Health Innovation South West

Evaluation of the GP Urgent Assessment Service (GPUAS) in the South Somerset West Primary Care Network

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Executive Summary

Context

In 2019, NHS England published a long-term strategy emphasising better coordination of urgent care and relocating aspects of urgent care into community settings to reduce emergency department demand. Subsequent publications, including "Urgent Treatment Centres – Principles and Standards" (2017) and the "Delivery Plan for Urgent and Emergency Care Services" (2023), outlined standards for Urgent Treatment Centres (UTCs), highlighting the role of primary care in providing enhanced or rapid assessment services. Further policies outline the strategies around antimicrobial resistance and the need to better understand what works to "optimise the use of antimicrobials and diagnostics across sectors. This might include consideration of shorter courses, targeted dosage, automatic stopping, rapid point of care tests" (Government five year action plan for Antimicrobial Resistance (AMR)).

Primary care's role in urgent care includes managing patients who do not need a 999 response but require rapid clinical assessment. Effective delivery of these services requires a multidisciplinary clinical workforce, clinical leadership by GPs, access to nearby patient testing, and up-to-date electronic patient care records. This setup is crucial for managing complex patient presentations involving chronic diseases, frailty, and polypharmacy, which often necessitate urgent investigations, observation, and therapeutic procedures typically unavailable in standard primary care settings.

Evidence suggests that Urgent Treatment Centres within primary care enhance healthcare delivery, improve patient outcomes, optimise resource utilisation, and reduce demand on emergency departments and secondary care (Baker et al, 2020). Patients value continuity of care from their registered GP practices, which improves clinical outcomes and reduces mortality. Research indicates that many individuals seeking urgent care present with primary care issues, highlighting the need for primary care-based urgent assessment centres (Coster et al, 2017; Aldus et al, 2022).

The multidisciplinary nature of urgent assessment centres, including GPs, healthcare assistants, paramedics, and nurses, enhances care delivery and promotes collaborative practice. Redirecting non-emergency patients from Emergency Departments to urgent care centres improves patient flow, access to care, and resource utilisation.

Enhanced Diagnostics: Point of Care (POC) Testing

POC testing is critical for rapid assessment, diagnosis, and treatment in primary care-based urgent care. POC tests provide quick information to support clinical decision-making, addressing diagnostic uncertainty more swiftly than traditional lab-based tests, which can take several days. Despite slow uptake in primary care due to system-level issues, studies show GPs find POC tests beneficial for decision-making, reducing referral rates, and assisting in diagnosis (Varzgalien, et al, 2018; Schols et al, 2018).

Concerns about test accuracy, over-reliance, and skill gaps in interpreting results need addressing through structured operating procedures.

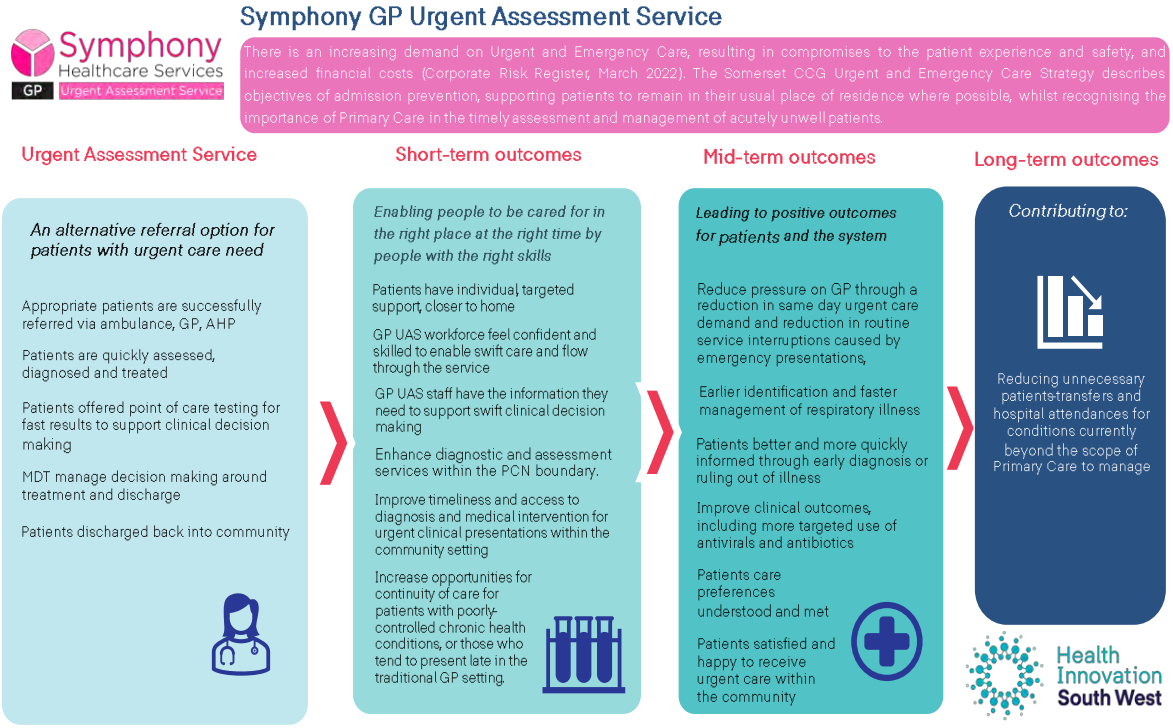
During the COVID-19 pandemic, POC testing in primary care improved patient satisfaction, reduced further testing, and enhanced care for high-risk groups. Studies show POC testing can reduce secondary care referrals, lower costs, and improve antimicrobial stewardship (Vicentini et al., 2022; Schneider et al., 2020).

Respiratory diseases are a major cause of consultations and antibiotic prescriptions in primary care. A significant portion of these diseases is viral, for which antibiotics are ineffective. The UK Health Security Agency reported an increase in invasive group A streptococcus diseases in 2022, exacerbating NHS pressures. Enhanced diagnostics like POC testing can help manage respiratory diseases more effectively within primary care, reducing unnecessary antibiotic prescriptions and Emergency Department visits.

Response in Somerset: GPUAS

Symphony Healthcare Services (SHS) piloted the General Practice Urgent Assessment Service (GPUAS) within the South Somerset West Primary Care Network (PCN), providing rapid assessment, enhanced diagnostics, therapeutic capabilities, and short-term observation. The service aims to:

- Provide urgent care closer to home.
- Improve diagnosis and medical intervention timeliness for urgent clinical presentations.
- Enhance diagnostic and assessment services within the PCN.
- Reduce unnecessary hospital transfers and attendances.
- Alleviate pressure on GP surgeries by reducing same-day urgent care demand.
- Increase continuity of care for patients with poorly controlled chronic conditions.



Evaluation of the GPUAS

Health Innovation South West worked in collaboration with the GPUAS and the wider health system in South Somerset West to learn how the GPUAS can best support patients with urgent needs within the community and understand the impact that the GPUAS has on patients and the system, to support further development of the model. The evaluation also sought to understand the acceptability and impact of introducing POC testing within this community-based model.

Results

System



Providing urgent care closer to home

Geographically, the GPUAS covered the area of four GP practices with a total list size of 37,114. Approximately 3.6% of practice patients were seen within the GPUAS (range 3.1-5.6% across practices).

Around 83% of patients visiting the GPUAS travelled less than 15 minutes and 93% live less than 15 km from the service. Patients lived, on average about 5.6km closer to the service than to their closest A and E and could avoid the traffic around the acute setting.



Improving timeliness and access to diagnostic care for urgent patients in the community

In 19 weeks, the GPUAS supported 1,351 patients over 1,482 appointments. There was however potential to support significantly

more patients, had the referrals been there, leading to a much higher staff to patient ratio.

Patients that were referred were seen very quickly following referral, with 98% of patients attending an appointment within two hours of being referred.

In total 167 referrals were made for 158 (12%) patients to receive the same-day x-ray, 232 (17%) patients were tested with at least one of the Point of Care tests and 140 ECGs were carried out within the patient appointment.

Examination of clinician experience of the respiratory point of care tests (for Strep A, COVID and Influenza) found that clinical decisions about treatment options were changed in 46% of cases where a test was used. This demonstrates the potential impact of having rapid diagnostics within primary care.

Staff gave accounts of numerous cases of cancer, heart failure, blood clots and respiratory infections being identified, and treatment or referral started within the service.



GPUAS relieves pressure on GP practices and acutes

Examination of GP records of admissions and Emergency Department (ED) attendances showed a trend of increased activity over time. However, when accounting for practice list size, the data show a moderate difference in the percentage increase in admissions when you compare the practices in the PCN who referred into GPUAS versus those who did not. There is also a small difference in the percentage increase in ED attendances from practices who referred to GPUAS versus those who did not. In both instances, the increase from 2023 to 2024 was smaller for those who referred to the GPUAS.

Clinicians estimated 244 hospital admissions were avoided through the pilot.

Considering the staff, stakeholder and patient views alongside the admissions data, it is reasonable to suggest that the GPUAS had an impact on acute admissions and attendances at ED, reducing pressure on secondary care by providing thorough observation, diagnostics and appropriate treatment to prevent the need for some referrals for investigation but also preventing escalation of issues or conditions to the point of hospitalisation.

> *"The GPUAS service was key in identifying pathology before it developed into more severe disease requiring hospitalisation."*
>
> System stakeholder

All stakeholders surveyed agreed that the GPUAS reduced pressure on the GP practices that it served. Staff and stakeholders discuss that numerous patients would likely have

caused multiple appointments to get to a point of diagnosis as they would have needed blood tests, scans and potentially observation.

> *"Offloading the more unwell patients to the service that take more time and input so we could focus on seeing and dealing with more patients in a timely way in practice"*
>
> Referring GP practice

A third (32%) of patients surveyed felt that they would have called their GP for another appointment had they not visited the GPUAS.

Looking specifically at those receiving the Abbott ID NOW point of care testing, data suggests that antibiotics were more appropriately prescribed: 21 prescriptions were avoided following negative tests and 19 were written for people receiving a positive Strep A result during a local outbreak of scarlet fever to support effective containment. Clinicians felt that of the 97 patients tested with ID NOW, 23 patients would have required a hospital admission if they had not attended the service.

Workforce



The GPUAS provided opportunities for staff to upskill, safely, within a dynamic MDT

Clinicians appreciated the ability to provide thorough observation, diagnostics, and appropriate treatment, which prevented the escalation of conditions to the point of hospitalisation. They reported that having a multi-disciplinary team involved in patient care meant that there were colleagues available to sense-check diagnoses and discuss complex cases, generating a feeling of mutual support.

> *"It's been lovely working with the team and kind of growing together and growing not only in skills, but getting close together, knowing each other. Having that mutual support has been wonderful."*
>
> GPUAS Clinician

Respondents felt that working closely in this way had the additional benefit of up-skilling the team, as professional boundaries were expanded for certain roles. Key to this was the presence and capacity of more experienced colleagues to mentor the skills development of these clinicians.

Patients



Patients were very satisfied with the service, the staff and the diagnostic capability

High levels of satisfaction were reported among patients and carers, with GPUAS meeting patient preferences for care: they were happy with

how quickly they were seen, any diagnostic activity, the speed of diagnosis, involvement in their care, and the treatment or medication received. Aspects of the GPUAS that were highlighted by patients as particularly appreciated included the professionalism and warmth of staff, the provision of clear information about assessments, the efficiency and calm atmosphere of the clinic, and the thoroughness of the health checks offered.

The GPUAS's role in preventing medical crises was highlighted by some patients who had been immediately referred on for hospital treatment as a result of being seen at the clinic. Some also mentioned the efficacy of the joined-up working between the GPUAS and GPs/hospitals, and associated referrals and follow-up tests. It is notable that this latter point was also highlighted by others as something that was not working well, indicating that communications possibly worked better in some parts of the system than others. Finally, some users also appreciated not having to go to ED, which they felt would have been the alternative if the GPUAS was not available, and others felt the service offered them an alternative to waiting a lengthy period for a GP appointment.

> *"The whole experience was excellent. Very caring staff and it's amazing to be able to get tests and treatment on the spot."*
>
> (GPUAS patient)

Feasibility of the model



Further work is needed to ensure the financial sustainability of the service

It is clear from the evidence that the service had a significant and positive impact on the patients that it supported. The model of having Point of Care testing, monitoring and a multi-disciplinary team approach to provide holistic support to the patients allowed for rapid diagnosis to support effective decision making and treatment plans; and focusing on high-acuity patients relieved pressures on the referring practices and acutes.

The staffing model used within the service, however, required more patients to be supported for the service to be seen as financially viable. Some stakeholders identified potential issues with the referral process and staff within the GPUAS felt that the service wasn't being used to its full potential.

With more patients supported to achieve these outcomes, the GPUAS could be considered a feasible model for supporting urgent care in the community. Ensuring effective triage and referral processes are therefore vital for the sustainability of the service.

Conclusion

The GPUAS has demonstrated significant benefits in providing urgent care within the community, reducing pressure on ED and GP practices. The service's ability to offer rapid assessment and diagnostics within a local setting has improved patient outcomes

and satisfaction, supporting the need for similar models in other regions. Continued investment and support for GPUAS and similar services could enhance the healthcare system's capacity to manage urgent care needs locally yet effectively.

There are recommendations to consider triage and referral processes into the service to ensure the patient numbers are high enough to warrant the staffing model that has supported the positive outcomes seen. There is potential to further improve the model through onsite access to imaging, extension of opening hours to include weekends and possibly later evening slots, and by considering access points currently limited by practice capacity to triage effectively.

Evaluation of the GP Urgent Assessment Service (GPUAS) in the South Somerset West Primary Care Network

1. Context

In 2019, NHS England published its long-term strategy (NHS England, 2019). One key focus was the need to better coordinate urgent care. In particular was the requirement to relocate aspects of urgent care into a community setting to reduce demand on emergency departments. Further publications, including "Urgent Treatment Centres – Principles and Standards" (NHS England, 2017) and "Delivery Plan for Urgent and Emergency Care Services" (NHS England, 2023), lay out a core set of standards for Urgent Treatment Centres (UTCs), including the role of Primary Care.

Whilst the reasons for Emergency Department (ED) attendance are complex and multifactorial there is a clear role for primary care to provide 'enhanced or rapid assessment services' or urgent care hubs for those patients who do not warrant a 999 response but do require access to rapid clinical assessment. The delivery of these services requires an appropriately trained multidisciplinary clinical workforce, under the clinical leadership of a GP, with access to nearby patient testing and ability to work from an up-to-date electronic patient care record. Such a service is well placed to manage the increasingly complex patient presentations, often involving multiple chronic diseases, associated frailty syndrome and polypharmacy. Furthermore, these patients often require access to urgent investigations, periods of observation and therapeutic procedures which are not available within a standard primary care setting and so often seek this through busy hospital departments and secondary care.

Although the research evidence base is limited and the heterogeneity of urgent and/or rapid assessment services makes comparisons difficult (Turner et al, 2015), providing such centres within primary care has been reported to enhance healthcare delivery, improve patient outcomes, and optimise resource utilisation, and critically, reduce demand on ED and secondary care. Patients value the relationship and continuity of care provided by their registered GP practice which has been shown to improve clinical outcomes and reduce overall mortality (Baker et al, 2020). There is also the acknowledgement that much of what is considered urgent care should be delivered in a setting outside of hospital (NHS England, 2020). Furthermore, research (Coster et al, 2017; Aldus et al, 2022) suggests a significant portion of individuals (up to 60% in some studies) who seek urgent care services actually present with primary care issues.

The multidisciplinary nature of many urgent assessment centres, which include GPs, healthcare assistants, paramedics, nurses, and other healthcare professionals, may also enhance care delivery and promote collaborative practice. This leads to better patient outcomes and satisfaction without compromising the continuity of primary care services (Villaseñor & Krouse, 2016). For example, a multi-disciplinary and experienced team, including paramedics, within primary care and urgent care settings in the UK has

been identified as a strategy to reduce ED overcrowding and improve primary care integration (Strum et al., 2023). By redirecting non-emergency patients from EDs to urgent care centres, the Multi Disciplinary Team (MDT) plays a vital role in optimising patient flow, enhancing access to care, and ensuring appropriate utilisation of healthcare resources.

1.1 Enhanced Diagnostics: Point of Care Testing

A core component, however, of providing good quality, efficacious urgent care within a primary care setting is the need to rapidly assess, diagnose and subsequently treat. Therefore the availability and utilisation of near patient, point of care (POC) testing is critical. A POC test can quickly provide additional information to support clinical decision making in cases of diagnostic uncertainty. With a traditional lab-based diagnostic test, a blood (or other) sample would be taken from the patient and transported to the pathology laboratories for appropriate testing to be conducted. Turn-around time for results from the laboratories can be as long as several days, depending on their location, capacity and the type of testing required.

The timely and clinically guided use of POC testing, may therefore underscore the effectiveness of primary care-based urgent care models in managing patient demand, enhancing care coordination, and facilitating rapid assessment and treatment. The uptake of POC testing, however, has been slow in primary care, arguably hampered by system level issues rather than physician reluctance. Studies reveal that GPs perceive point-of-care tests as beneficial and would welcome their use in routine clinical practice, citing guidance in decision making as the primary benefit, followed by reduced referral rates and assistance in diagnosis (Varzgalien, et al, 2018; Schols et al, 2018). Clinicians are, however, naturally concerned about test accuracy, over-reliance on tests, the use of diagnostics without a proper indication, and a lack of skills to safely use and interpret these diagnostics (Turner et al, 2016).

