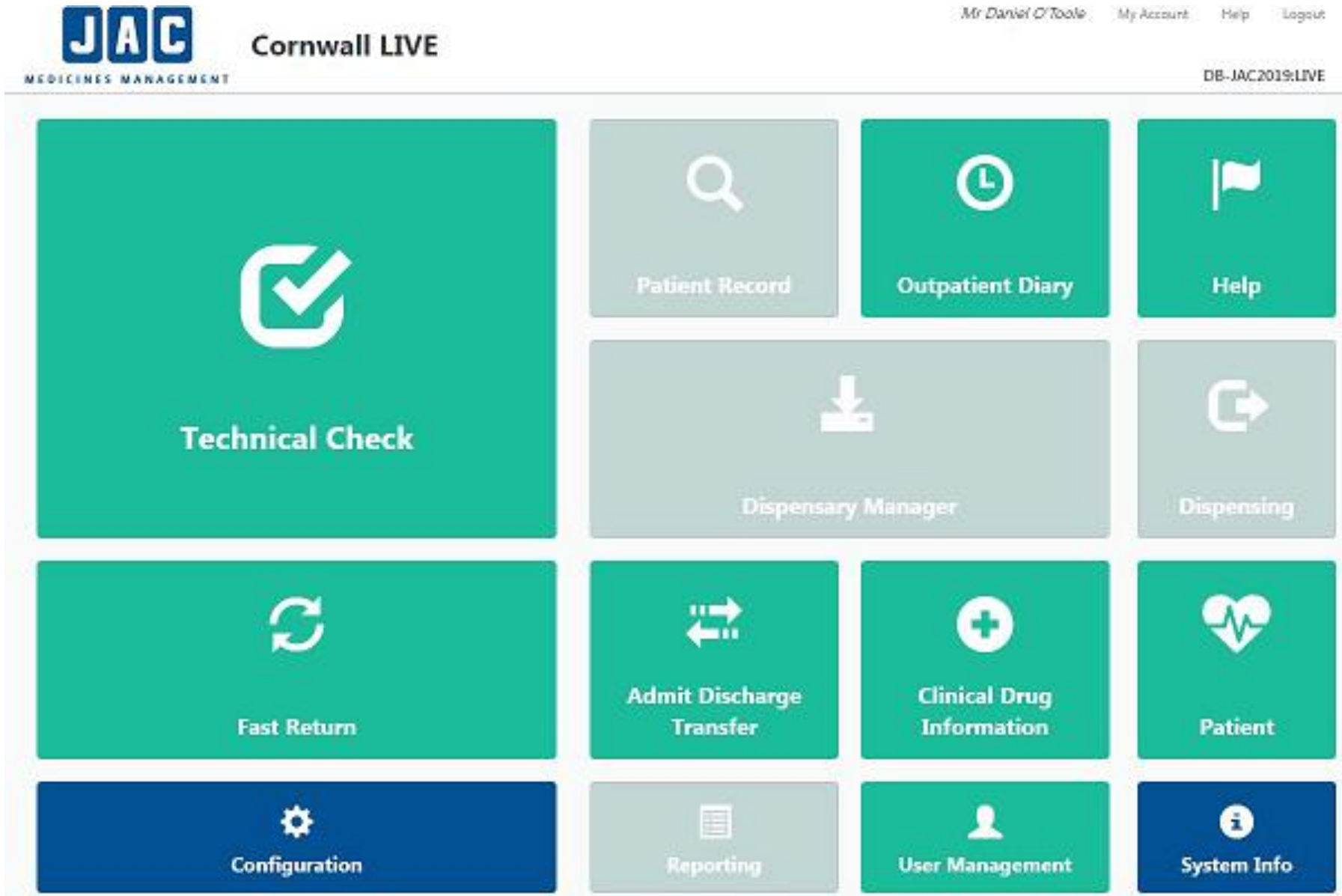
7%
Faster than Manual Process
(p=0.015)

97%
Users agree it reduces the likelihood of medication

67%
Want to use the bar-code enabled system

Next Steps

Integration of GS1 into other Steps in the Dispensing Process
&
Barcode Medicines Administration


JAC
MEDICINES MANAGEMENT
Cornwall LIVE
Mr Daniel O'Toole
My Account
Help
Logout
DB-JAC2019:LIVE
Technical Check
Patient Record
Outpatient Diary
Help
Dispensary Manager
Dispensing
Fast Return
Admit Discharge Transfer
Clinical Drug Information
Patient
Configuration
Reporting
User Management
System Info

