NEW AND EMERGING ROLES FOR PHARMACY STAFF

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DISCLOSURES

- Some of the enabling technologies mentioned in this presentation were jointly developed by the Health Service and commercial partners in line with Health and Social Care(HSC Policy):
- EPICS,LAMPS,Writemed-Yarra software Ltd Belfast
- STEPSelect- Digitalis Ltd Amsterdam

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QUESTIONS

1. Can clinical or patient facing hospital pharmacy services contribute to reduced mortality?
2. Clinical pharmacist interventions result in improved patient care in more than 80% of cases
3. 3.Post discharge clinical pharmacy follow up reduces unscheduled readmissions

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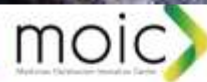

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NORTHERN IRELAND

- Smallest UK country
- Devolved Government
- 1.8m population
- Post conflict health legacy
- £550m medicines costs pa
- 14% of total HSC costs

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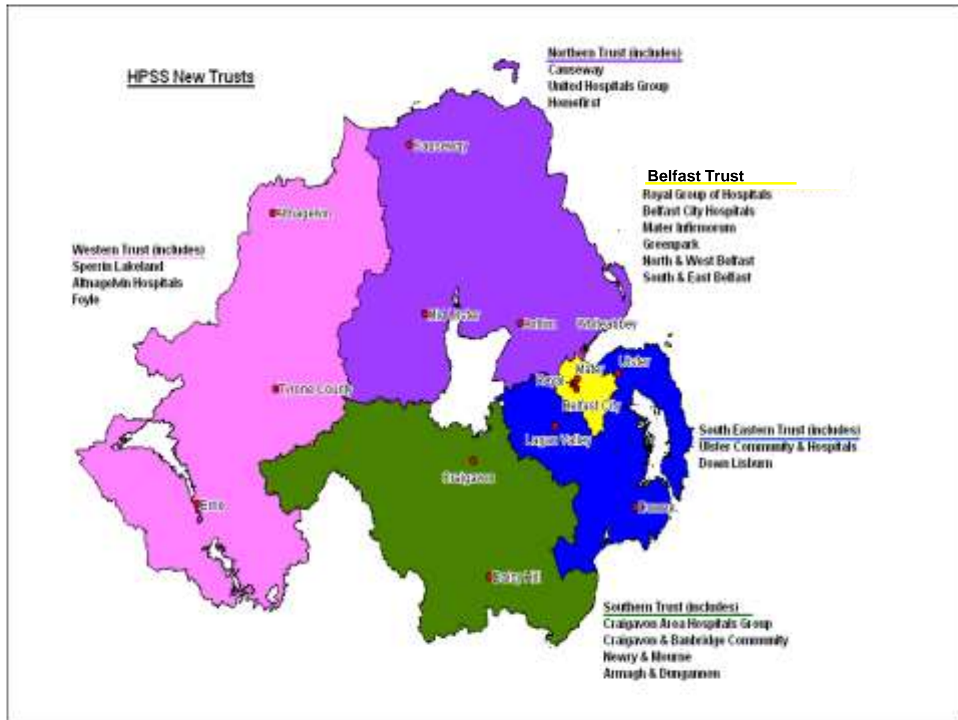

Medicines Management

"Medicines management in hospital encompasses the entire way that medicines are selected, procured, delivered, presented, administered and reviewed, to optimise the contributions that medicines make to producing informed and desired outcomes of patient care"

Audit Commission (2001)

MEDICINES OPTIMISATION

Defined by NICE as ‘a person centred approach to safe and effective medicines use to ensure the best possible outcomes from their medicines’

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What is Medicines Optimisation? A Patient Centred Approach to Medicines

- Right patient
- Right dose
- Right outcome
- Right cost
- Right drug
- Right route
- Right time

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MEDICINES OPTIMISATION QUALITY FRAMEWORK

- **Medicines Optimisation Model**
- **Quality Standards**
- **Innovation and Change Programme**

