Supporting Hospital ePrescribing
Creating opportunities for shared learning across the NHS

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ICC, Birmingham
27th March 2012
Overview

* Reasons underpinning drive to implement eHealth systems
* Introduction of ePrescribing systems into the NHS
  * Opportunities
  * Challenges
  * Our programme of work
* Aims of this conference
* Next steps...

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Challenges for healthcare systems internationally

* Spiralling healthcare costs
* Ageing populations
* Increasing numbers of people living with long-term conditions
* On-going concerns about the safety, quality and inefficiency of healthcare

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Spiralling healthcare costs...

Cumulative percentage change in total expenditure on health

- U.K.
- U.S.
- France
- Japan*

*Through 2006

Source: OECD Health Data 2009
The demographic time bomb: Forecasts for dependency ratios
Fig. 1 The relationship between adverse drug reactions and polypharmacy. Reproduced with kind permission from Denham.\textsuperscript{55}
Drug blunder patient dies

Wayne Jowett in a photo released by his family

A teenager has died after a cancer drug was injected into his spine by mistake at a Nottingham hospital.

The leukaemia treatment vincristine should have been injected into 18-year-old Wayne Jowett's vein.

Managers at Queen's Medical Centre launched an inquiry into the blunder. Two junior doctors have been suspended.

"My clients have been appalled to learn that so many other families have suffered as a result of similar mistakes".
ePrescribing systems

“The utilisation of electronic systems to facilitate and enhance the communication of a prescription or medicine order, aiding the choice, administration and supply of a medicine through knowledge and decision support and providing a robust audit trail for the entire medicines use process” (NHS Connecting for Health)

Anticipated benefits: patient safety, clinician benefits, service benefits

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The number of hospitals implementing ePrescribing systems is increasing...

Questionnaires Distributed

NHS Staff Member

YES 166

NO 53

Questionnaire responses

85 responses (removed 32 duplicates) 56 evaluable

75 not returned 6 un-evaluable

Plans for implementation

Considering / currently implementing 46

Replacing current system 9

No plans to implement 1

Type of System

Ascribe 7

JAC 11

Others systems (e.g. RDI, Lorenzo, Cerner) 22

Don’t Know 16


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Active Problems : 

Significant past : 

Allergies/reaction: to Penicillins 

Reg Claim Done? : - - -
Ethnic group : - - -
Systolic BP : - - -
Height : - - -
Weight : - - -
Body Mass Index : - - -
Smoking : - - -

End of Summary

Select Option, <F4> find code, <Tab> group problem list : 

0.30754. Mr Penicillin Allergy, 50 Town Street Horsforth Leeds Age 15 years MB
No.30754. Mr Penicillin Allergy, 50 Town Street Horsforth Leeds  Age 15 years MB

Prescriptions

PATIENT HAS AN ADVERSE REACTION TO PENICILLINS
Press Any Key:

Tariff prices : 28 tablet(s) : 1.78

Name: Penicillin V
Form: Tablets
Strength: 250 mg
Dose:
Days/Quant:
Rx Type R/C/U:

A Dispensing patient <F2> for info

No.30754. Mr Penicillin Allergy, 50 Town Street Horsforth Leeds  Age 15 years MB
Contra-Indications:

TETRACYCLINES ARE CONTRA-INDICATED IN PATIENTS WITH RENAL FAILURE

F1=Exit

Tariff prices: 28 tablet(s): £8.10

Name: Oxytetracycline
Form: Tablets
Strength: 250 mg
BNF Interaction Message:
Viagra and Isosorbide Mononitrate
Hypotensive effect significantly enhanced (avoid concomitant use)

NHS prices: 4 tablet(s): £19.3400  8 tablet(s): £38.6700

Name: Viagra
Form: Tablets
Strength: 50 mg
During this meeting I would like to feed back the results of the searches.....

Initial meeting

Action plan

Actions recorded

“Exit” meeting

6 & 12 months

Results + Evidence + Consent letters

GP practice

Base-line

My computer

Data-base

PINCER TRIAL

Simple feedback + Pharmacist intervention

(2 days per week for 12 weeks)
<table>
<thead>
<tr>
<th>Outcome measure</th>
<th>Simple feedback</th>
<th>Pharmacist intervention</th>
<th>Odds ratio (95% CI)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients aged ≥18 with a history of peptic ulcer prescribed an NSAID</td>
<td>86/2014 (4.3%)</td>
<td>51/1852 (2.8%)</td>
<td>0.58 (0.38, 0.89)</td>
<td>0.01</td>
</tr>
<tr>
<td>Patients ≥18 with asthma prescribed a beta blocker</td>
<td>658/22224 (3.0%)</td>
<td>499/20312 (2.5%)</td>
<td>0.73 (0.58, 0.91)</td>
<td>0.006</td>
</tr>
<tr>
<td>Patients ≥75 on long-term ACE inhibitors or loop diuretics with no U&amp;E in the previous 15 months</td>
<td>436/5329 (8.2%)</td>
<td>255/4851 (5.3%)</td>
<td>0.51 (0.34, 0.78)</td>
<td>0.003</td>
</tr>
</tbody>
</table>
But implementing technology into the NHS is not straightforward...

