Minimum Retesting intervals in Laboratory Practice as a Demand Optimisation Tool

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Aims

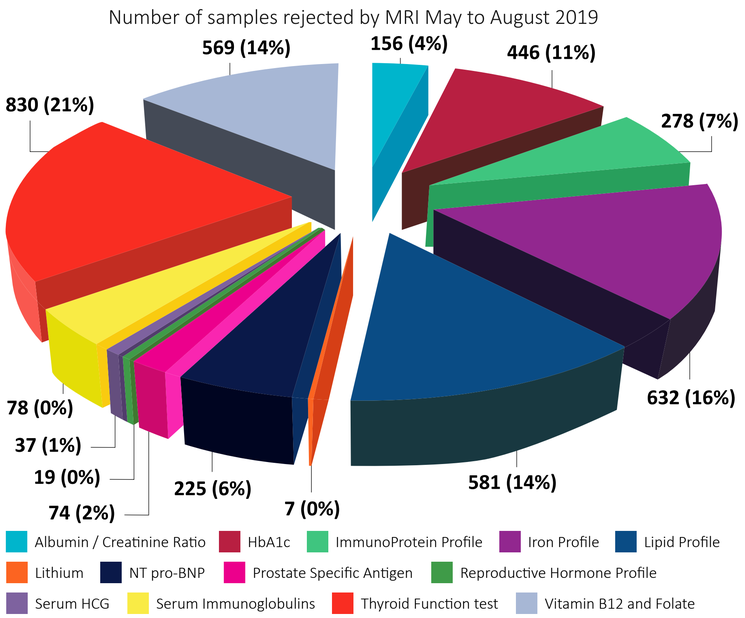
The NHSCT Biochemistry Department introduced minimum retesting intervals (MRI) to the laboratory system in 2007. This demand optimisation tool was to reduce unnecessary pathology testing and save valuable resources.

The functionality of the MRI tool was reviewed and changes introduced in February 2019 for secondary care. Add on test facility was made available to override the MRI rule when there was a clinical need. The aim of this study was to determine the impact of these changes on the requesting patterns of clinicians.

Method

Four month retrospective data was obtained from the lab system (May - August 2019) on the samples rejected based on the revised MRI. The number and frequency of tests rejected was obtained and the source of MRI rejections. Feedback received from the clinicians was analysed.

Results



The most frequent tests rejected were TFT (21%), iron profile (16%), lipid profile (14%), Vitamin B12 and folate (14%), HbA1c (11%).

MRI changes with to clinical feedback

Feedback from clinicians on the intervals included the need to modify the PSA limits from 27 to 13 days to comply with guidance for suspected cancer.

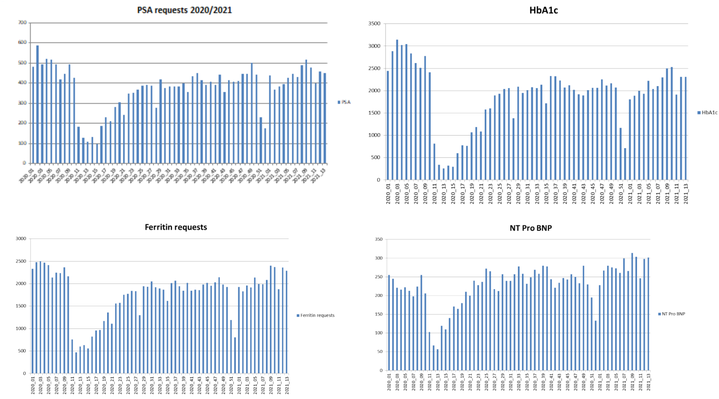
The immunoprotein profile limits were reduced from 28 to 21days to facilitate the chemotherapy cycle schedules in Haematology.

Further analysis showed iron profiles were added on to 285 samples while 632 requests had been rejected in the 4 month period. The frequency of add on tests for iron prompted a review of the haemochromatosis patient pathway and modification to ensure compliance with best practice guidelines on the frequency of ferritin testing.

With the onset of COVID 19 in March 2020 the MRIs were again reviewed in our laboratory. Ferritin, BNP and HbA1c MRI were removed as these were considered useful clinical tests at that time.

Profile	February 2019	Comment
Albumin Creatinine Ratio	27 days	
BNP	27 days	**Removed April 2020**
Reproductive Hormones	7 days	
Immunoprotein Profile and Immunoglobulins	27 days	**21 days from Nov 2019**
Iron Studies	14 days	**Removed April 2020**
Lipid Profile	27 days	
PSA	27 days	**13 days from Nov 2019**
Thyroid Function	27 days	
Vit B12 and Folate	27 days	
Lithium	1 day	
HbA1c	60 days*	**Removed April 2020**

Changes to workload during pandemic



The sudden fall in these test requests and gradual increase week 11-25 (March - June 2020) reflects the effect of the COVID pandemic with reduction in the monitoring of chronic disease in primary care and outpatient activity.

Conclusion

- This study highlights the most frequently rejected MRI tests; were TFT and iron profiles.
- Feedback with clinicians ensured the MRI met the requirements of clinical pathways.
- The reasons for and extent of add on tests should be reviewed.
- COVID 19 pandemic has had a significant impact on the demand for biochemistry tests with a significant fall initially but levels of requests have returned to pre-covid numbers by March 2021.
- Engaging with primary care to implement MRI as we move to the new NI Pathology Information Management System (NIPIMS) would have significant impact as 50% all tests requested within the MRI pre covid were from primary care.
- Acknowledgement: thanks to David Wright for providing this data.