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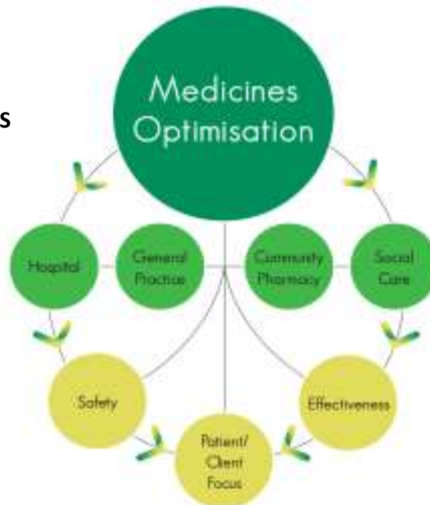
REGIONAL MODEL

QUALITY STANDARDS



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MEDICINES OPTIMISATION INNOVATION CENTRE

- Research
- Quality Improvement
- Knowledge transfer
- Innovation

PRACTICE UNIT

- Antrim Area Hospital Academic Clinical Pharmacy Practice Unit was set up in 1994
- School Of Pharmacy, Queens University of Belfast

OUTPUTS

- Over 60 papers
- Almost 100 posters and abstracts
- 13 PhDs
- 50 MSc and Diplomas

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INTEGRATED MEDICINES MANAGEMENT (IMM) IN NORTHERN IRELAND – TASKS UNDERTAKEN

Team of Pharmacists and Technicians

- Communication with primary care on admission
- Accurate drug history- medicines reconciliation
- Management of patients' own drugs
- Inpatient management including counselling
- Pharmacist discharge and counselling
- Communication with primary care on discharge

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INTEGRATED MEDICINES MANAGEMENT (IMM) IN NORTHERN IRELAND

- Drug history at admission
  reduction of 4.2 errors per patient
- Length of stay reduced by 2 days
- Increased time to readmission (20 days)
- Kardex monitoring (inpatient)
  5.5 interventions per patient

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INTEGRATED MEDICINES MANAGEMENT (IMM) IN NORTHERN IRELAND

- Faster medication rounds > 25 minutes per day saved
- Faster discharge > 90 minutes quicker
- More accurate discharge < 1% error rate compared to 25% by medical staff
- Reduced risk adjusted mortality rate

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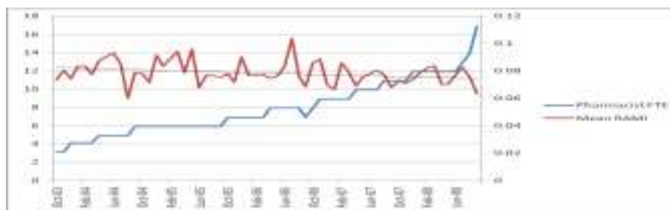
IMPROVED MEDICINE USE

There was a significant improvement in the Medication Appropriateness Index (MAI)

	Admission	Discharge
Control	13.16	9.97
Intervention	17.48	5.69

RISK ADJUSTED MORTALITY INDEX



PHARMACIST RUN CLINICS - EXAMPLES

- Rheumatology
- Warfarin
- Menopause
- Renal
- Haematology
- Multidisciplinary clinic involvement

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PHARMACIST PRESCRIBING

Table 1: Types of interventions proposed by the pharmacist independent prescribers during the data collection period

Intervention	Number of times proposed by pharmacist	Number of times intervention accepted by medical staff
Medication inadvertently omitted	83	83 (100%)
Medication prescribed incorrectly	45	45 (100%)
Medication recommended by other HC professionals	4	4 (100%)
Medications prescribed twice	3	3 (100%)
Other	3	3 (100%)

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ACCIDENT AND EMERGENCY

- Pharmacist working 12 hour shifts Monday to Friday
- Significantly improved medicines reconciled by pharmacy within 24 hours to the 95% level
- Increased the use of the electronic care summary rather than GP contact
- Prescribing Accident and Emergency pharmacist now in place

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SEVEN DAY WEEK WORKING – Commenced 2012

- Saturday and Sunday Teams 9-5
- Pharmacy Discharges increased
- Medicines reconciliation increased
- Decreased emergency call ins
- Full evaluation being carried out

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ENABLING TECHNOLOGY

- Bespoke locker (Hospital Metalcraft Ltd UK)
- Safe therapeutic economic pharmaceutical selection (STEPSelect) – (Digitalis Ltd Amsterdam)
- Electronic pharmacist intervention clinical system (EPICS) – (Yarra Software Ltd Belfast)
- Medicines reconciliation software (Writemed)- (Yarra Software Ltd Belfast)
- Antimicrobial surveillance system (LAMPS) – (Yarra Software Ltd Belfast)

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DO PATIENT BEDSIDE LOCKERS RESULT IN A SAFER AND FASTER MEDICINES ADMINISTRATION ROUND?

