# Working smarter not harder: How to transform eyecare delivery in the United Kingdom (part 1)

**BY ROSALIND HARRISON**

Are we doing enough to meet the current demands on ophthalmic services? In part one of a two-part series, **Rosalind Harrison** takes a look at how efficiency has been improved in eyecare services in the US.

*"If something or someone is efficient, they are able to do tasks successfully, without wasting time or energy."* [1]

Demand for ophthalmic outpatient services has exceeded supply for many years, with the well documented consequences of patients failing to receive follow-up appointments and suffering irreversible loss of vision [2]. There have been a number of initiatives to address the problem, including referral refinement to reduce false positive referrals, transferring patient care to community optometrists, upskilling non-medical ophthalmic professionals to undertake some of the work of consultant ophthalmologists [3], and commissioning private providers to deliver ophthalmic care. Since the COVID-19 emergency there is now wider acceptance that more hospital-based care must be delivered outside hospitals, and diagnostic hubs are being established in the community for the assessment of ophthalmic patients with virtual review of the findings by hospital-based consultants. It is my view that these measures will not be sufficient to address the longstanding backlog of appointments exacerbated by the COVID-19 emergency and the ever-increasing demands on the service, and that expansion of the service must be accompanied by improvements in efficiency in every aspect of service delivery.

## Ophthalmic practice in the United States, a model for delivering efficient ophthalmic care?

In 1999 the Royal College of Ophthalmologists asked me to chair a subcommittee to consider options for the training of ophthalmic support staff. One of the subcommittee members had spent time in the United States and had seen how many more patients an ophthalmologist could see when supported by ophthalmic technicians, and he advised me to visit the US to see for myself. I was fortunate to receive a grant for this purpose. I visited the headquarters of the Joint Commission for Allied Health Personnel in Ophthalmology (JCAHPO), as well as hospital outpatient departments, private practices (physicians' offices), and a university offering a Masters programme for ophthalmic technologists; I attended the JCAHPO Annual Continuing Education programme, held in conjunction with the American Academy of Ophthalmology (AAO) annual meeting, where JCAHPO offers hundreds of Continuing Education (CE) courses and Learning Labs at the basic, intermediate, advanced, and master levels [4]; and I learned of an organisation called the American Society of Ophthalmic Administrators (ASOE) and obtained one of their publications, *The Efficient Ophthalmologist: How to See More patients, Provide Better Care, and Prosper in an Era of Falling Fees* [5]. In Chapter 3 'How Efficient Are You Really? A 100-Point Self-Assessment', one of the self-assessment questions was the following:

**"Patient Volumes Per Provider 1: Daily Volumes**
The raw number of patient visits per physician and per optometrist is a core driver of practice profits. Incremental gains in patient volume are critical given the fixed costs of running a clinic. Generating a few extra examinations a day can lead to a 6-figure gain in practice profitability.

5 points   Physicians see more than 45 patients per day; optometrists see more than 25 patients per day

3 points   Physicians see 35 to 45 patients per day; optometrists see 18 to 25 patients per day

1 point:   Physicians see fewer than 35 patients per day; optometrists see fewer than 18 patients per day" [5].

Although there is no UK national data, I believe few ophthalmologists in an NHS clinic would score more than one point. I have found no published evidence that American patients receive a poorer standard of care, nor that American ophthalmologists work longer hours than we do in the UK. Certainly they place greater emphasis on efficiency, and a glance through the 24 chapter headings in *The Efficient Ophthalmologist* indicates that achieving efficiency is not a singular or simple process. From what I observed in the US, it is my view that efficiency can be increased by addressing four main areas of clinical practice.

## 1. Using ophthalmic technicians as physician extenders

In the 1960s in the US there was a severe shortage of ophthalmologists, and ophthalmologists sought to increase the numbers of patients they could see by employing ophthalmic technicians. In addition to performing diagnostic tests, technicians were trained to record patient histories and perform slit-lamp examinations and tonometry. JCAHPO was established in 1969 to offer certification and continuing education opportunities for ophthalmic assistants, technicians and technologists [6]. This model is the norm for ophthalmic practice in the US, attested by their numbers. According to US government data for 2020, there were around 40,000 ophthalmic technicians working in physicians' offices or hospitals with an average annual salary was $40,010 [7]. Currently more than 27,000 people in the US, Canada, and around the world hold an IJCAHPO certification [8].

A number of studies have examined the role of ophthalmic technicians [9,10,11]. One article described the role of the technician as follows:

"Ophthalmologists and optometrists rely on their own training and skill to help patients achieve their best visual function. They rely on administrators to develop practice structure and provide staff direction. And they rely on ophthalmic technicians to do just about everything else...

