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Buchan, JC; Barnes, B; Cassels-Brown, A; Chang, BY; Harcourt, J; Pilling, RF; Shickle, D; Spencer, AF; Vernon, SA; MacEwen, C; (2017) The urgent need to develop emergency EYE care in the UK: the way forward? Eye (London, England). ISSN 0950-222X DOI: <https://doi.org/10.1038/eye.2017.113>

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Title: **The Urgent need to develop Emergency Eye Care in the UK: *the Way Forward?***

Running title: **Emergency Eye Care in the UK: *the Way Forward?***

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Funding: The Way Forward was funded by The Royal College of Ophthalmologists. Subsequent salary support for JC Buchan is provided by the Queen Elizabeth Diamond Jubilee Trust.

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Key Words – emergency eye care, ophthalmology, accident and emergency

MeSH terms - Delivery of Health Care/organization & administration, Ophthalmology/education, Ophthalmology/manpower, Ophthalmology/organization and administration, Ophthalmology/trends, Eye Diseases/organization and administration, Eye Diseases/prevention and control

No author has any financial or other conflict of interest in the work presented.

Acknowledgements:

The Way Forward project was commissioned and funded by The Royal College of Ophthalmologists. Subsequent salary support for JC Buchan is provided by the Queen Elizabeth Diamond Jubilee Trust.

Contribution is acknowledged from the Way Forward Steering Committee and Reference Group: Tom Bremridge, Barny Foot, Richard Smith, John Somner, John Sparrow, Rachel Stancliffe, Peter Tiffin

Introduction

For two decades prior to 2004, a steady state existed of ~14 million general Accident and Emergency (A&E) annual attendances in England. This total has risen each year since, with 22.9 million attendances recorded in 2015/16.¹ Resultant pressure on A&E has received a great deal of public attention and extra resourcing with medical staff numbers rising 71% from 2002 to 2012.²

The *Way Forward* project

This work was commissioned by The Royal College of Ophthalmologists (RCOphth) in part to identify and disseminate innovations to deal with rising numbers of Emergency Eye Care (EEC) patients without commensurate increment in resource to meet those demands, the capacity/demand disequilibrium being further exacerbated by other factors (figure 1). The full report is available online (www.rcophth.ac.uk/standards-publications-research/the-way-forward); this article provides a summary.

A literature review was conducted, and with many innovations not being amenable to publication, a telephone survey of consultants responsible for EEC across the UK was undertaken. Lead Clinicians from every UK eye department were emailed (n=142) using the RCOphth database and asked for details of consultants responsible for EEC. Ninety-one lead clinicians responded and a total of 50 semi-structured interviews completed (January - June 2016), representing 35% of UK eye departments.

Where is the increased demand coming from?

Rising numbers of patients were reported by every consultant (n=6) who had ≥ 5 -year emergency attendance data, consistent with published reports.³ Estimation of incidence of eye emergencies is presented in the joint RCOphth/College of Optometrist Urgent Eye Care Commissioning Guidance,³ however, other than emergencies strongly linked to older age such as vasculo-occlusive events or vitreous/retinal detachments, there is little reason to expect a rise in incidence. Just as in main A&E, it is assumed that incidence is not the main driver of increasing demand, but that changes in health seeking behaviour are pushing up attendances. To give some sense of the scale of the potential attendees that could migrate towards emergency secondary care;

- >430 million Pharmacists attendances in England annually for health related reasons⁴
- >1 million bottles of over-the-counter chloramphenicol are dispensed annually.⁵
- 16 million optician sight tests / eye examinations performed annually in the UK⁶
- 340 million GP consultations of which 1.5 - 2% are eye related⁴
- 24 million calls made to NHS urgent telephone services⁴

If even small percentages divert to Hospital Eye Service (HES), continuation of the growth experienced in the past decade is possible.

Demand Management: Minimising inappropriate presentations

The consensus exists that “*there is limited scope for preventing urgent eye conditions*”,³ so demand reduction focuses on “*unnecessary*” / “*inappropriate*” attendances.⁷ However, working with a

definition of appropriate as “*any eye condition that is of recent onset and is distressing or is believed by the patient, carer or referring health professional to present an imminent threat to vision or general health*”,³ then great caution should be exercised when labelling referrals or patient-initiated presentations as inappropriate, particularly given the great concern that eye problems arouse.⁸ Cases must be considered entirely appropriate, even if they ultimately transpire to be non-sight threatening or even trivial, if they were indistinguishable from serious pathology by patients or referring practitioners.

Rather than berating patients for feeling anxious or primary care colleagues for poor referrals, more should be done to empower them by engaging with training programmes, such as the Scottish “Teach and Treat” centres, or provision of triage tools to prevent low-value attendances.⁹

Demand Management: Is there a role for triage?

