

INPATIENT ELECTRONIC PRESCRIBING – HOW INVOLVED ARE INPATIENTS WITH THEIR MEDICATION?

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Background

- Greater **patient involvement** with medication may help improve **medication safety**
- However, it is not known to what extent electronic prescribing (EP) may support inpatient involvement in the UK hospital setting



Are EP systems a barrier or facilitator to patient involvement?

...EP systems could potentially create a barrier if patients have reduced access to their medication records...



...or conversely, facilitate the production of patient-specific interfaces which could be used to support increased patient involvement

Research questions...

1. **Do EP systems support inpatient involvement?**

We aimed to identify whether EP systems commercially available in England had features which support inpatient access and interaction with their electronic medication record

2. **Are patients supported to interact with EP records?**

We also aimed to explore the extent to which inpatients are currently supported to interact with EP systems in a sample of English hospitals

1. Do EP systems support inpatient involvement?

Methods

- Commercially available EP systems used in England were identified (Ahmed et al 2013, Cresswell et al 2013)
- Websites searched to identify features which allow inpatient interactions or access to their EP record
- Findings summarised descriptively

1. Do EP systems support inpatient involvement?

Results

- 14 different commercial EP systems identified to be used in England
 - RiO[®]
 - Galileo[®]
 - MedChart[®]
 - System C[®]
 - Tpp[®]
 - ChemoCare[®]
 - Aria[®]
 - Sunquest ICE[®]
 - JAC[®]
 - PICS[®]
 - Metavision[®]
 - Cerner[®]
 - iCM[®]
 - Mosaik[®]
- 11 general EP systems, 3 specialist oncology systems
- Only 1 website (Cerner[®]) referred to possible inpatient involvement via an 'interactive patient console'

1. Do EP systems support inpatient involvement?

□ Cerner's interactive patient console (myStation®)

- Potential to provide access to medical information, educational materials and allow communication with healthcare professionals
- Limited in that it requires installation of additional hardware such as televisions, microphones and keyboards to be used



2. Are patients supported to interact with EP records?

Methods

- 13 hospital trusts in England with well-established inpatient EP systems identified (Ahmed et al 2013, Cresswell et al 2013)
- In July 2014, a relevant pharmacist within each trust contacted via e-mail and invited to answer questions to explore if and how inpatients
- Recipients responded by e-mail or phone
- Findings collated and summarised descriptively

2. Are patients supported to interact with EP records?

Methods

- Questions aimed to explore if and how inpatients view details of their prescribed medication or use the system when self-administering medication

Questionnaire

1. What opportunities are there for inpatients to view, or access, their inpatient electronic medication records in your hospital?
2. Does your electronic prescribing system have a 'patient friendly' screen that a healthcare staff member can show patients the details of their inpatient medication?
3. Are there any documents presenting inpatient medication information that can be printed out for the patient to view?
3a. If there is paper documentation of medication information printed out for the patient, how is it updated if their medication is changed?
4. Are there other methods of showing inpatients what medications they are on? If yes, what are they?
5. If paper or electronic documentation of medication information is shown to the patient, is it shown to all inpatients, or only those who request it?
6. How do you provide information on current prescribed medication to any patients who are self-administering their medication?

2. Are patients supported to interact with EP records?

Results

- 69% (n=9) trusts responded to survey
- Most used commercial EP systems

Question	No	Yes	Comments
Can patients access or interact directly with their EP record?	100% (n=9)	0% (n=0)	-
Does the EP system have a 'patient friendly' screen?	75% (n=6)	(25%) (n=2)	Only shown to patients on request, both hospitals reported that they were not used routinely (n=1 no data)
Are print-outs of medication record available for patients	78% (n=7)	22% (n=2)	Only provided to patients if requested, both hospitals reported this is rarely done in practice

2. Are patients supported to interact with EP records?

Results

- **How is medication information provided to self-administering patients?**
 - All 9 trusts reported self-administration was very limited
 - If it was used, the following information was provided:
 - No specific procedure in place for self-administration (n=3)
 - Print-out from EP system is provided to self administering patients (n=1)
 - Patients receive assistance and verbal confirmation from nurses prior to self-administration (n=1)
 - Patients receive written information not provided from EP system (e.g. handwritten) (n=3)

Discussion

Features of commercial EP systems

- EP systems' websites promoted the safety benefits that their EP system can provide, including:
 - Reduction of medication errors
 - Central organisation of information
 - Decreased paperwork for staff
- However, most suppliers have not considered if and how inpatients can access or directly interact with their EP medication record
- Cerner's myStation® allows patient interaction although requires large monetary investment to provide the technology needed to utilise its features

Discussion

Patient access to electronic records

- Opportunities for inpatients to view or access EP medication record were non-existent in most hospitals
- No hospitals encouraged patient access, although some were able to show a record on request of a patient
- Barriers to sharing electronic information include:
 - ▣ EP systems are password protected and only accessible by staff
 - ▣ Few EP systems contain easily interpretable information (i.e. 'patient friendly')
 - ▣ Individual electronic devices are not available for individual patients
 - ▣ Healthcare staff are uncertain if EP information can be shared with patients

Discussion

Patient access to electronic records

- Printed information is the most common way to provide information to patients, despite the shift towards paperless systems
- Problems associated with this include:
 - ▣ Printing requires time and resource
 - ▣ Medication regimens frequently change in hospital so printed sources would need to be checked and updated frequently



Strengths and limitations

- Features of EP systems were determined only from information available on website
- Data on patient interaction with EP system were obtained from only respondent from each trust
- Descriptions of how patients interact with EP systems were more limited by e-mail than on the phone

Conclusion

This exploratory study suggests that inpatient EP systems are not currently designed to accommodate patient access and interaction

Greater patient involvement with medication may help improve medication safety in the hospital setting; EP suppliers and healthcare providers should consider how inpatients could best be involved in their medication with EP systems

Thank you...



... any questions?