Scottish Government
Riaghaltas na h-Alba
gov.scot

Community Testing: Health Board Leads' Experiences of the Implementation of the Programme

A qualitative study

HEALTH AND SOCIAL CARE

social research

Contents

Executive summary

Introduction

In January 2021, as part of its overall Testing Strategy, the Scottish Government implemented the Community Testing Programme. This aimed to detect cases both in areas with high or spiking Covid-19 rates, and in communities at higher risk of contracting the virus or with limited or no access to other asymptomatic testing routes.

This qualitative study analyses data from in-depth interviews conducted with Health Board leads on their experiences of the Programme, with a focus on good practice examples, challenges and strategies adopted by each local area to overcome barriers to Community Testing.

Background

The Community Testing Programme was launched with a pilot study between 26th November and 9th December 2020 in eight communities with stubbornly high prevalence. Following this successful first phase, the Programme officially commenced in a number of Health Boards on the 18th January 2021 and combined fixed sites with pop-up and/or mobile solutions. The general public could drop-in or book a test in one of the available locations, where trained helpers performed or distributed tests and explained how to correctly administer them at home.

Given the differences in geography and demographics of each Health Board, these different testing solutions contributed to providing the most appropriate services to the populations targeted by Community Testing. They also represented an important presence in local areas, where they were responsible for advertising the Programme.

Research aims and objectives

This research provides insights into the set-up and management of the Community Testing Programme, with the aim of supporting national policy-making on testing and learning lessons from a rapid and significant programme of work to combat the spread of Covid-19. The objectives of this study are: reporting local leads' experiences of the implementation of the Programme; providing in-depth information on Health Board leads' views on the barriers to Community Testing encountered by their local populations; and exploring the strategies and approaches adopted by each local area to overcome these barriers.

Research questions

This study aimed to answer the following research questions:

- How has the Community Testing Programme been operating?
- How has community engagement been pursued and barriers to testing overcome?

- What lessons can be learned from the implementation of the Programme?

Research methods and sampling

The data presented here was collected between 1st December 2021 and 25th February 2022. A qualitative approach of semi-structured interviews was chosen to ensure that local leads' views of the implementation of the Community Testing Programme were captured.

Each interview lasted about 60 minutes and was audio recorded and transcribed. The transcripts have been analysed by theme for comparison purposes. Verbatim quotes are included in this report as examples of the research findings to present participants' voices.

Fourteen leads belonging to 12 Health Boards took part in the research. They had a varied professional background and worked in a number of different roles. Some had taken part in the Programme since its launch, while others joined at a later stage.

Information about each Health Board and individual participants has been anonymised in this report. The report has been shared with research participants before publication to ensure that they are content with the way their views and experiences are being represented and that they feel their anonymity has been protected.

Key findings

Findings from the interviews are analysed by theme with a focus on the following aspects:

Models of implementation

The implementation of the Community Testing Programme had to be achieved in a matter of just a few weeks and represented a demanding task for the Health Boards. Although the majority of the leads felt that the set-up of fixed sites went smoothly, difficulties in identifying the right locations were indicated as the main operational challenge of the initial phase. In some cases, these were due to a lack of venues meeting public health requirements; in others, to the impossibility of establishing which areas were in greatest need of targeted testing through existing data. Concerns about footfall in remote or rural settings with a very sparse population also led some Health Boards to question the need for fixed sites at all.

Mobile solutions represented an important development in the models of delivery and were perceived as a more flexible alternative, thanks to their potential to easily adapt to an ever-evolving situation and to address the logistical issues emerging in those areas where the setting-up of a fixed site was not possible. Yet, they presented the leads with further obstacles, such as the length and complexity of the process involved in their deployment or the pushback from a few community facilities that found the presence of MTUs disruptive.

When pop-up sites were being used to enhance the testing offer, some Health Boards struggled with additional challenges, such as timely delivery or purchase of vans, or poor signal inside the vehicles. Some interviewees also expressed concerns regarding the quality of the equipment and material used to build booths, while also praising local partners and the Army for offering more suitable or creative solutions allowing frequent handling and reducing the risk of damage due to wear.

With the increasing focus on the LFD Collect model at the beginning of 2021, the Programme benefited from the distribution of test kits in a number of additional locations and even door-to-door. This widespread availability of tests led some Health Board representatives to further question the need for the ATSs.

Finally, some leads felt strongly about the importance of dual testing, a model offering both LFD and PCR tests in the same location, which was adopted in a few local areas at a later stage.

