Editorial/ commentary

Improving care and increasing efficiency – challenges in the care of chronic eye diseases

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In March 2010, the government announced its Quality, Innovation, Productivity and Prevention (QIPP) initiative for England, which aimed to make £20 billion of efficiency savings in the NHS by 2015. [1] The scheme calls for reduction in hospital-based care through an increase in care closer to home, efficiency through new technology and innovation through medical research. [2]

As with most industrialised nations, the UK population is living longer; in 2010, there were 19 million individuals over the age of 60 years and this number is predicted to increase to 28 million by 2035. [3] Whilst evidence suggests that most people are enjoying more healthy older age now than ever before, older people are still at a greater risk of developing disease and remain disproportionate users of healthcare services. [4] Within ophthalmology, there is an increase in prevalence of age-related macular degeneration (AMD), diabetic retinopathy (DR) and glaucoma, all of which are potentially blinding conditions that frequently require lifelong monitoring, and often treatment, to prevent irreversible visual loss. [5-8]

Use of hospital outpatient services for ophthalmology ranked second only to orthopaedics and trauma (6.3 versus 7.1 million outpatient appointments in 2011-12, respectively). Hospital eye care accounts for 8.6% of all outpatient activity in NHS England. For example, at Moorfields Eye Hospital NHS Foundation Trust, glaucoma and medical retina follow up appointments constituted 146,707 attendances over the 2011/12 period, accounting for 45% of all follow up attendances across the Trust. With the 2014/2015 National Tariff Payment System recommending prices for ophthalmology out-patient services at approximately £100 for new patient and approximately £85 for follow up consultant-led attendances, [9] these attendances represent a major and ever increasing cost burden. Total costs will only increase when we consider the implementation of the 2009 NICE guidelines which prompted a considerable increase in the number of glaucoma-suspect referrals, [10, 11] and the advent of new treatments (such as anti-VEGF injections) for AMD [12] and more recently DR [13] that require regular administration and patient monitoring by ophthalmologists.

The increasing prevalence of chronic eye diseases, increasingly widespread use of diagnostic technology by opticians, and the chronicity of these conditions have been taken into consideration by some hospital eye departments to predict capacity problems in meeting demand for ophthalmology out-patient services. [14-16] To illustrate this, we have developed a model based on appointment interval outcome data obtained from patients attending the Glaucoma Service at Moorfields Eye Hospital between April 1st and June 30th 2013. The

model starts from 0 patients and assumes a stable stream of 10 new referrals per week for one consultant's clinic. The case mix includes complex, unstable or surgical cases and stable patients. The data obtained suggests that about 30% of new referrals to the clinic and 8% of those on 12-month interval are discharged, with a much smaller discharge rate for those under the service for shorter follow-up periods. Figure 1 illustrates the predicted weekly demand for appointments in this new consultant's service over a 15 year period.

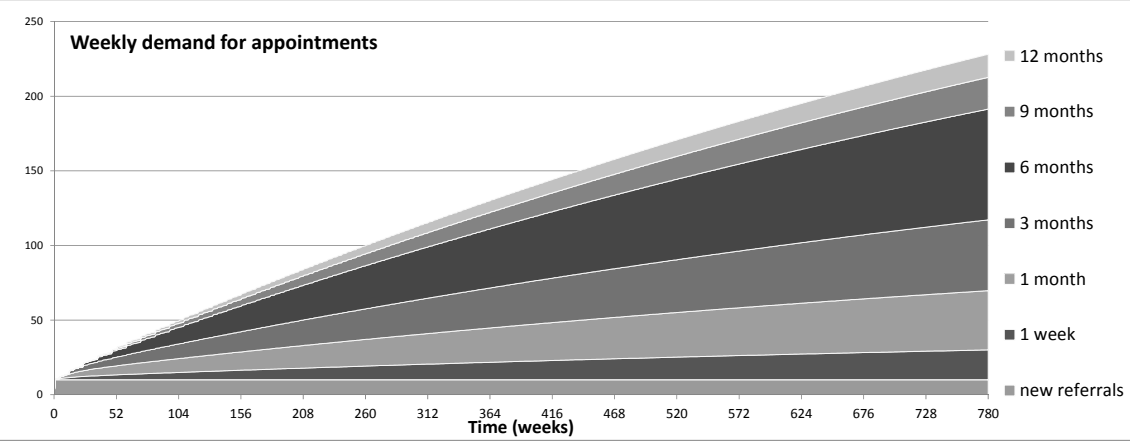

Figure 1: Projected weekly demand (number of patients) for an outpatient glaucoma clinic based on retrospective data obtained from Moorfields Eye Hospital glaucoma service over a 3 month period. The interval for follow-up appointment in the new clinic ranges from a single week to 12 months and there are 10 new referrals to the clinic every week.