Utilising POC testing in primary care settings is seen as a way to provide more efficient and timely care to patients (Turner et al., 2016). During the COVID-19 pandemic, studies in primary care practices in Germany and the United Kingdom using molecular testing reported patient satisfaction in terms of prompt testing and trusted results, reduced further testing and improved workflow and better patient care for high-risk groups (Wolfe et al, 2022; Matthes et al, 2022; Daniels et al, 2023). Studies have also shown that POC testing can impact clinical decision-making during the physician-patient encounter, which is crucial in primary care settings (Matthes et al., 2023). Utilisation of near patient, POC testing and enhanced imaging capability may allow the safe management of conditions routinely requiring secondary care input. For example, a real-world study of an urgent care pathway within primary care saw 7,580 patients attend (Oxford AHSN, 2020). Over a six-month period, POC testing improved the confidence of clinical staff when making a diagnosis, reduced the number of secondary care referrals by 19% and contributed to lower costs across primary and secondary care.

POC testing can cover a wide array of clinical presentations and may utilise different diagnostic tools. Commonly, POC testing supports the diagnosis of acute respiratory infections, including influenza, COVID-19, RSV (respiratory syncytial virus), Strep A and subsequently helps inform clinical decision-making and antibiotic prescribing (Lusignan et al., 2020; Phillips et al., 2020; Daniels et al 2024). Studies have shown that integrating POC testing into general practices can lead to benefits such as improved antimicrobial stewardship and cost savings (Vicentini et al., 2022; Schneider et al., 2020). However, a study by Daniels et al (2024) of sore throat/Strep A found that whilst both patients and staff looked favourably on POC testing within a primary care setting, it was associated with increased cost and a seven minute longer appointment length. However, they also found that the immediate availability of the result was important to improving the quality of care, and POC testing also resulted in a 55–65% reduction in immediate and deferred antibiotic prescriptions, with improved clinical decision-making. Similarly, the feasibility of using POC testing for influenza within the national primary care sentinel surveillance network in England was explored, to understand the barriers and issues related to its implementation (Lusignan et al., 2020). The authors conclude that whilst testing for influenza in primary care is feasible and may improve antimicrobial use, further evidence is needed in general practice, particularly around cost effectiveness.

NHS policy is starting to highlight a coordinated approach to improving healthcare access, diagnostics, and antimicrobial (AMR) stewardship. The NHSE Long Term Plan emphasizes system-wide enhancements in AMR management, supported by the 2024/25 Operational Planning Guidance's focus on rapid diagnostics. The governments' five-Year AMR Plan aims to optimise antimicrobial use through targeted treatments and point-of-care tests. The Fuller Stocktake and UEC Recovery Plan prioritise streamlined, community-based care access, particularly for infrequent healthcare users and children with respiratory infections. Additionally, there is a push to expand Pharmacy First services to improve primary care access.

Whilst primary care clinical teams are largely on board with the concept of POC testing, system-level initiatives to support the effective implementation of POC testing in primary care, such as procuring POC tests at a national level or ICB level and supplying them to primary care practices and networks, may help to address any cost effectiveness issues and to ensure best practice (Hoste et al, 2023). There is also a need to ensure that the use of POC testing aligns with clinical need. The relatively low proportion of patients tested, relative to the numbers who present at walk-in urgent assessment centres, (Oxford AHSN, 2020) indicate usage is prudent and considered rather than excessive. Clinician concerns, however, regarding over-reliance on tests, the use of diagnostics without a proper indication, and a lack of skills to safely use and interpret these diagnostics, needs careful consideration. Supported, structured and clear standard operating procedures informing their implementation and use are critical to mitigate and manage these concerns.

1.2 A focus on respiratory diseases

Respiratory diseases are one of the main conditions that cause individuals to consult doctors. An average-sized UK general practice office with 7,000 registered individuals has an estimated 5,481 consultations and 3,562 antibiotic prescriptions for sore throat over a decade (Gulliford et al 2016). Around 60%–78% of sore throat consultations result in an antibiotic prescription (Gulliford et al, 2014). A study showed that one-fifth of respiratory tract infected patients were provided antibiotics by their GP upon request without any confirmatory testing (McNulty et al, 2013). Yet 59% of all tonsillopharyngitis is viral in nature (meaning antibiotics would not be helpful), while 12% is bacterial and another 16% is a mixture of bacterial and viral infections, and levels are dependent on season, region and age (Kronman et al, 2014; Little et al, 2012; Ivaska, 2017).

On 2 December 2022, the UK Health Security Agency (UKHSA) published its report on the seasonal activity of streptococcal A infections. This report shows an increase in the number of invasive group A streptococcus (iGAS) diseases reported in England: 509 iGAS were reported between weeks 37 and 46 of 2022 compared to an average of 248 cases reported over the same period over the last five years.

This growing demand for care for respiratory infectious diseases is part of a context of overload on the NHS. During the previous respiratory season (2022 – 2023), the pressure on the health service was deemed intolerable. Respiratory infections were a major cause of this pressure.

1.3 The response in Somerset

Symphony Healthcare Services (SHS) was recently commissioned by the ICB to pilot a General Practice Urgent Assessment Service (GPUAS) within the South Somerset West PCN, aiming to provide rapid assessment, supported by enhanced diagnostic and therapeutic capabilities, along with opportunities for a short period of observation.

1.3.1 General Practice Urgent Assessment Service (GPUAS)

The GPUAS aims to support patients within South Somerset West PCN to reduce the requirement for transfer to emergency departments and hospital-based urgent care services, by creating an acute hub within the geographic boundary of the PCN to support GP practices and the wider urgent care system, providing a high-quality care pathway for patients. This service is for those patients who do not warrant a 999 response, but do require access to rapid clinical assessment.

The GPUAS aims to provide rapid assessment, supported by enhanced diagnostic and therapeutic capabilities, along with opportunities for a short period of observation for a range of conditions that can be safely managed within the community through enhanced input of care. The service aims to:

- Improve timeliness and access to diagnosis and medical intervention for urgent clinical presentations within the community setting.
- Provide urgent care closer to home.

- Reduce unnecessary patient-transfers and hospital attendances for conditions currently beyond the scope of primary care to manage. This may, in some cases, also result in admission avoidance and associated reductions in hospital bed-occupancy.
- Reduce pressure on GP surgeries through a reduction in same day urgent care (SDUC) demand, and reduction in routine service interruptions caused by emergency presentations.
- Enhance diagnostic and assessment services within the PCN boundary.
- Increase opportunities for continuity of care for patients with poorly controlled chronic health conditions, or those who tend to present late in the traditional GP setting.

Point of Care testing is employed within the GPUAS to support the diagnostic capability of the service.

The primary aim of this study is therefore to undertake a real-world evaluation of the pilot of the GPUAS within the South Somerset West PCN. Specifically, the objectives are to evaluate whether the GPUAS has an impact on patient experience and system resources.

A second aim is to evaluate the impact and role of POC testing within this service. Specifically, the objectives are to establish whether POC testing supports clinical decision making within primary care.

2. Methodology

2.1 The Evaluation

Health Innovation South West worked in collaboration with the GPUAS and the wider health system in South Somerset West to learn how the GPUAS can best support patients with urgent needs within the community and understand the impact that the GPUAS has on patients and the system, to support further development of the model.

The evaluation focusses on answering the following questions:

1. Who is being referred and supported by the GPUAS and how is the service being delivered day to day?
2. How can the GPUAS fit into the infrastructure of care in the community, and alongside acute services?
3. What has been the impact of having rapid diagnostics and Point of Care testing in the GPUAS?
4. What has been the impact of having the Abbott ID NOW point of care test for common respiratory pathogens?
5. What has been the overall impact of implementing the GPUAS on patients and the system?
6. What were the conditions for success to inform future service planning?

2.2 Method

To address the evaluation questions, a mixed-methods evaluation design was implemented between January and July 2024. Data were gathered from the following sources:

- Site visit and walk through
- Structured focus group with staff (n=6)
- Staff survey (n=10)
- Stakeholder (from referring practices and direct system partners) survey (n=8)
- GPUAS patient survey (n=105)
- Interviews (n=5: two GPUAS GPs, one patient, one parent of a patient and one local stakeholder)
- Clinician point-of-care-testing form (n=125)
- Patient experience of point-of-care-testing form (n=71)
- Service level data for GPUAS (from EMIS System data)
- Practice data on admissions and ED attendances from all practices within the PCN.

2.2.1 Qualitative analysis

Interviews and the focus group were transcribed using an automated transcription service, and edited by the researchers. Thematic analysis was employed across the

open text responses to surveys and the focus group. Emergent themes are discussed within the text.

2.2.2 Quantitative analysis

Descriptive statistics from the survey data and routinely collected system data are presented in the text.

3. Results

3.1 Who is being referred and supported by the GPUAS and how is the service being delivered day to day?

3.1.1 Who is being referred/supported?

In the 19 weeks between 22nd Jan and 31st May 2024, 1,481 referrals were made to the GPUAS, for 1,351 patients. Table 1 shows the age and gender breakdown of patients.

Table 1. Patient Characteristics. (Source: EMIS)

Gender	N (%)
Male	580 (43%)
Female	771 (57%)

Age	N (%)
0-9	266 (20%)
10-19	131 (10%)
20-29	66 (5%)
30-39	120 (9%)
40-49	118 (9%)
50-59	176 (13%)
60-69	167 (12%)
70-79	180 (13%)
80-89	112 (8%)
90-99	15 (1%)

3.1.2 What are the main reasons people are being referred to the GPUAS and what support/ treatment do they receive?

The most common presenting complaints were cough, dyspnoea (difficulty breathing), abdominal pain, chest pain and sore throat. Figure 1 below shows the frequency with which these and other codes were recorded for patients.

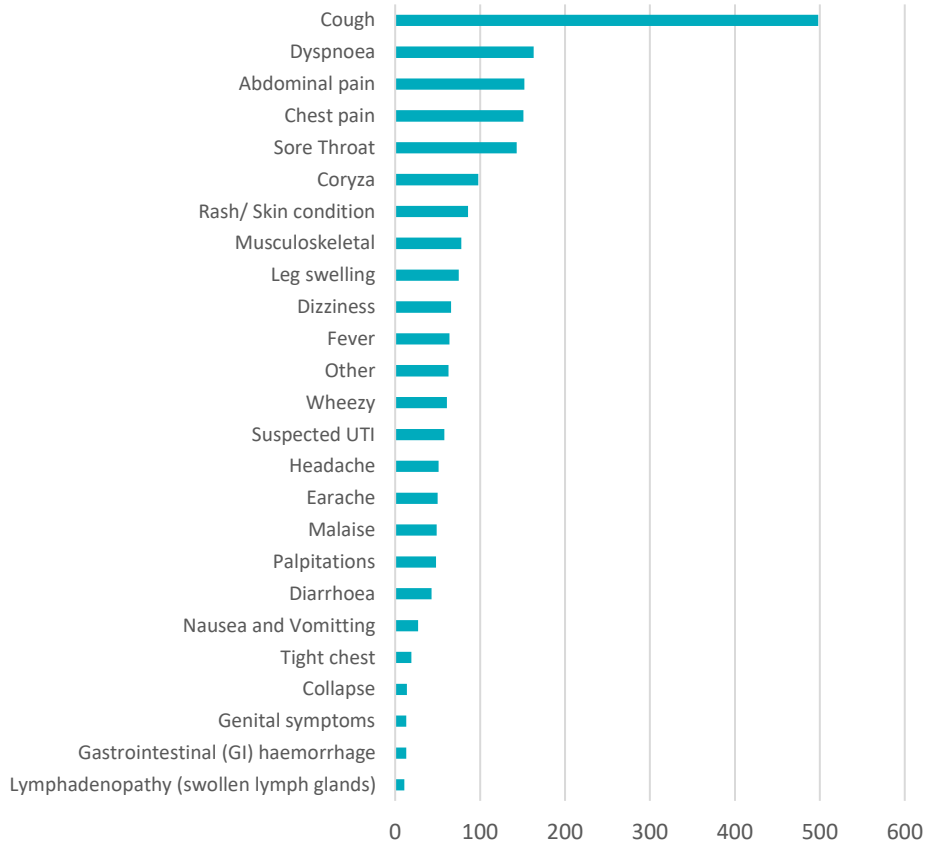


Figure 1. Most common clinical codes recorded against GPUAS consultations, January to May 2024. (Source: EMIS)

Patients were offered diagnostic testing, treatment, minor surgical procedures, periods of observation, referral for further testing, and advice and reassurance, dependent on their needs.

3.1.3 What is the spread across Somerset South West? What is the proximity to 'home' to the GPUAS?

Geographically, the GPUAS covered the area of four GP practices with a total list size of 37,114. Around 83% of patients visiting the GPUAS travelled less than 15 minutes and 93% live less than 15 km from the service.

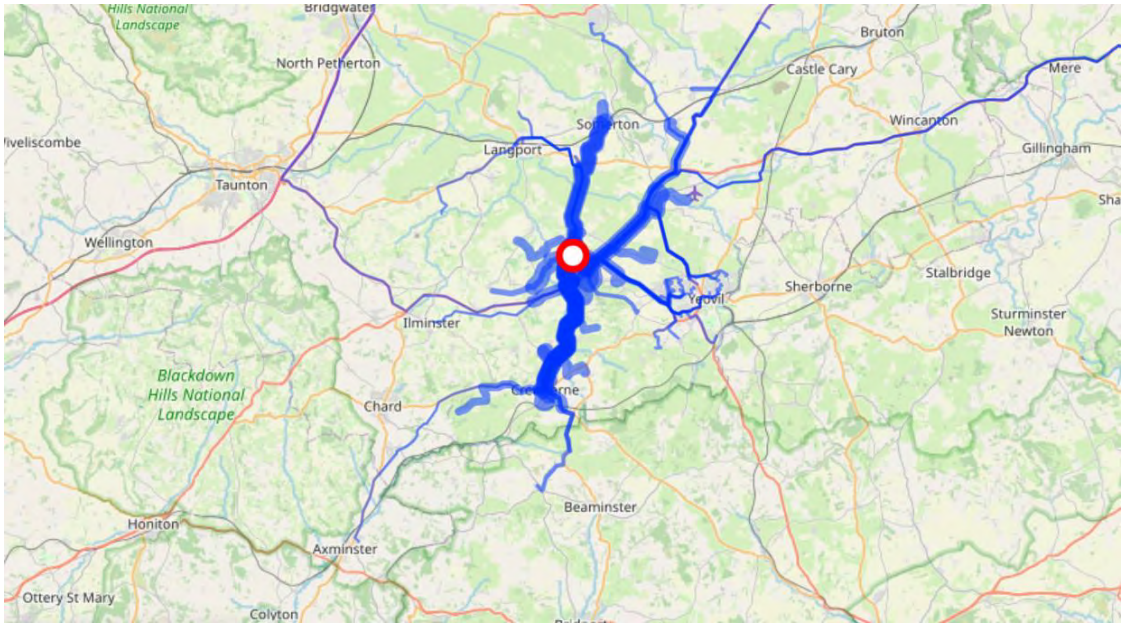


Figure 2. Geographical spread of GPUAS patients, based on LSOA. (ONS[1])

Patients lived, on average about 5.6km closer to the service than to their closest A and E. While this might not seem far, a local clinician stated that traffic getting in and out of Yeovil and Taunton would add significant delays to a journey to ED.

> *"The quiet country lanes between local villages and the GPUAS allow much more rapid transfer than attempting to get into the centre of Yeovil or travel to Taunton for the nearest ED. In working hours it would not be unusual for travel times in excess of 35 minutes from the villages around South Petherton and Yeovil District Hospital, whereas transfer to GPUAS would take 5-10 minutes."*
>
> GPUAS Clinician

Just 52% of the cohort live within 15km of their closest ED, while 93% lived within 15km of the GPUAS.