During the Programme's evolution, a number of issues emerged. With services moving back to normal at the end of lockdown, keeping or replacing testing venues belonging to third parties became increasingly difficult. Furthermore, test supply or transport were complicated by uncertainties around uptake, bad weather conditions and international shortages of kits. Some leads also reported attempts to inappropriately use the Community Testing Programme on the part of those workplaces which considered the Government route for businesses too bureaucratic.

Recruitment of testing staff

The recruitment of testing staff didn't represent a challenge in the early phases of the Programme, thanks to the presence of the military, people sourced among those re-deployed from non-critical services, and the high number of employees who had been furloughed and were looking for a job. Indeed, it was even described by some leads as a positive unintended consequence of the Programme, which offered employment opportunities to the local population, while also adding skills and value to the NHS.

However, as society started opening up and people to go back to their previous jobs – and a number of job positions for vaccination venues were advertised – retaining testing staff became increasingly problematic. The issue related to the temporary nature of short-term contracts, the lack of competitiveness with salaries for other positions in the same NHS band and difficult working conditions (e.g. downtime, bad weather for those working in pop-up and mobile solutions, and abuse from some members of the public). In response to this, some Heath Boards proactively promoted staff wellbeing by adopting strategies meant to benefit or motivate them, and initiatives to recognise their contribution to the Programme.

Relationships with Partners

The financial resources for the implementation of the Community Testing Programme were provided by the Scottish Government to the Health Boards, who were then given the autonomy to manage and allocate funds to their Local

Authorities. This flexibility resulted in three different approaches to setting up the Programme: in some cases, the Health Boards had full control of implementation; in others, the Local Authorities took the lead; whereas some areas preferred a partnership between the two.

In the majority of cases, the Health Boards and Local Authorities worked in partnership, with the former usually focusing on the delivery of test kits, processing of samples, provision of trained nurses and clinical governance; and the latter on the operational delivery, such as taking responsibility for the recruitment of testing staff and for the provision, set up and management of the sites.

Partnering with Local Authorities was seen as beneficial due to their deep knowledge of their area, which contributed not only to identifying the best locations in which to place the sites, but also to establishing or strengthening relationships with a network of other parties closely engaged with local communities.

With few exceptions, the Health Board leads described the collaboration with their Local Authorities in very positive terms. They considered it a result of previously strong relationships, but also suggested that increased trust and recognition of achievements contributed to improving cooperation further.

Collaboration with the Scottish Government, SAS (Scottish Ambulance Service), NSS (National Services Scotland) and the Army were mentioned by the interviewees as key relationships that developed thanks to the Community Testing Programme. Engagement with other partners, such as leisure providers and the voluntary sector, varied significantly by local area and seemed to depend on how well the NHS, or the Local Authorities as their intermediaries, were tied in with these groups before the implementation of the Programme.

Targeted communities and barriers to Community Testing

For the Community Testing leads, knowledge of the local populations and data gathering on case rates and wastewater were key for the identification of areas to target and the effective use of resources.

In many cases, rurality emerged as one of the demographics posing a major barrier to testing. The implementation of the Community Testing Programme was perceived as paramount in those remote settings that had issues with accessibility of tests (e.g. due to slow mail services and the exclusion from the Universal Offer home delivery service of some post codes) and a local perception of being at low risk of catching Covid-19 thanks to geographical isolation.

Socio-economic deprivation was also mentioned as a demographic determining both practical (e.g. travel to the testing venues and the associated costs) and psychological barriers (e.g. worries about receiving a positive test, having to self-isolate and losing earnings for taking time off work). Although support was provided, a few interviewees argued that this didn’t always solve testing hesitancy due to the small number of grants which were actually awarded, the sometimes lengthy process involved in receiving funds and the variation in provision between Local Authorities.

The Health Board leads also factored in ethnicity as a demographic variable affecting testing uptake (for example, due to language barriers).

Other barriers identified pertained to accessibility: digital barriers (e.g. due to remoteness and connection issues, older age and lack of digital literacy); the lengthy process of registering a test; poor weather conditions for those accessing the Mobile Testing Units; and difficulties in locating the mobile solutions that were in place.

The majority of the leads also thought that testing uptake was impacted by poor health literacy and by the confusion caused in the public by the complexity of the testing landscape. There was a general perception that people struggled to understand why a test was needed in the absence of symptoms, differences between types of tests and what the Asymptomatic Testing Sites were, with some leads also reporting misconceptions and myths circulating about testing. Testing fatigue and concerns regarding Covid-19 tests in general, considered invasive and/or difficult to administer, were also seen as a likely further cause of disengagement from the Programme.

Finally, the leads reflected on the drop in demand and need for on-site assisted testing following the launch of the Universal Offer, and to the difficulty in establishing whether their Health Board had managed to identify all the populations that needed to be targeted.

