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# Improving the availability of ER and HER2 results for Breast Cancer (BC) at breast Multi-Disciplinary team (MDT) meetings

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## 1. Background and Purpose:

Establishing the Oestrogen receptor (ER) status and Human Epidermal Growth Factor Receptor 2 protein (HER2) status for BC patients at the time of breast MDT meeting is essential for clinicians to make informed decisions to achieve clinical management of care for patients with BC being compliant with NICE guidelines.

## 2. Problem:

In May/June 2017, 50-80% patients were discussed at their 1st MDT meeting with ER/HER2 results. Continuous quarterly audits of HER2 turnaround times (TAT) did not show substantial improvements, despite changes made to processes in the laboratory workflow.

## 3. Methods:

In June 2018, an audit was performed investigating HER2 result TAT and the availability of HER2 result at MDT to give baseline data. An in-depth analysis of the breast core biopsy pathway (from sample taken in the clinic to result issued at pathology) was performed. New solutions to these delays were discussed between the Clinicians, Pathologists and Laboratory teams.

In august 2018, a new strategy for testing was implemented and new pathways within the laboratory were introduced and tested through a series of Plan, Do, Study, Act (PDSA) cycles.

Repeat audit during September 2018 was performed to assess the impact of these changes.

## 4. Results:

- Within the laboratory, breast core biopsy samples which are most likely to require ER/HER2 testing are now identified and tested earlier.
- There was an increase in the percentage of cases available for discussion with a ER/HER2 result at MDT from **69%** in June 2018, to **91%** in September 2018 (Figures 1 & 2).

