This editorial will consider the challenge of innovation for healthcare from three perspectives: the general practitioner (GP), the patient and the policy maker. The knowledge, attitudes and beliefs of each, respectively, are likely to affect the type of innovation adopted in practice. Each stakeholder has priorities and needs that must be reflected in the design and implementation of innovations.

The practitioner
Over recent decades it has been demonstrated that the ideas, concerns and expectations of GPs or family physicians have remained similar in many countries. The main source of satisfaction in general practice has been the ability to make a diagnosis and prescribe the appropriate treatment. By corollary, satisfaction has been associated with a cordial and mutually respectful doctor-patient relationship. On the other hand, there is ample evidence that GPs are ambivalent about participating in research and, to some extent, possibly because GPs do not perceive research and teaching as contributing substantially to satisfaction with clinical practice.

Those actively innovating, that is, the purveyors of so-called ‘disruptive technologies’, might be better off focusing on the sources of practitioner dissatisfaction. These sources include time pressures, paperwork and breakdown in the doctor-patient relationship. Such issues have an enduring effect on practitioners in primary care, most of who work within a regulated environment. Dealing with government and/or insurance paymasters means form filling and auditing are a matter of routine.

On the other hand, lack of knowledge and size of income have been cited as a relatively minor source of dissatisfaction. In the UK National Health Service, GP income has increased substantially as a result of government incentives; however, the number of complaints against GPs has almost mirrored this rise in income. Therefore, paying doctors higher salaries or focusing on improving public health does not correlate with providing services that satisfy patients. Also, the availability of more ‘evidence-based’ guidelines is not a priority to those seeking satisfaction from working in general practice.

Trends impacting practitioners
Several trends may impact the direction of innovation in general practice. It has been noted in many developed countries that there is a substantial shift in the gender balance among practitioners. For example 55% of practitioners in Britain in 2010 were men, but in the next five years the majority of practitioners will be women and most will be working part-time. It is therefore likely that patients will experience more difficulty in accessing the same practitioner on every occasion, and issues of continuity of care will become even more problematic than they are already. The second trend is the continuing preponderance of females among those who consult doctors in primary care. In addition, the demographic shift in many developed economies is for a greater number of older people to consult practitioners in this discipline. Therefore the ‘main’ healthcare consumer consulting GPs will continue to be the middle-aged and older female. Many will also be caretakers of people with chronic and life-limiting illnesses; many will have multiple co-morbidities, and will have a significant number of unmet needs.

Another important trend is the increasing reliance on laboratory and radiological investigations to support the diagnostic process in general practice. It has been reported that doctors are deploying technology even on occasions when history taking and examination may...
establish a diagnosis. Trends among practitioners in general practice need to be juxtaposed with the changing expectations of consumers.

Consumers
In 2009 Ian Geddes, the head of the retail industry in the UK, made the following statement:

“Today’s consumer has vastly different and more sophisticated expectations of product, service, value and environment than five or even three years ago. In the new multichannel reality, the boundaries between virtual and physical space are becoming blurred and retailers are being forced to question the role and function of stores in an environment where their relevance to the connected consumer is increasingly subject to change.”

If we substitute the term ‘patient’ for ‘consumer’, ‘doctor’ for ‘retailer’ and ‘clinic’ for ‘stores’, we might conclude that even healthcare providers will need to adapt to this changing landscape. Expectations are rising alongside ready access to a bewildering array of services online. The consumer today has four characteristics: she is time-poor, socially connected, better informed and unlikely to be loyal to a specific provider if there are other, in her view, more convenient choices, readily available. A recent review of the experience of patients in Australia suggests that the greatest source of dissatisfaction is the experience of healthcare for the older person in residential aged care, and publicly funded hospital services. In light of the demographic shifts towards an ageing population, there is a mandate to offer innovation that allows people to remain active and independent, free from the need for residential and in-patient care.

Consumers in Australia state that the most satisfying services are those in general practice and community pharmacies. However, in Australia, as elsewhere in the world, there are particular aspects of those services that are an enduring source of complaint, namely, the lack of convenient appointments and prolonged waiting time in clinics. For a time-poor, informed consumer the issue of access to a flexible, responsive service is likely to drive innovation. An associated observation in Australia is that patients are unlikely to attend the same practitioner for all their needs. This is especially true for younger people. The consumer has already accepted the lack of continuity in care as a trade-off. The challenge for the provider is to adopt practices that reduce the risk of a poor outcome from this consumer practice.

In the prevalent economic climate, many patients are being impacted substantially by healthcare costs. Researchers are now reporting that patients are denying themselves treatment for financial reasons. Therefore, the increasing cost of treatment is likely to drive innovation for cheaper alternatives or more effective measures to promote the prevention of chronic and life-limiting illnesses. At the same time, published data that suggests that people who may benefit from treatment fail to comply with dosage regimens sometimes resulting in a worse prognosis.