Communication and outreach strategies

In order to promote awareness of the existence and objectives of the Community Testing Programme, encourage uptake and reduce barriers to testing, the Health Boards invested in a number of communication and outreach strategies.

Each area expanded the general guidelines received from the Scottish Government to include additions or modifications to the Programme discussed and agreed locally in order to target local areas' needs and improve accessibility.

Social media, and Council or other websites, were widely utilised for the flexibility they offered: they allowed the targeting of specific audiences, the addition of the most up-to-date information (e.g. on the locations of MTUs) and live support to users. Although with some caveats, social media also provided data on users' engagement and barriers to testing, which contributed to a picture of emerging issues and helped to develop targeted solutions. Traditional media were used in all the Health Boards too. These included local TV, radio and press, both for news releases and interviews with the leads.

Efforts to increase uptake also focused on accessibility (e.g. good public transport links and flexible opening times), visibility of testing sites and staff (not only in terms of location, but choice of colour for the site and the staff uniforms), clarity of signage and a presence in outbreak settings, in additional locations and at special events. Door-to-door distribution was also adopted in rural contexts to tackle structural factors such as sparse or dispersed populations, and limited facilities.

Positive interactions with the testing staff emerged from the interview as one of the strengths of the Programme. These were attributed to the emphasis on relationship building and communication, with testing teams not only distributing kits, but promoting knowledge of Covid-19 and testing, and addressing misconceptions and anxieties in the targeted populations. A couple of leads stated that this approach turned the Programme into a wellbeing resource at a time of social isolation and loneliness, with some repeat users attending the venues for social contact and a chat.

Collaboration with third sector organisations, Third Sector Interfaces (TSIs) and faith groups was described as crucial for the promotion of testing through trusted voices and the provision of additional data on specific groups and communities.

Finally, some interviewees found that their outreach work benefited from establishing links with vaccination venues and pop-up options. On the other hand, one lead suggested that those getting vaccinated were clearly engaging with Covid preventative measures and probably already accessing tests through other routes.

Reflections on the overall Testing Programme

The implementation of the Community Testing Programme stretched and evolved over the course of several months, as it adapted to changed circumstances and incorporated lessons learned from experience. During the interviews, the leads reflected on what this meant for their Health Boards.

Some interviewees mentioned initial resistance to the Programme, questioning its necessity, as well as the usefulness of LFD tests as a screening measure. Others focused on the operational side and discussed uncertainties around uptake.

The need for better data was reported by a few leads, who explained the difficulty in understanding case distribution or the actual impact of different models. It was suggested that more (possibly qualitative) analysis and evaluations were needed. Yet, some argued that, even if better data had been collected, these would still have referred to a very low number of tests and lacked significance. Furthermore, the interviewees stated that with the implementation of the LFD Collect model, the impossibility of establishing whether tests were collected but not used and/or recorded online made it trickier to assess any success.

A good number of interviewees believed that the Community Testing Programme maximised the opportunities for the public to find and pick up tests, with wide availability and ease of accessibility of tests seen as proof that the Programme achieved its main aim.

On the other hand, some Health Board leads stressed how these successes had to be measured against the costs of the Programme and questioned whether it was financially sustainable, especially longer term. As the testing landscape kept changing over the course of the pandemic, most of the leads struggled to imagine what the future of Community Testing would look like, while also suggesting that there may be scope for reviewing its original objectives.

Finally, the leads recalled how being part of the Programme meant working in a fast-paced and dynamic environment, characterised by frequent demands and unexpected challenges. As they faced an ongoing public health emergency and staff absence due to Covid sickness, long work hours and stress heavily impacted on their and their team's work-life balance. Nonetheless, they also expressed a sense of fulfilment for having worked towards achieving ambitious objectives and been part of an historic effort.

Introduction

Over the course of the pandemic, testing has represented a key tool in detecting cases, reducing transmission and containing the spread of Covid-19. At the end of 2020, with a growing body of evidence suggesting that around 1 in 3 people with the virus did not have symptoms, Scotland's approach to testing expanded to include testing of pre- and a-symptomatic cases, as well as symptomatic cases.

In January 2021, as part of its overall Testing Strategy, the Scottish Government implemented the Community Testing Programme in collaboration with the NHS Boards, Local Authorities and Public Health Scotland (PHS). The Programme aimed to detect cases both in areas with high or spiking Covid-19 rates, and in communities at higher risk of contracting Covid or with limited or no access to other asymptomatic testing routes (e.g. those available in health care or educational settings).