Secondary care providers are under increasing pressure to keep new to follow-up ratios at or less than 1:2.5, with penalties being imposed if targets are not met. [17] However, ophthalmology departments often have very different new to follow-up ratios [18] as patients with chronic eye disease cannot be discharged to a primary care setting. Guidelines that outline the recommended intervals for patient monitoring have been developed to ensure that patients are monitored at intervals appropriate to their risk of disease progression and visual loss. [19, 20] Bringing patients back too frequently increases demand for appointments and may result in overbooked clinics, which in turn may lead to inappropriate appointment rescheduling. Delays in appointments have implications for patient safety. [21, 22]

There are a number of approaches to meeting the increasing demand for services. One is to increase clinic capacity, [23] which, although may in the short-term lead to a reduction of waiting times, is not be a viable long-term solution (as Figure 1 demonstrates). Another is to implement community eye care schemes, whereby 'stable' patients may be discharged from secondary care to be followed up within the community, usually by suitably trained optometrists. Whilst there has been a drive towards this model of care, [24] the anecdotal evidence suggests that the success of such schemes is very much dependent on a high level of secondary care input and overall supervision. [25] Furthermore, there is a concern that moving care from secondary to primary settings may be at the expense of care quality and that costs for such services are often greater than expected. [26, 27] Whilst there are a number of successful community models of primary care ophthalmology that improve the quality of new referrals into secondary care [28-32], there is a scarcity of evidence concerning the viability of community monitoring services for people with stable eye diseases. Furthermore, there is evidence to suggest that non-attendances to non-ophthalmologist-led community services are greater than those in NHS secondary care settings. [33]

Even with such community schemes, there will always be a number of patients who are not suitable for, or who do not want, community monitoring. These patients need to be managed efficiently within the acute NHS setting.

In the care of chronic ophthalmic disease, the patient journey time per outpatient appointment can be lengthy [34] and depends on the number of pre-consultation monitoring tests and the availability of tests/staff on the day. Recommended guidelines for frequency of testing are often not followed due to time constraints within busy outpatient settings, [35] which may be detrimental to the patient. Whilst regular patient monitoring is necessary, there is no doubt that a more efficient approach to patient care is required if the hospital eye service is to cope with increasing demand.

Efficiency may sometimes be misinterpreted as a 100% utilisation of resources. [23, 36] This approach can lead to an increase in 'time wastage' whereby time is wasted triaging, prioritizing and managing patients rather than being used to diagnose and treat patient conditions. A more efficient use of resources would be to reorganise patient flow through the system. Patient flow describes the flow of patients between staff, departments and organisations through the care pathway. Poor patient flow increases the likelihood of harm to

patients and increases healthcare costs when ‘unnecessary’ processes waste precious resources. [37]

The issue of optimising patient flow through ophthalmology clinics is not new and is being addressed by NHS and independent sector providers. As an example, The Royal Hallamshire Hospital in Sheffield has for over 20 years run a virtual Glaucoma Monitoring Unit for stable glaucoma patients, staffed by technicians. The service removes the face-to-face ophthalmologist consultation and data is reviewed remotely by a consultant ophthalmologist (personal communication Mr. S Longstaff, January 15th 2014). The average patient journey time is 40 minutes, with a review/GP and patient information turnaround of 2 weeks. A similar model for glaucoma care is run by an independent sector provider, [38, 39] although this model utilises specialist trained optometrists for the face-to-face consultation, with consultant ophthalmologist remote review of data to ratify clinical decisions. Both services make use of the electronic patient record (EPR) to deliver their service. Whilst the “virtual” approach has been used to facilitate specialist ophthalmological consultation in remote areas, [40, 41] these examples support the possibility of removing some face-to-face doctor consultations as a more efficient way to manage some patients *within* the NHS. [42]

The NHS Operating Framework 2012/13 encourages Clinical Commissioning Groups to adopt innovation within their local reconfiguration plans, and cites removal of the face-to-face consultation as an efficient method to deliver care. [43] The use of this type of model remains contentious, may have unintended consequences, and needs to be assessed alongside, and relative to, other interventions to improve quality and efficiency. [44, 45]

Within the NHS, implementation of redesigned services may be inhibited by a lack of clinical engagement due to disagreement about their purpose, resistance to standardisation, and their perceived relevance to only some clinical groups. [46] There may be difficulties with aligning different managerial and clinical groups in the context of clinical service redesign, [47, 48] as well as changing inter-professional relationships. [49] A further barrier to the success of any new NHS care pathway is a lack of evidence on effectiveness, cost-effectiveness, viability, sustainability, safety and acceptability to patients and clinicians. The approach to such evaluations should combine the question ‘what works, at what cost?’ with a study of the development, implementation and sustainability of these models, including the views of the multiple stakeholders likely to be affected by the implementation. [50, 51] Ongoing evaluation of services, that may include non-participant observation or ethnographic methods,

[52] coupled with analysis of outcomes, costs and modelling should be used to identify aspects of the organisational context that influence the implementation of change and to support the iterative development of services that builds on such evidence.

In the current climate of increasing demand and limited clinic capacity, radical change in provision is needed, but without good quality evidence, NHS ophthalmology providers will remain divided in their approach to the care of chronic eye disease. Ophthalmology services are in critical need of robust evaluation to determine which clinical pathways best suit the increasing demand for services. Without evaluation, we run the risk of taking distinctly disparate approaches to care with little idea of what is best for the patient.

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