Feasibility of using the novel molecular point-of-care Lodestar UTI testing system to support assessment of urinary symptoms in care home residents

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Conclusion

Point-of-care use of the Lodestar DX UTI testing system appears feasible and acceptable for use with care home residents with urinary symptoms and incontinence.

The testing system shows promise in supporting clinical assessment, reducing diagnostic uncertainty, and improving management of suspected UTI. **Larger controlled studies are warranted.**

Limitations: small sample size and lack of comparator data.

References 1. Prieto J, et al. BMJ Qual Saf. 2024;34(3):178–189.
2. Tomlinson E, et al. Clin Microbiol Infect. 2024;30(2):197–205.

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Background

- Urinary symptoms, incontinence and non-specific deterioration in care home residents often raise suspicion of UTI, driving over-diagnosis and inappropriate antibiotic use[1].
- The **Lodestar DX UTI system** is a rapid LAMP molecular test that detects the top six UTI-causing uropathogens in 35 minutes.

Aim: To assess the practicality, acceptability and perceived clinical utility of the Lodestar system in care homes.

Methods

- Prospective feasibility evaluation across three care home sites
- Care home staff trained to use Lodestar as part of routine assessment for residents with suspect UTI
- Recorded: evaluable results, exclusions, sample-to-result time, usability, perceived impact on care . No patient identifiable data.

Results

Patient symptoms

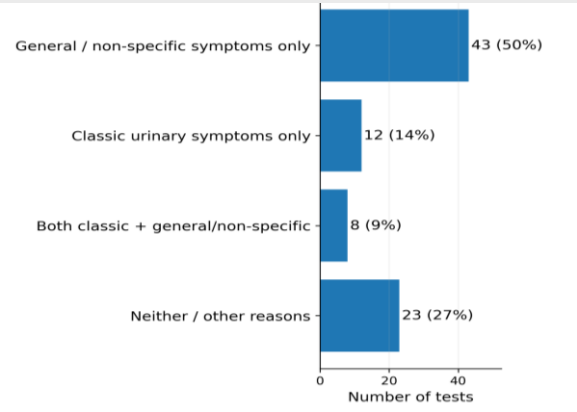

Figure 1: Reasons for running a test

- 49% specifically mentioned confusion/behavioural change
- 50% lack 'typical' UTI symptoms

Lodestar results

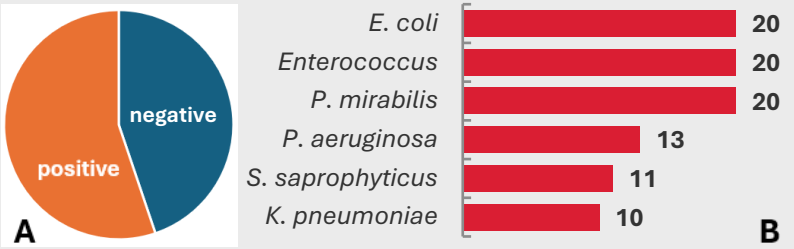

Figure 2: A. 55.4% of tests were positive for one or more bacteria.
B. Breakdown of positive Lodestar results by pathogen (22 detected ≥2 targets, so counts exceed n).

- 12 (29.3%) Lodestar-positive results occurred in residents presenting solely with atypical, non-specific symptoms
- Mean time to actionable result: 117 min

Impact on care and staff feedback

99%
Staff believed point-of-care testing improved patient care and management of urinary symptoms

3 / 33
Negative tests led to antibiotic treatment

35 / 41
Positive tests led to antibiotic treatment

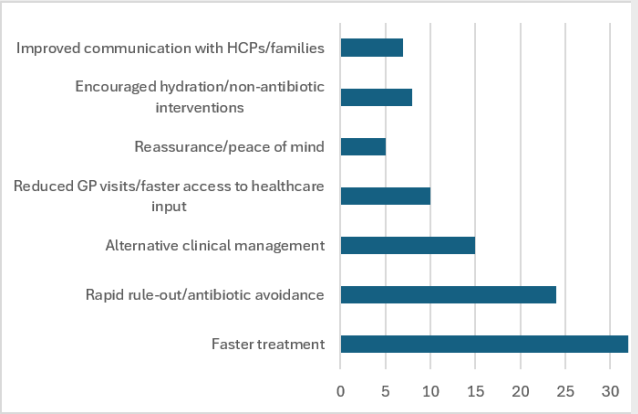

Figure 3: Reasons for improvement in patient care