

Evaluating a rapid viral vs bacterial point of care test (CRP + MxA) to support diagnosis and appropriate antibiotic prescribing in Calderdale, West Yorkshire ICB

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1 BACKGROUND

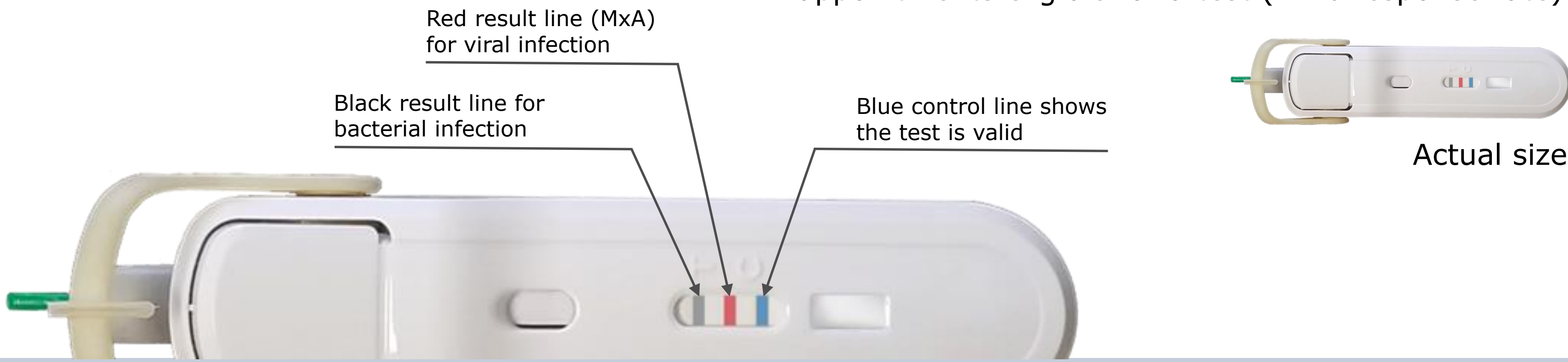
Respiratory infections are frequent primary care presentations, a leading cause of oral antibiotic prescriptions and many urgent care visits in the NHS. Because bacterial and viral respiratory tract infections often present with similar symptoms, misdiagnosis is frequent resulting in antibiotics being prescribed for suspected bacterial infection. With more than half of all antibiotic prescribing in community settings considered unnecessary¹ this is a primary driver of antimicrobial resistance. While some cases are viral or self-limiting, some bacterial infections require immediate detection and antibiotic treatment to reduce morbidity.

2 AIM

Following a successful 2023/24 pilot², the 2024/25 objective was to understand the patient impact of a rapid Point of Care Test (POCT) that distinguishes between viral and bacterial infections. This initiative aligns with NHS, PCRS, and UKHSA goals of early detection, accurate diagnosis and informed decision-making, ultimately reducing the burden of infectious diseases and antimicrobial resistance.

3 METHODS

The FebriDx POCT (Lumos Diagnostics) was implemented across Acute Respiratory Infection (ARI) hubs in primary care. This finger-prick test was chosen for its portability, speedy results, and accuracy achieved by combining CRP (C-Reactive protein) with a viral biomarker MxA (Myxovirus resistance protein A). A retrospective patient survey yielded 1,186 responses from 7102 ARI Hub appointments eligible for a test (17% response rate).



