Author's response to reviews

Title: Never the Twain Shall Meet? A Comparison of Implementation Science and Policy Implementation Research

Authors:

Per Nilsen (per.nilsen@liu.se)
Christian Ståhl (christian.stahl@liu.se)
Kerstin Roback (kerstin.roback@liu.se)
Paul Cairney (Paul.Cairney@abdn.ac.uk)

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Author's response to reviews: see over
We are grateful for the many valuable comments we have received on the paper. We have attempted to address all comments by the referees and editor. Our comments are marked in yellow below. A couple of revised text portions are marked in green.

Per Nilsen on behalf of the authors

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Comments from the Editor:
I agree with both reviewers that this is an important and generally well-written paper. Our usual standard is 6000 words, and this paper exceeds this considerably. Although I think that it is sufficiently well-written to keep readers engaged, I also agree with Dr. Wallin that it can be trimmed, to no more than 7000 words at most. As you revise the paper, please address the important and thoughtful reviews, with particular attention to questions about why you selected the papers you did for comparison and contrast. In addition, there is a strong sense of having set up something of a caricature of implementation science rather than a rigorous review of the entire field; please consider softening your language and conclusions to acknowledge that you do not cover the field comprehensively. Finally, I was struck by the lack of any citation of the work of John Lavis, who has done a considerable amount of work in the area of intersection between policy and implementation science. I think your paper should at least acknowledge and briefly review his work in addition to the work you do review.
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>>>We have trimmed the manuscript by removing text here and there, including the definitions of various “sub-fields” and terms used in implementation science (seemed superfluous in a journal which has implementation science as its focus). The paper is now less than 7000 words.

>>>We have softened the language and conclusions, in accordance with the above comments. We agree with the editor. It is also one reason why we do not want to adopt a too critical stance concerning either implementation science or policy implementation research. We believe the paper should take a “constructive” rather than overly “critical” approach (please see more below).

>>>We agree that Lavis has done important work concerning how research and evidence can be used to inform public policy. We modified the text slightly concerning the emergence and development of implementation science to address this research. We have added a reference to Lavis’ work on research-informed public policy.

Reviewer's report
Title: Never the Twain Shall Meet? A Comparison of Implementation Science and Policy Implementation Research
Version: 1 Date: 16 February 2013
Reviewer: Ewan Ferlie

Reviewer's report:
I found this an interesting paper in an important area. Nevertheless, it needs some more work in a number of areas – in terms of your guidelines for referees, these are I suppose all Major Compulsory Revisions (i.e. a revise and resubmit).

To respond to your standard questions:
1. This is a discursive review paper in an important and intriguing area which has not so far been well explored: the differences/similarities between a newer body of knowledge around implementation science (often associated with HSR) and an older body of knowledge around
policy implementation research (often coming out of political science or organizational studies). This is a researchable question which could do with more critical exploration. So in principle the paper is very much in scope.

2. In terms of overall research design, this is in essence a critical literature review. However, the methods section needs to be much better developed. How were these key texts chosen for review? How were they read and analysed? Did the team discuss them and the draft paper as a group? Were there internal differences of opinion and if so, how were they resolved? This paper is of course not a systematic review but more of a narrative review (see Greenhalgh etc). But all this needs to be made clear and defended much more tightly.

>>>We have added details and tried to clarify the methodology!

3. The data they draw on are in essence these key texts, which are ‘uncontrollable’ in RCT terms and have a life of their own!

4. I am not sure what the standards for reporting and data deposition might be in this sort of article.

5. The discussion and conclusion need further work to make them sharper and more interesting. So the critical element in the critical literature review needs to be more evident.