Monitoring and evaluation work on Community Testing has been conducted by the Scottish Government in order to inform its ongoing development (Coronavirus (COVID-19) targeted community testing: national evaluation evidence and insights. See also Coronavirus (COVID-19) asymptomatic testing programme: evaluation - November 2020 to June 2021). This qualitative study builds on that work to provide further insights into Health Board leads' experiences of the Programme, with a focus on good practice examples, challenges and lessons learned, views on the barriers to Community Testing encountered by their local populations and strategies adopted to overcome those barriers.

Background

The Community Testing Programme was launched with a pilot study between 26th November and 9th December 2020 in eight communities with stubbornly high prevalence. This established an Asymptomatic Testing Site (ATS) and deployed six Mobile Testing Units (MTUs) providing both symptomatic and asymptomatic testing in targeted locations. Following this first phase, the Programme officially commenced in a number of Health Boards on the 18th January 2021, with the objectives of identifying geographic areas where there was a concern around levels of community transmission and implementing targeted and rapid deployment of testing resources within those communities to enhance symptomatic testing provision and offer asymptomatic testing options. The Community Testing Programme also brought testing capacity to places of work and learning in order to improve accessibility.

The national model combined fixed sites with pop-up and/or mobile solutions. The fixed sites, or Asymptomatic Testing Sites, were located in buildings specifically assigned to the Programme (e.g. libraries, town halls, etc.). More flexible versions of these were also created as pop-ups solutions, utilising venues on a temporary basis or making use of vans. Finally, the testing offer was enhanced by Mobile

Testing Units, originally run by the Army and later handed over to the Scottish Ambulance Service (SAS).

The general public has been able to drop-in or book a test in one of the available locations, where trained helpers performed or distributed tests and explained how to correctly administer them at home. Some communities have also benefitted from a drop-off service providing both LFDs and PCRs (Polymerase Chain Reaction tests used mainly for people with symptoms).

Given the differences in geography and demographics of each Health Board, these different testing solutions contributed to provide the most appropriate services to the targeted populations. Both fixed sites, MTUs, and other temporary locations set up for testing have represented an important presence in local areas, where they have also been responsible for advertising the Programme. Pop-up and/or mobile options have not only reached the most remote communities, but provided an adaptable and rapid response in specific circumstances, for instance with their deployment to specific places or organisations with an outbreak or in locations lacking suitable fixed venues.

Research aims and objectives

This research study used in-depth interviews with NHS Health Board leads on the Community Testing Programme to provide insights into its set-up and management, with the aim of supporting national policy-making on testing and learning lessons from a rapid and significant programme of work to combat the spread of Covid-19.

The objectives of this study are:

- reporting local leads' experiences of the implementation of the Programme, including good practice examples, challenges met and lessons learned;
- reporting in-depth information on Health Board leads' views on the barriers encountered by their local populations in accessing testing services;
- providing an account of the strategies and approaches adopted by each Health Board to promote the Programme and overcome barriers to testing that were experienced.

Research questions

This study aimed to answer the following research questions:

- How has the Community Testing Programme been operating?
  - What models of implementation have been put in place?
  - How have NHS Boards worked together with local authorities and other partners to deliver the Programme?

- What successes has the Programme achieved and what challenges has it faced?

- How has community engagement been pursued?
  - What do Health Board leads perceive as the main barriers to testing among their local populations?
  - What outreach and communication strategies have been used by the Health Boards?
- What lessons can be learned from the implementation of the Community Testing Programme?
  - What worked well and what could have been done differently?
  - What have been the positive and negative unintended consequences of the Community Testing Programme?

Research methods and sampling

The data presented here was collected between 1st December 2021 and 25th February 2022. A qualitative approach involving conducting semi-structured interviews was chosen to ensure that local leads' views of the implementation of the Community Testing Programme were captured. Interviews were conducted via video call on Teams due to Covid restrictions on face-to-face research at the time of fieldwork.

Each interview lasted about 60 minutes to limit the disruption that study participation could have caused to work schedules and other responsibilities, as well as to safeguard participants' wellbeing. Interviews were audio recorded and transcribed. The transcripts have been analysed by theme for comparison purposes. Verbatim quotes are included in this report as examples of the research findings to present participants' voices.

Fourteen leads belonging to 12 Health Boards took part in the research. They were interviewed individually or together with other leads from the same Health Board. The leads who oversaw the Community Testing Programme had a varied professional background and worked in a number of different roles (Directors of Public Health, Consultants in Public Health, Health Improvement Managers, Researchers, Evaluation Managers, Resilience Officers, Service Operations Managers). Some had taken part in the Programme since its launch, while others joined at a later stage.

Information about each Health Board and individual participants has been anonymised in this report. The report has been shared with research participants before publication to ensure that they are content with the way their views and experiences are being represented and that they feel their anonymity has been protected.

