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Clinical Innovation Accelerator - Health Economic Insights Report

The Welsh Government's Transforming Eyecare Services pilot in Cardiff & Vale University Health Board (C&VUHB)

1. Introduction

The Welsh Government's new NHS eyecare service model being piloted by the health board offers the potential to redesign clinical services to enable them to add capacity in primary care, improve access, allow people to be tested, diagnosed and treated more quickly and ultimately achieve better health outcomes for people in Wales.

2. What is the new service model being piloted in Wales?

The new service model has already been described by the health board in a number of reports and presentations. If the reader is not familiar with these, the model integrates some NHS eye care services provided by independent optometry practices into the C&VUHB NHS Ophthalmology service. This initiative combines two innovations: one based on an ophthalmology electronic patient record (EPR), and the other on changes in clinical practice within the NHS ophthalmology service.

The first innovation involves sharing the health board's ophthalmology OpenEyes electronic patient record (EPR) with participating optometry practices, so that eye scans by optometrists can be included in the EPR and reviewed by ophthalmologists.

The second innovation involves optometrists with the Independent Prescribing (IP) qualification, diagnosing and treating some eye conditions in their practices instead of patients being managed by NHS ophthalmologists in the University Hospital of Wales (UHW). The ophthalmologists in the health board can use the EPR to manage clinical oversight of the NHS treatments provided by the participating optometrists.

3. Why has this Health Economic Insight report been produced?

The report was commissioned by Sharon Beatty, Optometry Advisor to C&VUHB, and Barbara Coles, the manager of the Clinical Innovation Accelerator in Cardiff University to provide health economics insights for C&VUHB, Welsh Government and other interested organisations.

Note - the Accelerator has provided clinical innovation expertise and funding to support participating optometrists in the pilot. The Accelerator was established in 2018 with funding from Welsh Government and the European Regional Development Fund.

Disclaimer: the author is the health economic advisor to the Accelerator.

4. What are the health economics Insights?

a) The shared EPR is the key enabler to innovation in NHS eyecare services.

This is because it can enable primary care optometrists who have the Independent Prescribing (IP) qualification to become part of an NHS ophthalmology multi-disciplinary team whilst continuing to work in their primary care practices.

Optometrists with the IP qualification already work in NHS ophthalmology multi-disciplinary teams across the UK, but they do so mainly in hospitals under the direct clinical supervision of ophthalmologists. The shared EPR in C&VUHB would allow them to work in their practices and be supervised remotely. This is a catalyst for change.

Instead of IP qualified optometrists providing a separate primary care service to hospital-based ophthalmologists, it enables an NHS ophthalmology service to operate an integrated managed eyecare service across hospitals and primary care. This change offers the opportunity to simultaneously add capacity in primary care and treat high volume / low complexity cases outside hospitals.

The first economic insight is that the shared EPR enables a largely hospital-based NHS ophthalmology service to vertically integrate (upstream) into primary care. Essentially, it offers the opportunity for NHS ophthalmologists to manage a single integrated service (including all aspects of clinical governance) across hospitals and primary care.

The Royal College of Ophthalmologists proposed developing the role of primary care optometrists as first contact practitioners and providers of treatments to low risk patients in its report: 'The Way Forward, 2017' (1). It also said that development of multidisciplinary eyecare teams had emerged as a consistent theme in its findings.

This and other proposals are designed to address rising demand for eyecare services and were based on over 200 interviews with ophthalmology clinical leads in hospitals in the UK. The College said that it wanted clinicians to act as the architects of change for eyecare services to be sustainable for the future.

To date one of the factors limiting the growth of optometrists in multi-disciplinary teams has been the need to work in hospital clinics. This has further limited the scope for creating extra capacity in NHS ophthalmology services by using optometrists.

Demand for NHS eyecare services in Wales and the UK has been increasing at a faster rate than the NHS can add extra capacity. Since 2013/14 referrals from primary care increased by over 12% (2). In the last 12 months, the impact of covid-19 on the NHS has further widened the gap between the demand for NHS eyecare services and its supply.

As a result, NHS ophthalmology services across the UK are seeking ways of improving their efficiency so they can treat more patients with the resources available. The Transforming Eyecare Services pilot represents one of the Welsh initiatives.

5. How could more service capacity lead to greater economic efficiency?

First, a key assumption in health economics is that health care resources (clinician time, etc.) are relatively scarce when compared to all the needs of patients. Often there are not enough resources to do everything. As a result, choices must be made about how to use efficiently the resources that are available.

When health economists refer to efficiency, they mean maximizing the benefits and health gains for patients from available resources. They further split this concept into:

- Allocative efficiency, which can be defined as achieving the optimal use of healthcare resources (clinician time, etc.) when there are alternative ways it could be used for the benefit of patients; and

- Technical efficiency, which can be defined as achieving an objective/health gain for the least resource cost (clinician time, etc.).

