Validation of RTT Waiting Lists

HEALTHCARE MBI TECHNOLOGIES

Introduction

MBI is the leading organisation in the UK for Elective Care automation and performance improvement. It provides digital health technology, managed operations, and advisory services. MBI helps healthcare organisations and systems solve pressing challenges with digital solutions that deliver financial and clinical results.

Since 2012, MBI has worked with over 50 NHS clients on implementing improvements to clinical service delivery, data quality and performance. Currently MBI is the national supplier to the NHS of the LUNA data quality monitoring platform.

This case study details the experience of West Hertfordshire Teaching Hospitals NHS Trust working with MBI to validate their RTT waiting list post migration to a new Cerner Millennium EPR.

What was the problem

Following the transition to the Cerner EPR in December 2021, West Hertfordshire Teaching Hospitals NHS Trust experienced operational destabilisation and was facing a larger than normal waiting list containing a significant number of data quality issues. Clinical and operational teams started to find they could no longer access and use the waiting lists previously available to them nor could they trust that the patient level data was reliable or accurate.

As a result of finding the data to manage patient pathways unreliable, teams started to develop their own ways of working which led to a large number of data quality issues. The Trust soon found that the total RTT PTL waiting list size had grown by just over 42% since the implementation of EPR and data quality issues had dramatically increased by 70%. These problems grew to an unmanageable level, leading the Trust to seek for additional capacity and expertise to enable a rapid and focused validation of the data quality backlog.

Additionally, the Trust faced large gaps in the reports required to manage and mitigate data quality issues efficiently and there were a limited number of good practice DQ reports available to operational and clinical staff.

MBI also found too few standard operating procedures in place, or any being monitored with corrective training being provided. Some of this is due to the capacity of teams like the central RTT team who are consumed with battling with the ever-growing validation and correction of data quality issues.

In the lead up to an implementation of a new EPR, a key milestone to get correct is the data migration. In this case, a significant number of pathways with unknown or unclear RTT status were identified on the old Trust PAS.

Referrals had remained open on systems due to inconsistent recording and coding of pathways, particularly for non-RTT and post-clock stop pathways. The source data did not contain accurate RTT coding or consistent outcome coding to be able to safely apply logic to determine pathway status. As the Trust needed to move forward with the implementation of the new system, the decision was made to leave the pathways open so that they could be migrated.

In addition to the migration issues, once the PAS was implemented, the Trust found that key operational processes were more difficult than anticipated. A key process around the outcoming of outpatient clinics had become more complex, was generating a lot of data quality errors and delays to patient activity. The Trust recognised that there was a need for pathways to be reviewed, and for updated status and outcome information to be identified and recorded. This would ensure patients could be managed appropriately

where they continued to require care and allow pathways to be closed where patients had been discharged. With a high volume of pathways to be reviewed, validation would need to be undertaken at pace, while ensuring this was of good quality given some pathways and specialties were seen as 'high risk'. Going forward, there was a need to improve the recording and reporting of pathway information to ensure PTLs were reliable to support oversight of pathway management.

What they did

The Trust decided to engage with MBI, the national supplier of the LUNA data quality monitoring platform. After discussion with MBI they decided to review all RTT pathways, coming to a total of approximately 50,000 patient pathways.

Before embarking on the full validation programme, MBI supported the Trust by carrying out a full technical review of its elective care data, (including non-RTT pathways). This was a key element to MBI's support to the Trust and is something it always recommends because it helps provide vital information to assist with any good validation project and can help develop a strategy to improve data quality long term. The technical review included: testing that all data quality reports are constructed appropriately, reviewing the configuration of e-RS and the operational processes for registering referrals and a deep-dive into other areas of Cerner Millennium that had the potential for patients not to be visible to operational teams.

In addition to the technical review, MBI also reviewed the organisation's 'hygiene' factors such as the functioning of the operational booking processes, clinical engagement, training and general standard operating processes for waiting list management. MBI worked closely with both clinical and operational teams and across all specialties to identify with them all of the challenges they face following the implementation of the new PAS with the management of patient pathways. A full report with recommendations was provided to the Trust but also formed the basis of the validation project to help correct the data issues.

As the validation project commenced, the Trust organised a virtual training session together with the MBI validation experts for the external team. The methodology was explained and demonstrated, and pathway examples were used to show the external validators where information could be found. A Q&A session was held to go through some specific referral examples.

