

Editorial

The investigators reflect: what we have learned from the Deepening our Understanding of Quality Improvement in Europe (DUQuE) study

In 2009, we launched Deepening our Understanding of Quality Improvement in Europe (DUQuE), an ambitious study on the effectiveness of quality improvement systems of hospitals in eight European countries. We believe this to be the most comprehensive and detailed study of quality improvement systems to date in terms of the *a priori* development of a coherent theory to guide the measurement and analytical strategy, the diverse countries involved and the range of standardized data collected (including surveys, chart reviews, administrative data and organizational audit). The papers published in this supplement describe the key findings of the project so far [1]. Here we discuss the overarching lessons emerging from the study.

Feasibility of data collection in EU healthcare settings

Without the relentless efforts of healthcare professionals and patients to gather data, research on quality improvement would not be possible. Despite the demanding workload of the study, response rates and completion of data collection have been exceptional, reflecting the efforts of country and hospital coordinators. However, there were some lessons about feasibility as the field test was complex and challenging for two reasons. First, in some countries an increasing ‘quality burn-out’ (where professionals are overwhelmed by existing requirements to document and monitor aspects of quality and safety) made it difficult to motivate staff to take on yet another project. Secondly, restrictive research ethics criteria (appropriate for interventional studies, but questionable for observational research) led to substantial delays in advancing the study. These are serious issues of relevance for any future primary data collection in European healthcare settings, in particular when providers are approached by multiple EU projects. The EU itself may be able to take a role by establishing governing mechanisms that increase coordination between research projects addressing similar topics.

Measuring what is important in quality and safety

Quality and safety evaluations in health care are frequently dominated by what can be easily measured, rather than by what is important. The DUQuE Consortium took a deliberate decision to build a conceptual model and populate it with existing instruments where possible, while developing new ones where needed [2]. These new instruments are crucial outputs of the project and we hope they will undergo further validation. However, quality and safety research needs to go beyond descriptive or prevalence studies. Associational analyses that attempt to quantify the complex relationships between quality systems and healthcare processes and outcomes have the potential to contribute much to our understanding of how quality improvement systems work.

Quality systems and their impact: which definition of quality?

Quality is typically defined in terms of clinical effectiveness, safety and patient centredness [3]. Accepting this definition raises the question of who in the hospital is in charge of assessing and improving these three domains. In DUQuE we hypothesized that all domains are affected by organizational quality management systems. We were able to demonstrate strong associations between quality management and clinical effectiveness of care, and to a lesser extent for patient safety culture. However, the link with patient reported experience of care remains elusive. It might well be that other factors beyond those conceptualized in our study influence the experience of patients. But just as ensuring clinical effectiveness is an organizational effort (it requires evidence-based procedures, monitoring systems and IT support) the improvement of the patient’s experience should be an integral part of quality management systems [4].

A research agenda for research on quality and safety

A number of important questions emerged from this first set of DUQuE results. First, low baseline performance and high variations on a wide range of quality and safety indicators are a key concern. Further work is needed to understand these variations [5, 6]. Secondly, our research suggests that quality management systems are not always implemented systematically and that the extent to which they support the clinical work may be limited. This, too, is an important finding that merits further investigation. Thirdly, our work demonstrates that a combination of departmental level quality strategies is highly associated with achievement of good practice. This observation may lead to further work on developing criteria to characterize the features of a good quality department, which might be of particular benefit to department leaders and to accreditation agencies. Fourthly, if quality is accepted to embrace dimensions of clinical effectiveness, safety and patient-centredness, then further work should address how best to improve patient's experience with care. Fifthly, our research on patient involvement in quality management is sobering. Levels of patient involvement are low and seem tokenistic. How patients can be substantively involved and how to reap the benefits of their involvement urgently requires further work.

Policy implications

From a policy perspective, DUQuE raises several questions of which a few are mentioned here. In the context of the EU Directive on the rights of patients to cross-border care, policy-makers have wondered whether patient care is more variable in some countries than in others [7]. Decomposing the sources of variation is a challenging task but our results so far suggest a wider variation within countries than between them. These results have implications about the information that should be available to patients choosing a care provider in Europe. To assist purchasing agencies and hospital managers we summarized the key lessons of the project in an 'An evidence-based guide on effective quality and safety strategies' [8]. We are well aware that evidence alone doesn't lead to decisions, implementation or improvement. However, we hope that this guide and the research evidence it is based upon will provide the opportunity for a fresh reassessment of what works, what might be modified and where further research is needed.