>>>The paper is intended as a narrative review, with an aim of comparing two research fields. The emphasis is on comparison of differences/similarities and identifying aspects of policy-related research that might be relevant to implementation science. We have refrained from being too critical of different aspects of the two fields, instead trying to address integrative and “useful” aspects of the policy-related research. Thus, we have aimed to be “constructive” rather than “critical”, to avoid contributing to a debate on the relevance of different perspectives. Still, the entire paper is based on a critical appraisal of implementation science, which we believe is at an early stage of development and we argue that “advancement of the field would benefit from accounting for knowledge beyond the parameters of the immediate implementation science literature.” We have made modifications throughout which hopefully contributes to a slightly more critical outlook. Still, it is difficult to be both more critical and more cautious with our conclusions.

6. In the discussion of policy implementation research, it is correctly claimed that it comes from social science (political science or org studies). What are the implications for the preferred theoretical framing (political science has strong theory about the nature of the state) and methods (often case studies)?

>>>We have modified the text slightly:

The policy implementation research that we review is generally part of social science. The study of policy implementation is a topic in public administration, which is a branch of political science, a field of research that deals with the theory and practice of politics and investigations into political systems and behaviour. There have been calls for an overarching implementation theory, but policymaking is usually treated as too complex to attract a general theory. The case study method is commonly employed to account for a large number of causal factors [55].

It is correctly argued that a ‘bottom up’ wave hit policy implementation research in the 1970s and 1980s. This is in part because of large implementation deficits evident in health policy, as in other public sector settings. A changing political economy tried to reduce these deficits by New Public Management reforms from the 1980s onwards (e.g. performance management systems). These are quite different from network governance reforms which came in later (Rod Rhodes and Janet Newman are important authors here). The discussion was confused at this point. Have these reform efforts increased the steering capacity of the centre and reduced the viability of the bottom up view or not? How has the policy implementation research base moved
over the last ten years – many of the texts reviewed are dated, if still classics? I was not
convinced there was enough clarity in the handling of underlying theory.

>>>We have added a brief section to show how older studies of implementation tie in with (and
inform) newer studies of NPM, network governance and complexity theory.

7. Implementation science is also seen here as a social science. But in what sense is it? Or it is
an outgrowth of ‘scientific’ HSR into larger scale arenas?. Again a sharper discussion of its
theory in use (hypotheses? Social psychology and behaviour change models?) and its preferred
methods (is there an explicit or implicit hierarchy of evidence? How are case studies judged?)
would help. My own view is that it is more centred on the design of effective interventions and
somewhat less interested in outer context which it finds difficult to ‘control for’. But it may be
more effective in developing micro level change models.

>>>Our description of implementation science as a social science was based on how this
research is currently conducted, but we agree with the above comments and have made some
revisions to make it more clear that the field emerged in response to EBM and has adopted
many of the research models and practices of EBM/EBP, which are drawn from the natural
sciences. Social psychology and behaviour change theories/models are mentioned as one type
of theories that are applied, but we added that these are widely applied to emphasize their
importance in the field. The “title” of the field, implementation science, might also be seen as
signaling a desire to be viewed as natural sciences.

8. The concluding discussion begins to draw out some potential lessons from policy
implementation research for implementation science (good). But more substantiation is needed
– how might Punctuated Equilibrium Theory be useful, for example? Theoretical perspectives
such as Institutional Theory are briefly brought in but not really developed fully. Perhaps a
discussion which focused down on three possible contributions and explored each one in depth
– both theoretically and giving a brief example. But it could also raise the question of possible
paradigm wars – are they trying to mix oil and water?

>>>We have added and modified the text, please see below. Regarding the comment on
paradigm war, and mixing oil and water, we have added in the conclusive paragraph that there
has not been much evidence of such a debate or “feud”; rather, it has been very much a case of
mutual ignorance. We have also added more details on the origins of implementation science
and the influence from the natural sciences. Hopefully, the difference between the two fields is
more evident now.

