Understanding doctors’ perceptions of their prescribing competency and the value they ascribe to an electronic prescribing system

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E-PRESCRIBING

Ensures standardized, legible and complete orders

Often used in combination with computerised decision support

Shown to reduce medication errors

But implementations of e-prescribing systems are often unsuccessful
RESISTANCE TO ADOPTION

Acceptance begins with the recognition of a problem or need
If no problem is seen to exist, users will be disinterested in an innovation designed to solve the problem

Lots of models explain individual reactions to technology
Strongest predictor of intention to use a technological system = perceived usefulness

Will the technology increase my job performance?
THE VALUE OF E-PRESCRIBING

Users will adopt e-prescribing systems and view them positively if they recognise the limitations of paper based prescribing and see electronic systems as useful in addressing some of these limitations.
STUDY AIM

To determine the value doctors ascribe to the e-prescribing system

To examine doctors’ perceptions of their prescribing competency

To identify perceived advantages and disadvantages of using a hospital e-prescribing system
SETTING & SYSTEM

320 bed teaching hospital in Sydney

All wards using e-prescribing system, MEDCHART, except ED & ICU

MEDCHART = electronic medication management system that links prescribing, pharmacy, and drug administration
PARTICIPANTS

16 prescribers from various specialties:
Cardiology, clinical pharmacology, lung transplant, colorectal surgery, gastroenterology, gerontology, haematology, infectious diseases, nephrology, neurology, palliative care

3 residents, 10 registrars, 3 consultants

Opportunistically recruited (direct approach, phone or email)
Recruitment continued until interview themes were saturated
PROCEDURE

20-min semi-structured interview

How often do you think you make a prescribing error when prescribing?

Can you think of any prescribing errors that you made recently?

What types of errors are common?

What factors lead you to make errors while prescribing?

Do you prefer using paper or electronic charts? Why?

Can you list 3 good things & 3 bad things about using MEDCHART?
PERCEPTIONS OF PRESCRIBING COMPETENCY

Doctors held the view that they rarely made prescribing errors

Consultant: Error? Never

Registrar: I often make errors of clicking what I want to write but I often, but I always change them. I notice them and change them…I don’t generally decide to give the wrong drug

Doctors had difficulty estimating how often they made an error – this was because they received very little feedback

Registrar: Probably do make errors, how commonly, I don’t know

Resident: I’m not aware of mistakes that I’ve made recently because I haven’t been told about them
COMMON ERRORS & FACTORS

Most doctors believed slips while using MEDCHART were common

Consultant: Selecting the wrong - either it’s tablet or whether it’s sub-cut or oral or something, those sort of things are quite common but people then correct them straightaway

Resident: A timing error. Actually one of the tricky things is sometimes if you're thinking too quickly, the start time, because it'll start at the next convenient date for the computer, you have to convince it to start at another time

Common contributing factors: Interruptions, distractions, time pressure, a lack of knowledge
PAPER OR ELECTRONIC?

3/16 reported a preference for electronic charts

Advantages and disadvantages of using system were fairly consistent across users

Main advantage: remote access

Main disadvantage: time
ERROR REDUCTION?

Some doctors believed that using the e-prescribing system leads to more errors than paper charts.

Registrar: It is just too fiddly, like you go down to scroll to put weekly and you easily put daily. Errors are easier to make, absolutely.

Resident: It’s very easy to prescribe the wrong thing for the wrong patient just because the nature of being on a computer.
PRESCRIBING ERRORS: THE FACTS

Doctors make prescribing errors

Review of medication charts at the site revealed that patients experienced on average 1.5 prescribing errors per admission (post MEDCHART implementation)

The e-prescribing system has reduced prescribing errors

The prescribing error rate at the hospital has more than halved following MEDCHART implementation
Prescribers held the view that they rarely made prescribing errors, other than simple slips while using the e-prescribing system

(No problem exists)

MEDCHART was not valued for its role in error reduction

(If no problem exists, why introduce a solution?)

Prescribers were unaware of MEDCHART’s capacity to reduce prescribing errors ➔ system increases visibility of errors
CONCLUSION

Keeping prescribers informed about their prescribing errors and the quality-improvement benefits of e-prescribing may lead to greater satisfaction and acceptance of e-prescribing systems.

So…Give feedback!
RELATED RESEARCH

MedChart decision-support is not being integrated into medication decision-making processes on ward-rounds

JAMIA 2011;11:754-59

Not all MedChart functions are being used by prescribers – unintended consequence = unnecessary computerised alerts

JAMIA 2012; doi:10.1136/amiajnl-2011-000730
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