

TITLE: Just-in-Time information in primary care

Scenario: Ms Jeffries, the reader services manager at AN Other Hospital, has asked one of her outreach team members to find evidence on just-in-time information for clinicians. Ms Jeffries wishes to know if clinicians would benefit from having an outreach librarian on call to consult, and if it would save time or make her outreach team work more efficiently and effectively.

She asks a member of her team to appraise the following paper and report back to her:

McGowan J, Hogg W, Campbell C, Rowan M (2008) Just-in-Time Information Improved Decision-Making in Primary Care: A Randomized Controlled Trial. PLoS ONE 3(11): e3785. doi: 10.1371/journal.pone.0003785
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0003785>

Appraisal tool: http://www.phru.nhs.uk/Doc_Links/rct%20appraisal%20tool.pdf

Bottom Line: A randomized controlled trial to determine if a Just-in-Time information service is a time-saving and cost-effective way of librarians using EBM methods to answer clinical questions for primary care providers compared with the primary care providers answering the questions themselves.

Focused Question: When primary care providers in Family Health Networks and Family Health Groups in Ontario receive a Just-in-Time information service in which librarians answer their clinical questions, compared to when the providers have to answer their own questions without any intervention from a librarian, is there a positive impact on time, cost savings, decision-making, and satisfaction?

Citation: McGowan J, Hogg W, Campbell C, Rowan M (2008) Just-in-Time Information Improved Decision-Making in Primary Care: A Randomized Controlled Trial. PLoS ONE 3(11): e3785. doi: 10.1371/journal.pone.0003785
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0003785>

Summary of the aim and methods of the study

- In this randomized controlled trial, 1889 clinical questions were answered by librarians trained to use Evidence-Based Medicine techniques. These questions were randomized and split in a 3:1 ratio (intervention: control), so that the 88 primary care providers (the participants) received an answer to their clinical question 75% of the time, and 25% of the time they had to find the answer to their question themselves. The RCT was designed to determine if the Just-In-Time service reduced the cost and time otherwise spent by the providers in finding the answers, and whether the service increased satisfaction and improved decision-making.
- The clinical questions were randomized by computer, and “an independent company which managed the project’s data ensured adequate allocation concealment”.

- The librarians were blinded to which questions would be in the intervention or control group, as they answered all of the questions. When a question was “randomized to the control group, participants received a message within one minute that their question would not be answered”, forcing them to find the answer themselves.
- The primary care providers were “asked to respond to a survey 24 hours after a question was submitted, regardless of the allocation” of the question to intervention (answered by a librarian) or control (not answered by a librarian).
- There was “a ‘run-in’ period of a year prior to randomization... to allow the participants to become used to the service before being exposed to interruptions (control questions).” The RCT was conducted between October 2005 and April 2006.

Main Results

- Figure 1 describes how the participants were accounted for at the various stages of the RCT.
- 430 clinical questions were allocated to the control group and 1462 clinical questions were allocated to the intervention group (answered by a librarian).
- The librarians took an average of 13.68 minutes to find the best available evidence (“one high-quality information citation”) to answer the question. The participants took an average of 20.29 minutes per question to find an answer to a control question.
- The cost of a project librarian to answer a question was approximately \$7.15 (for an average salary cost), compared to the cost of \$20.75-\$27.69 for a Family Group Health or Network physician to answer a question in 15 minutes.
- The participants rated the intervention questions as having a highly positive impact 63% of the time, and only 7.7% had a negative impact.
- In comparison, the participants rated the control questions as having a highly positive impact 14.9% of the time, 5.9% had a moderately positive impact, 24.8% had no impact, and 44.9% had a “negative impact on decision-making”.
- The participants “only attempted to located answers to 40.5% of control questions themselves”. They answered the control questions by “taking no further action (25.4%), asking a practice colleague (6.1%), speaking by phone with another physician (3.8%), having the patient return (1.1%), arranging for a referral (3.0%), or using other action (9.5%), including sending the patient for a diagnostic test.”
- 81% of participants (n=72) responded to the exit satisfaction survey. The participants who responded “rated their level of satisfaction with the service as having a positive impact” (86%; n=62) on the care they provided to their patients and 83% assessed the service as providing relevant information to their questions in an appropriate time frame.”

Comments:

- It is not clear from the RCT why they split the questions in a 3:1 ratio (intervention: control).
- This RCT is unusual because the clinical questions were randomized, instead of the participants.
- No power calculation is reported so it is unclear if enough participants were included in the RCT for the results to be meaningful.

- The Oxford group found it interesting that the RCT did not report any of the primary care providers using their own search skills to find an evidence-based answer to their questions. Did they lack the necessary skills?
- This is a useful RCT as it suggests that healthcare services could save time and money, and improve the satisfaction of their staff, by providing a Just-in-Time service in which librarians answer the clinical questions with the best available evidence in a short amount of time.

Appraised by: Oxford Librarians March 2009