Key findings

In this section, findings from the interviews are analysed by theme with a focus on models of implementation of the Community Testing Programme; recruitment of testing staff; relationships with partners; targeted communities and barriers to testing; communication and outreach strategies adopted by the Health Boards; and reflections on the overall Programme.

Models of implementation

The implementation of the Community Testing Programme represented a demanding task for NHS Boards, asked by the Scottish Government to provide a rapid response to the pandemic. In practical terms, this meant that the set-up and management of the testing sites had to be achieved in a matter of just a few weeks. The leads recalled the pressure of those early days:

> "I guess the biggest challenge was having to set up things quickly: 'We want you to do Community Testing everywhere and you need to do it by tomorrow'."

> "In February [2021], there were lots of delays in procurements and other things that we needed, which put a lot of pressure on whether we could start when we were supposed to start or not. That was quite a stressful time just getting it all set up."

The logistical and operational aspects of the set-up presented the leads with a range of challenges. First of all, the locations for the testing sites had to be identified. PHS data, wastewater data, and local intelligence from communities and third parties helped the leads to identify the areas in greatest need. Together with that, some Health Boards relied on a scorecard, which was produced by their own Public Health Departments and included rates of infection, testing rates and vulnerabilities (social/clinical and demographic) by postcode.

In most cases, the set-up of the fixed sites went smoothly and the required infrastructure was easily put together. The process was sometimes facilitated by the existence of venues already meeting public health requirements, as illustrated by the example below:

> "It actually wasn't too bad because (the testing site) was a games hall that we'd already set up as a vaccination centre. So it wasn't very difficult to change that around to testing, because we had kind of cubicles set up and things, and we had IT."

In other cases, however, the conditions to set sites up did not exist, resulting in their deployment "where you can fit one in, where the logistics works, rather than where is the area of greatest need". One lead explained that they felt "unable to identify any pattern" in the data available about which areas were of greatest need, with consequent delays in implementation. The geography of some rural or remote

areas, with a very sparse population, also led some Health Boards to question the need for a fixed site at all.

The local leads reacted to the challenges they faced during these early stages of the Programme with the creation of steering groups, often multidisciplinary in nature (including, for instance, experts from acute teams, digital and inclusion teams, data teams and clinical governance). These groups allowed the leads to oversee local plans and discuss operating procedures, while also building and strengthening relationships within the Health Boards.

The combination of this collaborative work with the practical experience deriving from the implementation of the first sites led to some important developments in the models adopted. The local leads were facing a situation characterised by high variability of data: if a Health Board “picked areas with a high incidence one week, by the time that the test site was set up then maybe the incidence might have declined already”. Also, in some areas, particularly rural ones, they recorded limited attendance at the fixed sites: “We haven't found any more than six people turning up for those appointments. We did it for a whole morning and have changed it now to an hour”. This led the Health Boards to consider new strategies to meet the objectives of the Programme:

> “As things were changing nationally, but also as the citizens were changing their attitudes and their behaviours, all of the models that we originally had set up have evolved, and there were some that we didn't even think about to begin with. So as the footfall reduced through our ATSs [Asymptomatic Testing Sites], we realised that we needed to be taking the testing out into the local communities, rather than expecting people to come to us.”

Mobile solutions were proposed as a more effective alternative given their potential to easily adapt to the changing landscape, following the emergence of outbreaks or changes in areas of high case numbers. Additionally, they could address some of the logistical issues illustrated above and target remote areas or areas of high incidence where the setting-up of a fixed site was not possible. The fleet of Mobile Testing Units (MTUs), originally run by the Army and administering PCR tests, was then expanded and handed over to National Services Scotland (NSS) and the Scottish Ambulance Service (SAS), whose contribution was defined by some leads as “absolutely essential”.

Overall, research participants felt that the addition of Mobile Testing Units redesigned and profoundly benefited the Community Testing Programme and “the people who pushed that and kept pushing that probably deserve a huge amount of credit 'cause it just provided additional flexibility and resources across Scotland”.

The new model of delivery had to overcome a few obstacles too. One lead pointed at the lengthy and complex process involved in the deployment of MTUs:

> “We've always had difficulty finding places for the Mobile Testing Units to be sited. And I think that's the same as well for other areas. You can't just expect that you can walk up to a car park and unfold equipment. There's a whole load of

stuff that comes behind that in terms of getting permission to use the space and then getting the communication out that lets the local area know that the facility is there."

Another interviewee found that the mobile solutions weren't always welcomed at every location:

"Some communities don't like to see us. They consider that an insult of some sort and they're quite resistant. So sometimes we get schools, and the headmaster might come out and say 'Why are you parking here? You've been here all week. Our parents are trying to park and drop the kids off to school and it's really inconvenient'. And that doesn't make anyone feel good. So there's been a little bit of community pushback sometimes."