1

Co-Codamol Tablets 60 tablets

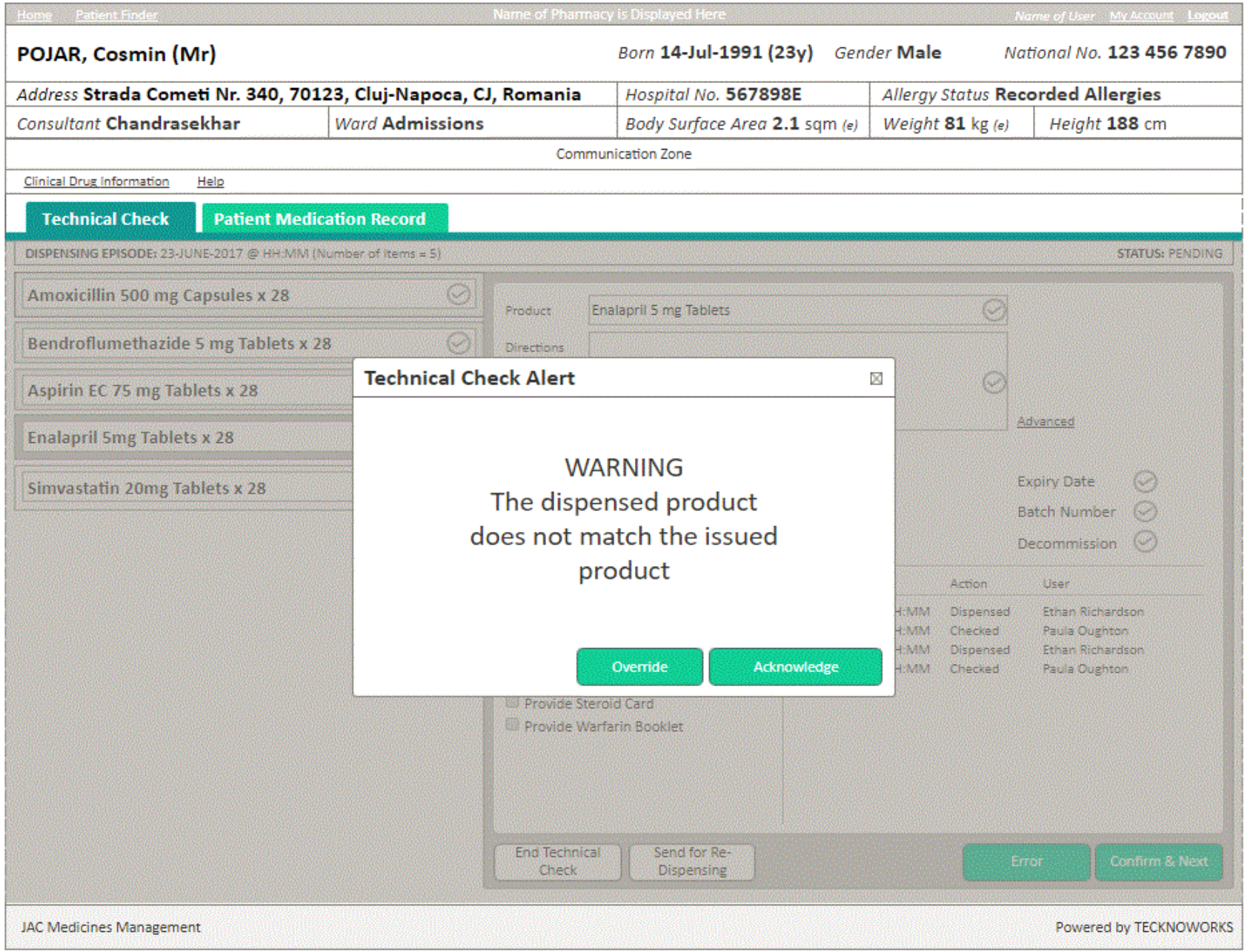
ONE tablet to be taken FOUR times a day, when required for pain

Mr. Alex Krasnov 16-FEB-2018

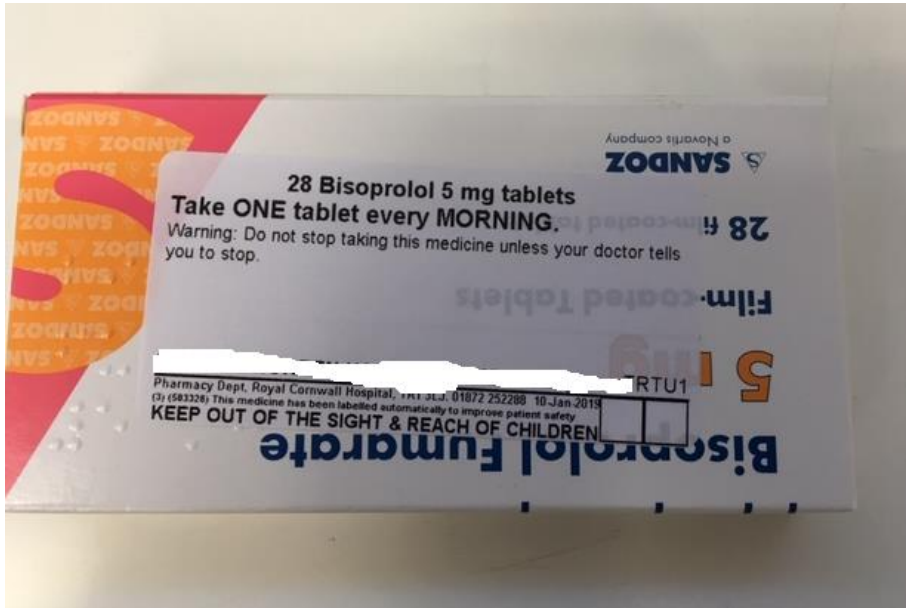
Lviv Hospital Pharmacy, Lviv Hospital, LVIV, LV Oblast

