

## Strengthening evidence-based family medicine in Hong Kong

The value of primary care, particularly family doctor-led primary care, has been validated with respect to patient outcomes, cost-effectiveness, and health equity perspectives<sup>1</sup> and has led to an evolution in the role of primary care in the health care system in Hong Kong.<sup>2</sup> The Primary Care Office in the Hong Kong Department of Health was established to support and oversee the development of primary care. The founding of an academic Department of Family Medicine and Primary Care at the University of Hong Kong, and the commitment to enhance family medicine residency training by the Hospital Authority and the Hong Kong College of Family Physicians are also indicative of the development of this speciality in this locality.

Concurrent with these structural and strategic developments is the understanding that the quality of family medicine, like medical practice in all disciplines, must be grounded on solid evidence. However this understanding is not entirely pervasive. One of the authors (WW) recalled a recent incident when he was co-director of the general practitioner training programme in Melbourne. He was challenged by an experienced medical colleague about the need for primary care research when there was already an extensive body of medical literature and “you could easily pick up the phone and consult a specialist colleague about the management of problems in any given speciality”.

So where was the need for primary care research?

### Evidence-based practice in primary care should come from practice-based evidence

Regarding this caveat,<sup>3</sup> the vast majority of persons seeking medical attention do so via attending primary care. In a paper on the ecology of medical care in the US, Green et al<sup>4</sup> showed that in a typical month, of the patients who consulted a doctor (217/1000), more than 52% visited a primary care physician's office, in contrast to about nine who were cared for in hospital. In Hong Kong, of the population who consulted western allopathic doctors over a 1-month period (440/1000), 85% sought care from primary care doctors, and about eight per 1000 were hospitalised.<sup>5</sup> Yet much of the medical research undertaken locally involves patients seen in secondary and tertiary care settings, which may not be appropriate for extrapolation to primary care.<sup>6</sup>

In family medicine undergraduate teaching, we tell our students that though common problems are common, they cannot be taken for granted and need to be managed uncommonly well. Regrettably, there is also a relative lack of research which focuses on diagnoses, problems, and management issues

that are common in the primary care sector. This is exemplified by the discrepancy in allocation of global research resources with only about 10% directed at the 90% of all health problems which affect the world's population—problems which are frequently dealt with in primary care.<sup>7</sup>

Even where there are well-established evidence-based guidelines for common problems seen in primary care, such guidelines may have limited applicability. A recent review of National Institute for Health and Clinical Excellence guidelines for hypertension, chronic obstructive pulmonary disease, and respiratory tract infection makes this point. The review revealed that for recommendations targeting a primary care audience, a significant proportion of the cited evidence was not derived in primary care.<sup>8</sup> Secondary care-derived research may nevertheless have relevance to primary care, and not all primary care-derived research can be generalised to all primary care populations. But, because of the unique characteristics of primary care, in order for research about primary care problems to be meaningful and relevant, such research is best done in primary care.<sup>9</sup>

### The prevalence of serious disease in primary care patients is low, whilst they present early and with undifferentiated symptoms

Family doctors see a wide spectrum of problems, many of which present with vague symptoms that are often complicated by co-morbidities in a setting where there is low prevalence of serious disease and high likelihood of self-limited illness. Thus diagnostic approaches that are highly sensitive and specific in a hospital setting may not have the same predictive value in a low-prevalence community setting.<sup>10</sup> For instance, Kinnersley et al<sup>11</sup> pointed out that in their UK general practice where 1% of patients with abdominal pain had appendicitis, conclusions drawn about the usefulness of specific physical signs in diagnosing appendicitis may not be applicable to primary care if based on a hospital study, in which 37% of the patients had appendicitis.<sup>11</sup>

It is also common for patients to present with early, undifferentiated symptoms which may not be ‘classic presentations’ of serious disease. These therefore require a balance between watchful waiting and aggressive investigation. Clinical practice needs guidance on predictive information for serious disease presenting in the community, which depends on evidence gathered in a community setting. For example, the presence of a purpuric rash, meningismus, and impaired consciousness are textbook features appearing late in meningococcal

disease. However, the more relevant clinical question for family doctors to ask is, what are the most predictive early clinical features of meningococcal disease, with the understanding that early recognition leads to early referral to hospital for treatment and thus better outcomes. Primary care has a vested interest in answering these practical, setting-specific questions through research. Interestingly, in this particular case, primary care researchers found that early predictive symptoms and signs were leg pains, cold extremities, and abnormal skin colour.<sup>12</sup>

## Context is significant for effective primary care

Patients presenting in primary care can have a simple complaint that can be diagnosed and managed very straightforwardly. But more often their presenting problem is not clearly defined and presents on top of several co-morbidities, which may not be biologically related, but may interact with and affect treatment.<sup>13</sup> To address the presenting problem, not only must the co-morbid conditions be given due consideration, but it is also necessary to make sense of the multitude of behavioural, social, or psychological issues which infiltrate the problem.<sup>14,15</sup> For instance, unravelling the reasons why a diabetic patient does not have good glycaemic control (unhealthy and irregular diet due to work hours, lack of exercise, lack of motivation to change due to lack of symptoms, stress due to family issues, or financial concerns) would be the key to effective care. The nature of the doctor-patient relationship, the socio-economic considerations, and patient's cultural and personal values are among the factors that determine what approach works in routine family practice.<sup>16</sup>

Although the gold standard for examining efficacy is the randomised controlled trial (RCT), effective care is more than just a medical intervention. By necessity, a RCT has stringent patient selection criteria and focuses on a well-defined disease

scenario in isolation, and therefore tends to exclude primary care patients.<sup>13,15</sup> As van Weel et al<sup>3</sup> aptly state, "Effectiveness of care is determined by the success of integrating interventions directed at the personal aspects with those directed at the health problem." Thus, family medicine-based contextual evidence is needed,<sup>16</sup> through collaboration with and insight from the social and behavioural sciences, in addition to medical and allied health care professionals.

Real world research in community family practices can help to capture the complexities and highly contextual nature of primary care to inform clinical practice. It remains a challenge. Forming primary care research networks, using mixed methodologies including qualitative approaches, increasing collaborative work with medical and social science colleagues, encouraging research at the vocational training level, and lobbying for financial support for primary care research—will all be necessary steps towards generating local evidence to underpin quality primary care in Hong Kong.

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