- Complex changes to organisation functioning and individual work practices
- Often highly political as public money
- Importance of evaluations

**Daily Mail COMMENT**

VASTLY expensive, utterly unfit for purpose, the NHS computer scheme will go down in history as the most egregious of countless examples of the last Labour Government’s incompetence and waste. It was only our money, after all. How bitterly telling it is that the £12 billion ministers squandered on this vanity project is exactly the size of the black hole identified this week in the Chancellor’s deficit reduction plan.

And how starkly this saga underlines yesterday’s rare moment of insight from Nick Clegg, when he told delegates at the Lib Dem conference: ‘Never, ever, trust Labour with our economy again.’
“Implementation of the NHS Care Records Service in “early adopter” sites proved time consuming and challenging, with as yet limited discernible benefits for clinicians and no clear advantages for patients. The move to increased local decision making that we advocated based on our interim analysis has been pursued and welcomed by the NHS, but it is important that policymakers do not lose sight of the overall goal of an integrated interoperable solution.”

Name: PENI
Form:
Strength:
Dose:
Days/Quant:
Rx Type R/C/U:
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Penicillamine Tablets 125 mg</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Penicillamine Tablets 250 mg</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Penicillin V Elixir 125 mg/5 ml</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Penicillin V Elixir 250 mg/5 ml</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Penicillin V Tablets 250 mg</td>
<td></td>
</tr>
</tbody>
</table>
Add Medication

Read Code or Search text: MICROGYNON 30 tablets
Dose: take one daily
Advice:

Repeat □  Mark for issue □ Applies from: 02/07/2003
Supply: 63 tab Packs: *21 tab £0.86*

Problem □ Note □ Sensitivity □ Treatment □ In summary

Author Encounter Info Repeats Legal Reminders

Sickle cell anaemia
Undiagnosed abnormal genital tract bleeding
Disorders of lipid metabolism
History of deterioration of otosclerosis in pregnancy
Severe diabetes with vascular changes
Mammary or endometrial carcinoma or a history of these conditions
History of herpes gestationis
Risk factors for venous thromboembolism
Prothrombotic coagulation abnormality
Hypersensitivity to ingredients
Hypersensitivity to excipients
Severe or multiple risk factors for arterial disease
Thrombosis
BNF Interaction Message:
Amlodipine Besylate and Atenolol
Severe hypotension and heart failure occasionally with nifedipine and possibly other dihydropyridines

Amlodipine Besylate and Atenolol
Enhanced hypotensive effect

Tariff prices: 28 tablet(s): 11.8500

Name: Amlodipine Besylate
Form: Tablets
Strength: 5 mg
Dose:
Days/Quant:
Rx Type R/C/U:

A Dispensing patient <F2> for info

No. 30757. Mr Serum Creatinine, 50 Town Street Horsforth Leeds Age 65 years MB
The ePrescribing Team

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Prof Anthony Avery
Dr Sarah P Slight
Prof Aziz Sheikh (PI)
Prof Robin Williams
Prof Jill Schofield
Zoe Morrison
Dr Kathrin Cresswell
Dr Ann Robertson
Dr Jamie Coleman
Prof Richard Lilford
Dr Jonathan Shapiro
Dr Jianhua Wu
Dr Shihua Zhu
Antony Chuter
Ann Slee
Prof David W Bates
Aims:

* To describe and understand the procurement, implementation, adoption and maintenance processes involved with introducing ePrescribing systems.
* To estimate their effectiveness and cost-effectiveness.
* To develop best practice recommendations and a toolkit for their successful integration into NHS hospitals.

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Four Work Packages (WPs)

**Work package 1**  
Procurement, implementation, adoption and connectivity  
Documentary data, semi-structured interviews, on-site observations, field notes ethnography

**Work package 2**  
Assessing impact on prescribing safety  
Stepped-wedge design evaluation with 6 & 12 months follow-up analyses of prescribing indicators

**Work package 3**  
Health economics and a value of investment analysis  
Estimation of costs (including opportunity costs) of computer systems of different types; framework for cost categories

**Work package 4**  
Integration across WPs to develop recommendations and a toolkit for the NHS  
Interlink the qualitative and quantitative components; develop a detailed typology of existing systems and their capabilities

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Key aims for the day

Above all – networking and sharing experiences

*For planned/new implementation – what to choose, how do you use it, why do you want it?

*For those with existing ePrescribing systems – what can you learn from or share with others?

*For the NHS – how can the benefits be maximised and the risks minimised?
Opportunities for networking...

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Further sources of information and support...

Our website:  
www.crfr.ac.uk/events/eprescribing/index.html  
For copies of presentations, events and updates
• Got any questions about procurement and/or implementation?
• Need advice on any ePrescribing-related problem?
• Want to network or chat with anyone who has done it already?

then get in touch with our helpdesk!

eprescribingresearch@uhb.nhs.uk
Next steps

We want your ideas for
* Conferences
* Workshops
* Round table discussions...
ePrescribing multi-disciplinary workshops
24 September 2012

Procurement of ePrescribing systems

Any other suggestions for topics of interest? Want to attend?

Please let us know and email Kathrin.Beyer@ed.ac.uk
We need your help…

Questionnaire about plans to, and experiences of, implementing ePrescribing systems in your hospital

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Finally, many thanks to our sponsors!