"Responsibilities of the ophthalmic technician will undoubtedly differ depending on practice size and specialty and on the level of experience of the technician; however, the commonality is that technicians act as care extenders – allowing eye care providers to focus specifically on the tasks defined by their scope of practice. The result, when executed effectively, is increased efficiency for the entire practice." [9]

A study that compared the performance of ophthalmic technicians (OT) with ophthalmologists concluded:

"In identifying abnormalities of the globe and adnexae, and in history-taking, OT performance was nearly as accurate as that of the residents, when compared to the findings of the faculty ophthalmologist... Patient acceptance of both formally trained and on-the-job trained ophthalmic medical assistants was very high. These results suggest that assistants with training comparable to that of the participants in this study may perform a large proportion of the routine ophthalmic examination without sacrificing quality or satisfaction with care." [10]

A Canadian study titled 'A workforce in crisis: a case study to expand allied ophthalmic personnel' conducted over six years found that:

"Current human resource capacity development and deployment is inadequate to provide the needed eyecare services in Canada. A competency-based curriculum and accreditation model as the platform to develop formal academic training programs is essential. Access to quality eyecare and patient services can be met by task-shifting from ophthalmologists to appropriately trained allied ophthalmic personnel."

and concluded:

"Establishing formal training programs is one important strategy to supplying a well-skilled, trained and qualified ophthalmic workforce. This initiative meets the criteria required for quality, relevance, equity and cost-effectiveness to meet the future demands for ophthalmic patient care." [11]

## 2. Creating an efficient clinical environment

In the US an ophthalmologist does not see a succession of patients in a consulting room but instead works with a number of technicians in a pod that has around five examination lanes. After the technicians have undertaken history and examination (the patient work-up) the ophthalmologist visits the lane, reviews the findings and makes the clinical decision. Small practices may have one such pod, larger ones may have multiple pods. Consultation time is reduced both because the technician has done the patient work-up, and the time between consultations is minimised to the time the doctor takes to walk from one lane to the next. The efficient integration of these two factors into clinical practice enables American ophthalmologists to see significantly more patients than is possible in the UK.

Figure 1 is a schematic of a two-pod hub with five lanes per pod adapted from a plan in an article by L Brooks, 'Increase efficiency through space planning' [12].

*The Efficient Ophthalmologist* details how the clinical environment can enhance efficiency:

"Creating an efficient ophthalmic environment begins by considering three major traffic patterns common to most practices: physician, staff and patients. The goals of all three must be understood, analysed and satisfied before a practice can be considered efficient... Many believe that if the physician is efficient, the practice automatically becomes efficient. But that isn't so.

In analysing a practice, whether creating a new environment or fixing an existing one, start with the patients... Following are strategies for meeting these patient needs:
- Limit how far the patient must walk. Older patients are usually less mobile. The time it takes them to move from the front door to the exam lane and back influences the practice's overall efficiency...
- Design the patient flow so the way to proceed is clear without the use of signs. Patients who are less confused about the environment circulate faster and feel more comfortable about their experience.
- Arrange functions in the clinic in the same sequence as patient flow. In other words, place preexamination functions on the patient's entrance path and postexamination functions on the exit path...

Strategies to improve physician efficiency include the following:
- Create a "pod" environment for each physician. Consider each pod as a separate doctor's office. The pods should be designed to eliminate traffic from one physician from walking through the corridor of another physician. This limits hallway traffic in front of the exam lane, eliminating most interruptions caused by congestion.
- Organise the exam lanes in each pod so they are across the hall from each other. This reduces the length of the hall as well as the physician's walking distance...
- Make sure any ophthalmologist in the practice can use any lane in any pod without missing a step... Efficiency is gained when a doctor doesn't have to think about where things are in a pod,...Similarly, designing all the lanes within the pods so they are identical enhances efficiency.
- Decrease the number of lanes within a pod to maximise the physician's time and thus efficiency. The goal is to have the right number of lanes needed to see a certain number of patients. For maximum efficiency, five exam lanes per ophthalmologist is ideal in most cases...
- Equip all the lanes exactly the same so they can be used interchangeably by the ophthalmologist, optometrist, and ophthalmic technician... Many times, ophthalmologists must wait too long between patients because the rooms are single use...

Although clinic design begins with patient volumes and efficiency of patient flow, it ends with the efficiency of the ophthalmologist. Although goals vary depending on the number of ophthalmologists, there is a common goal: To see as many patients in a day as possible without sacrificing the quality of care... The most productive practices strike a clear balance between the physician's need to be extremely efficient and the patient's need to be comfortable with the experience. You can be efficient without losing touch with what is important." [5]

## 3. Clinic scheduling and managing workflow

Simply having the desired team of staff in a clinic will not enhance efficiency if they are not working productively. Appointments should be scheduled so that patients spend the minimum possible waiting time between each stage of their visit. There is no single scheduling system that will ensure that clinics run efficiently as there will be different patterns for each subspeciality, and for individual doctors. Ensuring the smooth flow of patients through a clinic is an ongoing, collaborative team effort. *The Efficient Ophthalmologist* recommends six-monthly template reviews that include representatives from the whole team – doctors, the office manager, the senior technician and a representative from the front desk, and that when changes to the schedule are proposed, staff should ask themselves "Are we making changes with these priorities in mind (in the following order): Make it better for the patients, make it better for the overall team, and make it better for the doctors?" [5]
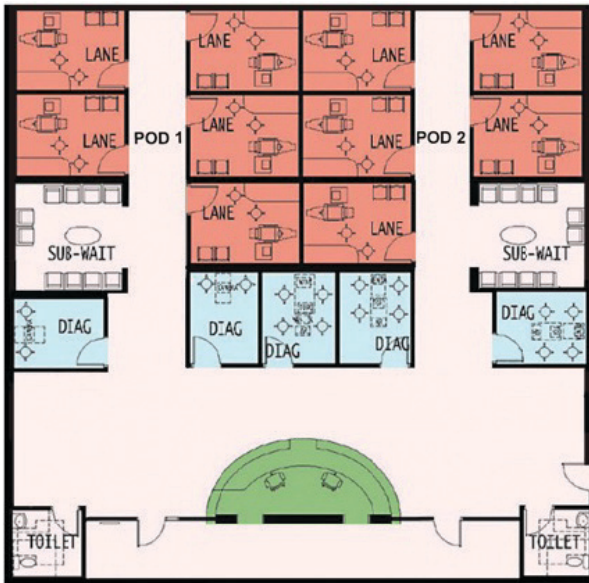
Figure 1: Schematic of a two-pod hub.

## 4. Documenting and monitoring the clinical process

When I visited the US I was surprised to see how closely US health insurers monitored ophthalmic practices. All inpatients and outpatients are disease coded using ICD10, all aspects of the patient's assessment and treatment – history taking, examination, diagnostic tests and treatments – are coded using Current Procedural Terminology (CPT) codes (similar to OPCS codes in the UK), and these codes are the basis on which the ophthalmic practices are remunerated. In 1985 the AAO established a Quality of Care Committee to develop evidence-based standards with the core premise "quality ophthalmic care is provided in a manner and with the skill that is consistent with the best interests of the patient" [13]. The outcome was a series of Preferred Practice Patterns (PPPs) that were "neither minimalist nor aspirational, they represent quality eye care commensurate with present knowledge and resources... and were not to be 'normative' (what the average ophthalmologist does), but what the average ophthalmologist should do..." There are now 32 PPPs, and each PPP has a summary benchmark [14,15]. Prior to the introduction of PPPs there was considerable variation in both clinical practice and remuneration from different health insurers. The PPPs reduced this variation and are widely accepted by the ophthalmic community and medical insurance companies as the standard of care for which ophthalmologists are paid [13].

Coding to this degree, undertaken manually, is time-consuming but can be automated if incorporated in electronic medical records (EMRs) that are now mandatory for all US practices. Encoding the clinical data using standardised medical terminology facilitates comprehensive audit, and Systematized Nomenclature of Medicine – Clinical Terms (SNOMED CT) is the US government's terminology of choice. This has presented difficulties for ophthalmic practices as ophthalmic concepts are not organised in a manner that is natural to clinical practice, and solutions to enrich SNOMED CT terminology and software interfaces have been developed to resolve these issues [16].

## Conclusion

The subtitle of *The Efficient Ophthalmologist: How to See More patients, Provide Better Care, and Prosper in an Era of Falling Fees* neatly summarises the forces that drive the efficiencies of American ophthalmic practice. The more patients a doctor sees, the greater the practice income, but if practices are competing for patients there are incentives to provide a high quality of care with a positive patient experience. The complexity of remuneration from multiple health insurance companies generated the early adoption of evidence-based guidelines and benchmarks that are now accepted as the standard for the provision of ophthalmic care. Can and should these measures be adopted by the NHS to address outpatient backlogs and the ever-increasing demands for patient care in the UK? I will discuss this in my next article.

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