

Agenda Item 4.iii

Report to:	Trust Board	Date: 3 November 2022
Report from:	Chris Johnson, CMIO	
Principle Objective/ Strategy and Title	Guardian of Safe Working Update: Digital Department response to Junior Doctor feedback on Lorenzo EPR	
Executive Sponsor	Andrew Raynes, CIO	
For:	Information	

1. Background

The Lorenzo Electronic Patient Record has been in live use across all clinical areas since 2017. The implementation of the software was one of the most successful in the history of NHS Digitisation and in particular, the clinical safety management of the implementation has been singled out as exemplary. Comprehensive clinical safety assessments of all software systems including Lorenzo are carried about by the Trust's 3 accredited clinical safety officers on a regular basis. Furthermore, significant patient safety improvements have been seen and are documented because of the introduction of Lorenzo, especially in the areas of prescribing and medicines administration.

Recent feedback through the Junior Doctors' Forum to the CMIO includes significant frustration with the stability and usability of the system. The CMIO presented a number of initiatives already in train to address these real issues and invited input from the Junior Doctor body into the design of improvements to the system and documentation within it.

At a recent Trust Board, a report from the Guardian of Safe Working highlighted the Junior Doctor's Forum concerns again and during subsequent discussions in the meeting, it was suggested that the system is unsafe due to workarounds that are felt to be necessary. It is the view of the Clinical Safety Officers that the system is safe and that entry of documentation by all staff groups is possible and indeed happens every day. However, the issues with stability and usability are real and are of serious concern.

Professor Ian Wilkinson as a Non-Executive Director of the Trust attended Royal Papworth Hospital to view the Lorenzo Electronic Patient Record. The capabilities and limitations of the system were demonstrated and a discussion about hardware provision was had. In his view, the system is safe and acceptable in its provision of core functionality to support patient care. It was also his view that the hardware allocation at RPH and in particular WOWs would be at a very high level if all units were fully functional.

A re-evaluation of the Lorenzo EPR and our system has been undertaken to ensure that planned works are correctly focussed and to identify further opportunities to improve the user experience. The outcome of this evaluation is described in this paper.

2. Issues

The issues can be broadly divided into those relating to Performance and those relating to Usability.

Performance

Speed and usability are influenced by many factors at each stage of the chain from the user's PC through our network to the Cloud and within the Lorenzo application itself. Each of these steps have been examined in detail.

Ward based PCs – Many of these are older computers and some are coming out of their support contracts. In particular, the fleet of Workstations on Wheels, which is heavily used by Junior Doctors is in need of a complete refresh. In the first 6 months of this year there were 225 service desk calls relating to WOWs including issues with failing batteries, broken peripherals and slow PCs. There is an equipment replacement programme but this has not addressed this particular need to date, in part explained by problems with the global supply chain of key components.

A further survey of the current state and availability of WOWs has recently been undertaken to inform purchasing decisions and a rolling replacement programme is being implemented to ensure the estate remains fit for purpose going forwards.

WIFI and network - Detailed surveys of WIFI coverage and network performance have been undertaken internally and also by external experts. These have not identified any performance issues with bandwidth or WIFI channel interference. In one snapshot analysis it was identified that despite 1498 devices connecting via WIFI to the network simultaneously and generating 250Mbps of data transfer, this remained well within the maximum bandwidth of 450Mbps. However due to the nature of our current technology (WIFI 5) the speed of connection has been confirmed to be four times slower than a wired connection. Any upgrade to 6th generation WIFI access points will require significant investment.

There have been isolated incidents where WIFI access points have become disconnected during other maintenance work which could have led to problems with connection to Lorenzo. 18 access points mainly on the Ground Floor and First Floor have been affected.

Finally, it has been noted during surveys that the WIFI signal generated by patients using their mobile phones to generate a hotspot can be of high strength and could interfere with our own network signal. Further work needs to be undertaken to confirm this and determine if there is an achievable mitigation.

Cloud performance – Lorenzo was moved to the Cloud earlier in 2022 with an improvement in performance as measured by Customer Response Times. These are specific processes described in KPIs that are monitored by Dedalus our supplier. All of these times remain within accepted limits and there has been no reduction in performance over the last few months

Application performance – recent upgrades by Microsoft to their internet browsers have caused problems with Lorenzo's use of virtual memory. This has resulted in an increased frequency of crashing which is experienced by all users. A warning pop up has been introduced to advise users to save their work. Additionally, users are being migrated to the newest version of Windows 10 which improves the stability of the application but is not a full fix. The fix to this issue forms part of a broader browser modernisation of Lorenzo and will not be delivered by Dedalus until Q3 2023. Further mitigations in the interim have been explored but none have been identified.

Usability

Clicks – there are many complaints about the number of clicks required to find the information you want in Lorenzo. Some of this can be addressed through personalisation of the system. Workshops have been arranged in previous years but there was no attendance. There is not the time during induction to do this user level configuration and frequently newly arrived staff do not have their personal smartcards at this point which are a prerequisite. We are in discussion with Dedalus to automate this based on a standard profile for each staff group.

PACS – our old PACS system required device level licences and so there was often frustration when trying to access images on the full viewer. This is no longer the case since we have replaced PACS. More functionality is being developed within our new PACS system to better meet the needs of Cardiology and Cardiac surgery. We anticipate that this will be delivered over the next 1-2 months.

Single sign on to other clinical systems – it is possible to access many of our systems from Lorenzo in patient context without entering user name and password and searching for the patient. This requires configuration using the Smartcard ID of each user. The majority of users do not have their Smartcard at induction and there is not a good system to provide this information to Digital subsequently. We are in discussion with HR to identify a good process.

Clinical aide – this is a new viewer of Lorenzo which has a modern interface and can be used on a tablet as well as PCs. It is intended to improve the efficiency of ward rounds and has had good feedback so far during pilot. We are planning a full roll out of this once the final version is released and after work has been done to the Mindray bedside observation system, the plan for this work is in draft at present and resourcing is a challenge.

3. Summary

Performance and usability issues have been flagged by the Junior Doctors forum. Many of these were already known and are being addressed through various Digital projects:

1. WOW replacement programme – highest impact and must be delivered urgently
2. Remedial works to disconnected WIFI points complete. Any further upgrade to WIFI speed will require considerable investment approximately £250k
3. Cloud performance continues to be monitored but is within KPI
4. Lorenzo application crashes – this will continue to affect users until a Browser Modernisation programme is completed by Dedalus in Q3 2023
5. Lorenzo personalisation – in planning
6. PACS enhancements for Cardiology and Surgery expected to go live within 1-2 months
7. Single sign on to other systems – process to be refined
8. Clinical aide viewer – expected to roll out early to mid 2023

The Board is asked to note the Digital projects already in train aimed at improving the user experience. The Board is also asked to note that the Clinical Safety Officers are of the view that the Lorenzo system is safe but that these projects must be delivered to ensure smooth operation of the system. Finally the system has been reviewed by Professor Ian Wilkinson, Non-Executive Director who found it to be safe and acceptable.