Experts discuss different types of evidence and knowledge production

The Health Services Research Unit hosted a one day methodology seminar: **Conceptual Frameworks and Making Sense of Evidence and Knowledge Production**, on 16 March 2009, which brought together policy makers, clinicians, healthcare managers, statisticians, social scientists, psychologists, researchers and patient groups. The seminar was the first of a series of four seminars that aim to provide a forum for a wide range of people involved in health care to consider the status of health care research and evidence – from those on the receiving end right through to those who are actually managing it.

Different perspectives on what constitutes good quality evidence were debated and much of the discussion centred on how to ensure that research was gathered systematically and rigorously and was ‘fit for purpose’. The varied speakers also addressed how to produce accessible knowledge with relevance to diverse audiences including decision makers in healthcare policy and practice; clinicians, managers and the wider public. The emphasis was on the value of fostering multidisciplinary approaches and accepting that different forms of evidence may be powerful and appropriate in different contexts.

Key speakers included Professor John Creswell, an expert in using mixed research methods from the University of Nebraska; Ms Sarah Buckland, Director of INVOLVE – a national advisory group which supports and promotes active public involvement in NHS, public health and social care research; Professor Martyn Hammersley, a leading sociologist from the Open University, and Professor Richard Smith, former editor of the BMJ who is Director of the Ovations initiative which aims to create centres in the developing world to counter chronic disease.

The seminar was funded by the Economic and Social Research Council, and was organised by Dr Alexandra Greene, Senior Research Fellow, and Professor Lorna McKee, Director of the Delivery of Care programme at the University’s Health Services Research Unit. Three further seminars in the series – hosted by the University of St Andrews, Queen’s University Belfast and the University of Bristol – will be held later in 2009 and during 2010.

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Who cares? The impact of changing workforce patterns on staff and patients

A skilled NHS workforce is central to high quality care. Recent NHS workforce policies for re-design have been driven by shortages of skilled staff and doctors. New ways of working in the UK have, to a large extent, meant an increasing range of extended nursing roles that includes role specialisation and task-level substitution for doctors. However there is limited evidence about the process and impact of changing workforce patterns (or who cares for patients) on staff and patients.

Following a Paediatric Intensive Care Audit Network (PICANet) survey\(^1\) of workplace context and skills analysis, 27 UK Paediatric Intensive Care Units (PICUs) were categorised as having higher extended nursing roles (nurses undertaking five or more of six respiratory support tasks) or lower roles (nurses undertaking one or none of the tasks). These tasks are important clinical skills in the care team since three quarters of all children admitted to PICU receive respiratory support by mechanical ventilation. Twelve units (six higher vs six lower) were randomly selected for the prospective observational study.

Comparing impact on patients showed wide variation between units in nurses' and doctors' direct care time and no significant difference between higher and lower units in "who cares" at the bedside. Similarly, there were no differences in the adjusted quality indicators of process and safety of care measured. Parents had very positive views of PICU care, but users valued expertise, and were cautious or negative about health care being devolved to less qualified staff.

Comparing impact on staff, more staff in higher units reported working overtime, suffering work-related stress and work pressure. Staff views of extended and advanced nurse roles\(^2\) varied. Although higher units' management were enthusiastic supporters of initiatives and a culture to empower and retain nurses, they had yet to achieve or sustain a tier of skilled nurses in consistent replacement for trainee doctors. Whether care teams with extended nursing roles do perform as well as those without remains uncertain.

This was a collaborative project with UK PICANet funded by NIHR Service Delivery and Organisation Programme.

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References

Staff Profile - Graham Mowatt

Graham Mowatt joined the Unit in 1997 as the Review Group Co-ordinator for the Cochrane Effective Practice and Organisation of Care (EPOC) Group. EPOC is a Collaborative Review Group of the Cochrane Collaboration that undertakes systematic reviews of interventions designed to improve health professional practice and the organisation of health care services.

When the group's editorial base relocated to Ottawa in 2001, Graham remained in the Unit and since then has worked as a systematic reviewer on a number of different reviews undertaken within the Evidence Synthesis theme of the Unit's Health Care Assessment programme. The type of reviews undertaken by the Evidence Synthesis theme include Technology Assessment Reviews (TARs) assessing the clinical and cost-effectiveness of different health technologies for the National Institute for Health and Clinical Excellence (NICE) and other policymakers, reviews assessing the safety and efficacy of interventional procedures for NICE's Interventional Procedures Programme, and also reviews on a variety of different topics that have arisen from successful competitive bids to the HTA Programme. In March 2009 Graham was appointed Senior Research Fellow to lead the Evidence Synthesis theme, with overall responsibility for the portfolio of reviews that the Unit undertakes.
Results from the INTOPT study - Interventions to optimise the practice of transfusion: understanding transfusion prescribing behaviour in two clinical areas

While blood transfusion is life saving for some patients and can have beneficial outcomes, there are risks associated with transfusion. In addition, blood and blood products are a limited and expensive resource.

There is evidence of varied and sub-optimal transfusion practice across the country. Strategies to modify the use of blood and blood products have yielded mixed results, with transfusion behaviour returning to previous levels on completion of the studies. There is a need to improve our understanding of transfusion practice and how to change transfusion behaviours to optimise the use of blood and blood products.

