

A dark blue banner with a white border. On the left is a stylized globe made of white geometric shapes. To the right, the title "Achieving Clarity: A Multi-disciplinary Best Practice for Diagnosis, Follow-up, and Monitoring of Multiple Myeloma" is written in white. Below the title is "Hampshire Hospital NHS Foundation Trust". On the right side of the banner is the Univants logo, which consists of a stylized 'U' and the text "UNIVANTS OF HEALTHCARE EXCELLENCE".

Multiple myeloma (MM) is a blood cancer of mature plasma cells and is notoriously difficult to diagnose as symptoms are often non-specific. Consequently, diagnosis may take a long time, which in turns delays action and intervention, often only occurring when the disease has progressed to advanced stages and patients are symptomatic. Accordingly, the ability to identify and diagnose MM at early stages is critical to ensuring appropriate treatment and improving patient outcomes.

With these challenges in mind, the International Myeloma Working Group (IMWG) has developed clear and specific criteria for the diagnosis of MM. Recognizing the importance of properly applying the IMWG criteria, an integrated clinical care team from at Hampshire NHS Foundation Trust performed an internal audit to determine their performance in meeting the IMWG diagnostic testing criteria, when appropriate.

The first finding was that many test requests missed appropriate tests, and the second was that referrals to hematologists were often unnecessary or conversely, referrals were missed entirely. With this new information as guidance, Hampshire NHS Foundation Trust formed a multi-disciplinary myeloma working group, consisting of laboratory medicine, Clinical Immunology, IT, Hematology, and Clinical Biochemistry, that focused on redesigning the MM patient pathway.

The team subsequently introduced an electronic request profile with all the required tests standardizing the patient pathway for MM diagnosis and care. Thereafter, the second (and largest) change was developing and implementing a complete interpretation algorithm with supporting IT rules and a risk category escalation protocol. The changes aim to ensure every sample has all appropriate tests performed using auto-reflex testing. When appropriate, the algorithm automatically sends critical result reports to the on-duty hematologist, enabling immediate specialist review and therapeutic action. Interpretive comments were also implemented to provide clinicians with corresponding relevant guidance. Additional minor IT improvements were also implemented, including patient flags, the ability to quantify multiple paraproteins, and therapy flagging.

The strategic overhaul of the MM diagnostic pathway drastically improved the speed at which critical laboratory findings are reviewed by a hematologist, with an average reduction from 2 weeks to 24 hours. This improvement coincides with a 13% improvement in first-pass completeness for patients with suspected MM. Together, these changes have reduced wait-times for patients, reduced the need for redraws and overall reduced delays in care.

Since implementation, the hospital has also seen a 10% reduction in inappropriate secondary care hematology referrals and queries, thus positively impacting not just patient flow but the day-to-day of hematologists.



Pictured from left to right: Simon Whitehead, Kate Fenna and Noel Ryman

The clinical interpretations and comments have also decreased the need for the primary care clinician to seek advice and guidance from the hematologists, Dr. H Sheldon, General Practitioner, states “not only has it reduced appointments, repeat testing, and referrals, but [it] has improved our confidence in diagnostic exclusion of these hematological malignancies for non-specific presentations.”

With such impressive improvements in streamlining care, it is unsurprising that a reduction in overall healthcare costs would be realized. Shaun Goldsmith, Hampshire Hospitals NHS Foundation Trust IT Lead, remarks that “building minimum retesting intervals and request profiles directly into the IT prevents unnecessary repeat testing and all of the associated costs, such as phlebotomy, transport services, testing and follow-up.”

For the impressive work towards improving the diagnostic pathway for multiple myeloma, the integrated clinical care team from Hampshire Hospitals NHS Foundation Trust was recognized by the UNIVANTS of Healthcare Excellence Award program, 2021 Recognition of Achievement. Congratulations!

THREE KEY TAKEAWAYS:

- Highly governed patient care pathways, in which clear diagnostic criteria and guidelines exist, can improve patient care and prevent missed diagnoses.
- Test order groups can streamline patient care pathways reducing time to diagnosis and initiation of treatment plans, improving outcomes.
- Interdisciplinary input into order sets and interpretive comments can standardize diagnostic algorithms and help ensure appropriate referrals to specialist care.

To learn more about this initiative or other global best practices, please visit www.UnivantsHCE.com.