The new service model offers the potential to create extra service capacity in primary care and to use it to treat an increasing number of high volume / low complexity cases by optometrists outside hospitals. This change would enable ophthalmologists to focus on more complex cases in hospitals.

In 'The Way Forward' one of the key themes was the need to maximise the use of consultant time and expertise with the backing of an effective multi-disciplinary team. The College emphasised that effective multi-disciplinary teams could ensure that 'consultant time is optimised, freeing up more time to perform surgery, deal with the more complex patients and concentrate on decision-making commensurate with their extensive training and experience'.

The second economic insight is that these changes would provide the basis for large increases in cost-efficiency as optometrists and ophthalmologists each focus on those cases that represented the most efficient and effective use of their skills.

Both the technical and allocative efficiency of treating high and low complexity cases would increase, resulting in greater economic efficiency overall as lower cost optometrists treat more low complexity / low-cost cases and higher cost ophthalmologists treat more complex / high-cost cases.

The third economic insight is that the use of IP qualified optometrists to diagnose and triage patients as first contact practitioners in primary care also offers an opportunity to increase efficiency. This is because it would be both more technically and allocatively more efficient for IP qualified optometrists to do this than ophthalmologists.

The fourth economic insight is that the creation of more capacity in primary care through the addition of IP qualified optometrists offers an opportunity to both expand and speed up patient access to diagnoses along with treatments for low complexity cases. It also has the potential to speed up referrals for treatment of more complex cases and surgery by consultant ophthalmologists.

The fifth economic insight is that the new NHS eyecare service model offers the potential to expand the supply of services, increase their economic efficiency, and improve patient access **all at the same time**. Such a change offers a way of addressing the problem of demand currently exceeding the supply of services.

6. What about patient health outcomes?

The focus of this report is on the means of potentially achieving greater economic efficiency and improved patient access arising from the Transforming Eyecare Services pilot. The scope does not cover health outcomes.

However, the need for an evaluation of health outcomes could grow as the pilot achieves recognition in Wales, the UK and other countries. Any innovation that allows faster diagnoses, prevents eye diseases and enables the timely treatment of cataracts, glaucoma, medical retina (macular degeneration and diabetic eye disease) and emergency eye care will attract interest.

It is too soon for an economic evaluation of the impact of the new service model on health outcomes because data is not fully available. For the present, an evaluation of patient reported experience measures (PREMs) from participating optometry practices is being conducted by Cardiff University.

However, a possible next step might be for staff in the health board to undertake a case study as a means of evaluating health outcomes. For example, a study into clinical effectiveness, and the impact on referrals and ophthalmology hospital activity, and patient satisfaction due to triaging and treatments by optometrists in primary care.

Such a study might be feasible to plan and implement in a relatively short period of time because it would use available health board data on referrals, patient activity and PREMs. The resulting publication could help organisations that are interested in the new service model being developed in C&VUHB.

7. Conclusion.

The Welsh Government's Transforming Eyecare Services pilot offers the potential to demonstrate a future operating model for eyecare services in the Welsh NHS.

The new NHS eyecare service model offers the potential to address the demand pressures on NHS ophthalmology services by adding capacity, increasing efficiency and improving patient access all at the same time.

The economic cost-benefits of early diagnosis and early intervention generally outweigh late intervention. The new service model has the means to improve the quality of people's sight as more eye care problems are diagnosed and treated earlier.

The new service model will not produce monetary cost savings because demand for services will continue to rise due to causal factors such as an aging population and the increase in chronic diseases, such as diabetes. However, more people will be diagnosed and treated with the funds available and, in economic terms, Welsh NHS eyecare services should become both more efficient and effective in the future.

It is notable that the pilot began on the 24th of March 2020, the day after Wales first went into covid-19 lockdown. It's implementation during the situation with covid-19 represents a major achievement for both the health board and Welsh Government.

The pilot has successfully demonstrated the proof of concept of a shared EPR by implementing it in participating optometry practices in primary care. It has also shown that IP qualified optometrists in primary care can work as part of an NHS ophthalmology multi-disciplinary team and be clinically supervised remotely.

In closing, the pilot has created a platform for developing and implementing an expanded, innovative and sustainable eyecare service model for Wales.

Notes:

a) The pilot to integrate independent optometry practices within Welsh NHS Eyecare Services is being supported with funds and project management by the Welsh Government funded Clinical Innovation Accelerator in Cardiff University.

b) This report is intended to provide health economic insights. It is not within the scope of the report to offer recommendations and so none are included.

References:

1. Royal College of Ophthalmologists, (2017). The Way Forward. Retrieved 10th March 2021.
   https://www.rcophth.ac.uk/2017/02/the-way-forward-a-resource-for-collaborative-working-to-review-and-redesign-eye-care-services-in-the-uk/

2. MacEwen, C., Davies, A., Chang, L. (2019). Ophthalmology, GIRFT Programme National Specialty Report. Retrieved 10th March 2021.
   https://www.gettingitrightfirsttime.co.uk/surgical-specialty/ophthalmology/

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