As pop-up sites enhanced the testing offer, some Health Boards faced further barriers, such as issues with the delivery or purchase of vans:

"We were expecting a mobile vehicle. That's still not here. But you know, that's just a collision of factors that have all sort of worked together: it took a long time to get it procured and these things do take a lot of time at the manufacturer."

"We wanted to get a van that was kitted out to be able to do unsupervised testing and we just couldn't get one. It would take over a year to get that done and then according to our finance it's impossible to actually buy a van because of, I don't know, Brexit or pandemic or whatever."

Given the digital approach that characterised the testing system and the importance of recording test results, IT was also "a bit of a headache for staff sometimes, particularly as they're operating off and inside vans so the signal can be particularly poor". In response to that, however, a system of dongles was set up with a number of broadband and telephone networks for different locations. This allowed the testing teams to switch between networks and use whichever was the most effective.

Finally, some Health Board representatives mentioned concerns with the equipment and material used to build booths, said to have no "robust build quality" or "high standard", sometimes attributed to the "national shortage of materials at the time". Strategies were put in place to resolve these problems. In some cases, local partners were able to produce more suitable solutions allowing frequent handling and reducing the risk of damage due to wear. The Army also contributed with their expertise: "military colleagues improvised" and used what was available creatively to provide, for example, sturdier booths.

In these initial phases of the Programme, the Army didn't just participate in the physical setting up and running of the MTUs. They were transporting material and managing risk, in a collaboration with the NHS Boards that was recalled in very positive terms:

> “The liaison officer was very supportive. We worked tremendously well together: we brainstormed, we came up with the plans and we managed to do it within three weeks. And it was at a time where the understanding of the Testing Programme was very low in my establishment, in other establishments, so other LAs.”

> “They had experience of very quickly having to pull things together. I don't think in the NHS and local authorities we have the capacity to make that kind of quick response.”

> “They were excellent. They were very willing to just get on and do stuff and address problems quite practically.”

With the increasing focus on the LFD Collect model at the beginning of 2021, which enhanced the distribution of test kits to be administered at home, the testing landscape changed further. In a constant attempt to provide testing solutions to all the different demographics, the Health Boards started to offer this service in train stations, leisure centres, community facilities, village halls, pharmacies, shopping centres, homeless shelters and even door-to door.

The widespread availability of tests led some leads to question the need for the ATSs and to conclude that “the reason [for the public] to go to specific sites [had] maybe disappeared”, as LFDs could be found “everywhere and you were almost tripping over them”. One interviewee stressed that some of the Health Boards who took part in the Community Testing pilots in 2020 had already envisaged then the potential of a similar model but weren’t empowered to try it:

> “The SOPs [Standard Operating Procedures] and all the directives for at least the first six months of 2021 really didn't support that. I think experience shows that those were the right things to be trying to do. If we'd been allowed to be a bit more directive, then it might have been a different story.”

Dual testing, namely the possibility to provide both LFD and PCR tests in the same location, was also recommended as an alternative model as early as during the pilot, with some leads feeling strongly about the importance of offering this option:

> “the idea really being that if someone comes for an LFD and it's positive we can right there and right then get them the PCR to verify that result. It means that people don't go home and then have to book into a government site and then maybe that's tomorrow and so forth. We can just be a bit more quick, keep safe, rapid isolation.”

Although in the end dual testing was adopted in a limited number of Health Boards, it did not happen as quickly as hoped by some research participants:

> “We were ready to set that up a long, long time… I think about a month and a half before it eventually went ahead just because of [national] IT problems and data problems which was really frustrating for us.”

As the Community Testing Programme kept evolving and adapting to changed circumstances, the Health Board leads faced a number of additional challenges, namely keeping or replacing venues belonging to third parties, handling issues with test supply or transport, and attempts to access the Programme by those who should have used other routes to testing.

The issues relating to the use of existing buildings emerged throughout the implementation of the Programme. At the very beginning, some Health Boards struggled to rapidly deploy the sites according to the Scottish Government plan due to a lack of facilities. In some cases, third parties from a number of Local Authorities allowed the temporary transformation of facilities such as town halls, churches, schools or libraries into testing sites. Although this seemed to solve the problem during lockdown, when a lot of venues had been closed or stood down due to the restrictions in place, the Health Boards experienced “a little bit of friction” with the administrations of those facilities as services moved back to normal. For example, one of the leads explained that

> “most of our sites had been Council owned and the Council has been very supportive to say ‘You know what? These are yours as long as you need them’. [But] I think they're getting a little bit fed up with us taking up their space. So although they still allow it, and it's fine, they would like to go back to normal when they can.”

