Author's response to reviews

Title: Why is it difficult to implement e-health initiatives? A qualitative study.

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Author's response to reviews: see over
Dr Bal’s Comments

Is the question posed by the authors new and well defined?

In his friendly but critical commentary Dr Bal raises first the problem of perceptions. In this paper we have used the term perceptions to mean both the respondent’s account of the work of implementation, and their interpretation of contingent factors and their effects. Perception is a useful term in this context because it implies that at the point at which people were interviewed there was no direct correspondence between their accounts and the social action that these accounts describe. This troubled relationship between subjective accounts and concrete phenomena is a longstanding problem in sociological and narrative theory [1]. The word was used infrequently. But we have dealt with this either by making clear the sense in which we use it, or by using others.

Much of the rest of Dr Bal’s comments actually refer to the relationship between NPT and other analytic frameworks such as Diffusion of Innovations Theory and Actor Network theory. We have discussed differences between theories elsewhere (see especially [2] and [3]), and interestingly—since he cites her work in this regard—Greenhalgh’s recent work on implementation and routinization [4] rather support the position we have adopted around the development of the Normalization Process Theory [5]. This isn’t the place for further theoretical debate about how NPT interacts with Actor-Network Theory. However, NPT is a theory of Social Action and its underlying generative mechanisms (Dr Bal has it exactly right) rather than a relational theory of socio-technical networks. In this context, dealing with the layering of existing information infrastructures isn’t quite the problem—instead (and assuming that we have understood what dr Bal means) we are concerned with the ways that actors enact an ensemble of practices (creatively, flexibly) that lead to specific ends and which are organized in relation to various contingencies.

We have registered Dr Bal’s footnote, and now refer to Normalization Process Theory. The paper itself reflects work that elaborated on an earlier normalization process model [3] that defined the collective action components of implementation-embedding-integration processes. This model has been incorporated in the more recently articulated Normalization Process Theory [6]. This work was done in the course of the process of theoretical development and elaboration that led to that theory, and we in this paper we have stayed true to the original frame of analysis (which we originally called NPM) since this inspired both research questions and methods.

2 Are the methods appropriate?

We have dealt above with the terminological problem of perceptions. Using interviews as a sole means of data collection is a problem but not one that is insurmountable. Observation is the ‘gold standard’ of STS research but in practice is hard to accomplish in studies like this without large numbers of fieldworkers and privileged access to often contentious and complex settings. We had to do the best we could with resources and ethics committee permissions available to us. The latter was an important restriction on our work, since it was a condition of ethical committee approval that all respondents in this study were given 24 hours to consider and make informed consent before we interviewed them. Documents would have been useful to us, but much of what we were interested in did not reside in documents but rather in knowledge in transit (emails, telephone conversations, ad hoc conversations and
meetings) that are hardly ever available to the researcher. Our ethics committee approval made it impossible for us to pursue the ad hoc and interviews were therefore the only window onto events that happened far from the researcher’s gaze. We note that they seem to be more frequently and intensively used in STS studies generally, perhaps reflecting the increasing complexity of fieldwork arrangements as STS work like ours shifts into the more distributed social spaces of ‘whole systems’.

**Are the discussion and conclusions well balanced and supported by the data**

Although a wider discussion of the relationships between diffusion of innovations theory, actor network theory, normalization process theory and other theories (for example the theory of planned behaviour) would have been interesting, this would distract attention from the empirical problem—why is it difficult to implement ehealth initiatives?—and would probably not be suitable for this Journal. However, we have added reference to de Bont and Bal’s interesting and useful paper [7] on the non-normalization of a telemedicine service, since this opens up the question of what ‘successful’ implementation is very nicely.

**Dr Hick’s comments**

We have provided a new legend for table 3.

Details about coding procedure are actually already included in the text, and we have now added the coding framework.

7. de Bont A, Bal R: *Telemedicine in interdisciplinary work practices: On an IT system that met the criteria for success set out by its sponsors, yet failed to become part of every-day clinical routines*. *BMC Medical Informatics and Decision Making* 2008, 8(1):47.