EPR Readiness Update
Assurance

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Previously considered by:	Assurance Board		

Key points	**Purpose:**
1. A reflective, high Level list of thoughts around key points both pre and post cut over.	To inform
2. Changes in approach for BTHFT to consider and/or address for their go-live.	To Inform

Executive Summary

This report provides a high level, reflective view of the main operational and technical lessons learnt during the few weeks preceding and following CFHT cut over. The aim of the paper is to provide a bullet point summary of thoughts from those people close to the cut-over process and involved in the operational impact. The points are categorised for reference and more detail is available for each area should more scrutiny or learning be needed.

EPR Lessons Learnt
Assurance Board Monday 22nd May 2017

Purpose

This paper provides a high level account of lessons learnt in terms of the go-live of the Electronic Patient Record (EPR) at Calderdale and Huddersfield NHS Foundation Trust (CHFT). A more formal and detailed review is due to take place 23rd May 2017 the details of which will be presented to all EPR Boards next month.

Background

The Trust in partnership with Bradford Teaching Hospitals NHS Trust (BTHFT) and Cerner commenced the work to build and implement an Electronic Patient Record in May 2015. It was agreed that CHFT would be the first trust to go live with a cutover commencement date of the 28th April 2017 and a proposed go-live date of May 2nd 2017. CHFT delivered against this plan and were able to confirm that they were fully live in all areas by 7am Tuesday 2nd May 2017.

The preparation for go-live had gone well and all criteria set out against each of the decision points were met. The final decision point was delayed due to a failure of the regression testing for order comms this meant the decision to switch on the system didn't take place until 7pm Sunday 30th April this did not compromise our ability to achieve a full go-live by te agreed deadline.

The content of this report has been provided by, CHFTs, Chief Operating Officer, Chief Clinical Information Officer, Deputy Director of Nursing for Modernisation, EPR Programme Manager , EPR Cutover Manager, Technical Lead and Director of The Health Informatics Service.

Operational Arrangements:

- Commencing operational planning early for CHFT worked very well, there was good engagement from all divisions with clear actions; meetings took place weekly with separate focus between Trust-wide issues and Divisional readiness. Corporate areas were included but attendance was patchy and should have ensured these areas understood the implications and their role in delivery to ensure ownership

- The involvement of the Operational team in some of the planning could have been more consistent and in hindsight there should have been a dedicated Operational manager making the triumvirate of Nurse, Medic & Ops Manager in the EPR team

- The development of the long list of queries and actions was a big contributor to the successful deployment ensuring that issues and actions from all lenses were understood and prioritised.

The command centre:

- Initially looked to have a command centre based around a number of set meetings and floating Silver command. This was not as successful as it could have been, with escalation and communication sometimes fragmented. We quickly moved to a fixed command centre structure, manned 24/7 with Silver 1 and a loggist

- Formal bronze within Divisions were effective with clear ownership of issues at this level ensuring appropriate escalation to silver.

- Early joint Ops and technical silver were too busy and were quickly changed to a process of the COO taking issues from Silver into the technical meeting and reporting back ensuring clear focus on both sets of issues and agreement on priorities.

- Exec presence 24/7 was very well received by staff

- Down time packs – worked well

- Decision point calls – clear, inclusive and felt there was a real willingness to listen to all viewpoints when making decisions

Data Migration

During the preparation for CHFT's go live great care was taken to produce Data Migration tools, strategies, and practices that could be proven to work at the 99th percentile for most data being moved. After go live we needed to perform a reload of future appointments and have developed and applied two scripts to correct appointment locations and appointment types.

- The lesson learned in this instance was that more thorough 'hands on' testing by operational experts could have spotted these failures earlier and avoided the small crises at go live.

- The challenge with applying operational expertise is that true expertise comes after go live and is needed well in advance of it.

Access:

- Password and access issues were also encountered as expected. The initial problems were password related, as is typical for a go-live. The subsequent problems were related to access (users not having the functionality they wanted or expected).