Pathways were grouped by a combination of:

- Specialty
- Time period (when the patient was referred)
- Pathway urgency (2WW, urgent, or routine)

Methodology

MBI used a 360-degree approach to help the Trust manage sustainably its data quality problems. The unique 360-degree approach consists of three key elements:

Advisory – a technical and 'hygiene' review of the flows of data across systems including EPR, the reporting systems and the operational processes. This is to understand the problem.

Validation – a dedicated project with a clear trajectory specifically designed to deliver end-to-end pathway validation to rectify and improve the data quality whilst reducing waiting lists.

Improvement (training and revision of SOPs) – this is the next step of support to the Trust and comes after the validation project is almost complete. This provides the Trust with sustainable solutions to ensure the root cause problems to poor data quality do not reoccur. It involves the re-training of staff and the implementation of new improved processes.

The MBI 360 Degree Approach

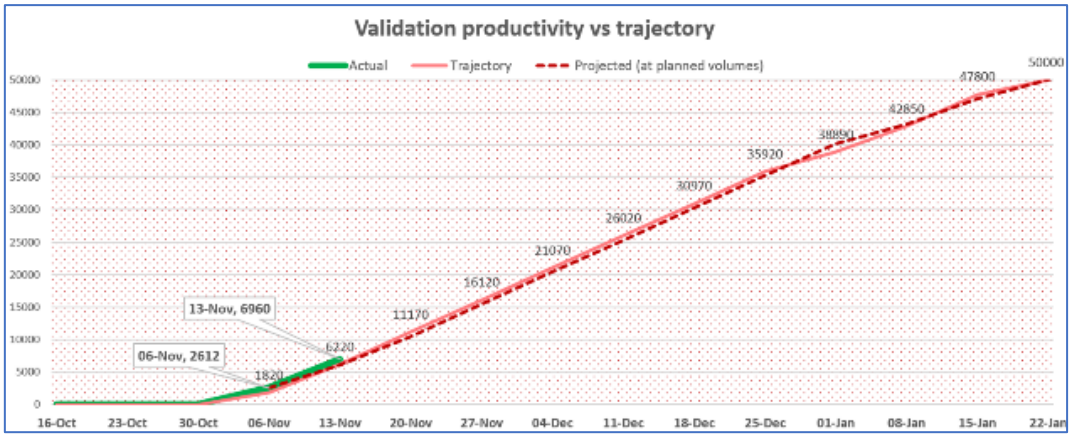
The validation process was structured into three stages:

Stage 1 – digital validation, undertaken by external validators.

Stage 2 – internal review of inconclusive validations, accessing locally held information (including manual records) if required - for complex pathways or otherwise where the outcome was not clear from the initial information available.

Stage 3 – clinical review where required.

Clinical leads were engaged in the programme to agree the order of validation, so that specialties and cohorts considered the highest risk were prioritised. A clear trajectory was established so that the Trust could monitor MBI's progress and the outcomes of the validation. This trajectory was to support end-to-end pathway validation of 50,000 pathways.



Early in the programme, the Trust found it more efficient to validate each specialty in turn, as this allowed the validation team to learn from each area and apply this to the different cohorts within a specialty as they worked through them. Some specialties were grouped together where there were pathway links (for example, general surgery and gastroenterology), as this provided greater continuity within the validation team, and allowed the same methodology to be used for pathways with steps in common.

The COVID-19 pandemic necessitated a mixture of remote working, through access to digital records and pathway information, and onsite review of records. The distribution of

pathway cohorts took account of individual validators' access and whether they were on or off site.

Originally 10 external validators worked remotely to undertake stage 1 validation, with 2 internal validators working on site on stage 2 reviews. As the project progressed, 2 of the external validators joined the staff working on site to provide additional support to the stage 2 process.

Trust management had oversight of the whole team. The external team project manager reviewed a sample of pathways to be validated and identified key questions that could then be discussed with specialty operational and clinical representatives. If there was any uncertainty about how the information about a pathway should be interpreted, the external team were told to leave the pathway open and forward the details to the Trust validation team for review.