Acknowledgements

The DUQuE Project Consortium comprises: Klazinga N., Kringos D.S., MJMH Lombarts and Plochg T. (Academic Medical Centre—AMC, University of Amsterdam, The Netherlands); Lopez M.A., Secanell M., Sunol R. and Vallejo P. (Avedis Donabedian University Institute-Universitat Autònoma de Barcelona FAD. Red de investigación en servicios de salud en enfermedades crónicas Redissec, Spain); Bartels P. (Central Denmark Region & The Department of Clinical

Medicine, Aalborg University, Denmark), Kristensen S. (Central Denmark Region & Center for Healthcare Improvements, Aalborg University, Denmark); Michel P. and Saillour-Glenisson F. (Comité de la Coordination de l'Evaluation Clinique et de la Qualité en Aquitaine, FRANCE); Vlcek F. (Czech Accreditation Committee, Czech Republic); Car M., Jones S. and Klaus E. (Dr Foster Intelligence-DFI, UK); Bottaro S. and Garel P. (European Hospital and Healthcare Federation-HOPE, Belgium); Saluvan M. (Hacettepe University, Turkey); Bruneau C. and Depaigne-Loth A. (Haute Autorité de la Santé-HAS, FRANCE); Shaw C. (University of New South Wales, Australia); Hammer A., Ommen O. and Pfaff H. (Institute for Medical Sociology, Health Services Research and Rehabilitation Science, University of Cologne-IMVR, Germany); Groene O. (London School of Hygiene and Tropical Medicine, UK); Botje D. and Wagner C. (The Netherlands Institute for Health Services Research—NIVEL, the NETHERLANDS); Kutaj-Wasikowska H. and Kutryba B. (Polish Society for Quality Promotion in Health Care-TPJ, Poland); Escoval A. and Lívio A. (Portuguese Association for Hospital Development-APDH, Portugal) and Eiras M., Franca M. and Leite I. (Portuguese Society for Quality in Health Care-SPQS, Portugal); Almeman F., Kus H. and Ozturk K. (Turkish Society for Quality Improvement in Healthcare-SKID, Turkey); Mannion R. (University of Birmingham, UK); Arah O.A., DerSarkissian M., Thompson C.A. and Wang A. (University of California, Los Angeles—UCLA, USA); Thompson A. (University of Edinburgh, UK).

Funding

The study, 'Deepening our Understanding of Quality Improvement in Europe (DUQuE)' has received funding from the European Community's Seventh Framework Programme (FP7/2007–2013) under grant agreement no. 241822. Funding to pay the Open Access publication charges for this article was provided by European Community's Seventh Framework Programme (FP7/2007–2013) under grant agreement no. 241822.

References

1. Deepening our understanding of quality improvement in Europe. *Int J Qual Health Care* (Suppl. 2), 2014. <http://intqhc.oxfordjournals.org/content/supplemental> (27 February 2014, date last accessed).
2. Groene O, Klazinga N, Wagner C *et al.* Deepening our Understanding of Quality Improvement in Europe Research Project. Investigating organizational quality improvement systems, patient empowerment, organizational culture, professional involvement and the quality of care in European hospitals: the 'Deepening our Understanding of Quality Improvement in Europe (DUQuE)' project. *BMC Health Serv Res* 2010;**10**:281.
3. Department of Health. High quality care for all: NHS Next Stage Review final report. Department of Health, 2008, p. 47. http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_085828.pdf (27 February 2014, date last accessed).

4. Wiig S, Storm M, Aase K *et al.* QUASER team. Investigating the use of patient involvement and patient experience in quality improvement in Norway: rhetoric or reality? *BMC Health Serv Res* 2013;**13**:206.
5. Shekelle PG, Pronovost PJ, Wachter RM *et al.* The top patient safety strategies that can be encouraged for adoption now. *Ann Intern Med* 2013;**5**:365–8.
6. Groene O. Does quality improvement face a legitimacy crisis? Poor quality studies, small effects. *J Health Serv Res Policy* 2011;**16**:131–2.
7. Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011 on the application of patients' rights in cross-border healthcare. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:088:0045:0065:EN:PDF> (27 February 2014, date last accessed).
8. 'Seven ways to improve quality and safety in hospitals. An evidence based guide'. www.duque.eu (27 February 2014, date last accessed).

O. GROENE¹
R. SUNOL^{2,3}

on behalf of the DUQuE Project Consortium[†]

¹London School of Hygiene and Tropical Medicine,
Department of Health Services Research and Policy, 15–17
Tavistock Place, London WC1H 9SH, UK

²Avedis Donabedian Research Institute (FAD),
Universitat Autònoma de Barcelona, Provenza 293,
Barcelona 08037, Spain

³Red de Investigación en Servicios de Salud en Enfermedades
Crónicas, (REDISSEC), Barcelona, Spain

[†]The list of authors of the DUQuE Project is given in the
Acknowledgement section.

Address reprint requests to: oliver.groene@lshtm.ac.uk