As for the challenges pertaining to test supply and transport, these were mostly due to the uncertainties around testing uptake in the initial phases of the Programme. “Getting the stock levels right was a bit problematic” for the leads, given the difficulties in predicting what the interest in testing would be on the part of the targeted populations. Bureaucracy complicated things:

> “Ordering the supplies was a challenge. They [UK government and National Services Scotland] have got it down to a fine art now, but at the start it was quite laborious.”

At a later time, occasional shortages of tests and government changes in recommendations on testing hindered the maintenance of adequate levels of test stocks:

> “We've had more difficulty recently with the LFD deliveries since they changed the supplier. We're finding that we have to have quite a dramatic contingency plan for LFD supplies because you can go 2-3 weeks where the deliveries will not arrive. And then you might get all three deliveries all at once on a day that hasn't been arranged.”

> “For example, just before Christmas when they changed all the [guidance] so people were testing every day, we were going through a month worth of LFD stock in one day.”

Furthermore, for some Health Boards test supply and transport were complicated by their geography at all times. For instance, in the case of the islands, bad weather

conditions affected the schedule of the ferries, delaying not only the delivery of LFDs, but the transfer of PCR tests to the laboratories on the mainland with consequences for the prompt availability of results and isolation of positive cases.

Finally, some leads reported attempts to inappropriately use the Community Testing Programme on the part of some workplaces. One interviewee explained that larger organisations considered the Government route for businesses too bureaucratic and recommended their staff use the Universal Offer or the Community Testing Programme. Communication and negotiation efforts were required in order to promote compliance with Scottish Government guidance and address employees towards the right resources.

It has to be noted that the Health Boards offered asymptomatic testing on an exceptional basis to some workplaces if testing was not already available to them through their relevant pathway or if they had outbreaks. The offer promoted testing and, as stated by one lead, “worked really well on 2 levels: it worked on ensuring the companies recognised the importance of testing and the importance of isolation, and it did case find very effectively”.

In one Health Board, LFD testing through the Community Testing Programme was also offered to a few secondary schools. The initiative succeeded in quickly identifying cases and promoting isolation, while also allowing more children to remain in school. Just as in the case of workplaces, the schools example shows not only the complexity of the testing routes the public could benefit from, but also the effectiveness of an approach based on flexibility of models of delivery and mobility of resources.

Recruitment of testing staff

Together with the identification and set up of the fixed sites, the recruitment of staff for the Community Testing Programme was indicated by most of the leads as a challenge.

In the very early days, hiring testing staff didn’t represent a problem for the majority of the Health Boards. First of all, they could rely on the military who provided support on an emergency basis (‘They were absolutely invaluable at that point. Their contribution was really outstanding to what we were doing locally’). Secondly, they could source people among those re-deployed from non-critical services. Thirdly, they could benefit from the high number of employees who had been furloughed and were looking for a job:

> “Our advantage here was that we've got a population which typically may be employed part time as part of tourism or seasonal work. So there were a lot of people which either had capacity to do extra hours or people who didn't have a job because the tourist industry had come to a complete standstill, as had things like cafes and bars.”

Depending on the agreements in place with their Health Board, some Local Authorities took responsibility for this aspect of the Community Testing Programme:

> “That was quite a challenge for them, given that they were also working remotely, they couldn't bring all people in for training events so easily, couldn't bring people in for interviews. [And] the way that the Council works doesn't really facilitate employing 40 or 60 people just at the drop of a hat. But they managed it really well.”

> “So one of the Local Authorities was able to prioritise staff who worked in their leisure facilities normally. Their leisure facilities were all closed and so those staff were quickly redeployed over to the ATS.”

Finally, the recruitment effort was supported by third sector organisations, who provided a faster route to employment, thanks to slimmer bureaucratic procedures.

Training of the hired staff was described as successful by all the leads. The learning material was provided centrally, with some Health Boards offering additional courses (e.g. on infection prevention control). For the most part, the training was conducted remotely, but lessons learned from experience were incorporated and cascaded to new colleagues:

> “The training was all online, so we were able to train the military before they came on board. We were able to then use the learning that the military had had. A bit like Chinese whispers, where everyone teaches everyone when they come through the door after they've done the online training. And then we had a debrief so that we could incorporate that all into our next phase of the testing. So it's been all about collecting good practice and integrating it into the next stage.”

In some cases, additional support was offered to new team members by registered nurses, in an attempt to promote good practice and provide professional expert advice when needed:

> “What we found very helpful at the start was some of our nursing staff going along to the centres to support non-clinical staff who were nervous in case they got asked questions or they had to help somebody to test. They reported to us that that gave them a huge amount of confidence in terms of reassurance that there was a clinical presence on site.”