Innovations to support patients with more convenient treatment may find favour with many patients and care providers. Innovations that give patients greater control over their condition are growing in popularity. There are now 15,000 health-related applications (apps) available on the market. The industry is worth $4 billion US and further growth is predicted.

Alongside the demand for greater personal control over chronic illness is the popularity of complementary and alternative healthcare. At a time when financial pressures are driving some patients to refrain from purchasing prescription drugs, an increasing number of people are spending on treatments for which there is, at best, limited evidence of benefit. Healthcare consumers are clearly demanding convenient access to services that promote wellness and independence, but perhaps prefer those services where they are treated as a valued customer rather than an inconvenience on the way of the next person waiting in line. These are services that are not, for the most part, publicly subsidised.

Policy makers
The perspective of policy makers is largely dominated by the cost of healthcare worldwide. In many countries these costs have outstripped the annual rate of inflation and the growth of gross domestic product (GDP). An interesting trend is the increase in out-of-pocket expenses even in subsidised healthcare systems. It seems consumers are willing to pay, although in most countries access to primary healthcare continues to be a perennial problem. Consumers regularly express dissatisfaction and governments respond by introducing a range of policies, usually incentives, to improve the situation. So far the impact has been limited. Meanwhile, the possibility of increasing access to practitioners using information technology offers hope for the future; however, to date there has been limited uptake of these technologies. The challenge for innovators is to develop a platform that facilitates online patient-practitioner interaction whilst reducing the scope for breach of privacy. There is also an urgent need to define the circumstances in which that encounter does not carry an appreciable medicolegal risk. Demand for healthcare continues to be related to sedentary lifestyles, obesity,
tobacco smoking, alcohol or drug abuse and the effect of ageing. The impact of these choices are demonstrated in the table below:

Table 1: Prevalence of chronic and complex conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Number of people with condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>USA + Australia + UK</td>
</tr>
<tr>
<td>Cardiovascular disease</td>
<td>124,000,000</td>
</tr>
<tr>
<td>Cancer</td>
<td>14,800,000</td>
</tr>
<tr>
<td>Diabetes</td>
<td>29,000,000</td>
</tr>
<tr>
<td>Asthma</td>
<td>26,000,000</td>
</tr>
<tr>
<td>At-risk alcohol consumption</td>
<td>59,000,000</td>
</tr>
<tr>
<td>Dementia</td>
<td>6,500,000</td>
</tr>
<tr>
<td>Total population</td>
<td>390 million</td>
</tr>
</tbody>
</table>

Another issue of growing concern to policy makers is the costs of iatrogenic conditions as a consequence of adverse drug effects, avoidable medical errors and hospital-acquired infections. There is considerable scope to innovate to reduce iatrogenesis, cost, waste and expensive medical litigation.

Innovation—where to from here?

From the above one can conclude that innovation will be driven by three considerations that will be relevant of each of the stakeholders:

1. Increasing access to health care.
2. Maintaining wellness.

Other considerations include:

1. Lack of evidence for benefit has not deterred the consumer from spending on healthcare products. However products that offer the reassurance of scientific testing may have an advantage.
2. Many private investors are now profiting in the healthcare market.
3. The love affair with ‘tests’ and gadgets continues among practitioners and patients alike.

However, the following caveats must be considered:

1. The main ‘consumer’ in primary care continues to be older females and the ideas, concerns and expectations of this demographic are a priority.
2. Many doctors are slow to adopt information technology.
3. There is now a global consumer market—what works in Australasia may be readily translated to the US market and vice versa.

The baby and the bath water

An important footnote to developing innovation is a focus on the role of the doctor in the community. In the end, ‘patients’ are not merely ‘customers’ who purchase a product. The role of the GP is to respond to people in distress. Patients may benefit from a prescription or a test, but in most cases, they will not. Patients need what customers want; i.e., to be treated as if they matter, offered a one-on-one personal service and, most importantly, to be heard. We are reminded of the words of Charles Odegaard, President Emeritus of the University of Washington:

“We certainly do not want bureaucratic and technologic health factories devoid of practicing physicians who really care for their patients and devoid of patients who really have trust in their physicians. If we are to be able to avoid such results in the face of the external pressures for cost containment of expenditures for health services, an alliance will be required between doctors and patients based on renewed trust and confidence in each other and capable of asserting a unified voice in demand for the quality of service mutually desired....”

Patients seek a convenient way to access services which may be possible to deliver, on occasion, using the technology that now obviates a face-to-face encounter; they are looking to that technology to augment, not replace the experience of going to the doctor.

**REFERENCES**


**CONFLICTS OF INTEREST**

The author declares there are no competing interests.

**PEER REVIEW**

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