The INTOPT study, funded by the Department of Health (England) had two objectives: (i) to use a theoretical framework to identify issues that critical care consultants and neonatal consultants think are relevant to their decision to give blood transfusions to patients; and (ii) to apply theories of behaviour to identify factors that predict critical care consultants’ and neonatal consultants’ decisions to give blood transfusions.

Semi-structured interviews, based on psychological theories of behaviour, and designed to elicit beliefs about transfusion practice in intensive care, were conducted with critical care and neonatal consultants. Based on these, a theory-based questionnaire to identify factors that predict consultants’ transfusion intentions and their decisions in response to clinical simulations (‘simulated behaviour’) was developed. 128 critical care and 136 neonatal consultants completed the questionnaire.

Among critical care consultants, attitude (i.e. perceptions about advantages and disadvantages) and habit were the most consistent individual predictors of intention. Among neonatology consultants, attitude was the most consistent individual predictor of intention.

These findings suggest that interventions to improve evidence-based transfusion practice should target the theoretical constructs, attitude and habit. To target these constructs, specific evidence-based techniques that could be selected as intervention components include feedback about the consequences of performing the target behaviours and strategies that interrupt habitual action sequences. A parallel study is under way in Canada to see if similar factors predict intention in this different setting.

PRaCTICaL : one year results

It is well known that poor physical and psychological quality of life (QoL) are common and prolonged in many patients who suffer critical illness requiring intensive care unit (ICU) admission. The provision of an ICU follow-up clinic has been proposed as a potential intervention to address these issues, but data on their effectiveness is lacking.

The CSO-funded PRaCTICaL study was a pragmatic randomised controlled trial of ICU follow-up clinics in the year after ICU discharge. ICU follow-up programmes are a nurse led complex intervention. The primary outcome was health related quality of life at 12 months after randomisation and a full cost-effectiveness analysis was performed as part of the trial.

We randomised 286 patients to either intervention or control and 192 completed one year follow up. At 12 months there was no evidence of a difference in SF-36 physical component score (mean 42.0 (SD 10.6) vs. 40.8 (SD 11.9), adjusted difference in means 1.1 (95% CI -1.9 to 4.2), p=0.83) or in SF-36 mental component score (0.4 (95% CI -3.0 to 3.7), p=0.83). Similarly, there were no statistically significant differences in secondary outcomes or subgroup analyses. Follow-up programmes were significantly more costly than standard care and are unlikely to be considered cost-effective.

We concluded that a nurse led ICU follow-up programme showed no evidence of being effective or cost-effective in improving quality of life in the year after intensive care discharge. Further work should focus on the roles of early physical rehabilitation, delirium, cognitive dysfunction and relatives in the recovery from critical illness. We also recommended that existing ICU follow-up programmes should review their practice in light of these results.

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Staff news

We have welcomed a number of new staff into the Unit: James Kerslake (Senior Programmer), Xiaoxiao (Sean) Wang (Programmer), Emma Hodgson (Receptionist/Clerical Assistant), Paola Botello (Research Fellow), Debra Hopkins (Research Fellow).

Congratulations go to Charis Glazener who has recently been promoted to a Personal Chair, Graham Mowatt who has recently been appointed Senior Research Fellow, and Lara Kemp who has become the Review Team Secretary.

Katie Schumm has been awarded a three-year post doctoral CSO fellowship award to explore the feasibility and acceptability of using a decision aid as part of the recruitment process in randomised controlled trials.

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The treatment of patients with varicose veins results in a considerable workload and financial burden to the NHS. Visible varicose veins occur in up to 40% of men and 32% of women, resulting in tens of thousands of operations being performed each year in the UK.

The mainstay of treatment for incompetent varicose veins has been surgery, involving stripping and phlebectomies. In the UK, minimally invasive treatments carried out under local anaesthetic are being increasingly used, despite uncertainty about clinical and cost effectiveness. These alternative treatments include foam sclerotherapy (where a liquid sclerosant is foamed with air and injected into the vein) and endovenous laser ablation (EVLA).

The NIHR HTA Programme has funded the CLASS trial (Comparison of LAser, Surgery and foam Sclerotherapy; ISRCTN51995477) to compare the clinical and cost-effectiveness of conventional surgery with (i) foam sclerotherapy, and (ii) EVLA of the main vein with foam sclerotherapy of non-trunk varicocities if required. Outcomes being compared include disease specific and generic quality of life, clinical and technical success of treatment, and costs to the health service and patients of each intervention and any subsequent care.

The trial, led by Julie Brittenden, a vascular surgeon based in Aberdeen, aims to recruit 1016 adult patients with primary varicose veins from at least five UK centres. Recruitment is currently underway in five UK sites; to date 79 patients have been recruited. Patients will be followed-up at six weeks and six months after treatment. It is hoped that follow-up can be extended to five years. The CLASS Trial Office is based in the Centre for Healthcare Randomised Trials, within the Health Services Research Unit.

A behavioural recovery questionnaire for use in the trial has been designed by the team. An interview based-study was conducted to identify the behaviours that patients regard as key milestones in their recovery following treatment for varicose veins. Based on the activities and behaviours that were most frequently mentioned during the interviews an instrument has been developed and is being used at the six week follow-up.

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Recent publications