- In some cases roles have been given expanded access until this can be crafted more carefully to bring the intended transformation.

- The access issues could be split into 2 main categories, the first being the understanding of what functionality each role has, and secondly around the data quality of the personnel DCW.

Personnel DCW:

- There was no single truth (from any system) as to a list of Trust employees and their roles, prior to submitting the personnel DCW. The main concern prior to go-live was around potential users not having a smartcard or and AD log in. This proved not to be the main issue which was peoples job roles. After the initial log in problem there was a wave of access issues related to incorrect roles, role visibility and mis-match of roles. Lessons learnt are:

    - Produce a ratified list of employees as a foundation to the DCW.
    - Understand which Cerner roles are needed to complete future workflow
    - Align existing Job Roles with the new EPR roles in the DCW
    - Clearly understand and communicate the differences between clinical and clerical roles as well as explicit and smartcard access.
    - Identify any gaps where an EPR role doesn't exist and a dual role needs creating short term.
    - Manage the allocation of DBA access from day 1 to mitigate risk to the integrity of the system.
    - Where workflow needs to change use the specialists, don't allow increased access to overcome the desired change.
    - Have a clear process agreed and documented for Agency staff accessing the system (large impact at change over times)
    - Have a clear process agreed and documented for Locum Doctors/Nurses, Students and AHPs both in and out of hours.

Ad Hoc Paper Use:

- During the go live various departments reverted to using paper without permission from operational leadership. This created a disjointed record for some patients and led to operational problems.

- Future go-lives need to recognize that departments may try to go back to paper during go-live and provide a communications channel

- Any decision to move a function back onto paper needed to be cleared by Sliver Command and this worked well following the initial problems.

Reporting:

- Cymbio - Deployment of Data Quality Dashboard and presence of the Data Quality Support team led by Jim Plunkett has been invaluable. Their experience of working with Cerner many times has been very beneficial in moving forward at pace.

- Immediate visibility of issues regards RTT capture, Outpatient attendance outcome compliance in addition to the delivery of RTT correction SOPs and data correction SOPs have all helped immensely.

- Support from Steve Fincher – the Cerner reporting lead has been impressive. What he said would happen in early days of go live has happened in terms of access to live reporting and when access to the Power Insight Enterprise Data Warehouse would be available. In our third week since go live it is pleasing to report the live knowledge portal models are up and running as advised and key Sophia warehouse extracts to support Payments by Results etc, are now being made available to Trust staff as before.

- Daily touchpoints – the daily performance meetings organised by the CIO where Cymbio have advised of different positives and negatives each day and clear actions identified to resolve have certainly been beneficial.

- Coding – it was expected that the patients in hospital beds at cutover would have all episodes of care added to Cerner when input manually. This did not take place. It is an ongoing large administrative job to correct this on Cerner Millennium and as a result to ensure full SUS submissions and warehouse datasets the patients discharged since are having there spells completed on the legacy PAS to enable full clinical coding to be carried out.

- Manual Data Migration – progress reports on manual data migration at cutover and since go live have had to be chased, there is still little known about how successful this has been and how it impacts on reporting.

- Communication to Reporting workstream and Trust reporting members regards decisions taken to resolve operational issues (e.g. virtual ward) or issues over the first two weeks (e.g. problems with build that impacting on specialties) has been poor. Again keeping reporting informed can help with understanding of impact on information outputs and putting together potential solutions in place before misinforming the Trust.

Training:

- The training strategy adopted by the Trust was to deliver role specific training. This resulted in over 95% of colleagues trained in the recommended six week window. The time allocated to training was determined according to role; evaluation demonstrates that colleagues did not always feel the time allocated was appropriate.

- The process of ensuring a sufficient number of colleagues were trained to ensure a safe go live proved successful, this was driven by an effective communication and engagement strategy.

- Although there were issues with accurate reporting, predicated by unreliable personnel DCW, the divisions managed training closely to ensure success.