New terms developed to describe the same basic implementation processes associated
with new forms of governing style [45]. The advent of the New Public Management led to the
adoption of disciplinary approaches from management and organizational theory [11], some
of which explore the extent to which top-down performance management could enhance
service delivery and accountability [46]. Many governments subsequently recognised the
limits to top-down policymaking and adopted network governance approaches based on the
need to consult and collaborate with service providers, interest groups and the users of
services, blurring the lines of accountability between elected policymakers and other
influential actors [47]. Bottom-up inspired governance studies highlighted the unintended
consequences when governments did not recognise the limits to their ability to implement
policy [48]. More recent studies, based on Complexity Theory, reinforce this focus on the
limits to top-down policymaking in the alleged absence of central government control of the
policy process [49].

The term implementation has become less popular but a focus on the same factors,
such as the relationship between the production of policies and their effects at multiple levels
of government, can still be found in a range of new fields. For example, the Advocacy
Coalition Framework represents an attempt to reject a focus on implementation as a discrete
stage of a policy cycle and, instead, theorises the relationship between a huge number of
governmental and non-governmental actors (driven by the desire to translate their beliefs into
policy) at multiple levels, as policy changes over a decade or more [50,51]. Similarly, studies of multi-level governance try to capture that interaction between multiple actors at multiple levels, although the field is rather diverse and multi-level governance is, at best, an umbrella term [19].

Overall, this is a high potential paper in an important field. I had some questions about methods and the handling of theory. Most importantly, the discussion needs to be less descriptive, sharper and more critical. >>>Please see above for our response to these comments.

9. The title and abstract are fine.

The writing is acceptable but there is a tendency for more description than critical analysis at times and the handling of social science theory needs to be clearer at times. >>>Please see above for more detailed response.

Level of interest: An article of importance in its field
Quality of written English: Acceptable
Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests: I declare I have no competing interests

Reviewer's report

Title: Never the Twain Shall Meet? A Comparison of Implementation Science and Policy Implementation Research
Version: 1 Date: 5 March 2013
Reviewer: Lars Wallin

Reviewer's report:
I have read the manuscript by Nilsen and coworkers with great interest. It is a well written paper comparing implementation science with policy implementation research highlighting what can be learned from the policy implementation field for clinically focused implementation. My knowledge in policy implementation research is not that profound but I think I can offer some comments for improving the paper.

- Major Compulsory Revisions
The paper is rather long. It stretches over 25,5 pages. Despite the essay character of the paper I think it would benefit of being somewhat condensed.
>>>We have shortened the paper. We removed the definitions of various implementation science-related concepts as these are probably known to readers of IS. We also removed bits and pieces here and there to trim the paper to less than 7000 words, as requested by the editor.

In the method section you state that you made a selection on literature relying on overviews, reviews and assessments of research. I can clearly see that approach in the cited literature. However, you are not providing any arguments on why the specific references 7-32 were selected. Why just these sources and not others? What are the specific merits of these sources ensuring the best overview of the two research fields?
>>>We have added some details about this, please see below. The paper is a narrative review, with no claims on being complete or fully comprehensible, so we also added a “disclaimer” about this towards the end of the paper, to “soften” the conclusions.

In the definitions section you provide definitions of public policy and policy implementation but not on research of these fields. Overall is the definition of policy implementation much less
elaborated compared with the definition you provide on implementation science. Would also like to see a discussion on the different approaches to define the fields.

Policy implementation research is described in detail in the second section of the paper, where we also describe the different approaches and developments of this field. We are uncertain if we should elaborate more on this as it means a longer paper. We would be willing to add more if deemed necessary, though!

On page 9 in the end of the second paragraph you write about how New Public Management led to the adoption of disciplinary approaches from management and organizational theory and that researchers abandoned the concept of implementation in favour of terms such as governance. I found this interesting but unclear. The concept of governance also pops up regularly in implementation science. Think it deserves some elaboration.

We have attempted to say a bit more about governance.

On page 11 you give a short historic overview of the two research fields. Where do you place Rogers and the Diffusion of innovation paradigm? Is that what you refer to as the research with other labels dating back to the 1930s? If so, it is not consistent with page 24 where you link Rogers' work to implementation science. Considering Rogers importance I would like to see his work more explicitly discussed in your article.

