

What can we learn from effective collaboration in primary care research? One success story

Research in primary care has been developing slowly for a variety of reasons, most of which have been well documented. Specific impediments relate, among other factors, to a relative lack of expert researchers (due in part to problems in career pathways (Kendrick and Kendall, 2008), a lack of support in academic communities and the limited availability of funds both for projects and, more importantly, for infrastructure.

The paucity of expert researchers (and especially research leaders) in primary care is being addressed by programs of fellowships for future researchers in both the United Kingdom and the United States, leading to masters, doctorate degree or post-doctoral awards. Wonca (the World Organization of Family Doctors) has sponsored the Brisbane Initiative for International Leadership, which holds yearly meetings at Oxford in the United Kingdom (Care, 2010).

The issue of funding has been addressed to some extent in the United States by the concerns of our NIH that research results are not reaching the front lines of patient care and the development of a funding stream for translational research but serious problems in the 'vertical' nature of health care and the related research funding remain (De Maeseneer *et al.*, 2008).

One strategy that may help to address all of these issues together is collaboration with other disciplines – some of which are not even medical in their focus. Our success in developing such a collaboration at the University of Wisconsin provides one example of how this can work – and

opportunities to replicate this at other institutions abound, although of course the specific collaborating schools and departments will vary according to interests and capacity.

Fifteen years ago, through a chance meeting, one of the authors (JWB) was informed that other faculty at our own university in the Department of Industrial Engineering shared the family physicians' interests in the quality of work life. Neither of us was aware of our common interests, living as we often do in our own silos. This led to a collaborative study between what was then our Wisconsin Research Network (WRn), the UW Department of Family Medicine and the UW Department of Industrial and Systems Engineering. One small grant got us started. As this work progressed, we realized that we had many common interests related not only to workforce satisfaction issues but also to the areas of patient safety, practice complexity and the role of electronic health records (EHRs) in all of these issues.

As our collaboration matured, it became obvious that family physicians had knowledge of the relevant questions, project design opportunities and limitations as well as access to clinicians and their practices. The industrial engineering group had intimate knowledge of the background literature and expertise in methods. In addition, they had stable infrastructure resources including graduate students. Very importantly, they had superlative research grant writing skills and a track record of successful funded research.

An additional small funded study on the reporting of medical errors was conducted and published (Beasley *et al.*, 2004a). We then obtained funding from the agency for healthcare research and quality for a study of health hazards to the elderly in primary care. The chief outcome of this study was a realization that most of the

Correspondence to: John W. Beasley, MD, Professor of Family Medicine, Department of Family Medicine, University of Wisconsin School of Medicine and Public Health, 1100 Delaplane Court, Madison, WI, USA. Email: John.beasley@fammed.wisc.edu

'hazards' related to what we call 'information chaos.' This is a combination of any or all of the information overload, information underload, information scatter, information uncertainty and erroneous information (Beasley *et al.*, 2010). This, in turn, led to a study (ongoing) of a strategy to reduce the level of information chaos and to a current grant application that, if funded, will allow us to explore the specific cognitive tasks of physicians in primary care with attention to how EHR systems can be better designed to support physician cognition.

Overall, this has been a very productive scientific collaboration resulting in numerous publications and presentations (Beasley *et al.*, 2004a; 2004b; 2005; 2007; 2010; Karsh *et al.*, 2004; 2006; 2010; Temte *et al.*, 2009) and grants totaling \$1 049 000 with an additional \$2 495 000 under consideration. One study (Beasley *et al.*, 2004a) had an impact on proposed state legislation regarding the reporting of medical errors. Moreover, the industrial engineering group now has an appreciation of the complexities of primary care – and is committed to helping family doctors get the support they need to do their work better – and enjoy it more! Family doctors have come to realize that by using the expertise and resources of experts in seemingly unrelated fields there is added value for primary care.

These collaborations do require a broad vision of the scope of research in primary care in order to engage the interest of other parties. Starfield (1996) have articulated a taxonomy of primary care research, which has been useful in explaining the scope of our work. In short, primary care research can be basic (research into methods), clinical (what works and what does not; epidemiology), health services (what works at the practice level), health systems (what works on the macroscale) and educational (how we educate current and future clinicians) (Mold and Green, 2000).

