

# KEY PERFORMANCE INDICATORS OF UDDER HEALTH IN 320 UK HERDS RECEIVING AUTOMATED MASTITIS PATTERN REPORTS IN 2024

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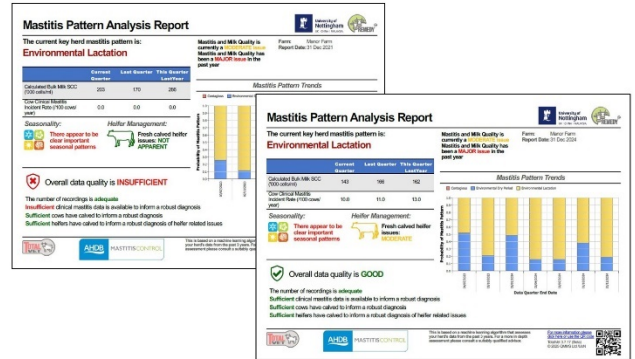
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**Introduction:** Since 2022, over 400 herds have signed up to receive an automated Mastitis Pattern Analysis report (MPAT) developed by QMMS Ltd and the University of Nottingham, through the Remedy project funded by Innovate UK. The report provides Key Performance Indicators calculated from milk recording data, and highlights the current predominant mastitis pattern: environmental or contagious, originating from lactation or the dry period (Fig. 1).

**Methods:** Anonymised data from herds registered to receive MPATs, that provided robust data for 2021 and 2024, were analysed to describe udder health in this population. Udder health parameters were calculated using TotalVet<sup>®</sup> and compared with 2021 figures using the Wilcoxon-Rank test (Table 1). Achievement of the targets suggested in TotalVet<sup>®</sup> was analysed.

**Fig. 1: Example Mastitis Pattern Reports for 2021 and 2024 showing improvement in recording clinical mastitis**



**Table 1: Udder health parameters for 2024 and comparison with 2021 for 320 herds receiving automated mastitis pattern reports**  
 Significance of difference by Wilcoxon signed-rank test  
 \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

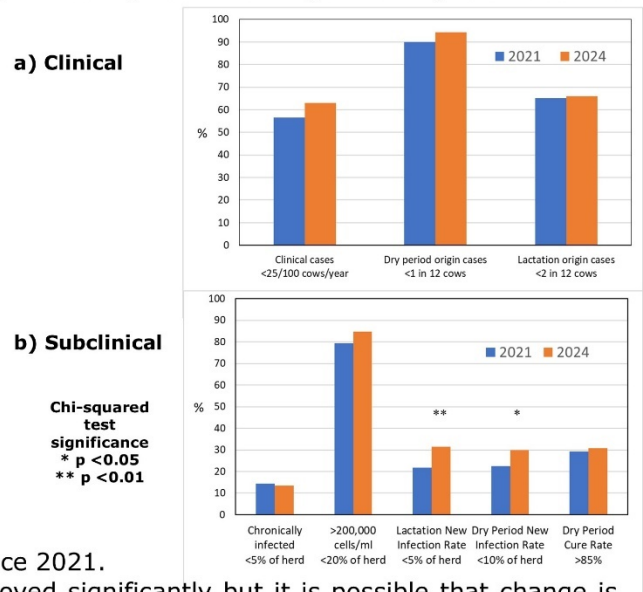
Variable	N	Mean 2024	Median 2024	Inter-quartile range 2024	Median 2021
Herd size	320	264	215	145 - 305	206
Mean annual rolling 305 day yield (l)	320	8522	8537**	7205 - 9712	8548
Calculated bulk milk SCC (,000/ml)	320	168	161**	133 - 197	168
Clinical mastitis (CM) rate (cows affected /100 cows/ year)	138	23.7	20.7	13.8 - 31.2	22.5
Dry period origin CM rate (cows in 12)	138	0.48	0.43	0.29 - 0.61	0.50
Lactation origin CM rate (cows in 12)	138	1.7	1.6	1.1 - 2.2	1.7
Lactation new infection rate (%)	320	6.6	6.1***	4.6 - 8.1	6.7
Dry period new infection rate (%)	320	13.9	13.0*	9.4 - 17.1	14.2
Dry period cure rate (%)	320	80	81	74 - 87	80
Fresh calver infection rate (%)	320	15.0	14.1*	10.4 - 18.4	15.3
% chronically infected	320	8.6	7.9*	5.9 - 10.7	8.5
% > 200,000 cells/ml	320	14.8	14.3**	11.0 - 18.0	14.9

**Results:** Between 2021 and 2024 the proportion of herds recording clinical mastitis increased, from 49% to 68%, enabling more robust identification of mastitis patterns.

Some subclinical mastitis parameters improved significantly (Table 1).

More herds are reaching targets for some subclinical mastitis parameters in 2024 (Fig. 2b).

**Fig. 2: Percentage of herds meeting mastitis targets 2021 and 2024**



- Key Messages:**
- Recording of clinical cases has improved since 2021.
  - Clinical mastitis parameters have not improved significantly but it is possible that change is masked by more reliable recording in 2024.
  - The proportions of herds achieving targets of Lactation New Infection Rate under 5% and Dry Period New Infection Rate under 10% have increased.
  - The proportion achieving 85% apparent cure rate during the dry period has not altered.
  - The MPAT provides an easy method of monitoring udder health for any milk recording herd.