INNOVATIVE HEALTH TECHNOLOGIES PROGRAMME

The Technological Management of Childbirth: Risk, Empowerment and Professional Accountability

KEY FINDINGS

The research set out to study the clinical implementation of a computerised decision support tool for managing fetal well-being in labour. It aimed to assess how the system impacted upon a range of professional and patient-professional relationships involved in the management of labour as well as the implications of organisational politics and structures. In practice delays in the implementation of the system in clinical settings led to a refocusing of the research on decision-making in maternity care and on the process of technological design and innovation in a health care environment.

RESEARCH FINDINGS

- The project uncovered a significant social dimension to decision-making that mediated both formally ordained processes and organisational structures and hierarchies.
- It exposed weaknesses in models of decision-making that see it as the exercise of rational individual judgement.
- These features had implications for questions both of professional responsibility and accountability.
- They also raise significant design questions for technological interventions that are predicated on the assumption that responsibility for decisions can be either traced or assigned to individual professionals.
- The study of technological design and innovation raised important questions about the academic, medical, funding and regulatory context of innovation.
- It identified innovation in a health care environment as a political process in which a key task for the innovator was the enrolment of key constituencies in the problematic that underlies the innovation

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Formal decision making structures provided only a partial clue to the actual processes of decision-making. The research uncovered a myriad of ways in which participants both utilised and, on occasions manipulated, formal hierarchies in securing and shaping decisions.

There were complex relations between professionals located differentially within medical hierarchies. Midwives could both be overruled by doctors but were also seen frequently to manipulate decision outcomes. This should not necessarily be seen as evidence of a failure of formal lines of responsibility. Indeed, formal systems always require informal mechanisms for day to day implementation. In many instances, then, these social processes allowed the different expertise and experience of the various professional groups involved to be brought to bear on a problem in a timely and effective manner.

Notwithstanding formal lines of accountability it was clear that decision-making in delivery suites is a socially negotiated activity. Decisions were rarely straightforwardly individual but were made in interactions among various members and categories of staff in relation to patients variously classified as 'at risk'. In practice it was frequently difficult to determine who had actually made a decision impulses to action often emerging from a range of informal, and more or less visible, conversational exchanges and consultations. Thus, although formal records, in the guise of patient notes, provided an auditable record of the decision making processes, they did not necessarily reflect the manner in which decisions had actually been taken. This finding has particular implications for technological interventions that embody and audit function.

These points link to some key findings of the study of design and innovations:

The design of the CDSS is predicated on the assumption that decisions are taken by individuals. Given that our data show decision-making to be a complex social process, key questions arise about how systems designed to improve decision-making and accountability can allow for this in their design. Our findings here offer an interesting counterpoint to the results of work on NHS Direct elsewhere in the IHT Programme where complex social

relationships between professionals and technological support systems were also uncovered.

The processes by which new technological systems are conceived, developed, put into production and then adopted in the NHS marketplace is mediated by organisational and institutional boundaries and practices; shaped by funding bodies; and facilitated or inhibited by regulatory regimes. Each of these operates in the context of its own constraints and political pressures. From time to time they can come into conflict, operate as sources of delay and frustration to innovators, and occasionally shape the outcomes that are ultimately achieved.

It appears that the very qualities of persistence and single mindedness that are capable of bringing an idea to the point at which it might be implemented in clinical practice may also be those that encounter most difficulties in a highly regulated environment with multiple stakeholders. Successfully negotiating this environment is a process requiring both luck and judgement.

Innovation is a political process in which it is necessary to enrols key constituencies in the problematic that underlies the innovation if successful negotiation of the path from idea to clinical practice is to be achieved. This means identifying key gate keepers, building alliances and enrolling interest groups that can lobby in support of the project.

Achieving this is considerably complicated when key aspects of the process of innovation point away from such engagement. For example, where it is necessary to establish a private company effectively to drive a system's development questions of commercial confidentiality and intellectual property rights are inevitably introduced in ways that can inhibit the process of open consultation.

In addition, it is important that potential sources of opposition, or lack of wholehearted support, be addressed and engaged with. This is especially important when not all stakeholders share the same confidence in particular therapeutic or care strategies. In the case of the technology studied here, the continuing controversy about the effectiveness and appropriateness of CTG monitoring may be a case in point.

About the Project

The research was designed to study the clinical implementation of a computerised decision support tool for managing fetal well-being in labour. It aimed to assess how the system impacted upon: clinical decision making; professional organisation and relationships; patient-professional relationships; patients' involvement in the management of their own labour; and organisational politics and structures. It was also concerned with how changes in practice affect: risk and perceptions of risk; patterns of actual and perceived accountability; professional and clinical autonomy; and the relative power of patients and professionals. Delays in the implementation of the system in clinical settings led to a refocusing of the research on decision-making in maternity care and on the process of technological design and innovation in a health care environment.

The research successfully used ethnographic methods in three NHS maternity delivery suites to explore attitudes to risk and to computerised decision support systems. The holistic approach to medical staff in this work situation allowed collection of data not only on 'voiced' attitudes and work practice but also the observation of actual practice. This allowed a triangulation of data and strengthened the quality, reliability and validity of the data.

In policy terms the research identified the inherent difficulties for NHS staff who undertake the design and implementation of new technology that could enhance and improve medical work. It raised questions about funding and staffing issues related to exploiting new technological ideas.

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