Opportunities in chronic disease

The management of chronic diseases is in sore need of more innovative practices. Clare Connell and Hannah Hurley of Connell Consulting explore the solutions available

The NHS was set up to tackle medical emergencies and infectious diseases - the major healthcare issues of the 1940s. The face of healthcare has changed dramatically since then, and chronic diseases are now the greatest challenge facing health services worldwide.

The scale of this problem is easily seen in England. In the last financial year, £7 of every £10 spent in health and social care was allocated to patients with at least one chronic condition, totalling £88 billion. Additionally, financial pressures are increased by co-morbidity, which is common in these conditions, as they often have shared causes in patients’ lifestyle choices (figure 1). Professor Chris Salisbury, of the School of Social and Community Medicine at the University of Bristol notes: “Expenditure on health care rises almost exponentially with the number of chronic disorders that an individual has, so increasing multi-morbidity generates financial pressures.” (figure 2).

Clearly, there is a pressing need to develop more innovative practices to manage the burden of chronic disease. Salisbury explains: “This economic burden heightens the need to manage people with chronic illnesses in more efficient ways.”

Simon Steven’s ‘Five year forward view’ (FYFV) for the NHS acknowledges this need, with a focus on preventative measures and patient empowerment, which will likely release additional funds for these kinds of care. Likewise, the ‘worried well’ represents a private pay market for screening and chronic disease management. Viewed through the entrepreneur’s eyes, there should be a considerable market opportunity within chronic disease medicine.

The provision of chronic disease care provides clear opportunities for private providers

The later stages of major chronic diseases – which tend to be degenerative – require intensive, high-cost medical care, particularly if they are mismanaged (figure 3). There are obvious, and well-established opportunities here, notably dementia homes within the social care sector, as well as the provision of clinical therapies within the private hospital sector.

For example, there is widespread private provision of diabetes foot clinics, which offer an integrated pathway of care for diabetic foot disease. The Harley Street Clinic is able to offer diagnostic help, advice on controlling blood sugar levels, surgical intervention to correct the supply of blood to the foot, and post-operative rehabilitation to help prevent further complications. Diabetic foot care in the NHS is not quite so extensive,
and as a result the number of diabetes-related amputations will rise to 7,000 this year. Barbara Young, chief executive of Diabetes UK notes that this is not an unsolvable problem, if hospitals followed the lead of the private sector. She says: “If every hospital had a multi-disciplinary foot care team and ensured access to that team within 24 hours, then that would make a huge difference to the amputation rates.” She believes that this would add value in the long term as “putting these kind of systems in place can actually save money because the amputations that they prevent are so expensive”. There may be scope for private providers with existing experience in managing diabetic foot care to transfer these skills to the NHS, competing for contracts in this department.

Private providers are currently successfully meeting NHS contracts for chronic disease care. Circle – amongst others – is responsible for the provision of care for arthritis, and other musculoskeletal conditions under block contracts in multiple areas of the country. Streamlining services should counter many obstacles to good care – in musculoskeletal services patients are often referred to chaotic services, or the wrong practitioner, as generalists lack appropriate expertise. Simon Hunter, chief business officer at Hinge Health believes that “GPs are rarely in a position to properly diagnose arthritis, and often do not put patients on adequate self-management plans”. Ultimately, block contracts with private providers will also save money, as good disease management prevents the escalation of patient needs.

Opportunities include the creation of new primary care models

There is also a place in the market for more integrated chronic disease care, as the level of co-morbidity grows. This is anticipated to work at a primary care level, in the form of Simon Stevens’ ‘multispeciality community providers’ (MCP) – an update of Lord Darzi’s polyclinics. These larger group practices would be in a position to employ a wider range of consultants, and would take responsibility for outpatient appointments – where much chronic disease care takes place. In the long term, it is expected that these clinics could take on many of the roles of local community hospitals, and would be able to extend their chronic disease provision to include more intensive interventions such as dialysis.

Andrew Gardner, of Cloud Sustainability notes that these centres could be set up by “a number of GP practices that are willing to merge”, as they could provide the “economies of scale” and expertise needed to run an MCP. This could have exciting implications for existing private chains of GP practices, such as Malling Health, who are already offering the kinds of services needed to operate an MCP.

Further opportunities here are offered by the landmark contracts offered by Cambridgeshire & Peterborough Clinical Commissioning Group (CCG), Croydon CCG and latterly East Staffordshire CCG for integrated care for older people and those with long-term conditions. Virgin Care has recently been announced as the provider of care services in Staffordshire, and will be co-ordinating service provision for these individuals from April 2016. It seems likely that more of these contracts will be announced, as commissioners look to fulfil the integration agenda.

**Investors may find opportunities in product development**

There is a multitude of small start-ups springing from academic centres that specialise in medical technology, which can be used to improve care. These products could be well used within the health sector, and provide a good level of return, as commissioners’ purchasing priorities swing in line with the FYFV.

For example, within musculoskeletal medicine, Hinge Health has developed an application to track and improve outcomes after an arthroplasty. Simon Hunter explains: “Hinge One collects real-time insight into the patient’s condition, so trends in symptoms can be tracked, and triggers can be identified. It also provides guidance about physiotherapy, to improve rehabilitation. Together, these measures should improve outcomes and reduce the costs after a knee replacement.” Similar innovations are needed to manage other chronic diseases. Dr Natasha Patel, Clinical Director of the South London Health Innovation Network notes: “More innovation is needed to keep patients engaged in managing lifetime care.”