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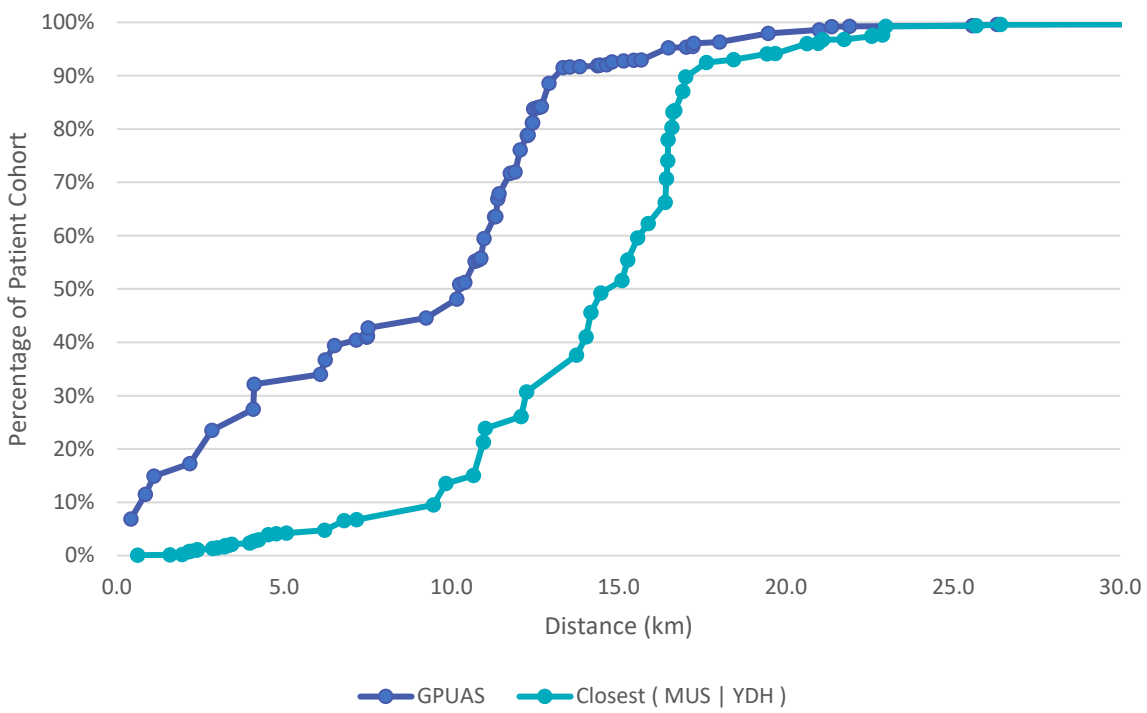


Figure 3. Cumulative Distribution Function of Travel Distance for Patients Attending GPUAS vs Previous Closest ED Department (in Taunton or Yeovil)

3.1.4 Who refers to the GPUAS and when are referrals taking place?

Of the 1,481 referrals, 99% came from one of the four Symphony GP practices taking part in the pilot and 1% came from NHS 111. Approximately 3.6% of practice patients were seen within the GPUAS (range 3.1-5.6% across practices, see Table 2).

Table 2. Number and proportion of practice patients seen at the GPUAS. (Source: EMIS)

Patient GP Practice	Patients Seen In GPUAS	Practice list size	% Seen at GPUAS
Buttercross Health Centre	292	7841	3.7%
Church Street Surgery; Martock	324	10598	3.1%
Crewkerne Health Centre	395	12582	3.1%
Hamdon Medical Centre	340	6093	5.6%

Figure 4, below shows that referrals were steadily growing before notification of the service closure in May 2024. It also shows fairly consistent proportions of patients coming from across referring practices.

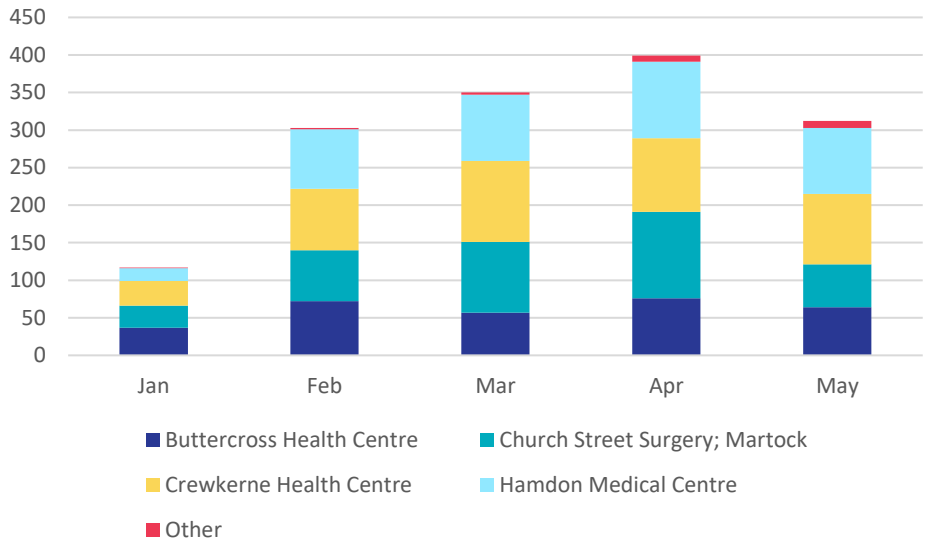


Figure 4. Referrals into GPUAS, Jan 22nd to May 31st. EMIS

As shown in the graph below (Figure 5), patients were seen very quickly following referral, with 98% of patients attending an appointment within two hours of being referred.

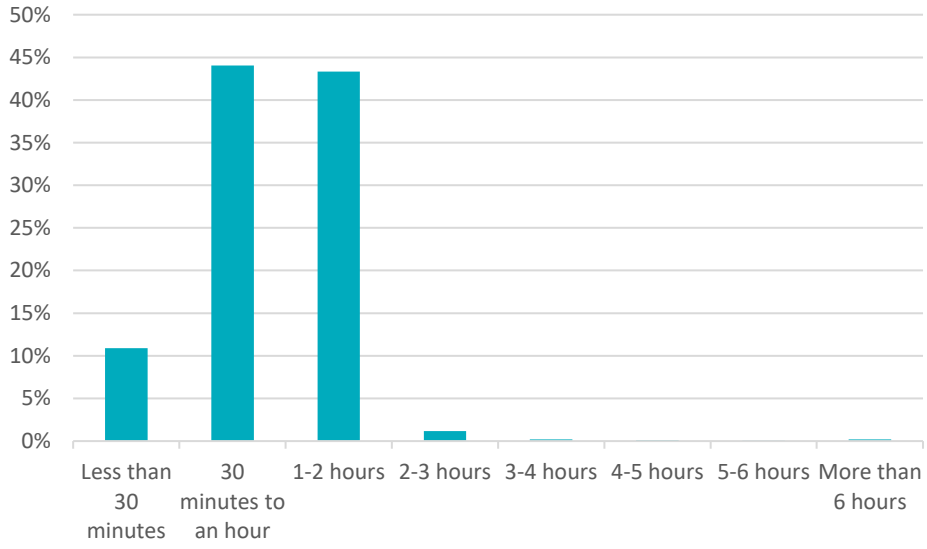


Figure 5. Time between appointment booking and actual appointment time. EMIS

3.1.5 What is the patient journey through the GPUAS?

Patients were booked in to the GPUAS through contact with their usual practice. Appointments were booked in for a time slot, usually within 2 hours (see figure 5) of booking. When patients arrived in the service they would be asked to wait in the waiting area and seen very quickly by the first member of the clinical team.

"I got an appointment an hour after phoning the surgery which was brilliant."

GPUAS Patient

The clinical team will have already formulated a plan for who would see the patient first, for example:

"We all look at what they're coming in for and then decide who's going to help. On some occasions, it might be someone with chest pains, and we might say we will do an ECG straight away, and then hand over to the practitioner, others [might go] straight to the practitioner."

GPUAS Clinician

The clinical team would rotate into the treatment room with the patient, taking the patient's history, and notes about their presenting complaint, running tests and diagnostics and formulating a treatment plan.

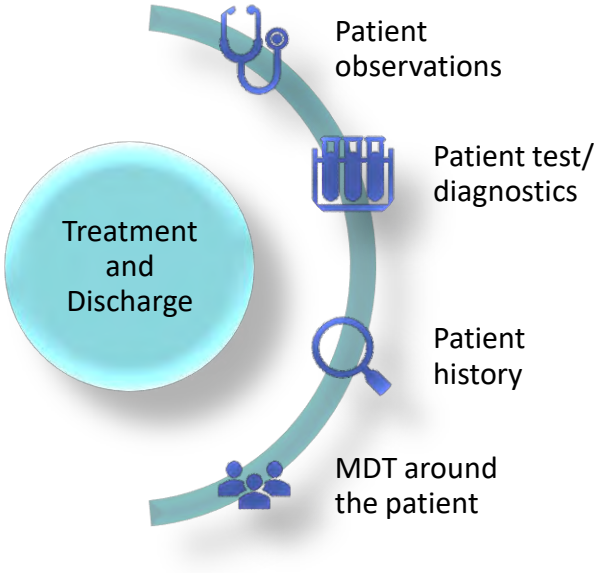


Figure 6. Factors within the patient journey through GPUAS.

Where discharge destination was recorded (1,250 cases), 92% of patients were discharged home, 5% for a hospital admission and 2% to A and E.

3.1.6 What has been the workforce's experience of delivering care? What do they feel about the care they are able to give?

Overall, staff were extremely positive about their experience of working on the GPUAS. A key benefit highlighted by staff of working in the service was the support of working within a close-knit team environment. This was felt to be in contrast to the traditionally more isolated way of working experienced by some primary care workers in the group, such as GPs. Having a multi-disciplinary team involved in patient care meant that there

were colleagues available to sense-check diagnoses and discuss complex cases, generating a feeling of mutual support.

> *"It's been lovely working with the team and kind of growing together and growing not only in skills, but getting close together, knowing each other. Having that mutual support has been wonderful."*
>
> GPUAS Clinician

Respondents felt that working closely in this way had the additional benefit of up-skilling the team, as professional boundaries were expanded for certain roles. For example, a nurse in the group felt they were more involved in taking the initial case histories of patients, which had honed their skills in this area, and enhanced their ability to conceptualise and make care plans for onward assessment. Key to this was the presence and capacity of more experienced colleagues to mentor the skills development of these clinicians. Other members of staff felt the availability of enhanced diagnostics at the service enabled them to inhabit their role more fully. Rapid access to patient test results meant that GPs were able to use a wider range of their abilities, interpreting the results to inform their clinical judgement. In traditional surgeries, the typical option would be to refer patients on to hospitals for further tests in these urgent medical scenarios. Being able to work in this more holistic way was felt to have the benefit of increasing job satisfaction, as well as refreshing clinical skills.

> *"Actually, what this has done is it's brought back my passion for medicine."*
>
> GPUAS Clinician

Central to the enhanced job satisfaction was a feeling that GPUAS staff were able to provide high-quality care to patients, which was enabled by having sufficient time with patients to conduct a thorough assessment. This was made possible by the way that the GPUAS added to the primary care infrastructure, providing a dedicated service to which those in most need of urgent care could be triaged, meaning that clinicians were not overwhelmed.

Having the capacity to conduct these thorough patient assessments via both longer appointments and on-site diagnostics enabled staff to holistically assess patients, meaning that sometimes they were able to spot issues that had previously been missed:

> *"[A] number of times we've picked up on things where [previously] a number of clinicians each treated the acute symptoms, but no one's thought about the underlying picture. No one has actually put all the pieces together, and we do that quite a lot here."*
>
> GPUAS Clinician

Examples given to evidence this view ranged from a case of cancer being noticed, where this was not the presenting medical problem, to the detection of the cause of a patient's stomach complaints being an incorrect method of taking medication.

The functionality and multi-disciplinary nature of the clinical team was felt to also play an important role in achieving these outcomes for patients. Having a range of different but complementary skills and personalities amongst staff meant that patients were looked at from a range of perspectives, further decreasing the chance of important symptoms being missed. Underpinning this approach was a team ethos of explicitly valuing staff members' different and unique contributions.

> *"Everyone's looking at them from different angles, thinking 'what about this?' 'what about that?' And because we are working together, that's where you get the holistic care."*
>
> GPUAS Clinician

Overall, it was felt that the combination of all of the above aspects of the service led to a very high standard of care for the patients. Staff felt that patients particularly appreciated feeling like they had been listened to, and having access to a range of on-site tests with instant results. The latter gave patients the reassurance of leaving with a clearer picture of their medical situation, and an ongoing management plan.

3.1.7 What is the referrer experience of the GPUAS?

There were five referrers from the four referring practices who responded to the stakeholder survey. All five reported that they understood what the GPUAS did and who they could support. They also all felt confident that the GPUAS could provide timely and accurate diagnosis for urgent patients.

> *"Very easy to refer. Shared notes. Same day appt. for patients."*
>
> Referring GP practice

> *"Always appointments available, direct line to senior clinician, great recording in EMIS records, dealt with sick patients not quite at threshold for hospital admission, staff loved working there, patients loved the service."*
>
> Referring GP practice

> *"Patients seen in timely fashion who were reviewed quickly."*
>
> Referring GP practice

Referring clinicians also noted the benefit of the additional resource to support more complex patients and allow the practice to work through the remaining workload.

> *"It helped me maintain the flow of on the day patients through our system safely and effectively to avoid a backlog of patients."*
>
> Referring GP practice

One referrer did suggest that improvements could be made to the system of booking appointments and suggested that in the future, a GPUAS may also need to have its own triage, rather than relying on the practices to triage as not all do it consistently.

> *"The booking system wasn't great, whoever was quickest took the appointments... There was no triage GPUAS end, so triage was the responsibility of the practices. Some practices triage, others don't so not all referrals were necessary or appropriate."*
>
> Referring GP practice

Further anecdotal feedback strengthened this view. Feedback was received by a senior system stakeholder from across referring practices and fed back to the evaluators that it was difficult for practices to refer to the service because there were strict criteria for referrals at the beginning of the day (so they weren't inundated with lower-level acuity patients early in the day), and appointments would then be released as the day went on. The stakeholder reported that although they understood the reasoning for this, practice staff found this changing process cumbersome (in terms of work-load and potentially holding patients back) and confusing.

However, referrers and other system stakeholders who responded to the survey were hugely complimentary about the service and its capabilities and many commented that the service should be continued beyond the pilot.

3.1.8 Was the service being utilised as well as it could have been?

The service was run by 16 clinicians over 4.6 FTE (full time equivalent), covering the roles set out in the table below.

Table 3. GPUAS staffing model.

Level	FTE	Detail / funding
GP	1	3 x part-time GPs acting as clinical / site lead
ACP	0.8	0.4 FTE funded from PCN
Practice Nurse	1.2	4 x part-time RGN
Paramedic	0.3	2 x rotational roles funded by PCN
HCA	1	3 x part-time HCA
Administrator	0.3	3 x part-time admin / receptionist working half-day

At its peak in April, the service was supporting around 18 patients a day. This had been growing steadily from January (from an average of 14 patients per day). There were 36 available slots per day and the lead clinician felt they could have safely seen 40 patients per day. This would have equated to more than the reduction of 18 (or 40 working on the maximum capacity figures) primary care appointments per day given the complexity of patients and follow up appointments that would have been required in their diagnosis (for scans and blood tests etc). The table below shows the staff to patient ratio of the service in April, if it had been able to reach this potential of 40 patients per day, and working on the assumption that one GPUAS appointment is equivalent to three primary care appointments (initial apt, one diagnostic apt and a follow up apt to discuss diagnosis).

Table 4. Staff to patient ratio scenarios.

Referrals per day	Staff to patient ratio	If 1 GPUAS appointment is the equivalent to 3 GP appointments
18 (actual, after two months)	4 patients per FTE, per day	54 patients (12 per FTE) per day
40 (potential, once established)	9 patients per FTE, per day	120 patients (26 per FTE) per day

This table demonstrates the importance of getting enough of the right patients through the door to make the service viable for the staffing required.

At 18 referrals a day, the GPUAS was not being used to capacity.

3.2 How can the GPUAS fit into the infrastructure of care in the community and alongside acutes?

GPUAS staff expressed a clear view that the GPUAS aided the triage of people into hospital, helping to ensure that the people who attended were those who needed to.

One view was that the GPUAS structure gave clinicians the option to test, treat, monitor and then reassess patients, which prevented some admissions to hospital when this treatment was successful. Some staff also reported that patients felt they would have attended ED if the GPUAS was not available, as they were not able to get an urgent appointment at their GP surgery. Clinicians also felt that, as negative POC tests enabled them to confidently rule out the condition that was being assessed, this meant that some patients could be advised on symptom management at home, and the reassurance the test gave patients made them less likely to subsequently visit ED. The same point applied to the 'worried well', who could be assessed and reassured at the service, meaning they were potentially less likely to go to ED. According to the NHS Payment Scheme, the cost to ED ranging from £137 to £445 per attendance.

In other cases of negative POC tests, it meant that clinicians could look at alternative explanations for the symptoms, which sometimes, but not always, involved hospital-based further investigation. These patients would attend hospital via surgically expected referral or Ambulatory Emergency Care having already received a thorough clinical work-up, potentially reducing footfall through ED.

Where positive POC testing confirmed a serious health condition that required hospitalisation, GPUAS staff felt that this aided the smooth onwards referral, and enabled the hospital to prepare ahead of patient arrival, in cases where the need for urgent surgery was clear from the results of the tests carried out at the GPUAS.

A further example of how the GPUAS fit into the infrastructure of care in the community, highlighted by staff, was the integration with various community and PCN services, enhancing the wrap-around care offer to those who required it.

3.2.1 How do stakeholders view the GPUAS being led by primary care and does this affect how they interact with the service?

Members of the referring practices and system stakeholders from sites receiving referrals from the GPUAS were asked to provide feedback about the GPUAS and their experience of it.

Stakeholder views were mixed on whether primary care was best placed to lead and be the location for the GPUAS. Some felt it was the optimum arrangement, as it helped filter out patients from primary care who needed urgent assessment, leaving the clinicians in GP surgeries to deal with the remaining group.

"I think this is the perfect place for it. I believe the GPUAS was a huge benefit to the healthcare provision in terms of accessibility, admission avoidance and timely treatment."

System Stakeholder

A further benefit was felt to be the upskilling of GPs and other clinicians who worked in the GPUAS, as discussed in Section 3.1.6. While no stakeholders expressed the view that the service should be based in/led by a hospital rather than primary care, some did feel that the service would be equally useful in either setting. The advantage of a hospital setting was felt to be rapid onward access to the hospital for those who needed more care than could be provided by the GPUAS.