- MAE rate fell from

  8.3% to 1.3% ($P<0.001$)

- Medicines administration time per patient decreased from

  6.80 minutes to 3.03 minutes ($P<0.01$)

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EPICS

Electronic Pharmacy
Intervention Clinical
System

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EPICS

- Link of interventions to the safety matrix
- Link to Datex the Trust incident reporting system to capture pharmacist data
- Benchmarking of activity
- Link to patient flow –traffic light system for admissions and discharges

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QUANTITATIVE - ACTIVITIES

- Recorded daily for 1 week per month per pharmacist

Audit performed (in Hours)
Bulk Issue Profile Maintenance reviews (in hours)
CD check routine (in Hours)
Clinic attended (in Hours)
Dispensary sessions (in Hours)
Electronic ward ordering
General advice given to healthcare staff (in Hours
General advice given to pharmacists (in Hours)
Meeting attended (in Hours)
Number of items prescribed/adjusted by IP
Number of items written on Kardex by non IP
Office based clinical Hours
Root Cause Analysis (in Hours)
RQIA visit (in Hours)
Total hours worked (on the date selected)
Training Given as Tutor (in Hours)
Training taken as an attendee (in Hours)
Ward Based Clinical (in Hours)
Ward rounds attended (in Hours)
Ward visits (in Hours)
Weekly antibiotic Audit (in Hours)
Wound assessments

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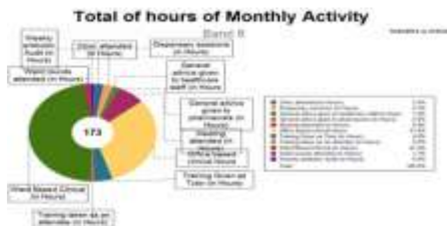
Northern Health and Social Care Trust

EPICS Pharmacy Activity Report

Date Range 15/03/2014 to 21/03/2014



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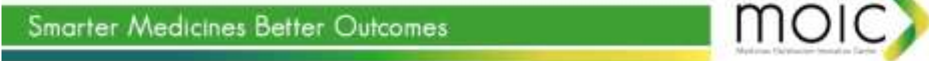
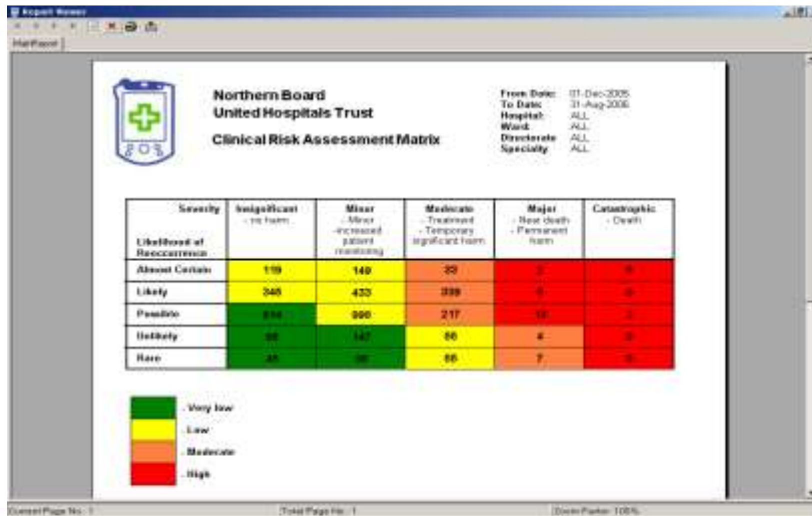
Eadon Grading System