No, the research going back to the 1930s concerned policy-related research. However, we removed this information as it did not seem all that important, especially in light of the necessity of reducing the number of words.

I don’t get the following sentence on page 28: “However, we believe there is important learning to be derived from several aspects of policy implementation research and from associated research into various implementation and/or policy issues in political science.” Who are learning from what? Think this could be clearer.

We have modified this sentence to make it clearer!

- Minor Essential Revisions

When your refer to Lipsky and “street-level bureaucracy” (page 7) it is not clear for me how this level can be described as policy makers. I also wonder if the decisions of “street-level bureaucrats”, in the form of healthcare practitioners, that Lipsky refer to, are the same kind of decisions that healthcare practitioners make, viewed from an implementations science perspective? Is Lipsky’s reasoning also valid from an implementation science perspective?

Excellent point! We added text on this as it’s a very good observation. We have modified the text accordingly.

I wonder about the designation of PARIHS and KTA as “planned action change theories” (page 14). You refer to Graham and that is OK, but I have often seen “theories” like PARISH and KTA being labelled as “conceptual frameworks” (not least by the authors themselves) which is a less demanding label than theory. Not sure about the importance of this, but think you should consider (or discuss) the “theory” label of these conceptual frameworks.

Very true. We added some clarifying text on this.

In your listing of determinants of change you consider the individual healthcare practitioner to be the “implementer”. I can see the point in your reasoning but I find it strange to not also view different kinds of change agents, such as knowledge brokers, facilitators, opinion leaders, etc, as a kind of implementers. I think your description of implementers in the policy implementation tradition as a rather complex phenomenon also goes for implementation science.

Again, very astute observation. We have modified the text accordingly. We believe actors such as the ones mentioned here are both “implementers” and “strategies to facilitate implementation”.

We have modified this sentence to make it clearer!
Don’t think the “Implementation impact” heading should be a subheading to “Determinants of change”.

>>>Changed!

In the start of the discussion you state that healthcare practitioners have autonomy to choose the knowledge on which they want to act. In the policy implementation field implementers should be more expected/required to adhere o the policy. I am not sure that this “freedom” is a correct description of healthcare practitioners’ conditions. I think that also healthcare practitioners find their practice more and more surrounded by contracts and regulations on what kind of practice they are expected/required to deliver for being perceived as “quality care” providers, or even being reimbursed.

>>>We agree with this and to avoid saying too much we felt it would be better to eliminate this sentence. It’s clearly subjective and difficult to attempt to say anything more objectively about.

I have a problem in understanding what you mean (and also what it is based on) in the following sentence (page 23): Top-down perspectives on the implementation process imply a more positivist orientation as the implementation object is often viewed in terms of an entity that exists in a finished form as explicit objective facts and the implementation process is considered primarily as an act of engineering.”

>>>We added “recommendations for clinical practice formulated in guidelines” as an example of an implementation object and we modified the description slightly (“an act of engineering” might not be the optimal way to describe this). The above description is based on the literature, for example Tyden (1993) who describes how linear models of research into practice view knowledge from research as factual, unambiguous and discrete, possible to be straightforwardly applied to practice decisions. Nutley et al. (2007) also describe how much of the early literature made rather naïve assumptions of “stocks of knowledge” that could be transferred to potential users.

- Discretionary Revisions

In the background (page 3-4) you claim that researchers in two research fields tend to stick to references from their own field in their writing. Can you provide some typical examples of this?

>>>>>>This description is based on our own observation and passages such as these: “Of fully 418 references in Fixsen et al. (2005) and 508 in Hill and Hupe (2005), only four appear in both” (Johansson, 2010; page 122).

I found page 27 where you refer to a couple of theories in the policy implementation field very interesting. Your paper could definitely have use of more references from the policy implementation field similar to these.

>>>We are not sure how to address this comment, but would be more than willing to accommodate if clarified. We added some examples of methods/concepts of relevance for health care.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: I declare that I have no competing interests