A novel technique for analysing the efficiency of Ophthalmology outpatient clinics.

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Background

Owing to an ageing population and greater diagnostic and treatment facilities, Ophthalmology has become one of the busiest outpatient specialties in the UK[1]. It is therefore imperative to study clinic workflow to deliver efficient patient care.

The aim of our study was to devise a comprehensive technique to measure the total time taken in ophthalmology sub-specialty consultations, to detect any significant causes of delays, and observe the impact of additional factors on clinic proficiency.

Methods

This was a prospective study of Ophthalmology outpatient clinics. Preliminary work (phase 1) during February 2019 involved observation of ophthalmology clinical consultations with manual measurement of total clinic time. In phase 2, running over a six-month period from October 2019 to March 2020, improvements were made in the way of data gathering and a greater variety of ophthalmic sub-speciality consultations were covered. A combination of in-person observation and accurate timing using a tracking software was utilised**.** To determine the total consultation time, the time spent on eight consultation components (Figure 1) was recorded. Data was analysed in Microsoft Excel and compared with pre-set departmental clinic templates.

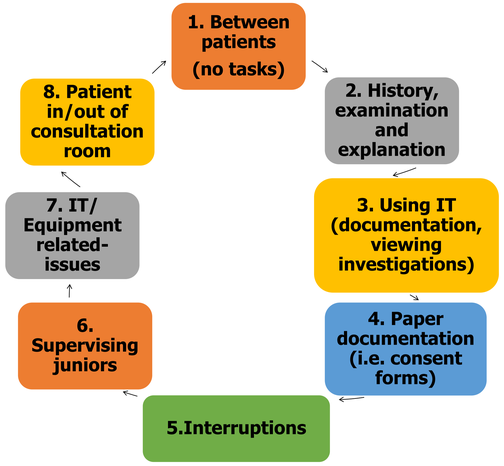
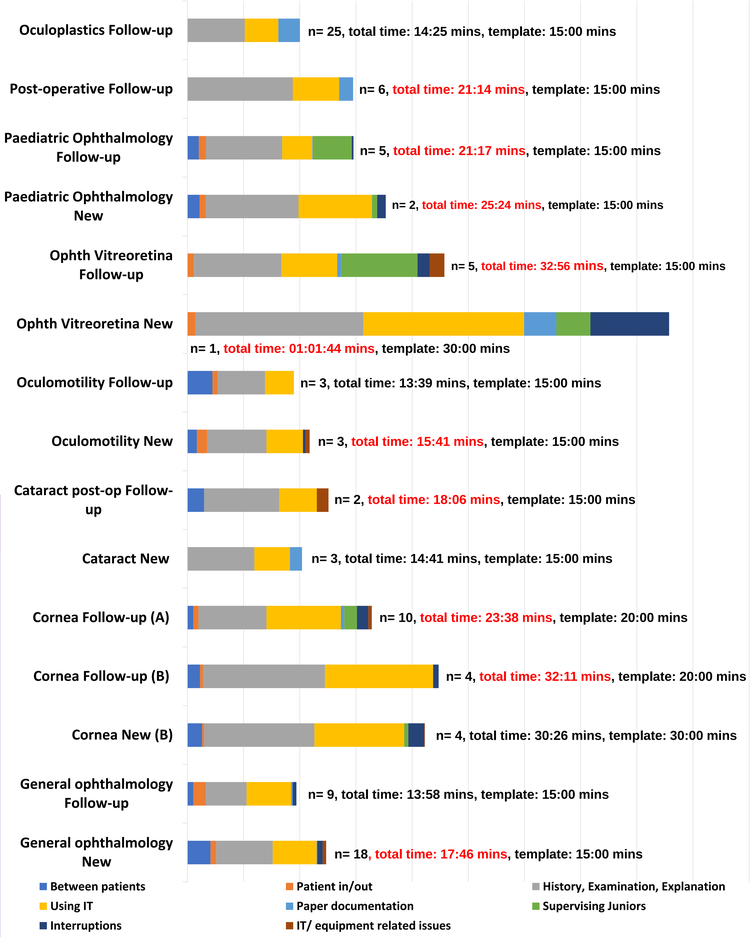


Figure 1. Eight consultation tasks utilised to measure total consultation time in minutes (mins) and seconds (secs).

Results

In total, 70 patient consultations were observed, encompassing 15 categories of ophthalmic sub-specialty consultations (new and follow-up appointments). 10 of these did not meet pre-set templates (Figure 2). The most frequent cause of delay (n=14) was interruptions related to queries about patients' investigations. The longest delays were caused by waiting for patients to undergo pre-consultation investigations, inability to find patients, preparing the laser room, repeating patient investigations, mobilising elderly patients, and examining paediatric patients. Supervision of trainees was associated with prolongation of consultations.

Figure 2. Total consultation time, including 8 consultation tasks in ophthalmic sub-speciality clinics.



Recommendations

- Establishment of 15-20 minute slots to plan and communicate patient investigations at the beginning of each clinic.
- Change of General ophthalmology new and Paediatric new consultations to 20 and 25 mins; Post operative follow-up to 20 mins.
- Supplementary IT training of staff.
- Designing pre-written consent forms for common ophthalmic procedures.
- Use of video-assisted consent process[2] to reduce the time taken in obtaining consent.
- Further work on Cataracts, Vitreoretina, Paediatrics, and Glaucoma new and follow up consultations.

Conclusion

A substantial amount of information regarding ophthalmology consultation workflow was acquired through this time-motion study. In-depth observation and development of eight consultation components allowed the identification of key causes of delays and revision to templates. The process is reproducible and can be readily used by clinicians to audit their own practice.

References

1. Rcophth.ac.uk. 2020. *Royal College of Ophthalmology Workforce Census 2018*. [online] Available at: <https://www.rcophth.ac.uk/wp-content/uploads/2019/02/RCOphth-Workforce-Census-2018.pdf> [Accessed 20 April 2020].2. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3754818/

2. Zhang, Y., Ruan, X., Tang, H., Yang, W., Xian, Z. and Lu, M., 2017. Video-Assisted Informed Consent for Cataract Surgery: A Randomized Controlled Trial. *Journal of Ophthalmology*, 2017, pp.1-6.