Intervention Grade Analysis: 1 Jan 13 to 30 Sept 15

Intervention Grade	Definition	2013		2014		2015 (year to date)	
		Number	% of Total	Number	% of Total	Number	% of Total
1	Detrimental to patient care	0	0.00%	1	0.00%	0	0.00%
2	Of no significance to patient care	20	0.04%	4	0.01%	4	0.01%
3	Significant but does not improve patient care	2,859	5.74%	2,026	3.69%	1,991	4.85%
4	Significant and improves the standard of care	45,190	90.78%	51,471	93.87%	38,099	92.76%
5	Very significant; prevents major organ failure or similar	1,513	3.04%	1,241	2.26%	957	2.33%
6	Potentially life-saving	17	0.03%	7	0.01%	18	0.04%
Ungraded		182	0.37%	85	0.16%	4	0.01%
	TOTAL	49,781		54,835		41,073	



RISK MATRIX



WRITEMED - Medicines Reconciliation Software

ADMISSION REPORT

DISCHARGE INFORMATION

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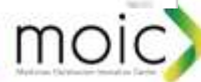

ADVANTAGES

- Real time updates with patient details
- Medication details are uniform, clear
- Med Rec record is retained indefinitely, can be reprinted and accessed by all users
- Intervention reporting is automatic
- Primary care gets complete list on discharge
- Discharge medication list is pre-populated from the admission med rec and then exported into Immediate Discharge Summary once complete
- Next admission med rec is populated from previous admission

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Local Automated Microbiology Pharmacy Surveillance System (LAMPS)

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Adherence to Empirical Antibiotic Guidelines Chart

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LAMPS BENEFITS

- Web based system
- Reporting and analysis
- Alerts
- Antimicrobial stewardship
- Epidemiology
- Audit

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NON PATIENT FACING

- Medicines Information
- Aseptic Services
- Quality Assurance
- Purchasing
- Distribution
- Procurement

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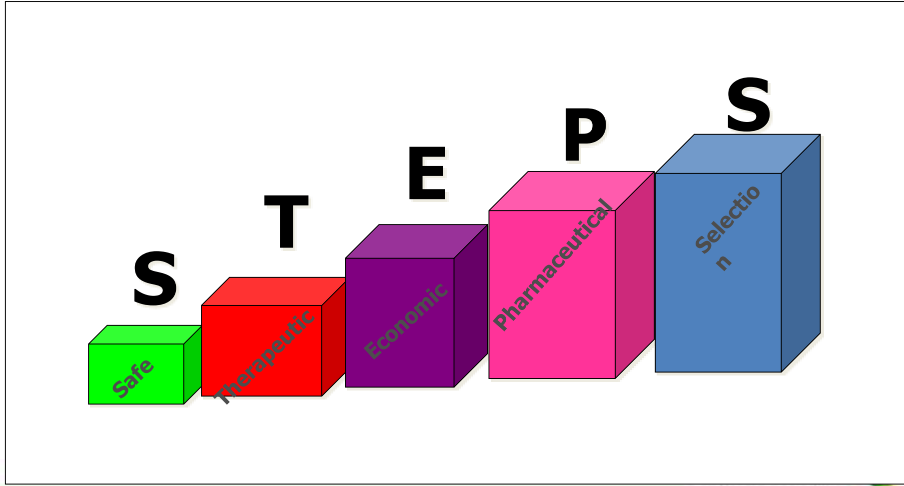
What is STEPSelect?



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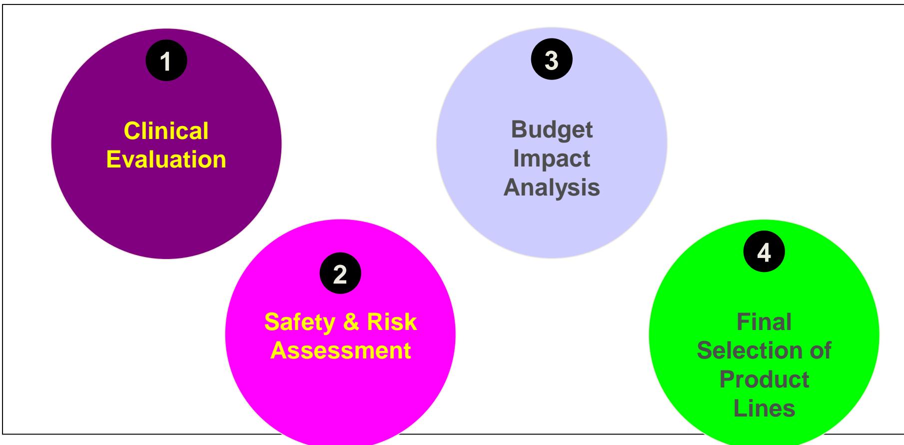
Stages of STEPSelect Process



