Practice and research: seeking common ground to benefit people

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A long-standing challenge for primary care has been its conflicted relationship with research and science. The evolution of primary care can be marked by the increasing collaboration between community practitioners and biomedical researchers. Since their inception in 1995,\textsuperscript{1} The Heelsum International Workshops have represented a dialogue between primary care clinicians and nutrition-oriented researchers. This issue of \textit{Family Practice} reports the proceedings of the 2010 6th Workshop, which demonstrate this evolving dialogue and better define the role of research in supporting the care of people in communities.

Practice and research: different realities

The purpose of research is to improve the health and health care of individuals and populations.\textsuperscript{2} In theory, this should result in the development of new knowledge that can be used at the point of care. The reality has been different: research has been considered the exclusive domain of academic institutions and hospitals, with community practitioners viewed as the passive recipients of the new knowledge. By failing to account for the different realities of the narrow focus of the researcher and the broad demands on the clinician, this one-way flow of information has resulted in a gap between what researchers conclude and clinicians practice.\textsuperscript{3}

Lack of relevant evidence compelled primary care to rely on the personal and collective experience of its practitioners. Without a firm foundation in rigorous research, however, decisions about the care of individual patients were left to \textit{ad hoc} judgements and raised the criticism that experienced clinicians were making repetitively the same mistakes with increasing confidence. What has been needed is a process for systematically finding, appraising, synthesizing and applying contemporaneous and relevant research findings as the basis for clinical decisions. For this, the concept of ‘translational research’ has been coined, to emphasize how important it is that basic discoveries are translated into clinical development, and find their way to the community, in order to improve community health status.\textsuperscript{4}

Reviewing evidence: the start, not the conclusion, of a dialogue

The rise of evidence-based medicine (EBM) reflected the need to more comprehensively evaluate and integrate often fragmented and sometimes conflicting research findings. The Cochrane Collaboration\textsuperscript{5} has been an important global initiative to gather systematically the empirical observations about the apparent relationship between events, which are then used to predict future events and the effects of interventions. The impact of the Cochrane Collaboration on primary care has been substantial, in that, it began an ongoing dialogue between researchers and practitioners. The Heelsum Workshops have also contributed to this dialogue by bringing together nutrition scientists and health educators with family physicians. The workshops have confirmed that a substantial part of the health problems encountered in primary care require requires ‘nutritional advice’.\textsuperscript{6}

Yet, dialogue alone has not been sufficient to improve the scientific basis of practice. EBM promotes the highest level of scientific evidence, especially randomized controlled trials (RCT).\textsuperscript{7} Even the best studies, however, appear to have limited durability, as shown in a review of all clinical intervention trials in major general clinical journal and high-impact specialty journals from 1990 to 2003 that were cited >1000 times.\textsuperscript{8} Of the 49 highly cited studies, 45 claimed that the intervention studied was effective. Less than half (44\%) of the time were the cited study findings replicated by subsequent studies, while 16\% of the trials were contradicted by later studies and another 16\% were found to have less impact with subsequent studies showing reduced effect size. About one quarter of the studies (24\%) were not addressed by subsequent studies.
Using evidence without understanding its origins: potential for misunderstanding

A number of reasons can explain the difficult transition of research findings into patient care, including the limitations of the RCT and the mismatch between the study population and the population under care. The effectiveness of interventions is determined by a number of factors, such as trust and patients’ personal values,9 which are difficult to control in research. Experimental trials can only be pursued for a limited duration of time (as long as funding lasts), while clinical interventions are often directed at much longer duration of their effects. Most persons with health problems are treated in primary care by family doctors,10 while most research has been based on referred patients seen in tertiary care hospital settings. As a consequence, there is a profound problem of representation as patient and disease characteristics may differ. For ‘evidence-based practice’, it is essential to secure participation of primary care in research: not just participation in the dialogue, but actual identification of research questions, design of the methods, conduct of the study and assessment of the results. In terms of the Heelsum Workshops, this was marked by the founding of a Cochrane subfield ‘nutrition’ that was brought under Cochrane primary care.11,12 The resulting systematic orientation on available information made known what was known—and translated this into support for practice through protocols and guideline and an implementation policies for education and practice support.13 The critical ‘appraisal’ of the literature highlighted the deficiencies of the existing evidence: it made it known what was not known. A major development from this engagement between practice and science was the definition of research priorities, leading to the programming of priority areas of studies in primary care.14 There are good examples how research changed practice, such as a randomized clinical trial on the treatment of acute otitis media 15 by family doctors in the Netherlands. Until the publication of the trial, surgical intervention—removing pus by puncturing the eardrum according to the principle of ‘ubi pus, ibi evacuo’—was considered the preferred treatment. The publication of the trial, which showed that neither puncturing the eardrum nor the prescription of antibiotics held any benefits over watchful waiting in persons older than a year, quickly changed Dutch practice.