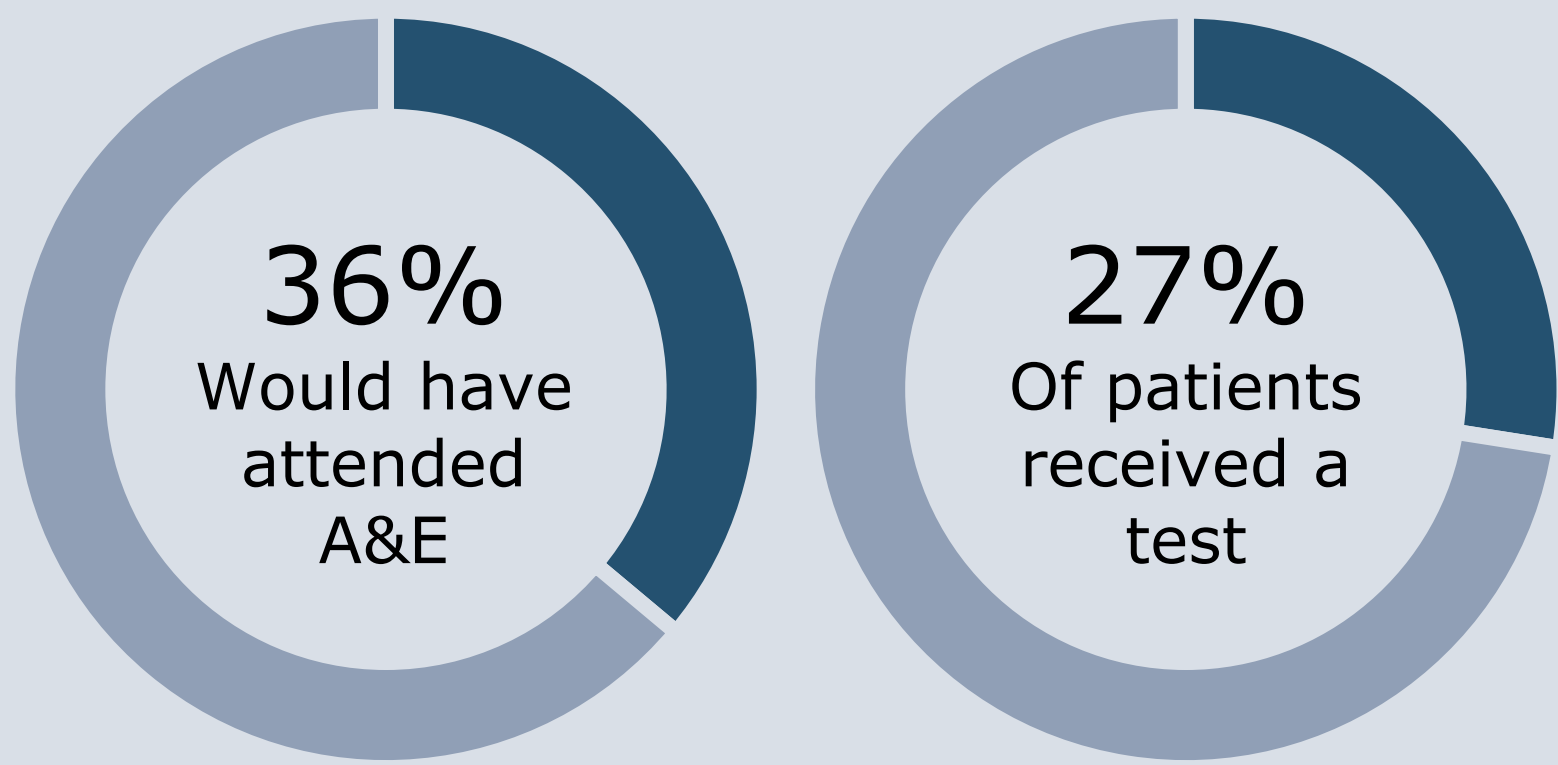
4 RESULTS

A total of 428/1186 (36%) patients would have attended A&E if the ARI hub appointment wasn't available. Notably this proportion was higher in the patient cohort who had a test (40%). A total of 326/1186 (27%) patients surveyed received a test, of which 85% found the test useful.

A. Timely access to care

ARI hubs were appreciated by patients as an effective way to manage acute conditions outside the regular GP system, and avoid a trip to A&E (Figure 1).

Figure 1



Quick access to appointments was frequently cited in the patient survey as a key benefit. This responsiveness was especially valued in urgent or worsening health situations.



Such a sensible add on service that takes the pressure off of GP's."



Patient A

"Wish this service was available year round for people who suffer with asthma."