Seek opportunities for collaboration outside your department. You'll like it – and your research may find better support, be of higher quality, and the work others are doing will be more relevant to our clinical needs. In addition, there are other benefits. The collaboration has been, let's face it, fun. Wonderful personal friendships have developed and for both departments

Primary Health Care Research & Development 2010; **11**: 203–205

our weekly working group meetings have been a source of energy and excitement.

John W. Beasley, MD
Professor of Family Medicine
Department of Family Medicine
University of Wisconsin School of Medicine and
Public Health
Madison, WI, USA

Ben-Tzion Karsh, PhD
Associate Professor of Industrial and Systems
Engineering
Department of Industrial and Systems Engineering
University of Wisconsin
Madison, WI, USA

References

- Beasley, J.W., Escoto, K.H. and Karsh, B.T. 2004a: Design elements for a primary care medical error reporting system. *Wisconsin Medical Journal* 103, 56–59.
- Beasley, J.W., Karsh, B.T., Sainfort, F., Hagenauer, M.E. and Marchand, L. 2004b: Quality of work life of family physicians in Wisconsin's health care organizations: a WReN study. *Wisconsin Medical Journal* 103, 51–55.
- Beasley, J.W., Karsh, B.T., Hagenauer, M.E., Marchand, L. and Sainfort, F. 2005: Quality of work life of independent vs employed family physicians in Wisconsin: a WReN study. *Annals of Family Medicine* 3, 500–506.
- Beasley, J.W., Hamilton-Escoto, K. and Karsh, B.T. 2007: Human factors in primary care. In Carayon, P., editor, *Handbook of human factors and ergonomics in patient safety*, chapter 50. Mahwah, NJ: Lawrence Erlbaum Associates Publishers, 921–936.
- Beasley, J.W., Karsh, B.T., Temte, J., Lapin, J.A., Wetterneck, T., Smith, P. and Rodriguez-Rivera, A.J. 2010: *Information chaos in primary care: implications for patient safety*. Wonca World Conference. Cancun, Mexico, Wonca (World Organization of Family Doctors).
- Care, D.O.P.H. (2010) The Brisbane Initiative. Retrieved 22 June 2010 from <http://www.primarycare.ox.ac.uk/postgraduate/brisbane-initiative>
- De Maeseeneer, J., Van Weel, C., Egilman, D., Mfenyana, K., Kaufman, A. and Sewankambo, N. 2008: Strengthening primary care: addressing the disparity between vertical and horizontal investment. *The British Journal of General Practice* 58, 3–4.
- Karsh, B., Beasley, J.W. and Hagenauer, M.E. 2004: Are electronic medical records associated with improved perceptions of the quality of medical records, working conditions, or quality of working life? *Behavior and Information Technology* 23, 327–35.
- Karsh, B.T., Escoto, K.H., Beasley, J.W. and Holden, R.J. 2006: Toward a theoretical approach to medical error

reporting system research and design. *Applied Ergonomics* 37, 283–95.

Karsh, B.T., Beasley, J.W. and Brown, R.L. 2010: Employed family physician satisfaction and commitment to their practice, work group, and health care organization. *Health Services Research* 45, 457–75.

Kendrick, T. and Kendall, S. 2008: Developments in career pathways for primary care researchers. *Primary Health Care Research and Development* 9, 105–108.

Mold, J.W. and Green, L.A. 2000: Primary care research: revisiting its definition and rationale. *The Journal of Family Practice* 49, 206–208.

Starfield, B. 1996: A framework for primary care research. *The Journal of Family Practice* 42, 181–85.

Temte, J., Grasmick, M., O'halloran, P., Kietzer, L., Karsh, B.T., Potter, B., Beasley, J.W. and Smith, P. 2009: *Assessing primary care workload using the NASA-TLX*. In AHRQ, editor, AHRQ PBRN Research Conference. Washington, DC.