3.2.2 What are the facilitators and barriers to the GPUAS sitting within the community?

Speaking with the GPUAS clinicians highlighted the facilitators and barriers to GPUAS being sited within the community.

Facilitators

- Connectivity with practices and community resources
- Digital Interface
- Proximity to patients' homes
- Continuity of care through linked systems
- Continuous development of staff

Barriers

- Shortage and suitability of estates
- Funding issues
- Access to imaging
- Availability of suitably trained staff
- Sense of disconnection with wider UEC system
- Issues with community and hospital IT systems
- Issues with drug licencing

3.3 What has been the impact of having rapid diagnostics, including Point of Care testing in the GPUAS?

3.3.1 GPUAS Access to Diagnostics

Access to diagnostic equipment in the community may enhance care, and may support efficiencies and equitability of care. The GPUAS was able to access the x-ray service at a nearby hospital for same day imaging and had both a 12-lead electrocardiogram (ECG) and 5-lead ECG monitoring to support diagnosis.

3.3.1.1 X-ray

Staff within the GPUAS reflected on the use of the x-ray at South Petherton Hospital:

Staff reflections:

- While the GPUAS had access to x-ray facilities at a nearby hospital, there was no x-ray testing capability on-site. This meant that decisions had to made about whether patients were too unwell to travel to the hospital to have the scan or, conversely, if they were sufficiently well to wait and have a non-urgent x-ray scheduled.
- However, GPUAS staff still felt that having same-day access to an x-ray was an extremely useful option for aiding rapid diagnosis for detection of a condition but also for the patients' wellbeing.

> *"Saves a lot of time for patient, less appointments at GP surgeries. Pt sees GP, GP requests x-ray, pt waits for appointment, then waits to hear from GP about result. If x-ray is all fine, pt wouldn't even hear from the surgery. Routine x-rays can take 8+weeks for GP surgeries to get the report."*
>
> GPUAS Clinician

> *"As we had rapid access, it meant an x-ray could be done and by the time the pt returned back to us, we had the result and could treat or advise as needed."*
>
> GPUAS Clinician

- X-ray was felt to be particularly important for patients where there were serious health concerns, such as cancer, pneumonia and heart failure. Staff could think of multiple examples of the rapid access to x-ray picking up these conditions, with the result that a treatment pathway could be agreed and started without the delay that a routine x-ray referral would entail.

> *"...you need to think what would have happened to that patient. So the patient went to their GP, and the GP was worried, for example, could this be a pneumonia, or could this be something like a malignancy, a cancer? Then their only option is, we'll do a routine referral, or the*

quickest that's going to get that x-ray is probably two weeks. Or we need to send them to hospital. Whereas we can send them over, we just give them a form. They go over, they get it almost immediately. They come back. We show you the film. They can see what's going on, we can make a management plan. We've picked up some cancers with that, picked up a number of pneumonias. So someone came in and we were able to diagnose right sided heart failure. The heart was just huge, and people just wouldn't have picked that up, I don't think, So it's been really helpful."

GPUAS Clinician

- Staff felt that having access to the X-ray allowed for patients to avoid referrals into hospital.

"Losing x-ray would have resulted in many more referrals into hospital it was important in assessing for pneumonia, some cases of chest pain, unexplained breathlessness, etc. We made a handful of more serious diagnoses through x-ray access, including cancer diagnoses and management of complications of cancer treatment. Walk-in access to x-ray was a game-changer for urgent medical care of patients."

GPUAS Clinician

In total 167 referrals were made for 158 (12%) patients to receive the same-day x-ray during the 19-week pilot period.

3.3.1.2 ECG

The GPUAS also had access to a portable 12-lead ECG and patient monitoring machines with 5-lead ECG capability. The 12-lead ECG was used to diagnose ischaemia and heart arrhythmias, whilst 5-lead ECG monitoring was used to monitor response to treatment or try and capture intermittent arrhythmias.

Staff reflections:

- Staff reflected that having access to an ECG in primary care is not unusual, however being able to provide it in the same appointment rather than the patient having to attend again is much more efficient, saves appointment time overall, and allows for clinical continuity (i.e. the same clinician who requested it is looking at it, which isn't the case in normal practice) making it much more useful.
- One clinician went on to say that it was "hugely" important in managing many of the patients who presented, particularly those presenting with chest pain.

"We could not have run the service without these [ECGs]."

GPUAS Clinician

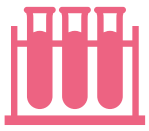
A total of 140, 12 lead ECGs were carried out in the 19 week pilot. Data showing the utilisation of 5 lead patient monitoring was unfortunately not recorded, although this was utilised routinely in more unwell patients needing a period of observation.

3.3.2 GPUAS access to Point of Care (POC) Testing

A POC test can quickly provide additional information to support clinical decision making in cases of diagnostic uncertainty. With a traditional lab-based diagnostic test, a blood (or other) sample would be taken from the patient and transported to the pathology laboratories for appropriate testing to be conducted. Turn-around time for results from the laboratories can be as long as several days, depending on their location, capacity and the type of testing required.

Their timely and clinically guided use, may therefore underscore the effectiveness of primary care-based urgent care models in managing patient demand, enhancing care coordination, and facilitating rapid assessment and treatment.

The GPUAS utilised three different POC testing machines: The Siemens EPOC; the LumiraDx (recently purchased by Roche); and the Abbott ID NOW assays. The use and reflections from the clinical teams are discussed below:



In total 232 (17%) patients were tested with at least one of the Point of Care tests.

3.3.2.1 Siemens EPOC

The Siemens EPOC machine tests electrolytes, haematocrit, lactate, glucose, and blood gases. The test uses a single card and completes all tests.

Reflections from GPUAS clinicians:

- Machine is easy to use, very rapid results (within two minutes once warmed up), user-friendly, with great presentation of results.
- Staff felt that the tests were only useful in more unwell patients who are likely to require hospital admission.
- Lactate scores were used as part of the GPUAS sepsis screening pathway. pH also useful to use for suspected sepsis and respiratory failure.
- Electrolytes helpful in potential Acute Kidney Injury, when a patient is dehydrated (vomiting / diarrhoea), or in cardiac arrhythmias.
- Blood gases helpful when considering type 1 vs type 2 respiratory failure, considering oxygen titration in COPD or considering severity of hypoxia, and in the assessment of patients with potential diabetic ketoacidosis or sepsis.
- The tests were used quite rarely and the cost of packs of test cards is expensive, with a relatively short lifespan. Clinicians felt it was probably more useful in a pre-hospital emergency setting or settings with extreme rurality where rapid access to clinical assessment is limited.

- The tests were found to be invaluable with severely ill patients and where there were delays to ambulance arrival, when access to rapid results helped guide emergency treatment.

In the 19 weeks of the pilot, 362 individual tests were conducted using the Siemens EPOC machine. The machine provides up to 17 tests per slide. Table 5 below shows the more commonly used or 'clinically useful' tests and results.

Table 5. Results from the 'clinically most useful' Siemens EPOC machine

Tests taken	Frequency	Abnormal result	Percent abnormal
Lactate	27	1 (<0.5 / >2.2mmol/L)	4
Blood pH	28	11 (<7.35 / > 7.45)	39
Pa02	11	11 (<10 / >14kPa)	100
PaCO2	14	8 (<4.7 / >6 kPa)	57

3.3.2.2 LumiraDx

The LumiraDx Platform offers point of care testing for D-Dimer, CRP and INR (although other options are available). Each assay uses individual testing strips and can be used with a fingerstick sample.

Reflections from GPUAS clinicians:

- Used in conjunction with Well's Score risk assessment, LumiraDx D-Dimer provides quantitative D-Dimer results to aid in the diagnosis of venous thromboembolism (VTE). There is a strong correlation with lab-based results: Negative result excludes significant thromboembolism; Positive result requires clinical interpretation.
- GPUAS found that a senior review was helpful to avoid unnecessary escalation following D-Dimer testing. Table 6 shows the results of a retrospective audit of the patient files. Of the 54 tests done, 36 (67%) were deemed to be appropriate by a senior clinician. Subsequently, a senior clinician would review all cases before the test was carried out.
- It was felt that the LumiraDx D-Dimer had been one of the most utilised tests, which was deemed to be hugely helpful in the assessment of Deep Vein Thrombosis or Pulmonary Embolism. Table 6 shows that, of the tests deemed to be appropriate, results were able to rule out a VTE for seven patients (nine in total, if those that were not deemed to be appropriate are included), thus avoiding hospital attendance for testing and potentially a scan.

> *"There was a patient this morning, who was under rheumatology for chronic pain who had been diagnosed with fibromyalgia and osteoarthritis, and when they came in, their complaint was increased chest pain, but it happened last night, and interestingly, the triage from GP practice was flare of fibromyalgia type thing. But actually when they*

came, and we listened to the history we thought it could be, but actually what you're describing could be a clot. So we did the D-Dimer blood test. It was really sky high rate. So we've actually sent in for that, and I don't think that would have been spotted otherwise. Now it may or may not be a clot, but the tests are very, very high and suggestive so it can be really helpful for that. And I think we've had a lot of referrals with chest pain, query clots, or query DVT clots in the legs. And actually, it's been really helpful in ruling in and ruling out."

GPUAS Clinician

- The team reflected that they have learned while it is appropriate to send for investigations, those people with clinical indication of a VTE AND a D-Dimer result of above 500ug/L (the upper limit of normal values), those who are having a positive scan (ie a clot is found) usually have much higher results, "closer to a thousand (ug/L)". Staff questioned the potential to improve the clinical pathway if the tests were continued beyond the pilot.
- The LumiraDx CRP test (for inflammation) was thought to be occasionally useful, mainly in assessment of abdominal pain or patients with clinical signs of bacterial infection, who have not responded to antibiotics. While all patients tested for CRP had a result of 5mg/L or more, around a third of patients tested had higher levels, above 20mg/L, that would be deemed to be more clinically relevant.
- The LumiraDx INR (International normalised ratio, looks at the speed of blood clotting) is useful to prevent duplication of machines, although the GPUAS GP practices have separate Roche INR machines in place already.

In the 19 weeks of the pilot, a total of 163 tests using the LumiraDx machine were carried out (1 INR, 58 D-Dimer and 104 CRP).

Table 6. Results from the LumiraDx D-Dimer tests. (Source: GPUAS D-Dimer Audit, EMIS)

Test	Frequency	Appropriate test	Appropriate test with positive (abnormal) result (>500 ug/L)	Appropriate test with negative (normal) result (<500 ug/L)	Referral for scan (duplex or CTPA)	Positive Scan
D-Dimer	54	36 (67%)	81% (n=29)	19% (n=7)	36	4

Table 6 (above) describes the results of an audit of the D-Dimer tests carried out in April 2024.

Table 7. Results from the LumiraDx CRP tests. (Source: EMIS)

	Frequency	Positive (abnormal result >5mg/L)	Positive (abnormal result >20mg/L)
CRP	104	104 (100%)	32 (31%)

3.3.2.3 Abbott ID NOW

Abbott Diagnostics Ltd has provided the GPUAS with POC tests for common respiratory pathogens, including Group A Streptococcus, Influenza A and B, and COVID (RSV also available but not used within GPUAS). The test uses individual swab-based tests for each condition.

Reflections from GPUAS clinicians:

- Strep A testing are most utilised POC test during the winter months. Staff felt it was invaluable in managing outbreaks of streptococcal pharyngitis and Scarlet Fever, and had a significant impact on antibiotic prescribing.
- Staff reported the usefulness of flu and COVID testing was limited by restricted access to antiviral treatment (primary care are only able to prescribe antivirals for flu within the NHS under restrictive guidance, which is released centrally each year) and limited benefits of anti-viral treatment with the often-delayed presentations seen in a primary care setting, but could see a huge benefit in emergency hospital setting when considering cause of respiratory distress. They appreciated the potential public health benefits from advice about isolation, reducing risk of spread of infection.

In the 19 weeks of the pilot, 168 tests on 125[2] patients were carried out (table 8).

Table 8: Type of test carried out at GPUAS. (Source: EMIS and clinician recorded *).

Test	Frequency	Percentage positive
Strep A*	97	40 (n=39)
Influenza A	28	14 (n=4)
Influenza B	28	0
COVID	15	0

[2] Not all negative test results were recorded on the system so this figure is taken from the data collection form that accompanied the tests.

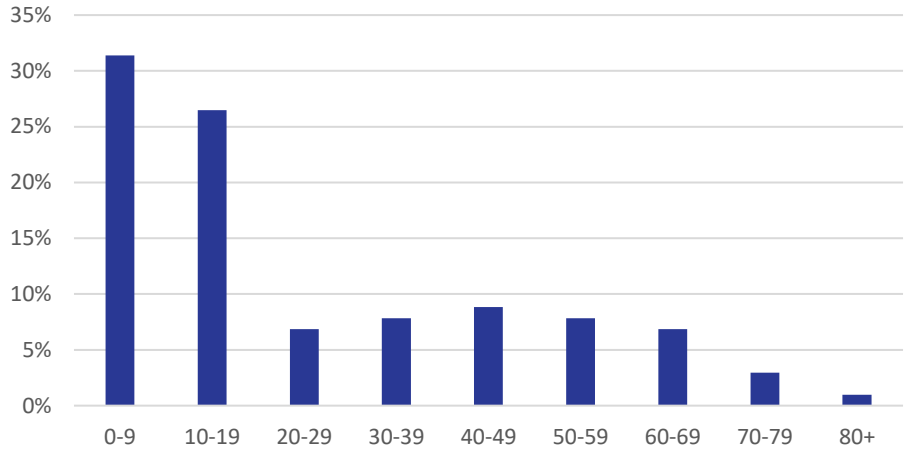


Figure 7. Age range of patients utilising Abbott ID NOW respiratory testing. EMIS.

Figure 7, above, shows that the majority of patients presenting with respiratory conditions resulting in the use of one of the Abbott ID NOW assays, were younger patients (31% under 9 and 26% 10-19).

3.4 What has been the impact of having the Abbott ID NOW point of care test for common respiratory pathogens?

3.4.1 What is the practitioner and patient experience of having the Abbott ID NOW POC testing?

GPUAS staff were very positive about the benefits of having access to POC testing for respiratory infection. Staff emphasised the importance of testing when a bacterial infection is suspected, as the result directly influences critical management decisions, such as prescribing antibiotics. Accurate testing ensures that treatment is targeted appropriately. For this reason, viral tests were conducted less frequently as the result would not typically alter management, rather than being included as part of a standardised testing panel.

The test for Strep A was reported to be used most frequently and was cited as being the most useful test. However, there were some significant benefits from also having the Flu test, in terms of speeding up access to treatment.

> *"[For one patient] we thought she was coming with chest infection and asthmatic, really working hard with her breathing. And we were going to go down the sepsis slide, but we got that positive influenza test, and that kind of altered our plans a bit. And she was then tested so was treated for severe, life threatening exacerbation of influenza in hospital. So I guess from that point of view... is it speeding up? Is it affecting the speed at which people are getting the definitive treatment when they get to hospital? It probably is."*
>
> GPUAS Clinician

Patients felt similarly positive. Those patients who had a respiratory point-of-care test (n=125), were asked to fill out a survey about their experience of having the test. There were 71 (57%) responses to the survey.

As shown in Table 9, patients reported overwhelmingly positive views of their experience of accessing POC testing, with 99% feeling positive or very positive. Patients also reported high levels of understanding about what they were being tested for (99%), trust in the result of the test (95%), feeling glad to have an immediate result (99%), and feeling it was a worthwhile thing to do (99%).

> *"Very worthwhile for quick results and appropriate treatment for my daughter"*
>
> Parent of GPUAS Patient

Patients' views were more mixed on whether they felt having the swab was uncomfortable, with 47% agreeing/strongly agreeing, compared to 24% disagreeing/strongly disagreeing (see Annex 2 for latter figure).

Table 9: Patient experience of the point of care test. (Source: Patient POC experience survey)

	N	Percentage Strongly Agree or Agree
I understood what I was being tested for	71	98.6
I felt ok about having the swab taken	69	94.2
Having the swab was not comfortable	68	47.1
I trusted the result of the test	66	95.5
I was glad to have immediate result	68	98.5
The test was a worthwhile thing to do	68	98.5
Overall rating of experience of accessing POC testing	68	98.5

3.4.2 What is the impact of Abbott ID NOW POC testing on patient outcomes?

A total of 125 (8% of GPUAS) patients were tested with at least one of the Abbott IDNOW tests with 43 (34%) positive tests confirming diagnosis and 82 negative tests, ruling out Strep A, COVID or Flu.

Staff at the GPUAS felt there were three main benefits of POC testing. Firstly, where POC tests showed a negative result, this was useful as it **prevented unnecessary use of antibiotics**, and could be used to **reassure patients** that medication was not necessary. This helped clinicians manage the conversation with patients who were anxious, or who had an expectation of receiving antibiotics, as they had received them in the past. Secondly, there were instances where POC tests picked up infection that was not apparent to the clinician, and enabled **rapid treatment** that may otherwise not have been put in place. Examples were given of how this can have powerful positive consequences for seriously ill patients, such as one who needed hospitalisation, and was able to receive immediate medication due to the POC tests that had been carried out, without needing to wait for further in-hospital assessment. Thirdly, in the other cases where POC tests confirmed clinician's judgement, this was also felt to be helpful, as it **supported confidence in the proposed care plan**.

Access to POC testing more widely (respiratory tests and other forms of rapid testing such as x-ray) was felt to have a further set of benefits to both the patient and the healthcare system. As all tests were carried out within the same incidence of care, this meant that **fewer appointments were needed**. This saved time for patients, as well as decreasing the anxiety of waiting for results, and brought efficiencies for clinician time and the wider healthcare infrastructure.

> *"It just cuts down on that patient contact, because they just come in and that day we kind of deal with [it] all in one go."*
>
> GPUAS Clinician

Patients felt that having the POC test enabled their clinician to make appropriate decisions about their care (49% of those who completed the POC survey, figure 8) or medication (42%) and they felt confident in their treatment plans following the tests

(44%). Around a third (32%) of patients felt reassured by their test result while a fifth (21%) felt they avoided anxiety of waiting for their result.

> *"Very quick and easy. Extremely valuable to have the results back so quickly."*
>
> Patient

Practically speaking, almost a third (30%) of patients appreciated not having to make another appointment, having been able to speak with the clinician about their result (39%). A quarter (24%) felt able to treat themselves at home and 14% knew to isolate from people to avoid the spread of the respiratory disease they had tested positive for (figure 9).

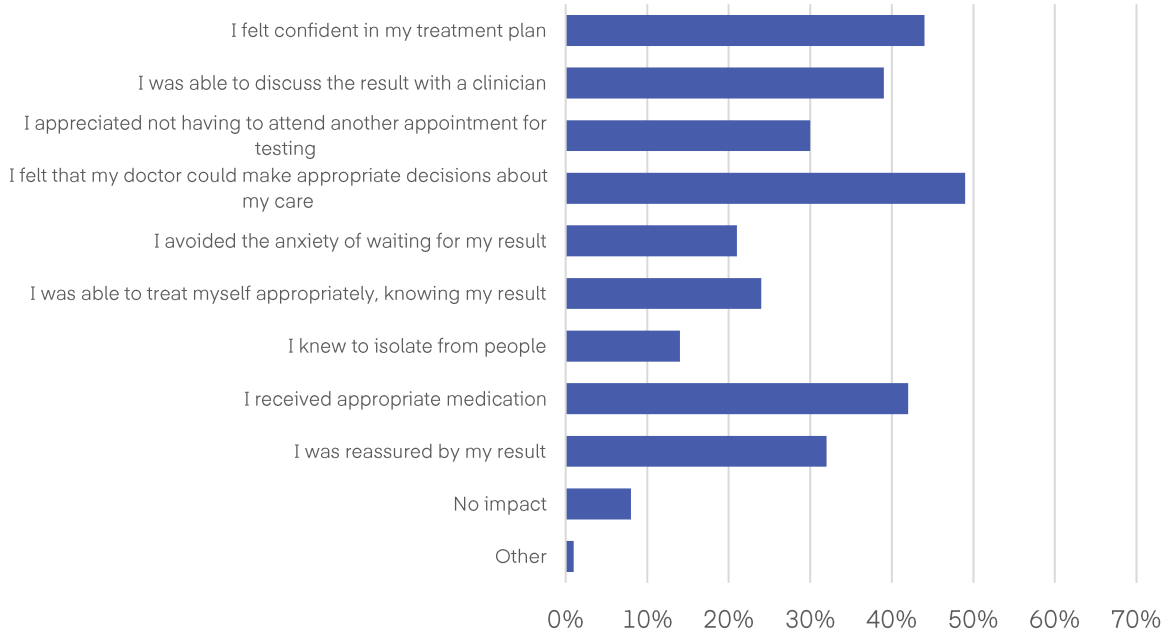


Figure 8: Impact on patient of having POC test and knowing result during appointment (patient POC experience survey, n=71)

3.4.3 What is the impact of Abbott ID NOW POC testing on patient behaviours?

Patients were asked what they would have done if they hadn't had the test while in their appointment (figure 9). Around a third (30%) would have made another appointment with their GP and 10% said they would have gone to an ED. Interestingly, 21% would have been worried about what was wrong with them and 15% would have been less confident in the treatment plan. Around a third of people would not have done anything differently and would have trusted the opinion of the clinicians.

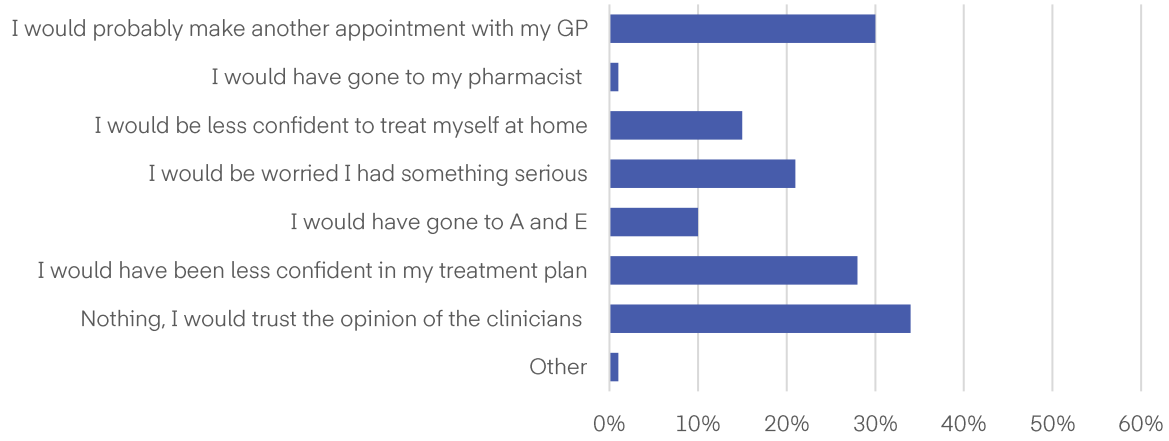


Figure 9: Patients' view on what they would have done if they had not had the test while in their appointment (Multiple response). (Patient POC experience survey, n=70)

During an interview with the parent of a patient who received a positive Strep A test, they discussed that they would have gone to an ED if they had not been able to get an answer from their doctor.

> *"I was prepared to take her to hospital to get her checked out, I was that worried about her at the time"*
>
> Parent of patient

3.4.4 What is the impact of Abbott ID NOW POC testing on clinical management behaviours?

At the point of testing patients with the IDNOW tests, clinicians were asked to fill out a form that asked them: "In your professional opinion, if you did not have access to the ID NOW point of care testing, based on what you currently know about the patient: what would your next course of action be?" Clinicians were given the option of selecting as many of the following courses of action as they needed:

- Lab tests
- Prescription of antibiotics
- Prescription of antivirals
- Send patient home with advice for self care
- Refer to Urgent Community Response
- Refer to ED
- Refer for inpatient admission
- Refer to outpatient clinic
- Recommend isolation
- Other

Clinicians were then asked to perform the test and were then asked what they intend to offer the patient, from the same list of treatment options. Figure 10 below shows that in

46% (57 of 125) of cases, clinicians offered a different course of action, following the test. This suggests that the test results (whether positive or negative), influenced the treatment plan for patients even when they had a thorough history and clinical understanding of the presenting issues.

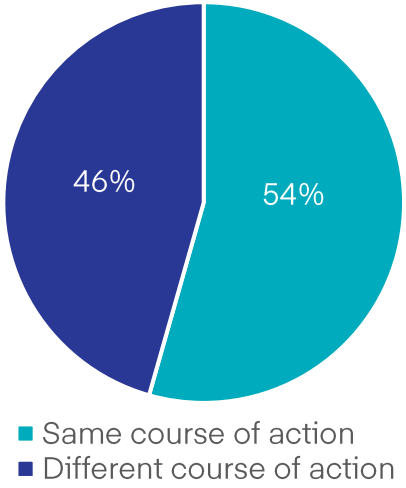


Figure 10. Change in clinician reported treatment options before and after POC test results. (Clinician POC form).

Of the 57 cases where there was a change in intended treatment:

- In 21 cases the clinician would have prescribed antibiotics before but did not following a test. Of these:
    - 16 (76%) had a negative Strep A test
    - 1 had a positive Strep A
    - 1 had a negative COVID and was admitted to hospital
    - 1 had a negative Flu
    - 1 had a negative COVID and Flu
    - 1 had a positive Flu
- In 20 cases, antibiotics were prescribed after the test but would not have been before the test. Of these:
    - 1 had negative Covid and Flu
    - 19 (96%) had a positive Strep A test

  To put this in context, there had been a local outbreak of scarlet fever and a positive Strep A result in a patient with a rash, fever, and sore throat during a period of known outbreak is a clear indication for antibiotic prescription and diagnosis of scarlet fever. This would then prompt Health Protection Team notification, which in turn helps support containment of outbreak. Although the scarlet fever rash can be quite characteristic, there is significant cross-over with viral-type exanthems, which may present with other similar symptoms of sore throat, fever, etc. This explains why before the test, the clinician was not planning to prescribe antibiotics. Conversely, similar symptoms with a less-classical rash, perhaps with some coryzal symptoms (runny nose, etc.), plus a negative Strep A swab, is extremely reassuring and points more towards viral cause, which would

not respond to antibiotics, thus antibiotic prescription for some patients was avoided.

- In 11 cases, clinicians would have ordered lab tests before, but did not after the tests.
- In five cases, the clinician would have recommended patients go to A and E before the test but did not refer following the tests.
- In one case, the clinician would not have recommended going to A and E before the test, but did refer to A and E following the test (Positive Flu).
- In one case, the clinician would have prescribed antivirals (and antibiotics, as above) and following a negative COVID test, referred for inpatient admission.

All together, the testing enabled more targeted and appropriate treatment for patients. If there had not been a local outbreak of scarlet fever, resulting in additional prescriptions for antibiotics, 21 prescriptions of antibiotics would have been avoided, 11 additional appointment for lab tests and four ED attendances were avoided due to the POC testing. Further system resources would undoubtedly be saved through the rapid access to diagnosis following the POC testing which resulted in patients being treated more quickly and reducing the spread of disease through isolation.

Clinicians reported the impact of POC testing on their clinical judgement:

> *"The thing that was really interesting for me about this was the fact that clinically, there were children I would have given antibiotics to on the basis of their presentation and also their fever pain score, who did not test positive for group A strep. And at that point we can then not give antibiotics … It felt a little bit disorientating because we're in a position there when you're looking at your clinical judgement, but there's something else is overriding it. And we're so used to just relying on clinical judgement."*
>
> GPUAS Clinician

For 94% of the 125 cases, clinicians said it was helpful to have an immediate result, and that the testing had a positive impact within the patient interaction.

Clinicians also noted the approximate time it took to run the tests. On average (median), clinicians reported that the testing process took around 10 minutes (mean = 13 minutes). In 81% of cases, it took less than 15 minutes (table 10). The majority of those that took longer were due to multiple tests being carried out.

Table 10. Reported approximate time to run the Abbott IDNow test[3]. (Clinician POC form)

Reported time	Percentage (Base 108)
Less than 10 minutes	34.3
10-15 minutes	47.2
More than 15 minutes	18.5

[3] This represents the total time required for swabbing, test running, and administrative tasks

3.4.5 What is the implication for using POC testing in Primary Care?

GPUAS staff and stakeholders felt there was a place for POC testing in primary care to support clinical decision-making and conversations with patients regarding not prescribing antibiotics. It was viewed that positive or negative results from point of care testing can support people to remain out of hospital, or to be more quickly and effectively treated in hospital, with the results from the test informing care.

> *"Utilised point of care testing and able therefore to treat and discharge patients safely without the need for secondary care input."*
>
> Referring GP Practice

> *"[POC testing] definitely guides my decision making. I still like to rely on clinical examination. But then if you're thinking one thing and it just helps back up, just helps support your clinical decision making."*
>
> GPUAS Clinician

> *"...we were going to start from antibiotics which wouldn't have helped, so it stopped us giving an inappropriate medication. But actually, as soon as she went into hospital, they knew that we got a positive flu test... So actually, that was really helpful for them, because they could straight away get her on antivirals when the patient got into hospital. So that was quite powerful."*
>
> GPUAS Clinician

Clinicians of the GPUAS reported the benefits of using POC testing within Primary Care, particularly the Abbott ID NOW Strep A test.

> *"The Strep [test] has been massively helpful. We've done loads of Strep [tests]. That would be useful in my normal GP practice, because it's so quick, say they come in with a sore throat. You do the quick feverPAIN [score], do the swab, and finish your assessment, and you've got the results, it wouldn't delay [appointments]."*
>
> GPUAS Clinician

3.4.5.1 What is the financial case for rapid diagnostics of Strep A in the community?

Based on the information gleamed from the clinicians' reported intentions versus actual treatment plans, and their professional judgement about whether a case would have ended up in ED without the services' medical intervention, we can see the following costs were incurred (table 11) and likely-avoided (table 12).

Table 11. Direct costs incurred from introducing the Abbott ID NOW molecular point of care testing.

	Assumption	Unit cost (calculation)	Estimated cost incurred
Molecular POCT total cost	125 patients	£26.88 cost per patient+ accounting for 168 test strips (including quality control and swabs)	£3,360+
Clinician time	60% of tests were carried out by[4] Paramedic, practice nurse or ANP (band 6 = £55ph) 20% of tests were carried out by HCA (band 3 = approx. £22ph) 20% were carried out by a GP (£217 per hour)[5] Average time to run tests per patient was 13 minutes[6].	Per 13 minutes[5]: GP: £47.02 Nurse/Paramedic: £11.92 HCA: £4.77 (GP: (£217/60 x 13) x (125x0.2) + Nurse/Paramedic: (£55/60x13) x (125x0.6) + HCA (£22/60 x 13) x (125 x 0.2))	£2,188.33
Antibiotic prescription	20 additional prescriptions, prescriptions likely for the treatment of Strep A[7]. 31% of patients were under 9 and may require oral suspension Adults x 14: 250mg Phenoxymethylpenicillin tablets for 10 days (cost £5.80 plus 10p container fee, plus £1.27 per prescription). Children x 6: 250mg/5mL solution x 100mL sugar Free for 10 days (cost £46.52 plus £1.27 prescription fee)	Adults: £7.17 Children: £47.79 (14 x £7.17) + (6 x £47.79)	£387.12
Admissions	1 additional admission[8] Assuming regular day or night admission (unit costs plus inflation)	£478.06	£478.06
Total costs			**£6,413.51**

[4] IDNOW can be used by any trained operator.

[5] Unit Costs of Health and Social Care, PSSRU: unit-cost-of-health-and-social-care-staff-2020-21.xlsx (live.com)

[6] According to the IFU the test to result time is 2 minutes for positive results and 6 minutes for negative results (ID NOW STREP A 2 | Abbott Point of Care (globalpointofcare.abbott)). For the GPUAS pilot, we referred to 13-minute total time in this table to reflect the total work of health care professional including swabbing, test running and admin time

[7] NHS Business Service Authority. Electronic Drug Tariff.

[8] Clinicians noted their judgement of whether an admission had been avoided as a result of the patient being supported within the GPUAS.

Table 12. Direct costs avoided from introducing the Abbott ID NOW molecular point of care testing.

	Assumption	Unit cost	Estimated cost avoided
Antibiotic prescription	21 prescriptions avoided, prescriptions. 31% of patients were under 9 and may require oral suspension Adults x 14: 250mg Phenoxymethylpenicillin tablets for 10 days (cost £5.80 plus 10p container fee, plus £1.27 per prescription). Children x 7: 250mg/5mL solution x 100mL sugar Free for 10 days (cost £46.52 plus £1.27 prescription fee)	Adults: £7.17 Children: £47.79 (14 x £7.17) + (7 x £47.79)	£434.91
Antivirals prescription	1 prescription avoided: Adult[9]: Oseltamivir 75mg capsules, 5 x twice a day (cost £15.41 plus £1.27 prescription fee)	£16.68	£16.68
Phlebotomist (for lab tests)	11 lab tests avoided appointment at surgery	£6.46 per consultation (£6.46 x 11)	£71.06
NHS swab tests	11 lab tests avoided test[10]	£12 (£12 x 11)	£132
ED	4 visits avoided According to the NHS Payment Scheme[11], the cost to ED ranging from £137 to £445 per attendance[12] and around £263 per ambulance conveyance. We have taken the mid point of the range and assumed an ED conveyance for 1 (Ambulance conveyances make up between 14 and 52% of ED attendances, depending on time of day).	£291 (ED attendance) £263 (Ambulance) (£291 x 4) + (£263 x 1)	£1,427
Admissions	23 admissions avoided[13] Assuming regular day or night admission (unit costs plus inflation)	£478.06 (23 x £478.06)	£10,995

[9] NHS Business Service Authority. Electronic Drug Tariff.
[10] NIHR Interactive costing tool (24/25)
[11] National schedule of NHS costs 2021/22
[12] NHS Payment Scheme prices workbook. At 23-25NHSPS_Annex-A_2024-25.xlsx (live.com)
[13] Clinicians noted their judgement of whether an admission had been avoided as a result of the patient being supported within the GPUAS.

Estimated total avoided costs			£13,076.65

[†]Abbott offers a range of commercial models. Due to the specific operational requirements of this centre, the total testing cost has been determined in line with the relevant business model. For additional details, please reach out to Abbott directly.

The tables above support clinician views that the introduction of POC testing in the community is a cost-effective way to improve the speed and quality of care received. Looking at direct system costs only, the implementation of the 19-week pilot for the point of care testing totalled around £6,400 and likely released over £13,000 worth of system activity and resource. This equates to a NET benefit of around £6,700 within the 19 week pilot or £54 per patient.

3.4.5.2 Case Studies: Testing for Strep A in the community

Group A streptococcus, commonly known as Strep A, is a common type of bacteria that causes mild illness, often characterised by a sore throat, as well as more serious infections, including scarlet fever, rheumatic fever – which can damage the heart valves – and invasive group A strep infection (iGAS). Abbott POC testing on the ID NOW system for Strep A provides accurate molecular results in under six minutes that can be used to support clinical decision making in real time.

The usual course of action for patients presenting with Strep A type symptoms is to undergo clinical assessments and examination, including completion of the FeverPAIN score, which offers a structured assessment to guide the clinical decision to prescribe antibiotics or not. With a score of one or below, the judgement is made that a patient is unlikely to have a Strep A infection. With a score of four or above, it is routinely considered likely that a patient has a Strep A infection and a ten day course of antibiotics is prescribed. Patients with a score of two or three on FeverPAIN assessment are less likely to have a Strep A infection, although clinical correlation with symptoms and potential for delayed antibiotic prescribing is recommended.

The following section provides a description of three cases and how the tests supported clinical decision making and appropriate treatment or action to be taken within a primary care setting.

Case Study 1:

Point-of-care testing facilitated efficient management of outbreak of Strep A in a local school

Context

In February 2024, a significant spike of positive Strep A cases was detected in South Somerset, linked to a local village primary school. The school is not far from Yeovil and services a rural area.

Over a 10-day period, children began presenting to the GPUAS with sore throat symptoms, and multiple cases of Strep A were identified. Children continued to present with sore throat, as well as other symptoms, including rashes. Presentations with scarlet fever were also on the rise. Children were also presenting with symptoms not usually associated with Strep A (e.g. cold symptoms) due to concern from parents and school staff that they had come into contact with people who had Strep A.

Using the Abbott ID NOW system, the GPUAS was able to test these patients for Strep A. For those with a 'borderline' FeverPAIN score of three, for whom they were considering antibiotic prescription, testing allowed clinicians to make better-informed clinical decisions about whether to prescribe antibiotics. For those with a score of four or above, they were able to confirm the presence of Strep A and offer suitable health and public health advice.

Testing was integrated efficiently into the consultation. The nursing team was the usual first point of contact, completing the FeverPAIN score. If the score was three or above, a swab would be taken to use ID NOW to test for Strep A. While the test was processing, which takes between two and 15 minutes, the clinician would proceed with the consultation. Results would usually be available towards the end of the consultation, allowing for their inclusion in the clinical decision-making process.

Clinician Experience

As a result, some patients who would normally have been given antibiotics based on their presentation alone, were testing negative for Strep A, avoided the unnecessary prescription of antibiotics. One clinician described this as an "eye-opener" in terms of reassessing their clinical judgement considering surprising negative test results.

> ***"…there's a lot more variation in presentations, and actually … the symptoms don't always equal Group A Strep. So that's been helpful. So I think I probably will be a bit more rigorous in my clinical examination."***

Additionally, being able to present parents with test results that support a clinical decision not to prescribe was described as improving "acceptability and acceptance from the parent" that not prescribing is the right course of action. This avoids a tricky conversation that can be a "massive flashpoint" when parents are understandably concerned about a child, and are often reassured by leaving with a prescription.

Where the Strep A tests were negative, and no other signs of serious infection were present, it enabled a "better conversation" with the patient, or parent of the patient, to explain why antibiotics wouldn't be needed. Clinicians were able to explain that antibiotics are usually used to prevent more serious illness that can progress from Strep A, rather than treating the Strep itself, and if the test can confirm there is no Strep A, then there is no need for antibiotics.

Where Strep A tests were positive, it was possible to offer advice on isolation to avoid further spread. When patients had a positive Strep A test and signs of scarlet fever or iGAS, which are more serious and notifiable conditions, the local Health Protection Team would be informed, to support contact tracing and containment.

One clinician described how Strep A testing allowed them to feel more closely connected to the population, because they were able to have a clearer picture of the prevalence of Strep A and scarlet fever in the local population. The clinician believes the outbreak was very quickly brought under control because of the definitive test results and the antibiotics and isolation advice given as a result, only lasting approximately two weeks. Members of the community who tested negative were also able to go about life as usual, avoiding unnecessary antibiotic usage and isolation.

"It was incredibly useful in that within a few days we could quickly identify who had it, where they were in the school community and where we could take action. So, for example, a number of children had it in reception so we did a huge deep clean, removed all the soft fabrics… restricted certain play – to try to reduce the spread. So that was really helpful for us. Without knowing that, without that quick response we wouldn't have been able to do that."

Headteacher

School Experience

The head teacher and community at the local school took the outbreak very seriously and followed all statutory guidance for communication as well as tracking cases, reducing class mixing and keeping vigilant with hygiene.

Although unaware of the testing offered by the GPUAS at the time, the headteacher noted that the effective management of the outbreak was supported by parents having a rapid diagnosis and action plan.

Conclusion

The limited spread and fairly rapid containment of the illness was likely the result of improved access to clinical assessment by the GPUAS team and rapid, point of care testing, alongside the vigilance of the school's approach to the management of the outbreak.

Case Study 2:
A parent perspective on point of care testing for Strep A

Context

"Olive", the parent of a 10-year-old girl "Isabelle", became concerned about her daughter's symptoms (very sore throat, generally unwell, high temperature). She called her GP surgery but they did not have any urgent appointments available. After three days of trying to get an appointment, she visited their prescribing pharmacist.

Following a consultation, including the FeverPAIN score, they suggested that she had tonsilitis and prescribed her penicillin. Within 24 hours her daughter had developed a rash "not exactly like scarlet fever but it was all over her body". After going back to the pharmacist who suggested going back to her GP, but still being unable to get an appointment with her registered GP, the surgery made an appointment at the GPUAS.

> ***"It's quite a unique service, still within surgery but feel like you are getting a good overhaul of maybe a lot of tests like you would get if you were going to like an emergency department or something like that, so it did feel a bit more thorough... the two professionals that I saw... there didn't seem to be any time restraint... we were in there maybe half an hour, forty minutes. That's different to when you go to a doctor when you have a limited amount of time and the next patient is waiting"***

Experience

Olive and Isabelle were seen within a couple of hours. Olive explained everything to the clinician and noted that she wasn't sure if the rash was a reaction to the antibiotics or if it was scarlet fever. There had been cases at Isabelle's school, but she didn't have all the symptoms. Isabelle was thoroughly examined, including observations, tests and a swab for Strep A.

The clinician listened to all of Olive's concerns and then explained the machine and how it works. Very quickly, the tests showed a positive result.

> ***"It was amazing... I was absolutely gobsmacked at how efficient it was... the result flashed up in 3-4 mins... It's really, really valuable. Just to have that instant result, and not have to like for me to come away and then have to wait for swab results and things. Sometimes you have to, they have to go to the lab and then you have to call up for results and it all takes a lot longer...so I think it was a really important part of getting a diagnosis and then finding the right treatment all within the same appointment really"***

Impact

This enabled the clinicians to change Isabelle's treatment to the appropriate antibiotic to treat Strep and within two days she started to eat again and feel a bit better. After a week she was well again and went back to school.

The GPUAS was not at her local GP practice but Olive was "prepared to take her to hospital to get her checked out" so was more than happy to drive to the short distance to the service.

Olive was hugely appreciative of the service and her "wonderful experience". She also felt that the point of care testing was key to Isabelle's treatment and recovery.

> ***"It did make a difference to her because we came away… with you know the right antibiotics to get her feeling better when she had already been on antibiotics for two or three days and she was just feeling worse and worse, it had a huge impact on her. Also its not so stressful or worrying situation to have to take her to hospital…to have it done within the surgery was really quite good."***

Case Study 3:
Testing to support clinical decision making

Context

A 23-year-old male patient, "Dan", had been suffering from a persistent sore throat for approximately 40 days. He had a phone consultation with his own GP, and thus did not have his throat swabbed nor complete the FeverPAIN score. Dan was prescribed a 10-day course of antibiotics but continued to have a very sore throat. He experienced some gastric side effects from the antibiotics.

Dan contacted his surgery after the antibiotics had little effect, and he was referred to the GPUAS by his own GP. At the initial assessment, he had only recently completed the course of antibiotics and was advised to wait and see if there was any change to his symptoms. When they did not improve after approximately two weeks, he returned to the GPUAS for a second time.

At this appointment, the FeverPAIN score was conducted, and the patient scored a three. An ID NOW Strep A test was also conducted, which came back negative. This meant that the course of antibiotics that Dan had taken was not necessary. With a negative test result, other possible diagnoses could be considered. The GPUAS clinician then took a different throat swab and arranged for blood tests to exclude a number of other causes, including the Epstein-Barr virus, which causes Glandular Fever.

If Strep A had been ruled out earlier in the disease course the patient could have avoided taking unnecessary antibiotics, including the costs and side effects associated with this, as well as the time and stress of organising and attending trips to his GP. Antibiotics are often prescribed to "err on the side of caution", avoiding the risks associated with more serious Strep A infection. However, in Dan's case, the antibiotics were unnecessary as his symptoms did not have a bacterial cause.

Patient Experience

"It helped us to move onto knowing [Strep A is] not the issue, and then moving on to do other things. So I'm not sure if I would have got my other throat swab done that day or been recommended for the blood tests if I didn't have that test done in there… it did help the process along a lot faster."

Dan was positive about his experiences at the GPUAS. He was able to get an appointment on the same day as he called, and it was closer to home than his usual practice. The appointment lasted for approximately 30 minutes and Dan felt he was subjected to a very thorough examination: "this [examination] was a bit more hands-on…I was quite happy with it really". He felt the POC testing had a positive impact on his treatment.

Clinician Experience

A GPUAS clinician described the Strep A POC testing as "an absolute godsend", supporting both the diagnosis and the patient-clinician relationship.

"Having a swab which you know is pretty reliable, to use alongside your clinical judgement, adds to the positive and negative predictive value and enables you to have a more empowered conversation"

These case studies highlight the benefits of Strep A testing within the primary care pathway, demonstrating how rapid testing can:

- support effective containment of outbreaks,
- support clinical decision making towards the most appropriate treatment options, and
- increase patient or parent confidence in clinical decision making by assisting clinician conversations with patients and parents about the appropriate use of antibiotics.

3.5 What has been the overall impact of implementing the GPUAS on patients and the system?

3.5.1 What is the evidence for and against the GPUAS reducing pressure on ED and acute hospitals?

This report has already highlighted staff and stakeholder views that the GPUAS relieves pressure on GP practices and acutes. Examination of GP records of admissions and ED attendances shows a trend towards increasing activity over time. However, the data also shows a moderate difference in the percentage increase in admissions from the practices in the PCN who referred into GPUAS versus those who did not (when accounting for practice list size). There is also a small difference in the percentage increase in ED attendances from practices who referred to GPUAS versus those who did not. In both instances, the increase from 2023 to 2024 was smaller for those who referred to the GPUAS (figure 11).

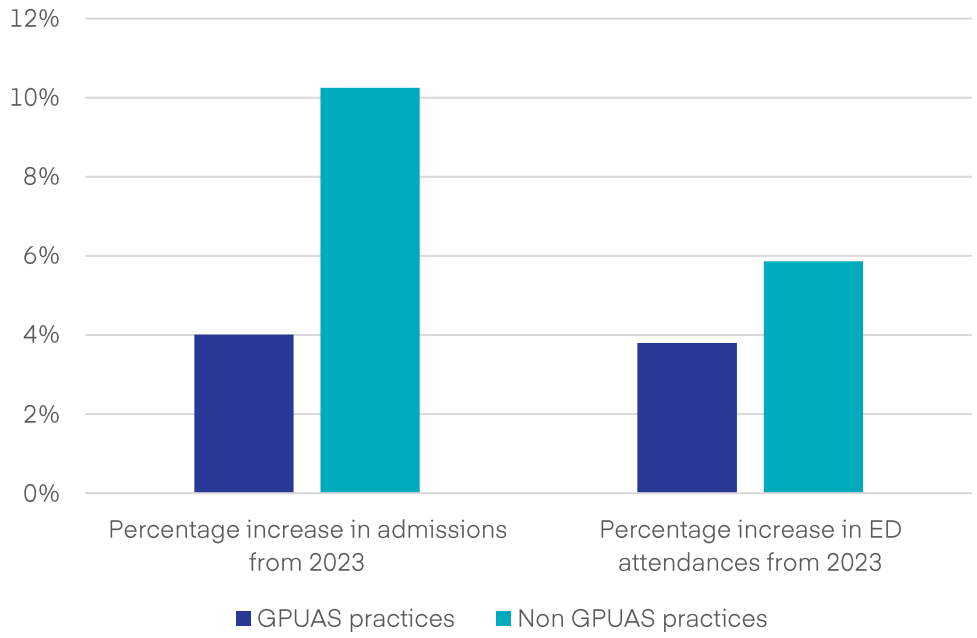


Figure 11. Percentage increase in the proportion of listed patients from GPUAS and non GPUAS practices being admitted to hospital or attending ED, Jan-May 2023 and 2024.

Clinicians felt that the introduction of a new digital triage tool towards the end of the pilot may have limited the positive impact of the service on ED attendances as it *"directs patients to urgent care services when it detects symptoms which might be more serious. We know that our case-mix changed significantly from its introduction".* The clinicians felt that the GPUAS could have supported many of the patients that were directed to ED.

Clinicians were asked to make a note on the patient record of each presentation where they felt the patient attending the GPUAS avoided a hospital admission. From this we can see that 244 admissions were avoided across the 19-week pilot (according to the professional opinion of the GPUAS clinicians).



Clinicians estimated 244 hospital admissions were avoided through the 19-week pilot.

The data from the patient surveys corroborates this view. When patients were asked where they would have gone for support if they did not have access to the GPUAS, over a third (37%) stated they would have gone to ED, 1% would have called an ambulance and a further 24% stated they would have called 111 and a proportion of these patients would likely have ended up at ED.

Table 13: Patients' views on where they would have gone for support, if they had not had access to the GPUAS. (GPUAS Patient Survey)

	Percentage
I would have attended A and E	36.5
I would have called 111	24.0
I would have called 999 for an ambulance	1.0
I would have called my GP	31.7
I would have gone to a minor injuries unit	3.8
I would not have taken any action	2.9
Base (n)	***104***
Missing	*1*

The vast majority of those seen by the GPUAS (82%) reported no need to subsequently attend hospital for the same issue (Table 14).

Table 14: Whether patients had to visit hospital for the same issue, after attending GPUAS.

	Percentage
Yes	17.6
No	82.4
Base (n)	***102***
Missing	*3*

When asked how long they had to stay in hospital, it can be seen that very few were admitted (n=6, 30% of the 20 who reported having to go to hospital).

Table 15 How long patients had to stay in hospital for, if they needed to visit for the same issue after attending GPUAS clinic

	Frequency
Up to 1 day	12
20 min	*1*
1 hour	*3*
2 hours	*2*
2/3 hours.	*1*
4 hours	*1*
6 hours	*2*
1 day	*2*
3 days	1
6 days	1
10 days	1
14 days	1
Other (non-specific time-frame)	4
Base (n)	***20***

Considering the staff, stakeholder and patient views alongside the admissions data, it is reasonable to suggest that the GPUAS has an impact on acute admissions and attendances at ED, reducing pressure on secondary care by providing thorough observation, diagnostics and appropriate treatment to prevent the need for some referrals for investigation but also preventing escalation of issues or conditions to the point of hospitalisation.

> *"The GPUAS service was key in identifying pathology before it developed into more severe disease requiring hospitalisation."*
>
> System stakeholder

3.5.2 What is the evidence for and against the GPUAS reducing pressure on General Practice?

The GPUAS supported 1,351 patients over 1,481 appointments that almost exclusively came from the four referring GP practices. Staff discuss that numerous patients would likely have caused multiple appointments to get to a point of diagnosis as they would have needed blood tests, scans and potentially observation.

> *"You're able to kind of deal with about three, four, at least normal GP appointments worth of ... activity within one slot, and it's efficient and it's quick, and the patient walks out with an answer, whereas with that chest pain example, normally they probably get the telephone call with a GP. I'll book an appointment and see me, then see them, then you need some blood tests, chest x-ray and ECG, so I'll book you an appointment with an HCA, an appointment with a nurse, and then I will*

organise an x-ray, and then we'll review, so have all that, and then they'll come back again for another review. And all of that could take two, three weeks, really easily, whereas we're doing it all in one and that patient goes away from the end of that consultation with a definitive answer and an action plan."

GPUAS Clinician

All stakeholders surveyed agreed that the GPUAS reduced pressure on the GP practices that it served.

"It helps to filter out those patients that need urgent assessment and interventions, leaving the clinicians in practice to deal with the other workload."

Referring GP practice

"Offloading the more unwell patients to the service that take more time and input so we could focus on seeing and dealing with more patients in a timely way in practice"

Referring GP practice

A third (32%, table 11) of patients surveyed felt that they would have called their GP for another appointment had they not visited the GPUAS.

3.5.3 What are the levels of satisfaction for patients and carers using the GPUAS and to what extent are they meeting patient preferences for care?

Over the 19 weeks that the service was active, 1,351 patients were supported. Patients were asked to feedback on their experiences in an online follow up survey, sent via text. There were 105 (8% of patients) responses to the survey.

As shown in Table 16, the vast majority of patients rated their experience of the GPUAS very highly, with over 97% describing themselves as very satisfied or satisfied. Similarly high proportions were very satisfied or satisfied with how quickly they were seen (96%), any diagnostic activity (88%), the speed of diagnosis (90%), involvement in their care (91%), and treatment or medication received (92%). The proportion who were very satisfied or satisfied with any onward referrals was slightly lower, at 84%, but this was largely explained by the higher proportion of people who were neither satisfied not dissatisfied with this aspect of their care (possibly due to not receiving an onward referral, but this was not captured in the survey).

Table 16: Levels of patient satisfaction with the GPUAS. (Source: Patient Survey)

	N	Percentage Very Satisfied or Satisfied
Overall experience of the service	105	97.2
How quickly patient was seen	104	96.1
Any diagnostic activity (e.g. a swab test or blood test)	90	87.7
The speed of any diagnosis given	103	90.3
Patient involvement in their care	101	91.1
Any treatment or medication given	96	91.7
Any onward referrals made	79	83.5

Table 17: GPUAS patient experience of the service. (Source: Patient Survey)

	N	Percentage Strongly Agree or Agree
I understood what was happening throughout my time in the service	104	95.2
I was involved in decisions about my care	102	95.1
I have trust in the clinicians who treated me	103	96.1
I was glad to be treated in the community rather than in hospital	103	93.2
I would have rather gone to hospital	96	15.1
My care preferences were met	98	91.8
I would have preferred to be seen by my own GP	89	24.7
I felt safe	100	93
I felt that the right people were involved in my care	100	91

As shown in Table 17, patients' views of the communication from the GPUAS staff and their trust in the care they received were similarly positive, with over 90% agreeing/strongly agreeing with positively framed statements on these areas ('I understood what was happening throughout my time in the service', 'I have trust in the clinicians who treated me' and 'I felt safe').

Aspects of the GPUAS that were highlighted by patients as particularly appreciated included the professionalism and warmth of staff, the provision of clear information about assessments, the efficiency and calm atmosphere of the clinic, and the thoroughness of the health checks offered. The GPUAS's role in preventing medical crises was highlighted by some patients who had been immediately referred on for hospital treatment as a result of being seen at the clinic. Some also mentioned the efficacy of the joined-up working between the GPUAS and GPs/hospitals, and associated referrals and follow-up tests. It is notable that this latter point was also highlighted by others as something that was not working well, indicating that

communications possibly worked better in some parts of the system than others. Finally, some users also appreciated not having to go to ED, which they felt would have been the alternative if the GPUAS was not available, and others felt the service offered them an alternative to waiting a lengthy period for a GP appointment.

> *"The whole experience was excellent. Very caring staff and it's amazing to be able to get tests and treatment on the spot."*
>
> (GPUAS patient)

Survey findings on whether patient care preferences were met were slightly more contradictory. While only 2% disagreed or strongly disagreed with the statement that they were 'glad to be treated in the community rather than in hospital' (Appendix 1), 15% agreed/strongly agreed with another statement that they would rather have gone to hospital (Table 17). Furthermore, 25% agreed/strongly agreed that they would have preferred to be seen by their own GP (Table 15). However, overall, 92% said they agreed/strongly agreed that their care preferences were met (Table 15).

While not all service users perceived care from GPUAS as different from being treated at their local hospital, those that did highlighted several aspects of the experience. One theme was staff having more time to spend with patients than in ED, resulting in patients feeling they had a more person-centred, holistic care experience. Secondly, the experience of being in the GPUAS was felt to be calmer than a busy hospital environment, as well as less stretched, resulting in much shorter waiting times and a reduced stress burden for patients. Another view expressed was that the GPUAS reduced the burden on ED, which could result in easing some of these perceived negatives about attending ED in the future.

Patients listed two broad areas of dissatisfaction with their experience of the GPUAS. The first centred on the referral process from GP surgeries, with some patients describing obstacles in accessing the GPUAS via their GP, or a lack of clear information about the service. The second concerned the connection with GPUAS and wider (non-GP) healthcare services: some patients reported delays in onward referrals (e.g. for x-rays or surgery), receiving test results and/or a lack of follow-up support in interpreting results. Amongst the very small minority of patients who felt their experience of the GPUAS was 'very poor' or 'poor' (2% - see Appendix 1), reasons given included patient expectations about seeing a GP (rather than a nurse) not being met, the distance needed to travel to reach the clinic, and, in one case, a perceived error in tests carried out.

3.6 What were the conditions for success to inform future service planning?

3.6.1 What have been the barriers to implementing and running the GPUAS and how have these been overcome?

The main issue staff felt could be improved within the GPUAS was the efficacy of the triage of patients into the clinic. Two specific groups were highlighted as being referred to GPUAS from GP surgeries when they should not have been. Firstly, patients with issues that were too minor to fit the clinic's urgent care remit. This was felt partly to relate to the GP surgeries themselves being overwhelmed with demand, causing the GPUAS to be used as an 'overflow' clinic. Secondly, patients being referred with conditions that should have excluded them from referral to GPUAS, such as sepsis or suspected heart attack. This was felt to sometimes relate to lack of confidence in the GP surgery staff in doing the formal assessment for these types of conditions.

There was also felt to be potential for improvement in regulating the flow of patients into the service for example, by offering more afternoon and evening appointments, when the service was quieter. A related suggestion was for the service to offer longer opening hours during the week, and to offer weekend appointments.

A further barrier to optimum delivery of the GPUAS was IT-related. Problems were experienced with software compatibility with GP surgeries, apps and updates not working, and printing patient labels within the clinic.

Finally, some expressed disappointment with the way in which decisions had been taken and communicated regarding the ongoing funding of the service, with some staff feeling that this had an impact on engagement with the clinic. A related concern expressed by staff and stakeholders was that the funding decision did not take sufficient account of the value the GPUAS brought to the healthcare infrastructure and to patients.

3.6.2 To what extent was the staffing model financially viable?

While the evaluation did not consider the economic argument for the model in detail, it should be noted that the service was discontinued due to the limited financial feasibility of the staffing model. This is in part down to the number of referrals entering the service (18 per day at its peak) compared to the number of staff working on the service (4.6 FTE).

Key to the model then is getting enough of the right patients through the door to make the service viable for the staffing required. At 18 referrals a day, the GPUAS was not being used to capacity.

The daily lead GPs reported called round to the practices daily and regularly sent update emails advising of capacity, however, this did not generate the number of referrals expected.

The clinical lead for the service discussed several options for subsidising the funding for the service or similar services elsewhere that may support a more sustainable model. Of note were the following points:

- Key to the success is to identify the patients that would most benefit from the GPUAS and there is therefore considerable room to improve the triage system/process from the referring practices to the GPUAS.
- The original aim of the project was to include an element of rotation of staff between GP practices and the GPUAS, including GPs and nurses – this could have supported awareness and engagement with the service across the practices.
- Specialist GP trainees (who are funded centrally) could have supported the model. This could have been an attractive position, potentially enabling dual accreditation in General Practice and Pre-Hospital Urgent Care.
- The introduction of one more clinical prescriber could have doubled the throughput of the services, if demand were there.

One could also argue the potential of reaching more patients by the service covering a broader number of practices.

3.6.3 What has worked well or facilitated good practice in the implementation and delivery of the GPUAS?

Staff highlighted effective multi-disciplinary teamwork as one aspect which worked particularly well in the clinic. Underpinning this was the ethos of respecting team members' different skills. This was helped by, firstly, having a stable team, which did not keep changing, enabling trust to be built between colleagues over time. Secondly, the week-long induction involving the whole team was described as particularly valuable, as it speeded up the process of building relationships and some members felt it could have been usefully expanded further. As a result of this ethos within the team, colleagues felt able to trust others' assessments of patients, decreasing the level of duplication that some staff had experienced in previous roles.

Working closely in a multi-disciplinary team was felt to bring benefits to both staff and patients. Patients were felt to benefit as their situation and symptoms received analysis from multiple perspectives and skillsets, decreasing the chance of anything being missed. For staff, it was felt that working in this way brought opportunities for skills development and professional confidence, as they were exposed to other clinical roles and there were opportunities for further training and mentorship. Staff also felt that this made them feel more supported, as they had opportunities to discuss complex cases with colleagues, and decreased the sense of isolation that some had felt in more traditional healthcare settings. These factors all contributed to high morale within the team.

"[As a nurse] you can feel quite isolated... But this [GPUAS clinic] works very much as a team approach."

GPUAS clinician

"It's been really refreshing to come in and ... have the opportunities to work with other people. And it's a good environment to upskill people."

GPUAS clinician

The provision of extremely high-quality patient care was felt to be the central achievement of the clinic. This was facilitated by the longer appointment times, treatment by a multi-disciplinary team, and having access to on-site testing with the associated rapid availability of results. Staff felt that all of this meant that patients felt listened to, unrushed, and had the peace of mind that they had received a thorough assessment of their symptoms and an action plan. Examples were given of acutely ill patients for whom the rapidity and thoroughness of GPUAS assessment was particularly important, as their condition had the potential to quickly become life-threatening.

"The nurse and doctor were both fantastic. Very empathetic and very reassuring. I felt very well looked after. So pleased that service was available when I needed it. I wish there were more units like it locally."

GPUAS Patient

"From talking to 111 to speed of referral by my GP surgery to speed of being seen by urgent assessment was simply excellent. First rate service. Absolutely brilliant. The Doctor who saw me at the urgent assessment was superb, absolutely brilliant. Quick to see me and quick to diagnose. All very reassuring."

GPUAS Patient

Stakeholders highlighted that the GPUAS added to the efficient treatment of patients within the wider primary care system, by providing dedicated resource to which more unwell patients could be directed. This enabled GP surgeries to focus on patients who could be seen and treated more quickly, aiding the flow of patients through the system and helping to avoid backlogs. Some stakeholders also felt that this aided the triage of patients to ED, as those that could be helped were treated at the GPUAS, ensuring that only those that really needed to were referred to hospital.

Further positive aspects of the GPUAS highlighted by stakeholders were the ease of patient referral and note-sharing with the GPUAS, and praised the availability of same-day appointments. This wider stakeholder group mirrored views of the GPUAS staff in terms of the positive experience that patients had with the clinic, and the satisfaction that staff got from providing the service.

3.6.4 How would you best sustain delivery of the GPUAS?

All stakeholders surveyed felt there was a significant need for the GPUAS in Somerset. The GPUAS clinicians summarised the following enablers to sustaining the service:

- Digital connectivity – read-write access into patients' GP records
- Healthcare team – recruited from across organisational boundaries
- Multi-Disciplinary Team working
- Training – enhanced clinical training in urgent medical care and resuscitation
- Relationships – practices, Somerset Foundation Trust, community teams, South Western Ambulance Service NHS Foundation Trust, Health Innovation South West, Patient Participation Groups
- Connections – pharmaceutical and health technology organisations
- Observation – patient monitoring, data capture, response to treatment
- Radiology – walk-in access at South Petherton Hospital
- Point of Care Testing (PoCT)

Focusing on point of care testing, the clinical lead of the service made the following reflections to support future service planning within or outside of Somerset:

1. **Testing should only be carried out if it will influence clinical management:** Over the years, there has become an increasing trend towards testing everyone attending an urgent or emergency care setting for everything, think about Emergency Department 'blood panels' for example. However, inappropriate testing can have several detrimental impacts:
    a. Introduce duplication of effort – this often reveals comorbidities which are already known and presents an additional challenge to the clinician trying to interpret and action the results.
    b. Muddying the waters – unexpected abnormal results may not be related to the presenting complaint and may detract from the attention and management of the presenting complaint. Although there is an argument for benefit from identifying new abnormal results, this presents challenges with who actions and manages the results, and whether they are even clinically important in a patient who is asymptomatic.
    c. Patient distress – identifying an abnormal result which does not impact available management merely adds to patient anxiety and potentially drives wider health anxieties.
    d. Inefficiency of time – carrying out additional tests with no clinical value, although potentially reassuring to the healthcare professional, simply slows down the process and reduces available time to see other patients.
    e. Financial burden – the item cost of near-patient testing quickly accumulates. Although this may be a reasonable expense if it impacts clinical management, improves speed to recovery for the patient, or reduces spread of a potentially infectious disease, without impact to the clinical management these costs simply cannot be condoned.

2. **Testing should be used to validate clinical impression:** The clinician should use the test to answer a specific question e.g. for D-Dimer testing, 'could this patient have a clot?' There is a real danger with access to numerous rapid tests that a scattergun approach could be employed, simply testing for everything, and trying to link the clinical picture to the abnormal test result. This in turn runs the risk of a less thorough clinical assessment through history and examination, which frequently results in missing key diagnoses and a less holistic style of patient care. Such transactional medical practice has been shown to reduce patient engagement and satisfaction, whilst deskilling the clinical workforce.

3. **There should be an action following the receipt of the result:** This may be a prescription for medication, a referral for further investigation, or simple reassurance to the patient. However, the principles of screening highlight that testing without a viable treatment output is futile.

4. **Testing should be with patient consent:** As always, the patient should understand why the clinician is testing and how this will impact their management, along with any potential risks to the testing. With non- or less-invasive testing options (e.g. swabs or finger prick testing) clinicians often view this consent process as somehow less important, likely due to reduced perceived risks. However, the patient may feel strongly otherwise and may not even want to know the result.

5. **Point of care testing should only be carried out if the time saved is of clinical importance:** This is an important point – in primary care we already have established access to pathology labs and processes for turnaround of results within a day or two. Being run at scale, with a separate budget and strong system-wide governance, whilst the infrastructure is not ready to safely manage multiple on-site systems, pathology-based testing should always be the preferred option. The benefit from POC test is principally related to speed of results, often within a matter of minutes, which can potentially highlight life-threatening conditions or inform diagnoses which require more urgent attention. If a patient is significantly unwell with an infection, or potentially has a clot for example, it is clearly important that their condition is recognised ASAP and appropriate management commenced. The same could be argued for potential risks to public health, which is why the world invested heavily in point of care testing during the COVID-19 pandemic. However, if the condition of the patient will not be adversely affected by a one-two day wait for results of testing, the lab-based route should be prioritised – which is likely to also allow a broader range of testing options.

6. **Testing should be validated by the regional pathology service:** This is critical if there is to be inter-organisational acceptance of POC test results. All machines should be validated and verified by the pathology team. Ideally, results would be uploaded remotely onto the regional results system, which would then make them visible across sites. However, there are very few areas within the NHS which have

developed this infrastructure to date. There is a need for POC test developers to work collaboratively to agree a shared digital reporting system, to avoid duplication and unnecessary complexity within our pathology networks.

7. **There must be a rigorous schedule of quality control:** Most POC machines require quality control / validation with standard testing solutions. However, many machines also allow the requirement for quality controls to be turned off by the user. There needs to be centralised regulation to ensure the validity of results and provide assurances with regards quality control over time of use.

8. **Results should be comparable with previous lab-based values:** There should be the option to utilise units / values which allow direct comparison, ideally using the same normal reference ranges where possible. POC test results will usually be coded into the patient's clinical records – there are no SNOMED codes to identify a test was carried out using POC machine as opposed to the lab, which means results are likely to be compared with lab-based results. This requires action, either in terms of coding or ensuring results are directly comparable, otherwise we are introducing an element of clinical risk.

9. **Testing should be economical:** Although there is an initial outlay for the cost of POC machines, for most it is the cost of the testing strips / cartridges which are the bigger financial pressure. To be worthwhile, the cost of the testing must be offset by a benefit beyond simply the speed of result. This might be any of the below factors:
    a. Reduced prescribing costs (e.g. decision not to prescribe antibiotics).
    b. Reduced requirement for further expensive testing (e.g. no longer needs referral for scan to exclude clot).
    c. Reduced risk of clinical deterioration – when patients have potentially more serious conditions and a test can aid with rapid diagnostics / guide management.
    d. Preventing spread of contagion – through advice to isolate or commencement of appropriate treatment.
    e. Preventing unnecessary infirmity (e.g. reassurance that patient does not have communicable infection so can return to work / education).
    f. Preventing further appointments and therefore staff workload - to share/discuss results.

4. Conclusion

In 19 weeks, the GPUAS was able to establish itself as a safe alternative referral route for patients with an urgent care need in the community. The service supported 1,351 patients over 1,482 appointments. Referrers felt confident that the GPUAS could provide timely and accurate diagnosis for urgent patients and that the service reduced pressure on their workload by effectively managing these patients.

Clinicians who worked within the GPUAS appreciated the ability to provide thorough observation, diagnostics, and appropriate treatment, which prevented the escalation of conditions to the point of hospitalisation. They reported that having a multi-disciplinary team involved in patient care meant that there were colleagues available to sense-check diagnoses and discuss complex cases, generating a feeling of mutual support.

High levels of satisfaction were reported among patients and carers, with GPUAS meeting patient preferences for care.

Numerous cases of cancer, heart failure, blood clots, and respiratory infections were identified and treated or referred within GPUAS. Staff highlighted the critical role of rapid diagnostics in timely and effective patient management.

Considering the staff, stakeholder and patient views alongside the admissions data, it is reasonable to suggest that the GPUAS has an impact on acute admissions and attendances at ED, reducing pressure on secondary care by providing thorough observation, diagnostics and appropriate treatment to prevent the need for some referrals for investigation but also preventing escalation of issues or conditions to the point of hospitalisation.

Point of care testing was felt to be vital to support this impact, particularly the D-Dimer, CRP and Strep A testing which, when used alongside clinical judgement, can support diagnosis and treatment decisions, reduce unnecessary medicine prescribing and enable faster access to the right treatment for the patients.

The service had a significant and positive impact on the patients that it supported, however, with the staffing levels required. more patients would need to be seen for the service to be financially viable. With more patients supported to achieve these outcomes, the GPUAS could be considered a feasible model for supporting urgent care in the community. Ensuring effective triage and referral processes are therefore vital for the success of the service.

5. References

Aldus, C., Pope, I., Brainard, J., Ruston, A., Hughes, G., & Everden, P. (2022). Feasibility and evaluation of an emergency department-based gp streaming and treatment service.. https://doi.org/10.1101/2022.05.13.22275043

Baker R, G K Freeman, J L Haggerty, M J Bankart & K H Nockels. Primary medical care continuity and patient mortality: a systematic review. British Journal of General Practice 2020; 70(698): e600-e611. Available at: https://bjgp.org/content/70/698/e600

Bates, J., Thomas-Jones, E., Pickles, T., Kirby, N., Gal, M., Bongard, E., ... & Butler, C. (2014). Point of care testing for urinary tract infection in primary care (poetic): protocol for a randomised controlled trial of the clinical and cost effectiveness of flexicult™ informed management of uncomplicated uti in primary care. BMC Family Practice, 15(1). https://doi.org/10.1186/s12875-014-0187-4

Brachmann, M., Serwa, P., & Sauerland, D. (2023). Cost-of-illness comparison between clinical judgment and molecular point-of-care testing for influenza-like illness patients in germany. NPJ Primary Care Respiratory Medicine, 33(1). https://doi.org/10.1038/s41533-022-00325-4

Coster, J., Turner, J., Bradbury, D., & Cantrell, A. (2017). Why do people choose emergency and urgent care services? a rapid review utilizing a systematic literature search and narrative synthesis. Academic Emergency Medicine, 24(9), 1137-1149. https://doi.org/10.1111/acem.13220

Daniels, R.; Miles, E.; Button, K. Does the Addition of Point-of-Care Testing Alter Antibiotic Prescribing Decisions When Patients Present with Acute Sore Throat to Primary Care? A Prospective Test of Change. Diagnostics 2024, 14, 1104. https://doi.org/10.3390/diagnostics14111104

Daniels, R.; Cottin, J.; Khanafer, N. Point-of-Care Testing for SARS-CoV-2: A Prospective Study in a Primary Health Centre. Diagnostics 2023, 13, 1888. https://doi.org/10.3390/diagnostics13111888

Gulliford MC, Dregan A, Moore MV, et al. (2014). Continued high rates of antibiotic prescribing to adults with respiratory tract infection: survey of 568 UK general practices. BMJ Open 2014;4:e006245. doi:10.1136/bmjopen-2014-006245

Gulliford MC, Moore MV, Little P, et al. (2014). Safety of reduced antibiotic prescribing for self limiting respiratory tract infections in primary care: cohort study using electronic health records. BMJ 2016;354:i3410.doi:10.1136/bmj.i3410.

HM Government. 2024. Confronting Antimicrobial resistance 2024 to 2029. Confronting antimicrobial resistance 2024 to 2029 (publishing.service.gov.uk)

Hoste, M., Colmna, E, Wanat, M et al (2023). Stakeholders' views and experiences on implementing new diagnostics in primary care to support management of community-

acquired acute respiratory tract infections: a qualitative study. Frontiers in Public Health, 11. https://doi.org/10.3389/fpubh.2023.1216940

Ivaska L, Niemelä J, Lempainen J, Österback R, Waris M, Vuorinen T, Hytönen J, Rantakokko-Jalava K, Peltola V. (2017). Aetiology of febrile pharyngitis in children: potential of myxovirus resistance protein A (MxA) as a biomarker of viral infection. J Infect. 2017 Apr; 74(4): 385-392. doi:10.1016/j.jinf.2017.01.002.

Kronman MP, Zhou C, Mangione-Smith R (2014) Bacterial prevalence and antimicrobial prescribing trends for acute respiratory tract infections. Pediatrics 2014; 134: e956-65. doi: 10.1542/peds.2014-0605.

Little P, Hobbs FR, Mant D, McNulty CA, Mullee M. (2012). Incidence and clinical variables associated with streptococcal throat infections: a prospective diagnostic cohort study. Br J Gen Pract 2012; 62: e787-94. doi: 10.3399/bjgp12X658322.

Lusignan, S., Hoang, U., Liyanage, H., Tripathy, M., Yonova, I., Byford, R., ... & Clark, T. (2020). Integrating molecular point-of-care testing for influenza into primary care: a mixed-methods feasibility study. British Journal of General Practice, 70(697), e555-e562. https://doi.org/10.3399/bjgp20x710897

Matthes, A., Wolf, F., Schmiemann, G., Gágyor, I., Bleidorn, J., & Markwart, R. (2023). Point-of-care laboratory testing in primary care: utilization, limitations and perspectives of general practitioners in germany. BMC Primary Care, 24(1). https://doi.org/10.1186/s12875-023-02054-0

Matthes, A.; Wolf, F.; Bleidorn, J.; Markwart, R.(2022) It Was Very Comforting to Find Out Right Away. Patient Perspectives on Point-of-Care Molecular SARS-CoV-2 Testing in Primary Care. Patient Prefer. Adherence 2022, 16, 2031–2039. https://doi.org/10.2147/ppa.s372366

McNulty CAM, Nichols T, French DF, Joshi P and Butler CC. (2013) Expectations for consultations and antibiotics for respiratory tract infection in primary care: the RTI clinical iceberg. British Journal of General Practice 2013; 63 (612): e429-e436. DOI: https://doi.org/10.3399/bjgp13X669149

NHS England 2023 Delivery Plan for Urgent and Emergency Care Services https://www.england.nhs.uk/publication/delivery-plan-for-recovering-urgent-and-emergency-care-services/

NHS England 2017 Urgent Treatment Centres – Principles and Standards https://www.england.nhs.uk/wp-content/uploads/2017/07/urgent-treatment-centres%E2%80%93principles-standards.pdf

NHS England 2019. The NHS long term plan. https://www.longtermplan.nhs.uk/

NHS England 2022. Next steps for integrating Primary Care: Fuller Stocktake Report. Microsoft Word - FINAL 003 250522 - Fuller report[46].docx (england.nhs.uk)

NHSE England 2023. Delivery plan for recovering urgent and emergency care services. NHS England » Delivery plan for recovering urgent and emergency care services – January 2023

NHS England 2024/25. Priorities and Operational Planning Guidance. 2024/25 priorities and operational planning guidance (england.nhs.uk)

Oxford AHSN 2020. Introducing point of care (POC) testing in a primary care urgent care pathway to improve clinical service delivery. https://www.oxfordahsn.org/wp-content/uploads/2020/11/Use-of-POC-testing-in-a-GP-Urgent-Care-Pathway-Report-Final-22-10-20.pdf

Phillips, R., Stanton, H., Singh-Mehta, A., Gillespie, D., Bates, J., Gal, M., ... & Francis, N. (2020). C-reactive protein-guided antibiotic prescribing for copd exacerbations: a qualitative evaluation. British Journal of General Practice, 70(696), e505-e513. https://doi.org/10.3399/bjgp20x709865

Schneider, J., Boehme, C., Borisch, B., & Dittrich, S. (2020). Application of a simple point-of-care test to reduce uk healthcare costs and adverse events in outpatient acute respiratory infections. Journal of Medical Economics, 23(7), 673-682. https://doi.org/10.1080/13696998.2020.1736872

Strum, R. P., Mowbray, F., Mondoux, S., & Costa, A. P. (2023). Evaluating emergency department transfers from urgent care centres: insights for paramedic integration with subacute healthcare. BMJ Open Quality, 12(1), e002160. https://doi.org/10.1136/bmjoq-2022-002160

Schols AMR, Stakenborg JPG, Dinant GJ, Willemsen RTA, Cals JWL. Point-of-care testing in primary care patients with acute cardiopulmonary symptoms: a systematic review. Fam Pract. 2018 Jan 16;35(1):4-12. doi: 10.1093/fampra/cmx066

Turner, P., Bruel, A., Jones, C., Plüddemann, A., Heneghan, C., Thompson, M., ... & Howick, J. (2016). Point-of-care testing in uk primary care: a survey to establish clinical needs. Family Practice, 33(4), 388-394. https://doi.org/10.1093/fampra/cmw018

Turner, J., Coster, J., Chambers, D., Cantrell, A., Phung, V., Knowles, E., ... & Goyder, E. (2015). What evidence is there on the effectiveness of different models of delivering urgent care? a rapid review. Health Services and Delivery Research, 3(43), 1-134. https://doi.org/10.3310/hsdr03430

Varzgalien, L.; Heerey, A.; Cox, C.; McGuinness, T.; McGuire, G.; Cals, J.W.; O'Shea, E.; Kelly, M. Point-of-care testing in primary care: Needs and attitudes of Irish GPs. BJGP Open 2018, 1. https://doi.org/10.3399/bjgpopen17X101229

Vicentini, C., Vola, L., Previti, C., Brescia, V., Mas, F., Zotti, C., ... & Bert, F. (2022). Antimicrobial stewardship strategies including point-of-care testing (poct) for pediatric patients with upper-respiratory-tract infections in primary care: a systematic review of

economic evaluations. Antibiotics, 11(8), 1139. https://doi.org/10.3390/antibiotics11081139

Villaseñor, S. and Krouse, H. (2016). Can the use of urgent care clinics improve access to care without undermining continuity in primary care?. Journal of the American Association of Nurse Practitioners, 28(6), 335-341. https://doi.org/10.1002/2327-6924.12314

Wolf, F.; Matthes, A.; Markwart, R.; Bleidorn, J. Perspectives of physicians and medical assistants on the implementation of NAAT-based point-of-care testing for SARS-CoV-2 in primary care in Germany. Z. Evid. Fortbild. Qual. Gesundhwes. 2022, 175, 43–49. https://doi.org/10.1016/j.zefq.2022.09.006

6. Annex

Annex 1: Results from GPUAS patient experience survey

Overall, how was your experience of the Urgent Assessment Service?	**Percentage**
Very good	88.6
Good	8.6
Fair	1.0
Poor	1.0
Very poor	1.0
Base (n)	***105***

How satisfied were you with the following:

Your overall experience of the service	**Percentage**
Very satisfied	92.4
Somewhat satisfied	4.8
Neither satisfied nor dissatisfied	0.0
Somewhat dissatisfied	1.0
Very dissatisfied	1.9
Base (n)	***105***

How quickly you were seen	**Percentage**
Very satisfied	92.3
Somewhat satisfied	3.8
Neither satisfied nor dissatisfied	1.0
Somewhat dissatisfied	1.0
Very dissatisfied	1.9
Base (n)	***104***
Missing	*1*

Any diagnostic activity (e.g. a swab test or blood test)	Percentage
Very satisfied	83.3
Somewhat satisfied	4.4
Neither satisfied nor dissatisfied	6.7
Somewhat dissatisfied	2.2
Very dissatisfied	3.3
Base (n)	***90***
Missing	*15*

The speed of any diagnosis you were given	Percentage
Very satisfied	86.4
Somewhat satisfied	3.9
Neither satisfied nor dissatisfied	3.9
Somewhat dissatisfied	1.9
Very dissatisfied	3.9
Base (n)	***103***
Missing	*2*

Your involvement in your care	Percentage
Very satisfied	90.1
Somewhat satisfied	1.0
Neither satisfied nor dissatisfied	4.0
Somewhat dissatisfied	2.0
Very dissatisfied	3.0
Base (n)	***101***
Missing	*4*

Any treatment or medication you were given	Percentage
Very satisfied	84.4
Somewhat satisfied	7.3

Neither satisfied nor dissatisfied	5.2
Somewhat dissatisfied	0.0
Very dissatisfied	3.1
Base (n)	***96***
Missing	*9*

Any onward referrals made	**Percentage**
Very satisfied	77.2
Somewhat satisfied	6.3
Neither satisfied nor dissatisfied	10.1
Somewhat dissatisfied	0.0
Very dissatisfied	6.3
Base (n)	***79***
Missing	*26*

Please rate your agreement with the following statements about your experience of the service and the impact it had on you:

I understood what was happening throughout my time in the service	**Percentage**
Strongly Agree	90.4
Agree	4.8
Neither Agree nor Disagree	3.8
Disagree	0.0
Strongly Disagree	1.0
Base (n)	***104***
Missing	*1*

I was involved in decisions about my care	**Percentage**
Strongly Agree	87.3
Agree	7.8
Neither Agree nor Disagree	2.9
Disagree	1.0
Strongly Disagree	1.0
Base (n)	***102***
Missing	*3*

I have trust in the clinicians who treated me	Percentage
Strongly Agree	88.3
Agree	7.8
Neither Agree nor Disagree	1.9
Disagree	1.0
Strongly Disagree	1.0
Base (n)	***103***
Missing	*2*

I was glad to be treated in the community rather than in hospital	Percentage
Strongly Agree	88.3
Agree	4.9
Neither Agree nor Disagree	4.9
Disagree	1.0
Strongly Disagree	1.0
Base (n)	***103***
Missing	*2*

I would have rather gone to hospital	Percentage
Strongly Agree	11.6
Agree	3.5
Neither Agree or Disagree	11.6
Disagree	19.8
Strongly Disagree	53.5
Base (n)	***86***
Missing	*19*

My care preferences were met	Percentage
Strongly Agree	85.7
Agree	6.1
Neither Agree nor Disagree	4.1

Disagree	1.0
Strongly Disagree	3.1
Base (n)	***98***
Missing	*7*

I would have preferred to be seen by my own GP	**Percentage**
Strongly Agree	14.6
Agree	10.1
Neither Agree or Disagree	38.2
Disagree	19.1
Strongly Disagree	18.0
Base (n)	***89***
Missing	*16*

I felt safe	**Percentage**
Strongly Agree	87.0
Agree	6.0
Neither Agree nor Disagree	4.0
Disagree	3.0
Strongly Disagree	0.0
Base (n)	***100***
Missing	*5*

I felt that the right people were involved in my care	**Percentage**
Strongly Agree	84.0
Agree	7.0
Neither Agree nor Disagree	5.0
Disagree	2.0
Strongly Disagree	2.0
Base (n)	***100***
Missing	*5*

Annex 2: Results from POC patient experience survey

Level of agreement/disagreement with the following statements about experience of receiving the point of care test:	
I understood what I was being tested for	**Percentage**
Strongly Agree	90.1
Agree	8.5
Neutral	0.0
Disagree	1.4
Strongly Disagree	0.0
Base (n)	***71***

I felt ok about having the swab taken	**Percentage**
Strongly Agree	85.5
Agree	8.7
Neutral	1.4
Disagree	1.4
Strongly Disagree	2.9
Base (n)	***69***
Missing	*2*

Having the swab was uncomfortable	**Percentage**
Strongly Agree	10.3
Agree	36.8
Neutral	29.4
Disagree	14.7
Strongly Disagree	8.8
Base (n)	***68***
Missing	*3*

I trusted the result of the test	**Percentage**
Strongly Agree	75.8
Agree	19.7
Neutral	3.0
Disagree	1.5
Strongly Disagree	0.0
Base (n)	***66***
Missing	*5*

I was glad to have immediate result	Percentage
Strongly Agree	89.7
Agree	8.8
Neutral	0.0
Disagree	1.5
Strongly Disagree	0.0
Base (n)	***68***
Missing	*3*

The test was a worthwhile thing to do	Percentage
Strongly Agree	88.2
Agree	10.3
Neutral	0.0
Disagree	1.5
Strongly Disagree	0.0
Base (n)	***68***
Missing	*3*

Overall rating of experience of accessing point of care testing	Percentage
Very Positive	95.6
Somewhat Positive	2.9
Neither Positive or Negative	1.5
Negative	0.0
Very Negative	0.0
Base (n)	***68***
Missing	*3*

Abbott provided ID NOW instruments and assays, and part-funded the data collection for this study, as part of an agreement with Symphony Healthcare and Health Innovation South West to evaluate the ID NOW molecular point of care technology (mPoCT) within South Somerset West Primary Care Network's GP Urgent Assessment Service pilot.

Symphony also used the Siemens EPOC and the Roche LumiraDx PoCT devices - purchased at cost and acquired from existing regional stock respectively - to broaden the pilot's clinical range and learnings into point of care testing.

While acknowledging each device's valuable role in the pilot and its learnings, the provision of those devices did not influence the content of the study, and this evaluation should not be read as a comparative product test or trial of any of the products used, nor considered an endorsement or recommendation by Health Innovation South West or Symphony for any specific products or manufacturers.