Author's response to reviews

Title: Effectiveness of a novel and scalable clinical decision support intervention to improve venous thromboembolism prophylaxis: a quasi-experimental study.

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Author's response to reviews: see over
July 18, 2012

Dear Editor Aldcroft,

Thank you for accepting our manuscript “Effectiveness of a novel and scalable clinical decision support intervention to improve venous thromboembolism prophylaxis: a quasi-experimental study” for publication in *BMC Medical Informatics and Decision Making*.

We have uploaded a revised manuscript file, a second copy with changed sections marked in “tracked changes”, and have provided responses to the reviewers’ comments below. We appreciate the excellent feedback offered by you and the reviewers assigned to our manuscript, and believe it has improved our work greatly.

On behalf of all of my co-authors, we look forward to publishing our manuscript in your journal.

Yours sincerely,

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Reviewer: Stuart Haines

Reviewer's report:

The authors should be commended for addressing each and every comment & suggestion. The final version of the manuscript is a very substantial improvement.

Thank you.

Major compulsory revisions: none

Thank you.

Minor essential revisions: In your conclusions (both abstract and text), you seem to imply a cause and effect relationship between your intervention (the CDS for VTE prophylaxis) and the outcome (e.g. increased use of appropriate and any prophylaxis). For example, in the abstract, "The CDS intervention increased "recommended" and "any" VTE prophylaxis..." and in the body of the text "... significant increases in VTE prophylaxis resulting from a CDS intervention ..." However, given the quasi-experimental study design, it not possible to draw such a conclusion. Indeed, the concurrent educational intervention, sales and marketing by pharmaceutical manufacturers, and increase awareness brought about by local and national campaigns to improve VTE prophylaxis might have had a great(er) influence on the outcomes observed. This wording needs to be cleaned up a bit as the increases in VTE prophylaxis can't be solely attributed to the CDS system ... but rather you can conclude that an increase in VTE prophylaxis occurred during the time periods after the CDS was introduced and the CDS is likely to have had a positive influence on VTE prophylaxis rates.

In the abstract, we changed “The CDS intervention increased “recommended” and “any” VTE prophylaxis across the multi-hospital academic health system.” to “The CDS intervention was associated with an increased in “recommended” and “any” VTE prophylaxis across the multi-hospital academic health system.” In the body of the manuscript, we changed “…significant increases in VTE prophylaxis resulting from a CDS intervention...” to “...significant increases in VTE prophylaxis that were associated with a CDS intervention...”.

Discretionary Revisions: No additional recommendations.

Thank you.
Reviewer: Ian H Jenkins

Reviewer's report:

Great work; some things that confused me reading the paper previously are now clear and the paper is nearly ready.

Thank you.

Minor revisions like the changes in placement of references (reference.a vs referencea. eg page 4),...

The references on page four were reviewed, and those cited before punctuation marks are specific to a particular clause of the sentence, and not the entire sentence.

...period after prophylaxis page 10, commas after quotes on page 13, double commas on page 14, sentence fusion on 18, should be cleaned up.

Done.

Knowing Lederle's work I don't think the phrase on pg 4 citing it as showing a 25% in symptomatic DDVT is appropriate; trend was NS. Dentali's work or ACCP analysis could substitute.

We believe that the Lederle reference we used was indeed the ACCP analysis cited by the reviewer.

Good (side) point about less impact in line related VTE, but doubtful 5 references are needed to drive this home--why not 1-2 of the most recent / best? (page 14).

We cite the five RCTs known to us that examine this important issue. We found these RCTs in a prior systematic review of the literature that we performed for our academic health system, and thought that readers might value the comprehensive inclusion of these references. We would be happy to remove some of these citations if the editor prefers.

Interesting idea about PE diagnosis rates on page 16 but one could just ask the radiology dept if CT scanners or protocols changed during the study instead of speculating.

Our administrators in radiology confirm that there have been changes in CT technology and protocols at Penn during the three years of our study that could theoretically impact PE detection rates, but they could not be any more specific than that.
Perhaps the contact info could read "for reprints *or information about the CDS* contact Dr X" as one of the main points here is dissemination.

*We think this is an excellent idea, and added this sentence to the acknowledgment section: “For detailed information regarding programming the clinical decision support described in this manuscript, please contact the corresponding author.”*