A pro forma was devised for validators to record their findings, which was adapted as the programme progressed. This allowed validation outcomes to be captured in a standardised way and helped the collation of results for each cohort. The pro forma focused on the key information needed, and the questions to be answered:

- Whether the patient needed to be seen
- Whether the patient was on a waiting list
- Whether something had been missed in the management of the pathway

Having some key information recorded through simple yes/no answers or by selecting from a list of drop-down options provided clarity to the validation team on what they were looking for. Validators were able to record free text comments to provide supporting information, for example, to refer to a specific date and clinic letter, or another source of information to support their outcome.

A daily catch-up meeting was held between the Trust management lead and external validation project lead, so that any issues could be discussed, and changes made for anything that wasn't working. As the project progressed the frequency was reduced to every other day and eventually weekly.

Validators reviewed systems and notes, including all sources of information held within specialties. If this was inconclusive and the pathway was relatively recent, then at stage 3 validation the specialty team would often contact the patient to check key information including whether they were waiting to be seen. For older pathways, once the available information was exhausted, the outcome would be recorded as a potential miss pending clinical review. In some cases, the clinical team would also be unable to reach an outcome based on the information available. They would assess whether there would likely be an issue for that particular condition or pathway type, and where any possible risk was identified, the patient was asked to attend for review with the clinical team.

The results for each cohort were collated into a single results spreadsheet, so that the number of pathways progressing through each stage could be tracked, and the pass rate calculated.

Outcomes

The Trust's agreed approach minimised the volume of pathways progressing to stage 3, requiring clinical review. Stage 1 & 2 took approx. 3 months to complete. Due to limited clinical availability, Stage 3 will take a further 6 months to complete (including sign off process).

Stage % resolved

- **Stage 1** = 90% discharged, corrected or confirmed as managed correctly
- **Stage 2** = 5% resolved through internal operational review
- **Stage 3** = 5% required clinical review

The high proportion of pathways resolved through stage 1 validation provided assurance that the majority of pathways being assessed were the result of recording and process issues and did not represent patients being lost or missed. The number of records discharged showed that the main issues related to internal admin processes and a lack of robust procedures. The majority of pathways had been discharged clinically but not electronically. The findings repeatedly showed the importance of having a clear process for discharge in Trust systems, and the need to ensure clinic outcome decisions and instructions are recorded and acted upon.

Open pathways remain visible in the Trust's business as usual reports while the Trust considers options for bulk closure of validated cohorts. This does cause some issues for operational teams, who are keen for pathways to be resolved and closed. The Trust has a data quality metric tracking the number of open pathways across the Trust and per specialty. The volume is reducing over time, both as a result of validation corrections, and also ongoing specialty review of pathways.

The Trust has established reports to identify new referrals with data quality issues, to help track progress in improving recording processes. Learning from the validation project is being applied as new processes are developed and embedded at the Trust.

The project has helped to raise awareness of data quality issues and the impact of pathway recording. Medical secretaries now look for pathways that should have been discharged and are able to identify where something has been mis-recorded or where action needs to be taken. The Trust has also redesigned how diagnostic tests are recorded to reduce the need for new referrals to be created in the system.

Challenges

The structured approach to validation helped in the allocation of resource as stage 1 validation could be completed very quickly, however where further validation was required this took more time. The need for clinical review was minimised as much as possible, with only approximately 4% pathways progressed to stage 3.

Not all pathway information had been recorded on the Trust's systems or was available digitally. Some manual records needed to be reviewed, including some that had been archived, and it took more time to access older records. A particular challenge was the lack of information available for older pathways, which made it difficult to determine whether a patient had been missed or not. In general, there was little recording of contact with patients outside of clinic appointments.

The interpretation and categorisation of what constituted a 'miss' was not always clear, due to the various elements being checked. A 'miss' could mean one of two things: that something has happened but not recorded accurately, or that an accurate outcome had been recorded but not actioned.

This led to the adaptation of the validation outcome pro forma to focus on (a) whether the patient was due to be seen, and (b) whether they were subsequently seen.

