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| Report title | OpenEyes Go-Live Summary |
| Report from  | Nick Roberts, CIO |
| Prepared by | Nick Roberts |
| Link to strategic objectives | An infrastructure and culture that supports innovation. |

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| Executive summary The previous on-premise Moorfields-only version of OpenEyes (v1.19) has successfully been replaced with a new and much upgraded community version 6 of OpenEyes, now hosted on Google Cloud Platform. This is the culmination of a programme first proposed to the Board in July 2020. This represents a step change in our clinical noting capability and in the performance, availability, and stability of the system.This report provides a summary of the process followed and outcomes achieved. |
| Quality implicationsThe much-improved stability and performance of OpenEyes v6 has a material effect on the performance of our clinics, on patient flow, and on availability of clinical data for clinical decision-making. |
| Financial implicationsThere are no cost implications from this report. |
| Risk implicationsReliability of our on-premise infrastructure is our tenth BAF risk and OpenEyes susceptibility to failure has been suitably mitigated by the migration to GCP. |
| Action Required/RecommendationThe Board is asked to note the report and the assurance it provides that the programme has delivered a positive step change and a platform for future service improvements. |
| For Assurance |  | For decision |  | For discussion |  | To note | ✓ |

## Background

OpenEyes v1.19 was the culmination of six years of development by Moorfields in isolation from the wider community of users. Although a capable ophthalmology noting system, this version’s core code was becoming out of date and therefore would develop security vulnerabilities. It was also running on an increasingly unstable platform, leading to regular downtime. The trust’s developments were extensive but didn’t benefit from alternative developments created by the wider OpenEyes community.

The Board approved a substantial development of the product and the re-platforming to Google Cloud Platform, supported by S&CC oversight. Development began in April 2021, after a Proof of Concept pilot to assess the complexity, with a target completion date of October 2021. Multiple further iterations of the code development were necessary due to unforeseen complexity in merging the MEH and Community code. Code development mostly completed by April 2022 and in that time the community product iterated from v3.5 to v6. This included all MEH changes, as well as further developments from other trusts and Health Boards in the community of users. From April, work focused on building new Cloud-based hosting platform. The final code was made available for user acceptance testing in June and go-live arranged for 8 August.

## OpenEyes version 6 launched 8 August 2022

Throughout June and July extensive user acceptance testing was undertaken on version 6. The product is huge and complex and a wide variety of functional aspects were carefully selected and test scripts written to provide both process testing, and scalable multi-user simultaneous testing to assess the capability of the new Google Cloud Platform hosting arrangements.

The trust completed all migration and transition activities between 20:00 on Friday 5 August, through to midnight on Monday 8 August. During this period, the existing version 1.19 of OpenEyes was available to staff as a read-only system to access patient records. Staff began using the new version 6 after midnight on Monday morning in A&E and no issues were raised. Clinics and theatres began using the system from 08:00 on Monday.

## Initial experience and bedding in

Performance of the system during the first three days was not as fast as hoped. A number of system errors were encountered, leading to clinicians needing to log- back into the system again. Each issue was recorded by floor-walkers and passed to our development and support partners to resolve. Each evening fixes were applied to the system. A more serious application error was encountered on Thursday 11 August that led to a short period of down-time. The application was recovered quickly and permanent fixes applied over the first weekend. Since this event, only one global user restriction was encountered, for 27 minutes, due to an erroneous housekeeping activity that inadvertently locked out users. This risk is now understood and will not reoccur.

## Current Performance

Outside of these two events, the application has performed excellently and consistently. No downtime has been required for system fixes or patching. Traditionally, Thursdays have been the busiest day in OpenEyes due to cataract and cornea clinics at City Road and this always led to the old version slowing right down. Version 6 has demonstrated that when the load increases it is now able to scale to additional servers and the performance has been maintained. Once the load drops, the system scales back down reducing resources and costs.

## Improvements to Support

The support and maintenance contract has been extended to cover 12 hours a day, seven days a week, 365 days a year. A robust service level agreement is in place with our support providers and a broader range of support resources are now available to respond.

## Conclusion

This has been the single biggest change to OpenEyes since Moorfields originally wrote the application ten years ago. The changes both increase the functionality of the system by combining six years of Moorfields unique development with the development of the community of users and professionalises the hosting of the application through the resilience and performance that the Public Cloud is able to offer; safely and securely. This is the first step towards fully location agnostic clinical and administrative systems for all Moorfields sites and users ahead of the new Oriel centre.