- It proved difficult to engage locum and agency colleagues despite correspondence being sent to agencies and the offer of payment for their time. This resulted in a high number of colleagues requiring 'on the job' training having to be delivered in areas where staffing was already challenged. A small group is currently working on a long term solution for this issue and colleagues will be further supported with an e learning package which is under development. It also proved difficult to engage with colleagues such as visiting consultants and junior doctors on rotation; again a long term solution is being considered.

- Whilst role specific training suited nurses and doctors working in in- patient settings, the addition of team learning in conjunction with the change team and subject matter experts would have better suited areas such as endoscopy, outpatients , ED , day surgery, pre- operative assessment etc. who work in a more nuanced way. Equally, the role based method did not prove effective for clinical nurse specialists and some colleagues who undertake clerical duties in clinical role or vice versa resulting in these colleagues having to undertake more than one training session. Roles are now being built into the system with training being reviewed accordingly.

- Some specific tasks and roles such as coding and RTT tracking would also have benefited from additional bespoke training prior to go live.

- It also transpired at go live that the training for capacity management was inadequate; a clear plan for specific staff groups should have been designed and delivered.

- Simulation and the play domain proved helpful in allowing colleagues to learn workflows as multi- disciplinary teams. However, this could have been further improved by earlier adoption of the play domain; with access enabled to EPR friends after session one training. A more robust simulation team and improved environment and an increased offer of simulation within wards, depts. or to teams would also have enhanced learning.

- Training issues were encountered during the go-live despite a successful training rate over 97%. The TRAIN domain was created as late as possible but was still significantly out of date during end user training.

- Small pieces of functionality that were not trained ended up being broadly reported as broken and creating downstream problems that took extra effort to resolve (TCIs).

- More detail should have been provided to help clinical and clerical colleagues to understand which training packages they needed for their role.

- Training would have been a good place to check everyone's access to the system if Prod domain had been available for the duration of training.

Standard Operating Procedures:

- The process of producing Standard Operation Procedure's (SOPS) proved very difficult to adopt as their completion was dependent on a number of factors such as build having been completed and tested.

- The SOPS proved a valuable resource at go live with the teams constantly using them as a first line reminder for end users. Some SOPs have been modified post go live and additional ones have been created as colleagues have become more familiar with the system. It is important that the Trust agrees a governance process for the design, implementation, update and on-going use of SOPs

Business Continuity: 724

- The carts were configured and rolled out during the week pre and post cut-over. This was in order to avoid the carts being misplaced or repurposed during the build up to cutover. There was a resource pressure due to other hardware deployments, this could have been avoided, but the timing was correct and avoided risk.

- The carts were placed in key areas, signed off by the divisional leads, however on the CRH site a ward is made up of 4 parts and only 1 cart was allocated per ward (e.g. Ward 8 = 1 cart to cover 8A,8B,8C & 8D). This should have been 2 carts per ward area, as per the HRI model.

- Clearer communications about the differences between the 724 carts and the LOWs, all clinical areas received a lot of new hardware over a short space of time and the message was a little lost. e.g. 'Keep the all plugged in, use these ones but don't move these ones' became confusing with everything else happening. Clearer communication still needs to happen.

- Downtime Packs - Linked to the 724 process, communication needed to be better. The packs were used during the cut-over; following the recent cyber attack (not that they were needed) it became evident that not all of these packs had been replenished and more had to be printed and deployed in a rush. Had the infrastructure been hit by the attack, printing wouldn't have been an option and clinical areas would have been short of paper packs.

Cyber attack:

- Adhere to a clear, comprehensive and frequent patching strategy. THIS/CHFT do this and the patch related to this attack was pushed out in March via a product called WSUS. This relies on people/PC accepting the patch when its received, however if the patch continues to be rejected, it needs to be 'forced' on to the PC.