KEEP OUT OF REACH OF CHILDREN

2


Home
Patient Finder
Name of Pharmacy is Displayed Here
Name of User
My Account
Logout
POJAR, Cosmin (Mr)
Born 14-Jul-1991 (23y)
Gender Male
National No. 123 456 7890
Address Strada Cometi Nr. 340, 70123, Cluj-Napoca, CJ, Romania
Hospital No. 567898E
Allergy Status Recorded Allergies
Consultant Chandrasekhar
Ward Admissions
Body Surface Area 2.1 sqm (e)
Weight 81 kg (e)
Height 188 cm
Communication Zone
Clinical Drug Information
Help
Technical Check
Patient Medication Record
DISPENSING EPISODE: 23-JUNE-2017 @ HH:MM (Number of items = 5)
STATUS: PENDING
Amoxicillin 500 mg Capsules x 28
Bendroflumethazide 5 mg Tablets x 28
Aspirin EC 75 mg Tablets x 28
Enalapril 5mg Tablets x 28
Simvastatin 20mg Tablets x 28
Product
Enalapril 5 mg Tablets
Directions
Advanced
Expiry Date
Batch Number
Decommission
Action
User
H:MM
Dispensed
Ethan Richardson
H:MM
Checked
Paula Oughton
H:MM
Dispensed
Ethan Richardson
H:MM
Checked
Paula Oughton
Provide Steroid Card
Provide Warfarin Booklet
Technical Check Alert
WARNING
The dispensed product
does not match the issued
product
Override
Acknowledge
End Technical Check
Send for Re-Dispensing
Error
Confirm & Next
JAC Medicines Management
Powered by TECKNOWORKS

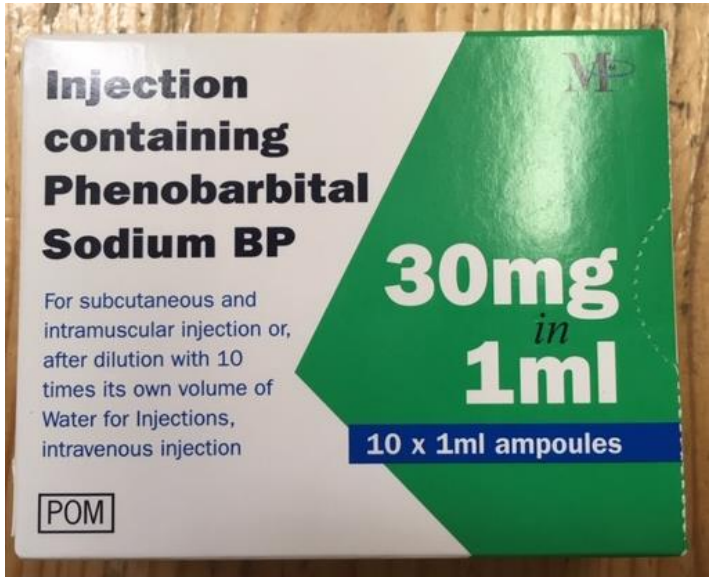
Closed Loop Supply

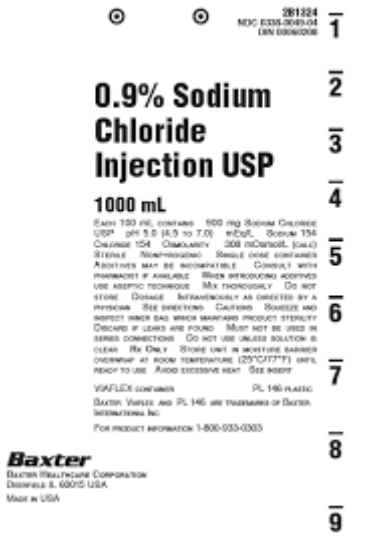


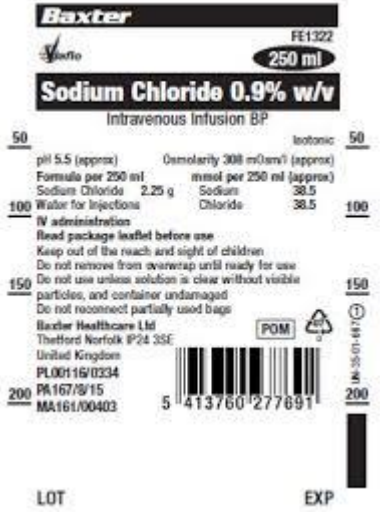
Broader Application

Barcode Medicines Administration

Manufacturers Take Note!







Scan4Safety

Improve Efficiency **Improve Patient Safety** **Release Time to Care**

Thank You For Listening