The otitis media study, however, does not reflect the usual sequence of events involved in translating science into practice. One explanation for this is that the knowledge the study presented was not new but was consistent with the observations family doctors had already made in individual cases—their clinical experience. Therefore, the study clarified what was known, but until its publication, the formal literature had not yet confirmed that it was known. Moreover, this new knowledge was congruent with several values of family doctors: it validated their observations that puncturing the eardrum or prescribing antibiotics had nothing to add to a wait and see approach and it confirmed a core value of primary care: to rely as much as possible on the powers of patients to take care of their own illness. In other words, the knowledge generated in the study resonated with the value system and the context of the care environment in which family doctors apply knowledge.

Context: from disease to person to people

The context of care issue led to two other developments: the interaction between primary care and research that can be seen in the evolution of the Heelsum Workshops over the years. Primary care is a key factor for effective health care and health of people,16 more so than other specialists. This contribution is made despite the fact that specialists often achieve better outcomes than family doctors when judged by disease-specific measures—this is known as the paradox of primary care.17 It can be inferred from this paradox that when it comes to health and effective health care, diseases are not the determining reference for diagnostic, preventive and therapeutic interventions. Health care is directed at individuals with a disease, and consequently, the effectiveness of care is determined by the success of integrating interventions directed at the personal aspects with those directed at the health problem—that is, understanding the context of the person with the disease. This requires a paradigm shift in patient care18 that research must be able to follow. More ‘contextual evidence’ apart from ‘medical evidence’19 and with it new methods designed to account for the complexity of disease and of people and away from the narrow approach that seeks to reduce the number of variables in pursuit of isolated disconnected outcomes. The Heelsum Workshop reflected this new approach in its discussion of obesity. Even though food and metabolism remain relevant factors in this, the Workshop attempted to integrate biological variables with lifestyle, personal preferences, quality of life, physical activity and so on. This ‘contextual’ approach demonstrated an enrichment of methods, not opposed to RCTs but exploring alternatives and rejuvenating experimental designs to reflect the challenges and complexity of current daily practice.

A scientific paradigm shift follows from this orientation on health problems in the patients’ context: no longer is research a quest not only for universal truth

Matching empirical and experiential data

A second development therefore has been the active participation of primary care in research: not just participation in the dialogue, but actual identification of research questions, design of the methods, conduct of the study and assessment of the results. In terms of the Heelsum Workshops, this was marked by the founding of a Cochrane subfield ‘nutrition’ that was brought under Cochrane primary care.11,12 The resulting systematic orientation on available information made known what was known—and translated this into support for practice through protocols and guideline and an implementation policies for education and practice support.13 The critical ‘appraisal’ of the literature highlighted the deficiencies of the existing evidence: it made it known what was not known. A major development from this engagement between practice and science was the definition of research priorities, leading to the programming of priority areas of studies in primary care.14 There are good examples how research changed practice, such as a randomized clinical trial on the treatment of acute otitis media 15 by family doctors in the Netherlands. Until the publication of the trial, surgical intervention—removing pus by puncturing the eardrum according to the principle of ‘ubi pus, ibi evacuo’—was considered the preferred treatment. The publication of the trial, which showed that neither puncturing the eardrum nor the prescription of antibiotics held any benefits over watchful waiting in persons older than a year, quickly changed Dutch practice.

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A scientific paradigm shift follows from this orientation on health problems in the patients’ context: no longer is research a quest not only for universal truth
but also for truth under prevailing local circumstances. Phrased in a different way, the universal truth is that all practice is local and requires evidence that matches the environment in which it is to be practiced. This demands repeat testing and replication in local contexts, with an important need to report to the national and disciplinary level as much as to general global journals.

Although the paradigm shift from disease to person is essential, it will be insufficient if it stops at the level of the individual. The communities in which persons live determine their context in social, economic, cultural and other terms. The values held by individuals have their roots in the community in which they live. Knowing the community with its impact on health, illness and disease often provides the key to the care of persons. In the development of the Heelsum Workshops, this came forward in the bridge between public and individual care.20 Research enables practitioners to anticipate problems that are present but may be hidden—to understand that we do not know what we do not know—and to act proactively. To be able to focus on persons, it is imperative to link the domains of population and individual health.

Conclusion: from research for practice to practice through research

This heralds the most profound paradigm shift for research: from informing and educating practitioners, such as prescribing innovations for practice as was recommended at the first Heelsum Workshop, into approaches and methods arising out of practice to benefit the health care of persons and all people.

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