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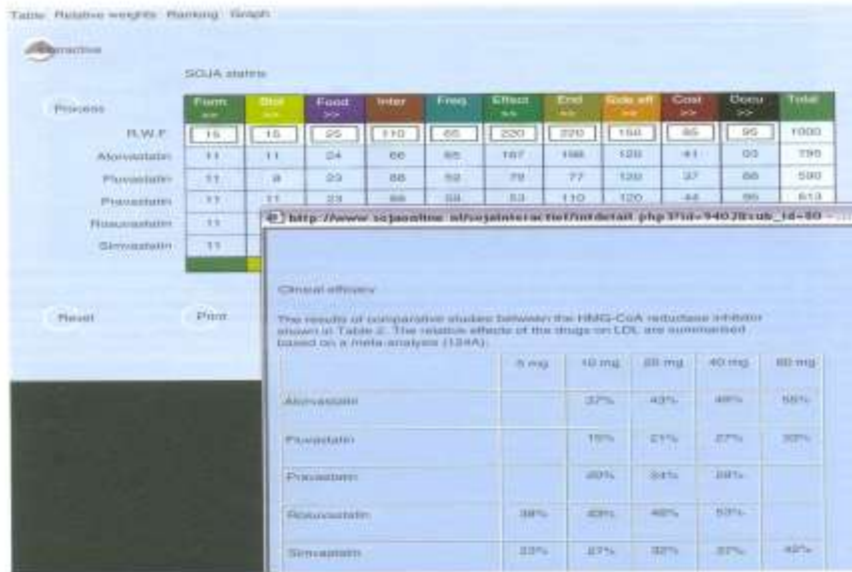
Application of SOJA and InforMatrix in practice: interactive web and workshop tools

Figure 4. The (continuously updated) scores of the authors of the published article and detailed background information on each selection criterion can be viewed on the public website (www.sojanonline.com).

HOSPITAL PRESCRIBING £ PER NEED WEIGHTED PATIENT (MCKINSEY REPORT)

- N.Ireland £58
- N.Ireland 7% £54
- N.Ireland 16% £50
- England £64

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DISTRIBUTION

- GS 1 Barcode system
- RFID
- WIFI
- Analytical tagging
- Tracking and tracing

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REGIONAL NETWORKS

- Clinical Trials
- Antimicrobial stewardship
- Teacher practitioner
- Medicines governance
- Red amber Drugs

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COMMUNITY SERVICES

- Vaccines
- Non drug Tariff items
- Treatment rooms
- Family planning clinics
- Podiatry
- Dental

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CONSULTANT PHARMACISTS- CARE OF THE ELDERLY

- Two posts
- Intermediate care (WHSCT)
- Care Homes (NHSCT)

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INTERMEDIATE CARE – CONSULTANT PHARMACIST

- Improved MAI
- 1122 interventions in 453 patients
- 42.9% patients phoned post discharge required one or more interventions
- ROI 2.35-4

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NURSING HOMES – CONSULTANT PHARMACIST

- Improved MAI
- 2.7 interventions made per patient
- Reduced ED attendances
- ROI 2.39-3

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SYSTEM RE-ENGINEERING CURRENT - SMALL SCALE TESTS OF CHANGE

- Medicines Adherence Support Service (MASS)
- Medicine Management Clinic
- Smoking Cessation
- Post discharge follow-up

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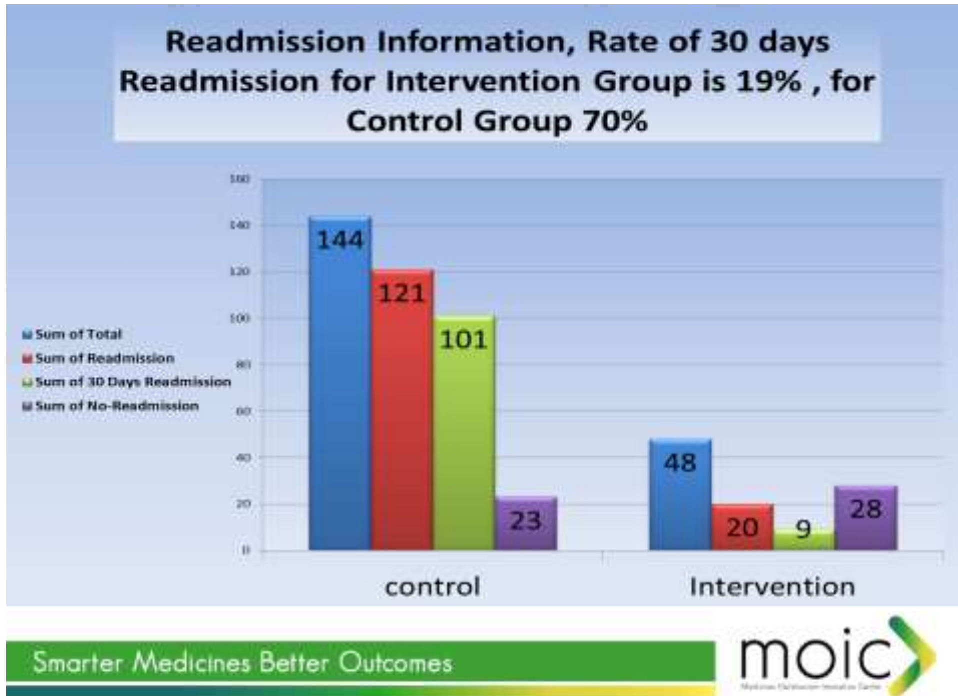

FUTURE SYSTEM CHANGES

- Case management –domiciliary care
- Mental health –crisis response
- Acute care at home
- Outreach linked to primary care pharmacists
- E.g. respiratory, cardiology, palliative care
- Doctor light discharge

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ELECTRONIC CARE RECORD

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FURTHER ENABLERS

- EPMA
- EHCR
- Decision Support
- Formulary support eg Prescriptor/Scriptswitch
- Clinical Rules
- Adherence solutions
- Community Pharmacy Integration
- Risk model linked with Health Analytics

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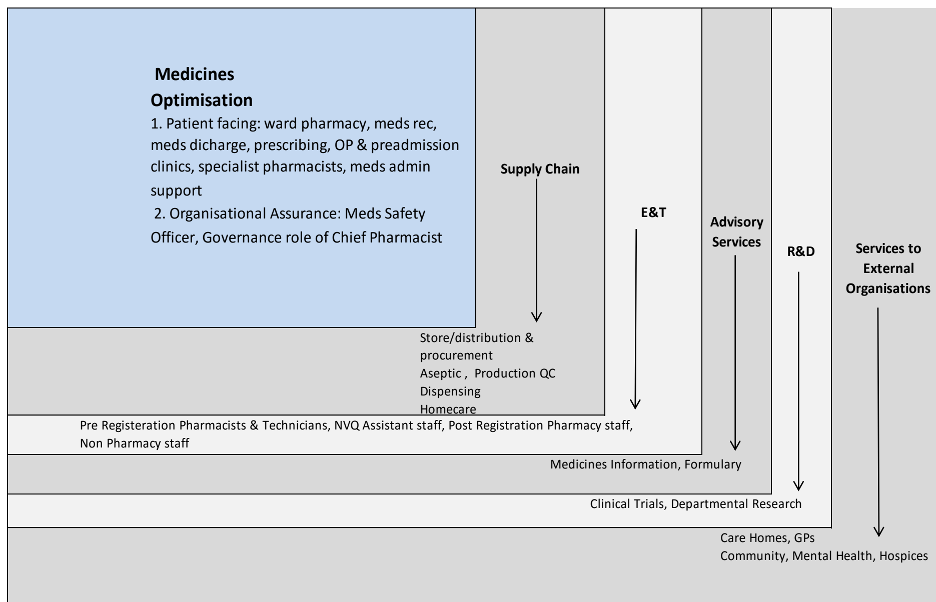
LORD CARTER REPORT FEBRUARY 2016

- Hospital Pharmacy
- Medicines Optimisation



QUESTIONS

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