**Figure 1: Breast core cases tested for HER2 in June 2018**

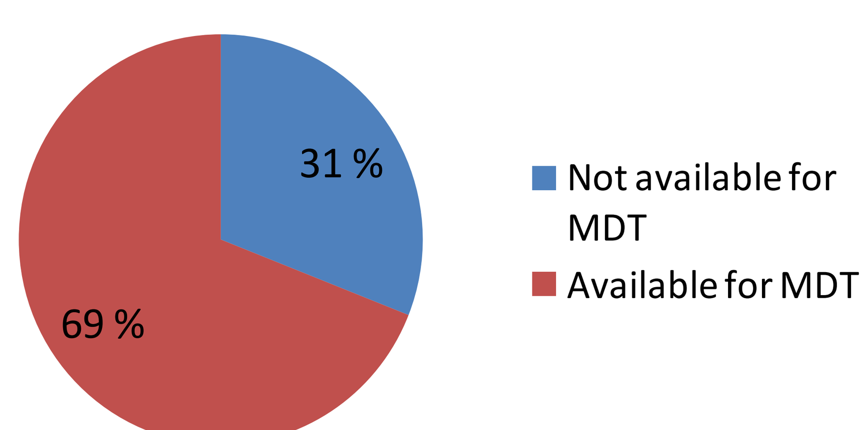



**Figure 2: Breast core cases tested for HER2 in September 2018**

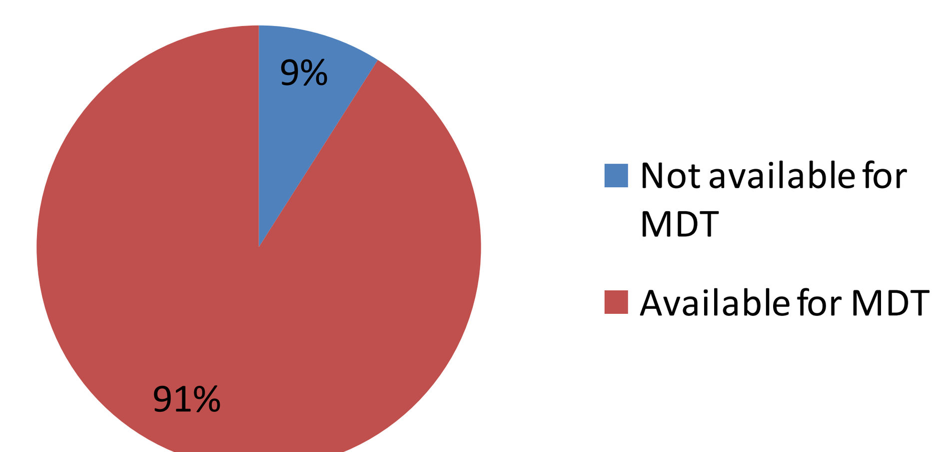
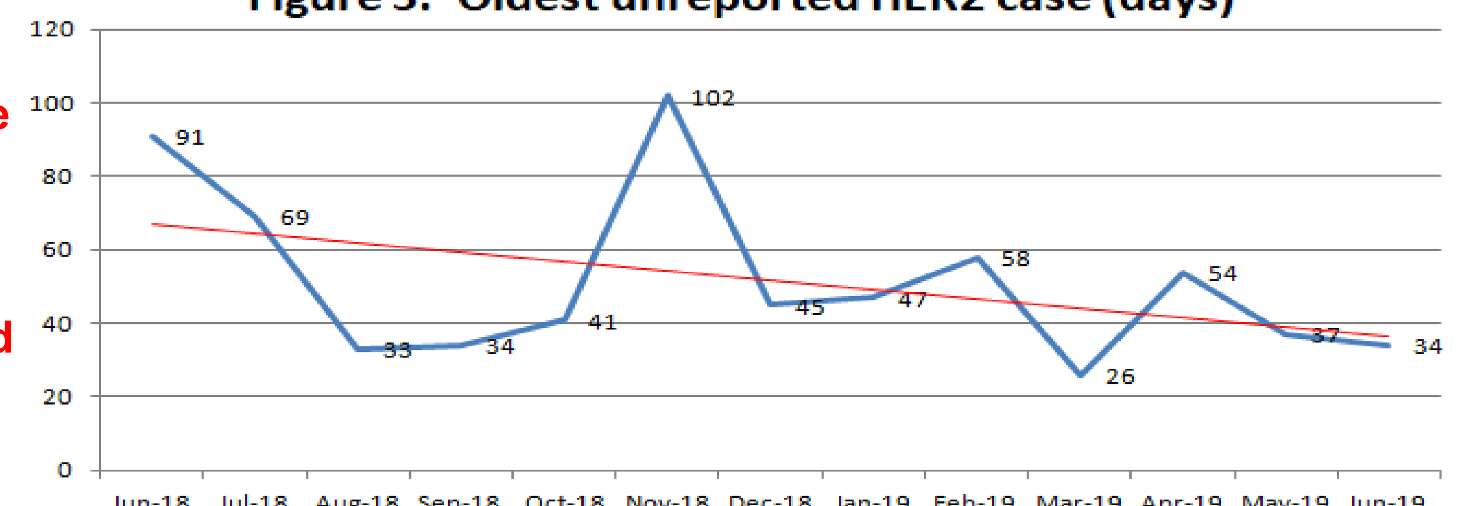



**Table 1: Comparison of data collected between June and September 2018**

| Time period | Time taken to final HER2 result from sample receipt in laboratory | |
|---|---|---|
| | Range (days) | Average (days) |
| June n=60 | 6-34 | 12 |
| September n=53 | 2-24 | 8 |

- There was a **reduction in the HER2 result average TAT 4 days,** with the earliest result available at 2 days, following implementation of new pathways (Table 1). This ensures the ER & HER2 result is available in time for the breast MDT meeting and enables full and appropriate discussion of the management of each patient.
- Periodic monitoring of unreported HER2 cases since June 2018 demonstrates an **overall trend for a decrease in the TAT time** of HER2 results (Figure 3).
- As a consequence of the introduction of an age "cut-off" for testing, there was a **decrease in the total number of cases tested** for HER2 (Table1). This ensures the department is using trust resources efficiently and effectively.
- The review of processes and engagement of all involved staff has **improved knowledge and awareness** of histology and the ER/HER2 services, both within the laboratory, and externally within the trust.

**Figure 3: Oldest unreported HER2 case (days)**




## 5. Conclusion:

Improvement of ER/HER2 testing pathways in the Cellular Pathology Department has led to an overall improvement in the ER/HER2 results turnaround time, and their availability at MDT. This ensures compliance with NICE guidelines and has the ultimate impact on patient management.

We have raised awareness of histopathology and the processes samples must go through for analysis of ER & HER2.

The work is tailored towards the trust goals.

## 6. Multidisciplinary team:

Cellular Pathology Department; Breast Multidisciplinary Team (Surgery, Radiology, Oncology departments and Breast Care Nurses)

## 7. Next steps:

Continue to monitor availability of ER & HER2 result at MDT as a quality indicator.

Assess the impact of improvements made on the breast MDT meeting.

Try to quantify the true impact of improvements directly on patients.

**References:**
www.nice.org.uk