Triage tools administered by patients,¹⁰ computer¹¹ or health care professionals have been shown to be effective,^{7,12,13} but the relevance of specific tools will depend on local case-mix and EEC options.¹⁴ If no alternative sources of EEC other than the HES eye casualty exists, there is less demand reduction opportunity from triaging. Where primary care EEC options and sub-specialist acute clinics are available, triage has an important role.

Capacity Expansion: The Multi-Disciplinary Team (MDT)

Good clinical decision making by appropriately trained multi-disciplinary team (MDT) members such as nurse practitioners or optometrists is well documented.^{6,15-18} The fact that an EEC MDT *can* function well is beyond debate, but this does not guarantee that appropriate staff can be recruited and many interviewees reported valuable MDT members being difficult to replace on leaving.

The complexity of cases presenting to EEC services is a function of the accessibility of those services (table 2). Walk-in services, with large proportions of lower complexity patients benefit most from MDT, usually with specialist nurses triaging and dealing with many (in some cases over half) of emergency attendees such that they never see an ophthalmologist.^{15,19,20} Limiting access might be

expected to reduce demand, but resultant increased case-complexity reduces capacity by slowing junior doctors and reducing the role of non-ophthalmologists.

Capacity Expansion: community optometrist services

Community optometrists' role in eye care pathways in Wales and Scotland has been significantly expanded and clarified, but in England there is a lack of national strategic direction, so a variety of local solutions have been trialled without a proven clinically-effective and cost-effective dominant model having yet emerged.²¹⁻²³ The fear is that increased accessibility will further awaken previously unmet supply-driven demand without improving population-level clinical outcomes, so there is an urgent national need to evaluate whether such schemes produce a cost-effective improvement in EEC delivery.

The Future of EEC

The choice exists, therefore, to develop high-volume walk-in MDT services, or to build primary care capacity to see emergencies and reserve secondary care for higher complexity cases. The latter is likely to be appropriate in low population density areas, where relative benefits for patients in providing care closer to home are highest. Whatever is done, intentional strategic leadership is essential and better connectivity can be anticipated with electronic referral, feedback and advice. Eye casualty departments traditionally have been staffed by the least experienced trainee ophthalmologists, but this paradigm is shifting. Getting senior opinions early is improving efficiencies in A&E and acute medical settings.^{24,25} Consultant-led, strategic planning of MDT-delivered services driving aspirational standards in EEC provision is anticipated to be the future of EEC in the UK.

Titles and legends to figures

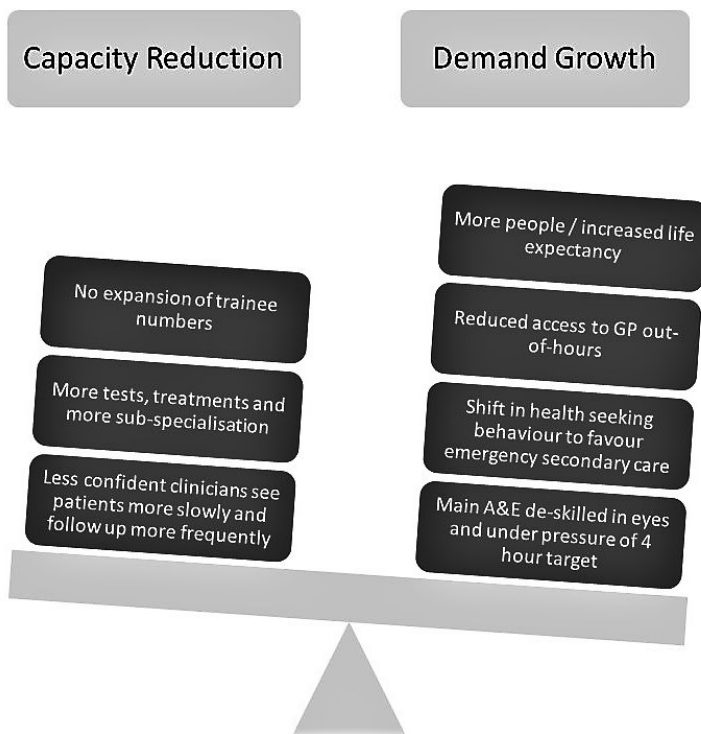


Figure 1: The Capacity:Demand Disequilibrium

Model of Emergency Service Provision	Population served (mean)	Attendances per annum (mean)	Attendances / 1,000 pop. / year	EEC patient characteristics
Slotting patients into clinics (n=3)	350,000	3,000	9	More complex patients, mostly in need of an ophthalmologist
Acute Referral Clinics (n=33)	500,000	7,000	14	Some lower complexity patients. EEC practitioners need to work at a higher level than the referring clinicians
Daytime Walk-in Service (n=9)	760,000	15,000	20	Higher numbers of low complexity patients. Large role for non-ophthalmologists
24-hour Walk-in Service (n=2)	880,000	40,000	45	

Figure 2: Increasingly accessible services may incite greater per capita attendances of lower complexity cases

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