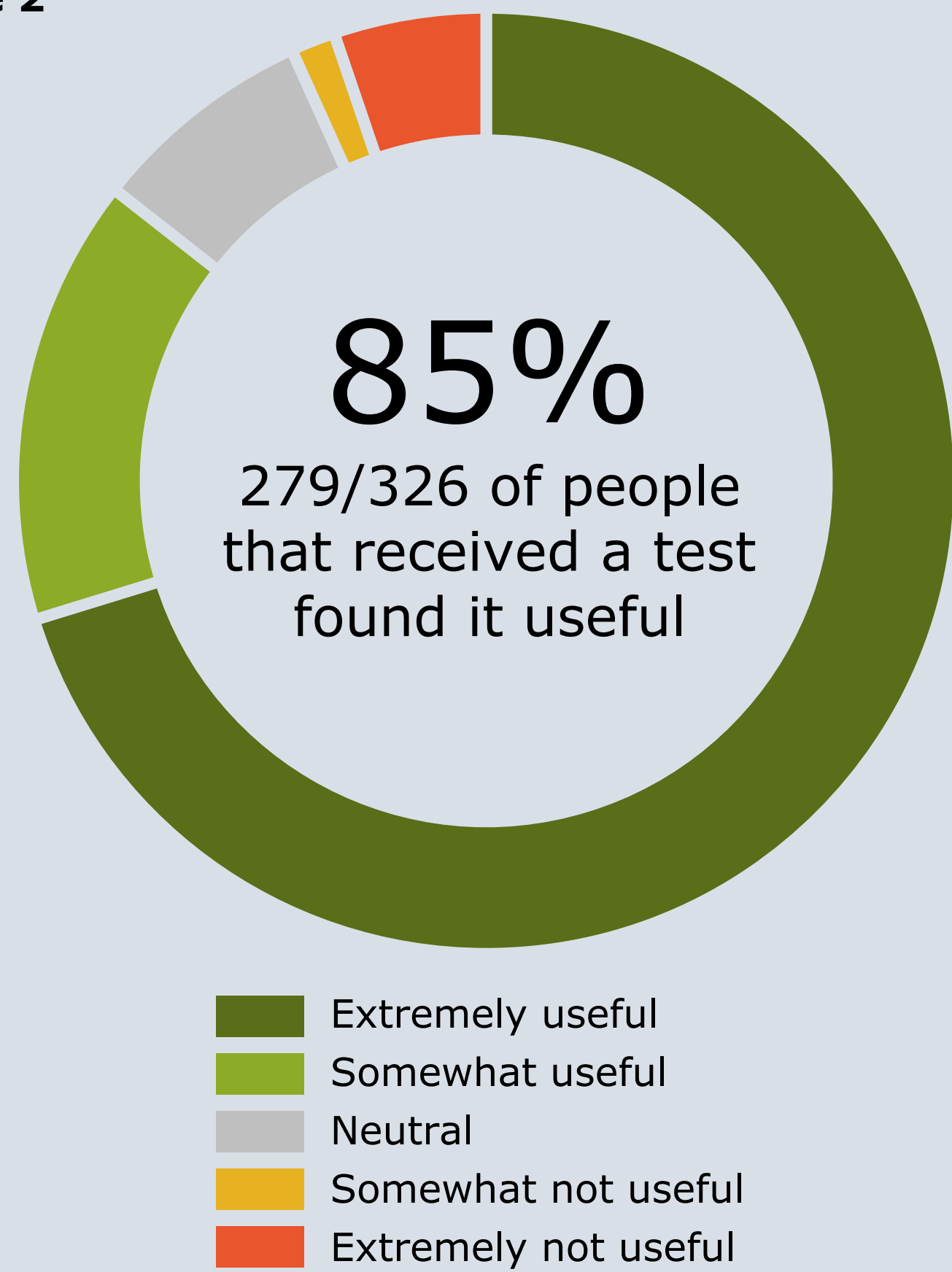


Patient B

B. High patient satisfaction ratings

There was positive feedback on the test results facilitating access to medication. However, some negative replies were received, that included the test results not matching the patient's expectation and difficulty with the testing process (Figure 2).

Figure 2



Helped both the Dr and myself give the correct care to my son."

Patient C



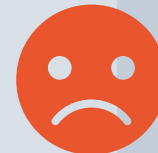
"I know I have a chest infection as well as laryngitis as I can feel it and I am coughing up phlegm which is green."

Patient D



"Appointment was for my 8 year old son, not me. Finger prick was attempted but not ideal for young children as he was very scared and upset about it."

Patient E



C. Usefulness of the test

Many patients highlighted how the diagnostic test provided reassurance and was crucial in guiding treatment and avoiding unnecessary antibiotic use, as well as determining the need for antibiotics.



Without the 'finger prick' test I wouldn't have been given any antibiotics."

Patient F



"The finger prick test meant I was sorted and out with my prescription and KNEW I was going to improve! Thank you."

Patient G



"Blood test revealed I needed antibiotics."

Patient H



D. Easy process

Most patients valued the speed and ease of testing, describing the test as quick and painless. When clinicians explained the test clearly, patients appreciated it and understood its relevance, although clarity could sometimes be improved. The needle used to extract blood could be enhanced, which was fed back to the manufacturer.



The finger prick made me jump but didn't hurt."

Patient I



"Prompt and efficient service, including the blood test there & then to determine type of infection."

Patient J



"The employee was very informative and didn't push for me to agree to the test."

Patient K



"Not able to get blood out of thumb."

Patient L



5 CONCLUSION

A rapid, portable, finger-prick diagnostic test (CRP + MxA) in primary care was well-received by patients, provided reassurance and guided appropriate antibiotic use. By empowering frontline care, it aligns with the UK Government's shift from "hospital to community" and "sickness to prevention," offering a practical tool to fight AMR.

Take home message:

Distinguishing viral from bacterial respiratory infections is challenging and misdiagnosis can lead to unjustified prescription of antibiotics - a major driver of antimicrobial resistance (AMR). Our previous evaluation showed that a rapid CRP+MxA point-of-care test changed prescribing decisions in 45% of cases and reduced antibiotic use¹, and our latest study showed that incorporating the test within primary care appointments is well accepted by patients.

REFERENCES

1. Chandra Deb L, McGrath BM, Schlosser L, Hewitt A, Schweitzer C, Rotar J, Leedahl ND, Crosby R, Carson P. Antibiotic Prescribing Practices for Upper Respiratory Tract Infections Among Primary Care Providers: A Descriptive Study. Open Forum Infect Dis. 2022 Jun 17;9(7):ofac302.
2. Fazlee M et al. Evaluating a rapid point of care test. UKHSA Conference. March 2025. ePoster Num: P-120.