Editorial

Primary Care Research: The Realm of Paradigmatic Plurality

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For those not in the academic discipline, one of the first questions usually asked is, "What exactly is primary care research?" Of course, the short and relatively easy answer is to talk about what we mean by primary care and how our research supports the quality and delivery of primary health care. Some have made the distinction between primary medical care, which focuses on the clinical practice of physicians as the first-line of care (commonly family physicians, and general internists and pediatricians), and primary health care, a label that we privilege due to the fact that it encompasses the practice of all health professionals involved in front-line healthcare delivery. At this point, we can usually bring out the well accepted definitions of primary care such as that published by Barbara Starfield in the Lancet in 1994, that "primary care is first-contact, continuous, comprehensive, and coordinated care provided to populations undifferentiated by gender, disease, or organ system" (1). We can then re-iterate the largely corroborated and established evidence that to improve the health of any population and the sustainability of any health care system, you need a solid primary care base. Things may get a bit murky as, by its inherent nature, primary care research adopts research methodologies and methods from many different disciplines and fields of inquiry and is inherently multidisciplinary. This may mislead people into believing that the research we do is only based in epidemiology or public health or the biomedical sciences or anthropology… the list goes on. The real answer is that, while these research

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traditions have contributed to research in primary care, the sum is greater than the parts.

To better understand this, you must realize that primary care research is not only multidisciplinary but crosses different research paradigms, a major feature that enriches and distinguishes us from other health research fields. Many people work in solely one research paradigm, in blissful ignorance of their staunch support for the particular perspective this gives to the production and interpretation of new knowledge. Research is a process based on certain assumptions that are made about ontology which is how we view social or physical reality; epistemology which is how we define the nature, origin and scope of knowledge, as well as the position that the researcher decides to adopt vis-à-vis the phenomenon s/he is interested in researching; and methodology which is what procedures are used for the research. All these dimensions are meaningfully combined in what we call research paradigms. While there are many (e.g. pragmatic, critical, etc.), we are going to focus here on the two that are arguably 'archetypical' and explore the assumptions of each of them.

Post-positivism is the paradigm that medical scientists most often utilize. The post-positivist paradigm has an ontology that assumes that there is a reality or truth that exists independent of ourselves as researchers. The etiologic assumption is that this is a singular, objective reality that can be measured. Due to these assumptions, the epistemological stance adopted by the researcher is objectivism, and the use of experimental design and methods meant to reduce subjectivity are privileged. In other words, experimental methods are valued to falsify hypotheses. As a result, there is a dominance of quantitative statistical methods where we expect to generate knowledge from a sample that can be generalized to a population. Greenhalgh in 2000 nicely summarized this by stating that, "science is concerned with the formulation and attempted falsification of hypotheses using reproducible methods that allow the construction of generalizable statements about how the universe behaves" (2). Notice the assumption that all science falls into this paradigm? The subsequent implication is that if you are not formulating and falsifying hypotheses, then you are not conducting "true science" to generate knowledge. This is further supported by such influential researchers such as David Sackett and the Evidence-based Medicine Group, who in 1992 published in the Journal of the American Medical Association (3) the following statement:

> "A new paradigm for medical practice is emerging. Evidence-based medicine de-emphasizes intuition, unsystematic clinical experience, and pathophysiologic rationale as sufficient grounds for clinical decision making and stresses the examination of evidence from clinical research. Evidence-based medicine requires new skills of the physician, including efficient literature searching and the application of formal rules of evidence evaluating the clinical literature"

From this one could speculate that knowledge pertinent to clinical practice but generated within other research paradigms was unscientific and therefore needed to change. This was further emphasized by the statement in 1996 (4) that

> "by best available external clinical evidence we mean clinically relevant research, often from the basic sciences of medicine, but especially from patient centred clinical research into the accuracy and precision of diagnostic tests (including the clinical examination), the power of prognostic markers, and the efficacy and safety of therapeutic, rehabilitative, and preventive regimens"

A key and valuable part of primary care research is certainly to generate evidence that can be used in clinical practice that will enable "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients" (4) but it is not the only approach.

Another research paradigm, born in the social sciences, is constructivism. The constructivist paradigm has an ontology that assumes that there are multiple social realities, not a singular measurable reality or truth with a capital "T". Such an ontological position is here combined with a transactional or subjective epistemology that privileges hermeneutic and dialectical methodologies, and the use of strategies for collecting and analyzing texts, i.e. qualitative methods. In other words, these methods involve a systematic process of generating knowledge to understand how human beings interpret, give meaning and construct social reality in their individual contexts. The value of the rigorous evidence generated within the constructivist paradigm has been immeasurable when considering such topics as organization of health care systems, patient-oriented research, shared-decision making, patient preferences, professional identity, barriers and facilitators for knowledge translation – or as this research question can be more colloquially phrased, "why isn't evidence-based medicine being used and

why isn't it making a difference?" The evidence generated in the constructivist paradigm is incredibly important to achieve the objective of improving the quality of primary health care. After all, we may quantify how many patients do not take prophylactic treatment for primary prevention, but if we do not understand why (or even worse, assume that we as researchers already know why), we cannot expect to develop effective interventions to address this issue.

These are nothing but two research paradigms in which primary care researchers can frame their research endeavor. As noted above, we argue that primary health care, however, and by extension primary care research, encompasses the complex reality of individual people in their living contexts, is by default multidisciplinary and should embrace the richness offered by multiple research paradigms. The disciplinary perspectives in health are taken from life sciences, psycho-cognitive sciences, and social sciences to understand the psychic being (i.e. motions, reasons etc.), the biological being (i.e. organs, tissues, genes, etc.) and the social being (i.e. culture, family, society, economy, politics etc.) of people.

Within primary care, qualitative and quantitative evidence generated by researchers framed in different research paradigms should be equally valued. The key issue as Mills, Bonner, & Francis (5) stated in 2006 is that

> "to ensure a strong research design, researchers must choose a research paradigm that is congruent with their beliefs about the nature of reality. Consciously subjecting such beliefs to an ontological interrogation in the first instance will illuminate the epistemological and methodological possibilities that are available"

We argue that in primary care research, our strength comes from doing just that. So, what is primary care research? It is not research of one specific disease, organ system, cellular or chemical process. It is research that addresses multi-morbidity, undifferentiated presentations, and organization of care. It is research on the diagnosis, treatment and management of health problems; on prevention and health promotion; and on family and community interventions. It is also research on governance, economics, workforce development, access to services, and the three "C's" of high quality primary care: continuity, coordination and comprehensiveness.

Why should we restrict the generation of sound knowledge for primary care to only one research paradigm when we can take advantage of evidence produced within multiple research paradigms for sake of primary care practitioners and patients/people/communities? We therefore state, and advocate for, a primary care field of inquiry as the realm of paradigmatic plurality.

References

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