Summary of Collaborative Working Project outputs between Astellas Pharma Ltd and Addenbrooke's Hospital Cambridge University Hospitals NHS Foundation Trust

Service Optimisation of the AML Diagnostic Testing Pathway

August 2026

Objective:

To undertake a “service review of the AML Diagnostic Testing Pathway” in partnership with Astellas Pharma Ltd, Bionical Health Ltd and Addenbrookes Hospital to support the re-design of that pathway to optimise the cancer centre’s AML Diagnostic Testing Pathway.

Genetic testing for AML gene mutations is essential in the management of AML and should be carried out immediately to inform treatment decisions and allow a timely initiation of a treatment. Not only at initial diagnosis but also at relapse, data shows the importance of the testing for actionable gene mutations where there are poor patient outcomes.

The AML Diagnostic Testing Pathway Service Optimisation programme will enable cancer centres to work in partnership with Astellas/Bionical Solutions to review this part of the pathway to identify any inefficiencies, wastage, delays & bottlenecks etc. that may be causing an ineffective service.

To publish a review of the Acute Myeloid Leukaemia (AML) diagnostic testing pathway, undertaken in partnership with Astellas Pharma Ltd, Bionical Health Ltd and Addenbrooke's Hospital Cambridge University Hospitals NHS Foundation Trust, and to assess the impact of local pathway changes intended to support faster return of a complete diagnostic profile for treatment decision-making. Project started September 2024 with some delay due on process to timelines and ended on May 2026 with outcome review.

Summary:

The service optimisation programme reviewed the end-to-end AML sample journey across the Day Unit, Haematology Oncology Diagnostic Service (HODS) and Genomic Laboratory Hub (GLH). The review identified process, staffing, digital and communication bottlenecks affecting sample flow and diagnostic turnaround times.

The project delivered several practical local improvements. These included improved sample tracking, clearer labelling and identification of urgent samples, and better communication of bone marrow sampling days and times between the Day Unit and HODS laboratory. FLT3 and NGS testing increased from 24% to 34%.

However, it was identified that the GLH had areas where service improvements could be made in the overall speed of the pathway. Processing capacity, staffing constraints, sequencing availability and NHS England priorities and funding arrangements limited to the extent to which local changes could improve the return of complete diagnostic results.

The AML diagnostic testing pathway service optimisation pathway programme enabled Adeenbrookes Hospital NHS Foundation Trust to work in partnership with Astellas/Bionical Health to review this part of the pathway to identify any inefficiencies, wastage, delays & bottlenecks etc. that may be causing an ineffective service, allowing them to identify areas for service improvement. A report is supplied highlighting areas for service improvement. The value of the project was £8,550.

Outputs of Project

Local changes implemented	• Established a process for prioritising urgent AML diagnostic samples. • Introduction of agreed criteria for urgent AML samples, supported by standardised labelling and communication processes between clinical and laboratory teams. • Enhanced local tracking and visibility of samples through the diagnostic pathway using IT interface communication channels. • Enhanced collaboration between clinical and laboratory teams to optimise bone marrow sampling schedules, reducing delays and improving the timely availability of diagnostic and monitoring results. • Increased testing turnaround times of FLT3 and NGS testing from 24% to 34% to enable more timely treatment decision making.
Impact achieved	• Greater consistency in local sample handling and prioritisation through the introduction of standardised urgent AML sample identification, communication and escalation processes, improving visibility of high-priority samples throughout the diagnostic pathway. • Improved communication between teams responsible for sample collection and local processing. • Better shared understanding of the end-to-end sample journey and where delays occurred. • Local teams implemented changes within their direct control, creating a 10% increase in FLT3 and NGS testing.

System-level barriers	• GLH processing capacity remained unchanged and continued to affect the whole chain of sample processing and result return. • Staffing resource constraints continued within the GLH in making wide scale changes. • Sequencer availability and processor time limit the ability to accelerate diagnostic turnaround times. • GLH priorities and funding streams are determined through NHS England and differ from local trust priorities.
Reflection on outcomes	• The project was successful in implementing local pathway improvements and strengthening collaboration. • Local optimisation alone was not sufficient to deliver a substantial improvement in end-to-end turnaround time. • Without corresponding GLH changes, rapid return of a complete diagnostic profile remained challenging. • The principal learning was that sustainable improvement requires aligned change across the full pathway, including regional genomic services.
Future considerations	• Engage NHS England and GLH leadership on processing capacity, staffing resource and sequencing priorities. • Agree measurable end-to-end turnaround expectations across the Day Unit, HODS and GLH. • Continue monitoring sample tracking, urgent labelling and FLT3/NGS testing uptake to sustain local improvements. • Use the pathway findings to support a system-level case for change focused on timely, fully informed treatment decisions.
Assessment of Collaborative Working Outcomes	• All parties contributed resources and expertise in line with the collaborative working agreement and maintained active engagement throughout the project. • The project achieved more than could have been delivered by individual organisations working independently by bringing together clinical, laboratory, pathway redesign and industry expertise to identify and address barriers across the end-to-end diagnostic pathway. • Both the NHS organisation and Astellas derived value from the collaboration. The NHS gained a clearer understanding of pathway bottlenecks and opportunities for service improvement, while Astellas gained insight into real-world diagnostic challenges and opportunities to support service optimisation. • Strong working relationships were maintained throughout the project, with open communication, mutual trust and effective management of operational challenges. • The collaboration generated a shared understanding of the constraints affecting diagnostic turnaround times and established a platform for future improvement initiatives. • The findings provide evidence that can support future business cases for service redesign, particularly in relation to diagnostic capacity, pathway coordination and molecular testing utilisation. • The project demonstrated that local process improvements are achievable and sustainable; however, wider system-level improvements involving the Genomic Laboratory Hub and NHS England would be required before a broader model could be implemented at scale. • The project met a number of the criteria required for scaling, including stakeholder engagement, identification of measurable outcomes, implementation of sustainable local changes and demonstration of pathway learning that may be transferable to other centres

Overall conclusion

Overall, the project delivered meaningful local process improvements and a 10% increase in FLT3 and NGS testing turnaround times. It also demonstrated that the greatest opportunity to improve the timely return of a complete AML diagnostic profile sits at system level. Further progress will depend on coordinated action with the GLH and NHS England to address capacity, workforce and prioritisation constraints.