CASE STUDY

RPA delivers full benefits of immunisation programme digitalisation

Central and North West London NHS Foundation Trust (CNWL) manages one of the largest school aged child immunisation programmes in England providing up to 100,000 vaccines during the academic year.

They serve two Integrated Care Systems (ICS) and seven local authorities, and this programme of vaccination increased hugely during the pandemic when the team began to offer the Covid vaccination alongside flu. This placed administrative pressures on CNWL.

Up until then, the Trust used a paper-based system for parental consent forms, meaning that the details of every child vaccinated were inputted manually on to TPP's SystmOne electronic record system.

This is needed to produce management reports to the National Immunisation and Vaccination System (NIVS), which CNWL must do within five days of a vaccination, as well as providing monthly statistics to the Child Health Information Services. Both are an important part of government decision-making in the wake of the pandemic.

CNWL found it almost impossible to meet the data entry demands without drawing on additional resource and finances which led to CNWL's decision to move away from paper and digitalise the process with Thomson SchoolScreener, a recognised school nursing services application, and to use robotic process automation (RPA) to extract and input the necessary data to share with SystmOne.

" RPA root of data transfer

Having identified Thomson SchoolScreener, Andrew still needed to consider how the information would be shared with SystmOne.

"Our initial intention was to use Thomson's API connector to share the required data with the SystmOne application. However, in early testing we had concerns about whether the API connector could meet CNWL's needs and data management requirements.

"We identified an issue in that Thomson would not be able to develop the connector to include all the required functions. We also knew that it was unlikely that TPP would be able to update their API just to meet the demands of this project.

"Aware at an early stage it was decided that using RPA could fulfil our needs to transfer data recorded in SchoolScreener to SystmOne. Having some experience of using UiPath to facilitate various automations across the Trust, we felt that this could provide an alternative solution.

Andrew added: "The supplier relationship wasn't working and was affecting our ability to deliver the project. A new approach was needed and after speaking to UiPath, we identified experienced suppliers. EAS had the best understanding of our challenges and its previous experience of working with NHS organisations meant it could quickly get to grips with the project. Joining with them was a real turning point."

EAS immediately put in place a dedicated project manager and developer to build a robot to extract and input the information to be transferred between the two applications.

"Their team structure meant that when issues arose, they could be immediately addressed unlike our experience of the inexperienced supplier which saw a time lag before any resolution." "

Tackling administrative backlog

The number of influenza vaccines CNWL gives each year has more than doubled as the government has increased the eligible cohort of school year groups to be offered a vaccine.
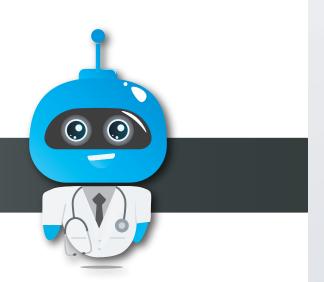
This put pressure on the Trust's administration team with the time-consuming task of inputting up to 1,400 consent forms a day on to TPP's SystmOne.

The only way for CNWL to achieve this at peak times was to draw on resources from other teams, work overtime and use temporary and bank staff.

The administrative and financial burden could not continue with the introduction of digitalisation and automation the only way it could reasonably be addressed.

Andrew Massey, Robotic Process Automation Project Manager – Digital & Innovation Group at CNWL, said: "With the growth of the programme, it was not sustainable to continue with having to manual handle paper-based consent forms.

"A digital solution was needed which met our need to manage the programme while also allowing us to continue providing our health partners with the clinical details through SystmOne.

"We identified Thomson SchoolScreener as the way to reduce the administrative burden of the paper-based system with its in-built e-consent capabilities through a parents' portal, automated triage capability and vaccine administration workflow. It would also allow the team to have the information required to manage the immunisation programme across the different cohorts and ensure that no child misses the opportunity to be vaccinated."

Savings bring financial bonus

EAS was able to create a fully functional RPA process for CNWL in just five weeks which put the timetable back on track so that the new system is ready to fully 'go live' at the start of the 2022/23 academic year.

There are already significant savings which have been identified Andrew confirms:

"Compared with when we were having to manually input all the data, the trust will be making real financial savings with an average daily saving of 26 hours in staff time."

No longer will additional funds have to be found to ensure it can process the immunisation records. Based on initial findings the staff time saving will be 26 hours per day during an academic year. This equates to approximately three full-time band 3 staff at an equivalent cost of £98,500.

Andrew concluded: "This is a growing service and our estimates are based on providing 100,000 vaccinations during the academic year. As the programme grows so does the possible savings which will potentially free up funds for clinical services.

"We do know that the new systems and processes will provide greater accuracy which ensures the data quality and consistency which will help inform the programme and the decisions made by the Department."

The trust has already identified further RPA programmes to build upon the benefits automation brings in increasing efficiencies.

Template leads the way

Using RPA means that information to be shared between the two applications can be extracted from a CSV file which is downloaded from SchoolScreener. The robot is built so that it 'translates' the data into the required format for SystmOne's templates and includes all patient details and necessary supplementary information.

For added security and quality compliance, the robot keeps a log of all automation activities with a time-stamped history of every action.

Andrew continued: "With the high-volume of patients there will inevitably be files which will have missing or incorrect information. The robot can identify files which don't conform and provide a file which is then flagged to the administration team for action.

"A team member can quickly review any flagged file to make any amendments or additions. Experience is that on most occasions, it will be something simple, such as a parent putting in the wrong NHS number for their child or using the shortened form of their child's name which doesn't correspond with their records."

Understanding digitisation's benefits

The introduction of the Thomson SchoolScreener and RPA changes how the CNWL administrative and nursing team supports the schools' immunisation programme. In readiness of the move away from paper to digital, an upgrade of the team's IT equipment was implemented and one-to-one support was provided to teach staff and give them confidence in using the new laptops and devices.

To help them understand what the introduction of the technology means CNWL's RPA Business Analyst Wiktoria Banda provided high levels of engagement and support to the Immunisation Team.

Wiktoria said: "There was a certain level of relief that the introduction of the new system and robot would release the immunisation team from the time-consuming and mundane task of inputting the vast amount of patient data.

"There were concerns about how their roles may change so it was important for them to understand how the technology's introduction will relieve pressure and allow them to focus on other work for the team."

"For those continuing to work with the immunisation programme, we needed to identify where any skills gaps exist. With the RPA transfer via CSV files there would be increased need to understand aspects of Excel, so we put in place training during the implementation phases to make sure things ran smoother during the 'go live'," added Wiktoria.