Lessons Learnt

As a result of the validation project, the following were documented as lessons learnt for future projects and programmes:

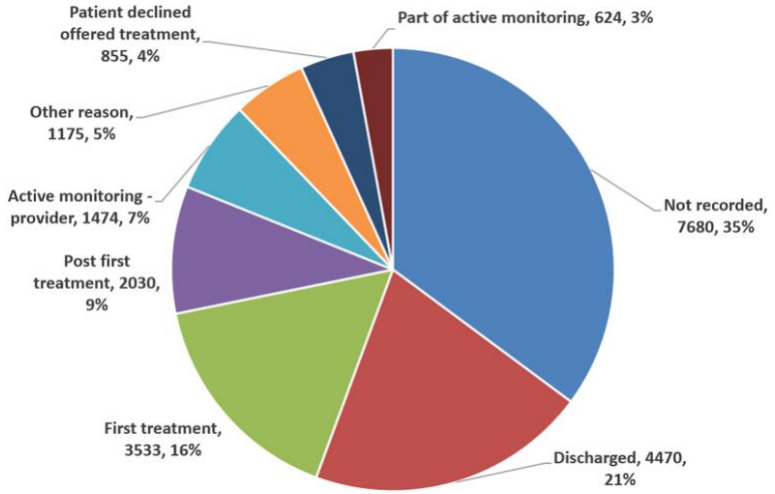
1. Secure clinical admin time for reviewing pathways where an outcome cannot be clearly identified by validators or operational admin teams.
2. Engage with medical records where it is likely that manual records will need to be accessed. Agree a process so that bulk requests can be raised for those pathways where there is not enough information recorded on systems.

3. Measure open referrals on the PAS system. Recording issues are relatively common for non-RTT pathways, and it is important that Trusts are aware of the volume of open referrals and/or pathways.
4. Update records in PAS straight away. Validators updated outcomes and pathway information based on the outcome of their review so that the source data was corrected as soon as possible and could then flow through to the Trust's reports.
5. Consider different approaches for reviewing pathways for specialties with limited pathway records.
6. Emphasise the need to record outcomes and cache up clinics on the day and address any areas where this requires admin resource or process change. Any delay in this process increases the likelihood of recording issues and a need for future validation.
7. A high proportion of pathways requiring validation were the result of a diagnostic test being logged as a new referral, but then no outcome or closure after results review. Diagnostic outcomes and decisions were often recorded on diagnostic systems but not on PAS. The Trust has established a new process aimed to minimise this going forward.
8. Where pathways are transferred to another Trust, in many cases the IPT was logged as sent, but it was then unclear whether the transfer was completed to enable the pathway to be closed.
9. Recording of DNAs and subsequent clinical decision whether the patient needed to be seen again was a common issue. There was a significant number of pathways where the last outcome was DNA, but nothing further had happened.
10. The cancer register provided a good source of information, as record keeping for these pathways was very robust.
11. When patients contact the hospital, e.g., if moving or no longer want to be seen, this should be recorded immediately, and the pathway status updated as the absence of this information is likely to result in future validation.
12. There should be a clear SOP setting out the correct process for referral closure.

Success Factors

MBI has been successful in validating over 40,000 pathways and is on track to complete the original trajectory of 50,000 pathways. As a result of the validation project MBI and the Trust have correctly identified **54% of the pathways validated as having a missed clock stop**. This means these pathways are genuine data quality errors and have been safely removed from the waiting list. This is a significant improvement to the Trust's total waiting list size, its ability to manage patient pathways and to its performance against national standards.

Clock stop reasons following validation recorded



Following the advice and guidance from MBI, the Trust has been able to progress its work with developing a set of revised data quality reports and the reporting structures to support further improvements across the organisation.

The learning from the validation project continues to be spread across the organisation and further training has been identified to support staff with their continued improvements. This is in line with the deployed MBI 360-degree approach. The training focuses on the key aspects of Cerner and the core RTT functions within the PAS to safely and effectively manage patient pathways. The training also covers the fuller elective care picture, good practice, the weekly business rhythm at the organisation and RTT rules.

What's Next

Next steps, sustainability and scaling outcome reports are being discussed and agreed with the clinical and operational leads for each specialty, with decisions on next steps clearly documented.

The results from the programme are being collated and reported to the Trust's new Quality Outcomes Committee for review and agreement of next steps.

Furthermore, the Trust is taking forward the actions and process changes identified through the validation process as part of its ongoing data quality improvement programme. Data quality metrics have been established and are being monitored regularly through Trust and specialty-level meetings. MBI continues to support the Trust with its backlog validation and is embarking on providing a training programme on elective care good practice, the revised business rhythm at the organisation and refresher training on Cerner processes.

The Trust anticipates that the training programme being delivered by MBI at the organisation, along with the validation project, will help the Trust achieve sustainable change.

Contact Information

If you are interested in learning more about how MBI can help improve your elective care data quality and performance, please use the following contact information: