

A Novel System of Collaborative Emergency Eye Care: COVID-19 Adaption and Implications for Future Practice

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Introduction:

The introduction of COVID-19 restrictions accelerated the adoption of a new model of emergency eye care in order to reduce hospital attendance, and the risk to staff and patients of exposure to COVID-19. This involved coordinating shared patient care with independent prescriber optometrists (IPOs) in the community, trained to provide further clinical services. To support this process, we opened up our instance of the electronic patient record (EPR) for eye-care, OpenEyes to primary care, thereby allowing the seamless transfer of information between primary and secondary care as part of a single EPR figure (1).

Aims:

The aim of the project is to determine the types of cases presenting to hospital and community locations, and to assess the engagement and experiences of staff with the new system. We describe the new structure for managing emergency eye care at UHW, analyze the Data were collected retrospectively from the four IPO practices regarding patients seen between 01/04/20 and 31/05/20. The optometrists from these practices provided feedback and comments on their experience during this time. For the same period, visit details were recorded for all patients attending the UHW EEC.

Results:

199 patients (372 visits) were seen across four IPOs. 62/199 (31.15%) were discussed through EPR, with only 5 resulting in hospital referral. 151 patients were seen in EEC of which 94/167 (56.29%) visits needed further hospital follow up. The EEC had notably few anterior uveitis cases (5.4%) as the majority were managed by IPOs figure (2).



performance during the peak of the COVID-19 restrictions and plans for continuing the model in the future.

Methods

OpenEyes (OE) is an open source EPR, purpose built for ophthalmology services. It provides a single web-based access point to information including examination findings, clinical history, imaging, prescribing and correspondence. This allows patient information to be reviewed remotely, enabling ophthalmologists to give advice on patients' conditions whilst reducing travel to the high-risk hospital site. Accounts were created for each IPO and Blackberry Access was used to establish a secure (VPN) connection. This created a continuous patient record across all sites and provided a route for discussing cases and seeking advice through the OE messaging function.

IPOs could discuss urgent cases with the EEC by phone, and less urgent cases using the direct messaging function in OE with an ophthalmology consultant. In both cases, the ophthalmologists could review the patient through OE including the full history, examination, clinical photographs and investigations. Patients were then seen in the hospital clinic or continued to be managed in the community with advice on further plans provided by the ophthalmologists.



Figure 2 Outcomes of all patients seen in IPOs and the numbers of cases discussed through the OE messaging function.

Discussion:

It is not possible to compare the attendance to primary eye care services in this study to a previous year due to the dramatic change in healthcare seeking behavior of patients during this time. Therefore, a further study will be needed in future, under normal service demands to assess the effectiveness of this model.

Several IPOs and hospital staff had some difficulty using the EPR initially, and it is clear that all staff using the system need adequate training (including hospital support staff who may document visual acuity) in order for this structure to be effective. Nevertheless, the outcomes, engagement with the discussion feature of OE and the positive feedback from staff illustrate the benefits of this model.

The implementation of EPR supported care of patients in the community who would otherwise have been managed in the hospital setting. This solution was of immediate value during the COVID-19 pandemic but has further implications. The ability to coordinate patient care between hospital and community locations can help to manage the increasing pressure on hospital department resources. This has value, not only for emergency eye care, but also for conditions such as glaucoma and diabetic retinopathy that require regular monitoring. Our data suggest that these pathways are scalable to the management of chronic conditions, helping to deliver sustainable care in the post-COVID era.

Figure (1) Structure of new model of emergency eye care provision at UHW showing the pathway for patients

References:

1. Konstantakopoulou E, Edgar DF, Harper RA, Baker H, Sutton M, Janikoun S, et al. Evaluation of a minor eye conditions scheme delivered by community optometrists. BMJ Open. 2016 Aug;6(8):e011832. 2. Rehan SM, Morris DS, Pedlar L, Sheen N, Shirodkar A. Ophthalmic emergencies presenting to the emergency department at the University Hospital of Wales, Cardiff, UK. Clin Exp Optom. 2020 Feb 17;cxo.13050.

3. Lim SB, Shahid H. Distribution and extent of electronic medical record utilisation in eye units across the United Kingdom: a cross-sectional study of the current landscape. BMJ Open. 2017 May;7(5):e012682.

The study was evaluated by the Research and Development Department of University Hospital of Wales and deemed not to require ethics approval.

Conflicts of Interest: Prof James Morgan Chairs the UK OpenEyes development group and is a Director of the Apperta Foundation. He has no financial interest in OpenEye or the Apperta Foundation.