Community Acute Respiratory Infection: a Test and Treat Pathway

Background

Lord Darzi says: …diagnostic stewardship will be the key to alleviating the burden of AMR…

Both primary and secondary care struggle with winter pressures. Historically incentives have not been aligned to secure the best outcomes for patients and taxpayers. Integrated care systems provide an opportunity to align incentives and implement new 'test and treat' pathways with the potential to significantly reduce pressures on hospitals, optimise resource use across the healthcare system, improve outcomes for patients and improve antimicrobial stewardship.

This project builds on work happening in the north west since 2021.

Method

This was a collaborative project between HINWC, Moreton and Meols Primary Care Network (PCN), Wirral Teaching Hospital NHS Foundation Trust, Liverpool University Hospitals NHS Foundation Trust and Marine Lake Medical Practice.

All partners co-designed the new pathway to test for acute respiratory infections at the point of initial care when patients first presented at their local practice.

A "mixed methods" evaluation was undertaken:

- A qualitative analysis was conducted in alignment with the Consolidation Framework for Implementation Research (CFIR) to understand the complex factors influencing the implementation and sustainability of pathway change projects,
- clinical acceptability of acute respiratory testing in a primary care setting was established using the theoretical framework of acceptability,
- patient experience of the new pathway was measured through a questionnaire.

Quantitative data was collected on total test numbers, positive and negative test results, and antiviral and antibiotic prescribing. Patients were followed up at 7 and 28 days to track patient impact through A&E admissions, hospitalisations and deaths.