- Patches sometimes required the PC/Server to be rebooted to take effect. We have had to reactively patch a number of servers which could have been done prior with some agreed scheduled downtime for divisions. In future we must ensure that we have agreed maintenance windows where services can be brought down to proactively apply patching (and carry out other maintenance). This would also help to test BC plans within the Trust and area at a time.

- Continue to invest in security detection, prevention and monitoring software both within CHFT and across the local healthcare community to ensure we are secure both within and across our partners. This will aid in seeing suspicious network activity before an attack can take hold (giving the ability to shut down ports or VLANs etc), Trend is CHFTs new product, it is currently market leader and was well placed to deal with the recent malware attack.

Service Desk:

- A blended service desk approach worked well (THIS, Floorwalkers, HCI), however the lessons learnt would be:

- Additional HNA/EPR training for trust staff working on the EPR desk prior to go-live

- Documented role descriptions with lists of which role can access what

- Build up a knowledge database prior to go-live from other customers or Cerner.

- A clearer escalation process to Cerner colleagues on site in the first week of ELS (list of names/skills?).

- Possibly increase staffing levels in week 1, although it would be difficult to cover those levels of call volume.

Device Management:

- Citrix - On the whole the delivery was successful to a large portion of the hospital however some areas had difficulties. iAccess didn't perform as hoped due to a reduced testing window, but is now been improved with Cerner and the trust to improve staff experience.

- Hardware - On the whole the hardware has gone well; some areas have seen difficulties but this was always going to become clear once the hardware was more utilized by staff. Some issues are down to pre-existing issues with machines which hadn't been identifying until EPR highlighted them.

- Trollies - The trollies where on the whole delivered to the ward for golive. Some trollies had not arrived due to a manufacturing issue and stock issues. This meant that some areas had to take carts of a different style than they had original requested. Moving forward all hardware procured will be brought onsite well in advance of time to ensure manufacturing and stock issues do not impact the trust again. Also ensure that time is made to allow end users to robustly test the device in the workplace. Ensure that time is made to engage with staff around some of the functionality of the carts which have been procured.

- Wristband printers - The functionality of the wristband printers do work well, some areas highlighted late in the project that they did not have access to a wristband printer. Once the shortfall was highlighted extra were ordered but these also had to come from outside the UK and have taken time to be delivered. Also from a lesson learnt these device need a regular inspection by IT to ensure smooth day to day running.

- Labels - A year supply was order in advance of go live to ensure that stock would be available to wards and areas. From a lessons learnt perspective more could have been done from a project team to get someone operational to own the distribution of these pre go live.

- Wristbands - Some areas & wards which had not previously had wristband printer were not aware of the operational process of how to acquire wristbands.

Capacity / Activity / Outpatients

- Login/Access – In hindsight would give everybody the level of access they currently have to do the job they did pre go-live as this was a massive issue as we haven't done the transformation piece yet.

- Would have a more formal testing process before Go-live if possible would also have an agreed prioritisation list.

- Issues related to data migration accuracy has impacted where clinics that didn't exist migrated and were then filled.

- Clinic outcoming has been very positive but RTT coding pathway has led to an overuse of code 99. Cymbio has helped monitor and manage this.

- Majority of Consultants have been positive and arrangements for most clinics worked well once access issues were resolved.

EPR Friends

- The engagement and involvement of EPR friends proved very effective for the Trust. Developing the three types of friends helped to ensure all colleagues could contribute to the implementation of the EPR. By cutover we had over 700 trained friends or volunteers. This included the executive team in their leadership role, hospitality friends that included volunteers, and the friends who would be end users and the first point of contact for colleagues.

- The development of a role descriptions was useful and the three training sessions to assist them to have the confidence and knowledge to undertake their role both technically and from a leadership perspective.

- There were several meetings to support the friends and they enjoyed communicating as a group using social media.

- Feedback suggests that more advanced training and practice would have helped colleagues feel better prepared over the go live and early life support period. This additional training and ability to support at the elbow may have resulted in less reliance on floorwalkers. It may have also been beneficial to have a group of friends that worked alongside the service desk to quickly respond issues raised.

- The pastoral support for colleagues was crucial and hospitality friends were very well received over the cutover weekend. Feedback has been that tea and cake support and kindness made a huge difference.

- The visible leadership of the executive team and senior team has also been valued by colleagues and an approach to continue with this should be considered for the future.

Floorwalkers

- There has been a mixed view on floorwalkers however expectations need to be managed on their capabilities, there was an expectation that the floor walkers could fix technical issues where in the main they were there to help with the workflow issue.

- Some were not of the quality we expected and induction to the trust was short and brief and so it took some a while to orientate themselves.

- There were some good reports form outpatients, don't underestimate the outpatients needs but quality is important.

- The quality of floor walkers at night was poor in some areas, this was addressed early however the night staff lost some confidence in them and almost disengaged.

- CHFT have agreed a 2 week extension for key areas such as ED and out patients to ensure workflows are maintained.

- The service desk floorwalkers tended to log all calls. THIS colleagues triaged or fixed, this worked well as this wasn't what we originally planned however the floorwalkers were not adequately trained to fix or triage to the correct resolver group.

Backlogs pre and Post go-live:

- Trust got themselves very prepared for golive by getting backlogs down to >5% across most divisions and specialties, all out-patient clinic outcomes where completed by the 17:00 hrs turn off of PAS and start of the cutover activities. These meant there were no backlogs carried across and into go-live.

Backlogs post go-live:

Post go live, and now 2 weeks in, there is evidence of these go-lives growing fast, these have been due to a variety of reasons, including:

- Access login and issues in the first week restricting staffs ability to check in/out and outcome their patients – this has now been resolved and outcomes are being completed and caught up.

- RTT restriction issues, some of the mapping of the RTT codes where not fully understood and as such this has led to an increase in the use of RTT code 99 "I don't know" – This is being reviewed, additional training offered and ongoing focused reviews and training is planned

- Follow up clinic lists (choices) are extensive and clinical staff have been unsure what lists they should be booking onto – These are being reduced by clinicians being shown how to save their clinics into favourite lists

- Admissions from a 'To Come In' (TCI) have not been completed, this was not trained out to all staff due to an earlier decision not to have nursing staff 'admit' patients and therefore reduced access to CapMan. This decision was reversed 2 days after go-live but staff had not been trained – Comms have gone out to all staff with a link to the SOP's on how to complete the admissions from a TCI list and further CapMan training is scheduled across the organisation.

E-Referral:

- This was completed as a bulk load (loaded 1 week prior to the cutover) to allow for the expected large volume of errors. This was a done for the first time and as such had no precedence. This was very successful and all eReferral appts. And error resolutions where completed with no delay to the go-live. There have also been no reports of any negative impact due to the requirement to turn off the eReferral service for CHFT 1 week prior to go-live

Manual Data input:

- The manual data migration during cutover was completed of ahead of time however some missing information did slow 2 areas down

Communications:

- The approach the Trust took to communication was successful and demonstrated that the multiple channels utilised effectively kept colleagues informed and up to date.

- As we moved towards go live communication with partners and patients public increased and resulted in effective working relationships.

- Utilising our internal communication team was extremely helpful, using our internal methods, language and style of communicating was beneficial and engaged.

- The majority of the change team were recruited late in the programme and concentrated their efforts predominantly with the teams that would be working within fractured pathways. In hindsight the team should have been recruited earlier and should have worked alongside the subject matter experts, simulation team and trainers to improve organisational readiness, specifically in areas such as ED, endoscopy etc.

- One of the key successes of the programme has been the engagement of end users utilising a range of methods and forums from large events to one to one conversations.

Conclusion:

This is not an exhaustive list, more of a quick collection of the main operational and technical observations collated in the few weeks preceding and following (ELS) CHFTs cut-over. These observations can be used as early indicators of key areas to look at for BTHFT. A full lesson's learnt report will be produced later this year.