



ePrescribing in a Global Digital Exemplar

Salford's Lessons Learnt and Future Challenges for ePrescribing and Meds Admin (ePMA) within an Integrated Care Organisation

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What we'll cover...

- Salford Royal (SRFT) ePMA 'history' and 'where we are at'
- Lessons learnt
 - Basic implementation lessons
 - Ongoing challenges
 - Maintenance
 - Clinical Decision Support
- Future challenges
- Risks / opportunities

SRFT EPR History

- c.800-bedded teaching hospital & Integrated Care Organisation
 - Specialities include: renal; dermatology; nutrition; neurosurgery; also regional trauma unit
 - Many offsite services (e.g. anticoagulation; dermatology)
 - Intermediate Care Centres
- Whole-site EPR since August 2000
- Current, core product: Allscripts Sunrise
- Currently implemented functionality includes:
 - Pathology & radiology ordering for all IP/most OP sites
 - Associated results / Images via CRIS
 - Free text & structured noting (inc. voice recognition)
 - All wards included (Critical Care, ED & Post-Op Theatre)
- Scanned records
- SIR (Salford 'spine')

SRFT ePMA History

- ePMA is an embedded function within EPR
 - Locally built & maintained catalogue (still!)
- Discharge summaries with discharge meds rolled out 2002.
- ePMA piloted 2008, rolled out 2010
 - Essentially replacement of standard Kardex
 - Not yet included: Fluids; PN; Complex infusions; CDS alerts.
- Critical care incorporated early 2011
- ED (inc. paediatric ED) incorporated 2014
- OP chemotherapy early 2015
- IP chemotherapy currently rolling out

Basic Implementation Lessons (1)

- Need strong support & engagement from
 - Trust boards
 - Medicines Management and Medicines Safety Groups
 - Consultants (and relevant clinicians) – willing and prepared to commit
- Need permanent, dedicated, Pharmacy staff integrated with IM&T/EPR departments
 - Currently: 1.5 Pharmacists; 1 Technician
 - Still not enough!
- Need clear mechanism for workload priorities

Basic Implementation Lessons (2)

- Prescribers love 'pre-built' prescriptions
- Prescribers love ordersets
 - Specialty specific: ED; Paediatric; Anaesthetic & Haematology
 - Indication specific: Antibiotics
- Entering information is easy, following up is less so
 - e.g. Medicines Reconciliation issues

Search for 'Codeine'...

codeine

Order

- Codeine 30-60mg Every 4-6 Hours PRN
- Codeine 30mg Four Times A Day
- Codeine 60mg Four Times A Day
- Codeine Injection 30-60mg Every 4-6 Hours PRN
- Codeine Linctus (15mg/5ml)
- Codeine Linctus (15mg/5ml) PRN
- Codeine Multi-route 30-60mg Every 4-6 Hours PRN - Oral / IM

Dose: 30 To: 60 Unit: mg

Frequency: Every 4 - 6 Hours PRN: PRN Indication: For pain

Route: Oral Form: Tablet

Indication:

Prescribing Info:
Maximum adult dose: 240mg in 24 hours.

Additional Info:
Maximum adult dose: 240mg in 24 hours.

Start Date: 02-12-2016 Stop After: Clear













Course Length:

Basic Implementation Lessons (2)

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ED Medication Ordersets

ed medications

| | Order |
|---|--|
|   | ED Medications (Adult) Discharge Drugs |
|  | ED Medications Analgesia (Oral) |
|  | ED Medications Analgesia/Sedation (Injections) |
|  | ED Medications Anaphylaxis |
|  | ED Medications Anti-Emetics |
|   | ED Medications Cardiac |
|   | ED Medications Respiratory |
|   | ED Medications Variceal / Upper GI Bleed |

Search for 'CAP' ...

The screenshot shows a search interface for 'cap' with the following items listed:

- Order
- CAP Medication CURB-65 score 0-1 (Community Acquired Pneumonia Medication (CURB-65 score 0-1))
- CAP Medication CURB-65 score 2-3 (Community Acquired Pneumonia Medication (CURB-65 score 2-3))**
- CAP Medication CURB-65 score 4-5 (Community Acquired Pneumonia Medication (CURB-65 score 4-5))
- CAPASAL Shampoo

Additional text on the left side of the interface includes:

- This is a Non-Pharmacy.
- Capillary
- Out of hours, (NOT via air to Remove need time collected & mark if cap
- CAPIMU
- Therapeutic Contact Clin

A 'Warning Message' dialog box is overlaid on the search results. The message contains the following text:

Warning Message

***NOT to be used for patients taking tacrolimus or ciclosporin. Refer to the Antibiotic policy for these patients**

Calculation of CURB-65 score - Score ONE point for each of the following risk factors present:

- New confusion
- Blood Urea >7mmol/L
- Respiratory Rate >= 30
- BP <90 Systolic or <60 Diastolic
- Age >= 65

Consult the Antibiotic Guidelines on Synapse for further information (including dosing advice in renal impairment). For complex cases discuss with a senior doctor.

OK
















Click here to view Antibiotic policies:

Click here to view the VSL policy:

Click here to view Gentamicin policy:

Click here for Vanc policy & calculator:

Antibiotics

| Order | Dose | Unit | Form | Route | Frequency | STAT | Stop After | Indication | Prescribing Info |
|---|------|-----------|------------|-------------|----------------------------|------|------------|--------------------------|--|
| Pt >65 & Indicated(See Policy) - 1 item(s) | | | | | | | | | |
| <input type="checkbox"/>  VSL#3 (One Sachet Daily) | 1 | Sachet... | Powder | Oral | Daily (6pm) | | 7 Days | | |
| CURB-65 2-3 - 5 item(s) | | | | | | | | | |
| <input type="checkbox"/>  Medication Reminder: (-) | | | | | Morning | | | | IV to oral switch |
| <input type="checkbox"/>  Benzylpenicillin Injection (Single Dose) | 1.2 | g | | IV Infusion | ONCE ONLY (ONE DOSE) | STAT | 1 Doses | Pneumonia - community... | |
| <input type="checkbox"/>  Benzylpenicillin Injection (1.2g Every Six... | 1.2 | g | | IV Infusion | Every 6 Hours | | 7 Days | Pneumonia - community... | |
| <input type="checkbox"/>  Doxycycline (200mg Single Dose) | 200 | mg | Tablet/... | Oral | ONCE ONLY (ONE DOSE) | STAT | 1 Doses | Pneumonia - community... | |
| <input type="checkbox"/>  Doxycycline (100mg Morning) | 100 | mg | Tablet/... | Oral | Morning | | 6 Days | Pneumonia - community... | |
| CURB-65 2-3 - If NBM - 5 item(s) | | | | | | | | | |
| <input type="checkbox"/>  Medication Reminder: (-) | | | | | Morning | | | | IV to oral switch |
| <input type="checkbox"/>  Benzylpenicillin Injection (Single Dose) | 1.2 | g | | IV Infusion | ONCE ONLY (ONE DOSE) | STAT | 1 Doses | Pneumonia - community... | |
| <input type="checkbox"/>  Benzylpenicillin Injection (1.2g Every Six... | 1.2 | g | | IV Infusion | Every 6 Hours | | 7 Days | Pneumonia - community... | |
| <input type="checkbox"/>  Clarithromycin Injection (500mg Single... | 500 | mg | | IV Infusion | ONCE ONLY (ONE DOSE) | STAT | 1 Doses | Pneumonia - community... | Statins should be suspended during a course of this... |
| <input type="checkbox"/>  Clarithromycin Injection (500mg Every 12... | 500 | mg | | IV Infusion | Every 12 Hours | | 7 Days | Pneumonia - community... | Statins should be suspended during a course of this... |
| CURB-65 2-3 Pen. Allergic - 2 item(s) | | | | | | | | | |
| <input type="checkbox"/>  Doxycycline (200mg Single Dose) | 200 | mg | Tablet/... | Oral | ONCE ONLY (ONE DOSE) | STAT | 1 Doses | Pneumonia - community... | |
| <input type="checkbox"/>  Doxycycline (100mg Morning) | 100 | mg | Tablet/... | Oral | Morning | | 6 Days | Pneumonia - community... | |
| CURB-65 2-3 Oral Step-down - 2 item(s) | | | | | | | | | |
| <input type="checkbox"/>  Amoxicillin (500mg Three Times a Day) | 500 | mg | Capsule | Oral | Three Times a Day (8; 2... | | | Pneumonia - community... | Total course length including IV should be 7 days |
| <input type="checkbox"/>  Doxycycline (100mg Morning) | 100 | mg | Tablet/... | Oral | Morning | | | Pneumonia - community... | Total course length including IV should be 7 days |

Non-Medication Requests

| Order |
|-------|
|-------|

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Order: Medicines Reconciliation Issues Order ID: 001LHFZVF Ancillary ID:

Requested By: Dugdale, Robert J Template Name: Medicines Reconciliation Issues -

Messages:

Stage: Admission

Status: OUTSTANDING ITEMS

1: Omeprazole 20 mg OM [pre-admit meds]

1: Date reconciled/resolved 29-11-2016

2: Loperamide 2 mg PRN [pre-admit meds]

2: Date reconciled/resolved 29-11-2016

3: Review when diuretics to restart

3: Date reconciled/resolved

4: Apixaban 2.5 mg BD - review when to restart

4: Date reconciled/resolved

5:

5: Date reconciled/resolved

6:

6: Date reconciled/resolved

Comments:

Ongoing Challenges (Lessons Being Learned!)

- Emergency department (NB now “live”)
 - Whole department project
 - Workflow is critical
 - Admission issues (not uncommon)
- IV chemotherapy
 - National pressures vs. local priorities
 - Integrated EPR solution vs commercial products
- Fluid prescribing
 - Association with fluid balance
- Dialysis
 - Multiple inpatient visits
- Intermediate care
 - Transfer vs. Discharge
- Cont’d...

Maintenance

- Basic medication catalogue
 - New medicines
 - New ordersets
 - Updated default dose information, frequency, routes of administration etc.
- MHRA / NICE / BNF guidance & warnings
- Local policies / updates
 - via Medinces Safety or Medicines Management Groups
 - Local adverse events

Clinical Decision Support

- Requires full, committed, resource for management, maintenance and review
- UK compliance
 - dm+d
 - UK references; data & warnings
- Update frequency
- Major issues regarding prescribers interaction with alerts (e.g. 'alert fatigue')
- May lose subtleties of local messages and warnings with commercial product

Future Challenges

- ePMA is not an end in itself. It is part of the larger system
 - Helps with standardisation of treatment protocols
 - Build into electronic treatment pathways
- Automation and integration
- GS1 compliance
- Closed-loop prescribing

Risks / Opportunities

- How can we meet these challenges?
 - Increase in skilled, pharmacy EPR workforce
 - Better networking for EPR Pharmacy staff
- EPR Pharmacist as a career role?
- Impact of
 - hospital mergers
 - increased joint working
 - Integration of acute and community services

Many thanks