**FIGURE 2: CO-MORBIDITY COSTS**

There is a dramatic rise in the cost of care if patients develop multiple chronic diseases, which often occurs in old age

*Average cost of patient, per year, dependent on chronic disease diagnosis, UK*

<table>
<thead>
<tr>
<th>Number of chronic conditions</th>
<th>£293</th>
<th>£795</th>
<th>£1,655</th>
<th>£2,726</th>
<th>£4,549</th>
<th>£5,841</th>
<th>£7,325</th>
<th>£11,233</th>
</tr>
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- Analysts at the University of York found that cost increases with the number of chronic diseases at an exponential level.
- This finding places particular importance on the management of chronic diseases, to prevent multi-morbidity from occurring.
- Of course, this is difficult, as many chronic diseases share an underlying cause, and also exacerbate each other.
- For example, whilst osteoarthritis is rarely a cause of death, it does prevent an individual from exercising, thus increasing their susceptibility to other chronic diseases.

*Sources: The importance of multimorbidity in explaining utilisation and costs across health and social care settings*, Kasteridis et al. at the University of York, 2014.
conditions. Clinicians and patients don’t need more glucometers.”

There are also opportunities within pharmaceutical research and development, although these are more risky. The failure rate for the development of new therapies is notoriously high, particularly for the most prevalent degenerative diseases. Dr Hamish Cameron, venture capitalist and operating partner at SV Life Sciences says: “It is certainly the case venture capital shies from funding central nervous system disorders – including Alzheimer’s – because the rate of failure is so high, whether this is because the medicine just doesn’t work, or because we are using the wrong trial design and patient segment.”

Dr Erik Karran, science director at Alzheimer’s Research UK concurs: “If you’re running a business and you have options to find important new medicines in cancer, in diabetes or in neuroscience inevitably I think you have to place your bets where ultimately you will get a better chance of a return on your investment.”

However, a similarly tough landscape exists for many of these diseases. For example, Dr Roberto Solari, the recently departed vice president for the respiratory therapy area at GlaxoSmithKline, believes that there are few opportunities in asthma treatment because existing drugs are effective for most of the population and generally well-tolerated.

Providers and investors could create value by promoting early diagnosis of chronic disease

The early diagnosis of chronic diseases is fundamental to managing them effectively, as many are degenerative. However, this has proven difficult, as in the earliest stages of many of the common chronic diseases, patients are essentially asymptomatic. Dr Karin Conde-Knape, vice president of cardiovascular and metabolism scientific innovation at Johnson & Johnson Innovation notes: “A key space for providers to create value in cardiovascular medicine is early identification of patients.” She notes, “In later stage heart disease, treatments have a significant procedural risk, which could be easily avoided if patients were identified early, and supported with lifestyle changes and pharmacological interventions, such as statins.”

There are two opportunities here. The first is in the development of diagnostics, which may represent safer, if less lucrative, opportunities in product development than therapies. Of course, as with therapies, this depends on the level of basic scientific knowledge available, which obviously varies hugely between fields. In some, the development of diagnostics will be stunted by the lack of scientific evidence. Again, central nervous diseases are the classic example of this, and whilst there is promising work within the literature (most recently reports showing differences in skin biopsies from Alzheimer’s and Parkinson’s patients from the University of San Luis Potosi) a considerable level of work needs to be completed before any related technique becomes a routine test. However, there may be some potential for investors to aid the translation of this basic bioscience into a clinically useful test, as and when evidence becomes available.

For some conditions, the development of new diagnostics will merely be a refinement of existing techniques. “We have no shortage of measurements for predicting heart disease, and most are easy to take,” says Conde-Knape. In these cases, there are well-established opportunities in administering these tests. For example, pharmacy chains have been targeting the self-pay market with high-street cholesterol and blood pressure checks for the last 25 years. Opportunities to extend screening provision could come as the NHS takes a more serious stance on prevention. For example, there may be greater uptake of workplace health programmes for employees – that could include screening for early signs of disease – if Simon Stevens’ plans to further incentivise corporate health schemes come to fruition.

Patient empowerment lies at the heart of chronic disease care

The prevention of chronic disease interventions is highly reliant on patient education and awareness, which in some cases, such as arthritis and diabetes, remains poor. Hinge Health’s Hunter notes: “Patients do not push for a diagnosis or more care, because there is a perception that arthritis is just ‘wear and tear’, and that any aching joints just need to be rested.”

Dr Natasha Patel of the South London Health Innovation Network concurs:
“In London, given the high population of black, Asian and minority ethnic groups, who are more susceptible to type II diabetes, we are now seeing people developing the disorder in their 20s to 30s that isn’t ever diagnosed then though, because it is seen as a disease for ‘old people’.” She believes that the only way to counter the poor diagnosis rate is to educate the community about chronic disease: “We need to raise awareness of conditions in the population.”

Private providers could have a role to play here. Although they have not traditionally been involved in the implementation of large public health campaigns, there is a wealth of opportunities in delivering more innovative models of preventative medicine at a local level – particularly through the use of technology. Liz Kendall, shadow minister for care and older people notes: “One of the biggest challenges is to use technology not just to manage conditions but to prevent health problems in the first place.” Empowering individuals to make healthy decisions, as so many chronic diseases can be avoided altogether by encouraging patients to make simple lifestyle changes. Indeed, some operators have begun to expand into this area. Nuffield Health has developed a network of gyms and wellbeing services.

**Conclusion**

There are some similar themes across the prevention, diagnosis and management of chronic diseases. They are all prioritized in Simon Stevens’ FYFV, gifting an opportunity to investors and providers working in the field. Dr Natasha Patel notes: “If you can back up a service with the five year plan, you will be on to a winning role.” Additionally, technology will likely play a major role across all three aspects of chronic disease. There will be a move to more local commissioning, as local authorities begin to take responsibility for public health, and medical care shifts into smaller clinics, whether these are centred on conditions, or chronic disease management as a whole.

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