Results

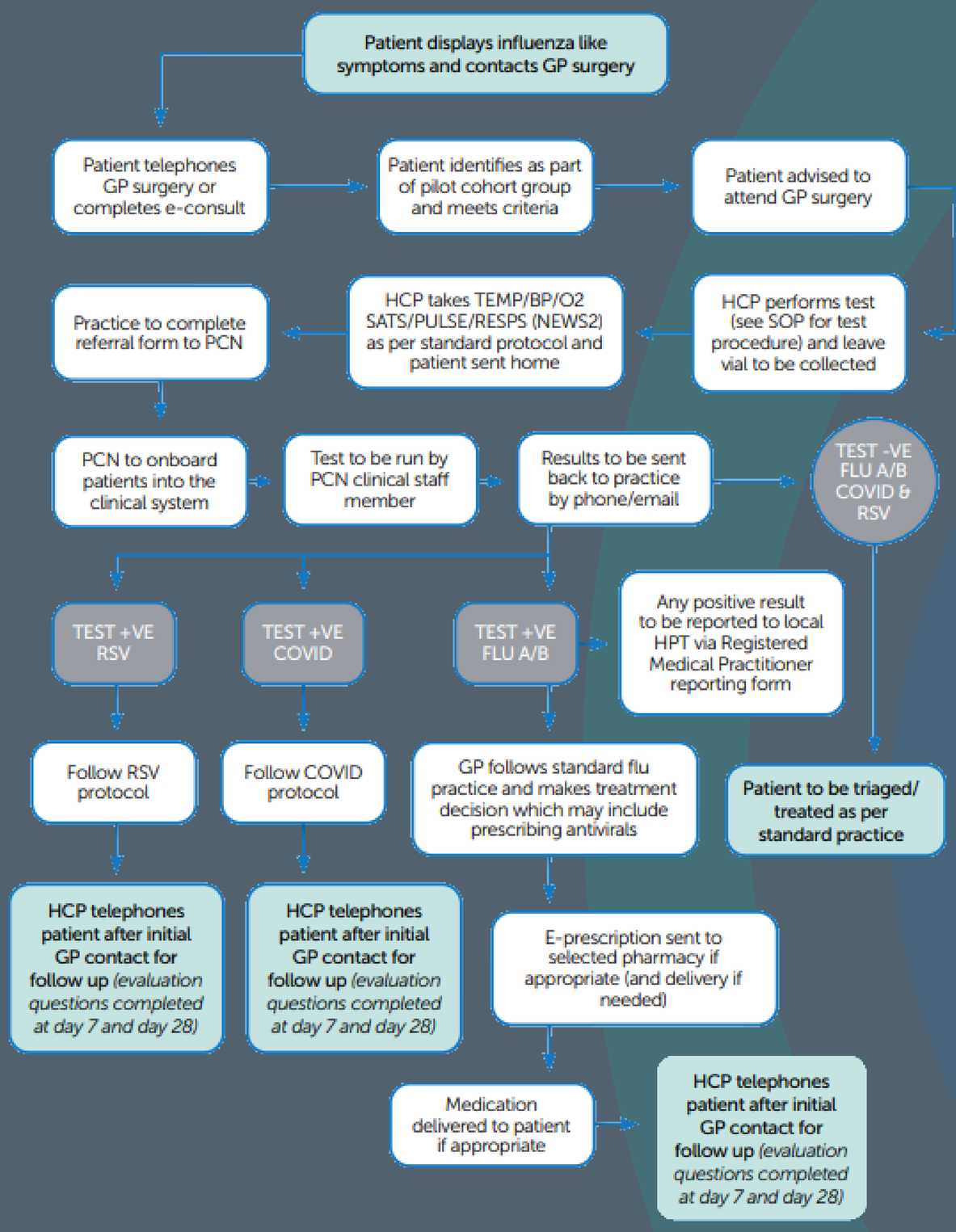
Qualitative results

Clinician acceptability

All clinicians who responded to the acceptability evaluation agreed that community test and treat for acute respiratory infections was acceptable. Clinical staff acknowledge its potential to improve antimicrobial stewardship if test results are timely enough to influence prescribing decisions without significant delays.

Most of these same clinicians agreed that testing was fair to all patients and could:

- improve patient outcomes
- improve clinical work behaviours and
- improve antimicrobial stewardship.



However, not all clinicians were confident about delivering community testing and concerns remained about workflow, workload, conflicting priorities, and time to receive test results.

Implementation barriers and facilitators

Qualitative evaluation included interviews with frontline and operational staff. These interviews surfaced considerations across nine themes; funding, centralised co-ordination, pandemic preparedness, antimicrobial resistance, training and education, governance and IT integration, testing location and setup, staffing and workflow, pathway design and test selection.

Patient experience

All patient responders agreed that community test and treat for acute respiratory infections was a positive way to deliver care and would recommend the pathway. Patients felt that rapid point of care testing led to the correct treatment for their symptoms, and it made them feel reassured about their care.

Quantitative results

Moreton and Meols PCN tested 26 patients for influenza A/B, RSV and coronavirus . There were five positive tests in these patients: two for influenza A, none for RSV and three for coronavirus. Testing rates were lower than anticipated due to a short flu season, with infection rates in the region remaining low overall in line with national data.

One patient with coronavirus was prescribed an antiviral, and 14 others were prescribed antibiotics. In the absence of testing for bacterial infections, antibiotics were prescribed when the GP suspected bacterial infection to be present, with or without the confirmed presence of an additional viral infection.

Conclusions

The findings from this evaluation point to a need for point-of-care testing in the community to improve patient outcomes and relieve pressure on acute services. The community testing-pathway was found to be acceptable to health care professionals and patients, with the primary concerns being workflow challenges and testing delays impacting treatment or clinical decision making.

The most appropriate test for community use will likely depend on multiple factors. A faster lateral flow test that is cheaper and easier to use and that rules in viral or bacterial infection could embed more easily into existing workflow without the need for additional appointments or a treatment delay, which is particularly pertinent for antiviral prescribing.

However, this faster approach means pathogens would be tested with less sensitivity. For patients identified as having a virus with an initial test, they could then be sent onwards to an acute testing hub for a more accurate diagnosis and an appropriate prescription of an antiviral or other medication.

If patients are appropriately tested and treated in primary care, we can reason that it will prevent deterioration and have a positive impact on both patient outcomes and winter pressures.

Antimicrobial stewardship (AMS) is a growing priority that can't be ignored. The recently published antimicrobial resistance (AMR) action plan for 2024-2029 outlines the key requirements to combat and deliver AMS. Improved diagnostic certainty through testing is one of the ways antibiotics use can be optimised, and testing in a primary care setting has more potential impact than in secondary care.

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