As they reflected on the creation and training of the Community Testing workforce, some leads defined it as a positive unintended consequence of the Programme, as it offered employment opportunities to the local population, while also adding skills and value to the NHS:

> “The other thing which has been important for us locally, it's given employment to a fair number of people. The ability to give that employment opportunity to people throughout the pandemic probably would have made a lot of difference in terms of family economics, sense of wellbeing, sense of achievement and contribution to the pandemic and all those other good things about working.”

> “This has brought a large number of people who wouldn't otherwise work in the NHS into the NHS. Some of them ‘It's a job’ and then they'll move on to the next one, but some of them may stay within the NHS. They may have an experience that actually this is good. So it may help recruitment more generally. And also some of them are very skilled from previous careers and previous professional roles, and so I really hope that we can draw them into the NHS, Public Health, and use those skills.”

However, as society started opening up and people began to go back to their jobs in summer 2021, retaining testing staff became increasingly problematic. When vacancies started to be advertised on the vaccination side, many testers also applied and moved to those posts, leading one of the interviewees to argue that it was “a bad decision” to allow “these people with all that knowledge to move into a different department”. In other cases, testing personnel went back to their secondments or left the NHS. In practical terms, this meant that some Health Boards were “left trying to run a service with a smaller number of staff than [we’d] envisaged”.

One aspect that all the leads mentioned at the interviews and felt had profoundly affected staff retention was the temporary nature of the short-term contracts that were advertised. The choice of temporary contracts derived from funding constraints, as the UK Government kept reviewing its spending based on an ever-evolving situation often characterised by the difficulty of predicting any future development (e.g. new variants, size of the waves, uptake of self-administered tests, etc.). From an administrative point of view, this complicated the recruitment process and caused frustration in the NHS:

> “I think one thing that wasn't recognised [is] the time it takes to recruit people. We've got to advertise. We had to interview and we had to have full HR documentation. So the amount of pressure on our HR team was huge.”

> “When we first started, we kept on getting promised that the Testing Programme will last so long. You work for that capacity with a certain amount of contingency and flexibility. At the end of it, however, it is quite difficult in the long term to make plans when you're planning for three months, but there's a possibility that that actually could go on for three years.”

> “I understand why government wants to wait a little bit and see what happens, but equally it does cause some organisational difficulties. I suppose that's not necessarily we’re in conflict, but our interests don't quite align sometimes.”

The situation was aggravated by the fact that testing jobs were not competitive in terms of salary when compared to other positions in the same NHS band. Moreover, the working conditions were not always easy for the testers and challenged their resilience, as they faced downtime or difficult situations, as explained by one of the leads:

> “Particularly as winter comes, I’m very conscious that essentially working outside (if they're in the mobile sites for a lot of the time), that's its own deterrence.

> They're doing a relatively difficult job and it's perhaps not always the most gratifying: if they're not doing much, it's a bit boring; if they're doing lots of work, it's perhaps quite routine. And also there's a certain number of anti-vaxx or belligerent people who come and give them a piece every so often. And they're reasonably good at dealing with that. But I think it all chips away at the desirability of staying in post and the desirability of taking up those posts."

Conscious of these difficulties, some Heath Boards were proactive in promoting the wellbeing of their staff, and adopted strategies meant to benefit or motivate them or initiatives to recognise their contribution.

> "We try and make sure that they have chocolate readily available. We have decent amenities for all of them. We have a lot of students, so in quiet times we allow them to study in the back. So we try and be as flexible as possible to help them be as happy as possible in a role that, at times, can be quite boring because you either don't have people coming to the test sites or when they do come, you have some characters (laughs). We were hoping to have an award ceremony so that we can award our testers because we believe that they are the ones that have really been doing the work. They have been getting the tests out to people and they have been working the more flexible hours."

Relationships with Partners

During the implementation of the Community Testing Programme, financial resources were provided by the Scottish Government to the Health Boards, who were then given the autonomy to manage and allocate funds to their Local Authorities. This distribution was done "on the basis of a formula in terms of population and deprivation", but also depended upon data showing, for example, high numbers of cases in certain areas at given times.

A few leads praised such flexibility. Indeed, they believed that it offered them the opportunity to make the most effective decisions and the best use of resources according to local needs. Although the overarching approach was still set out by the Scottish Government, they didn't feel they had been forced to make the Programme fit in with central standardised processes. This autonomy resulted in three different approaches to setting up the Programme: in some cases the Health Boards had full control of implementation, in others the Local Authorities took the lead, whereas some areas preferred a partnership between the two.

In the majority of cases, the Health Boards and Local Authorities worked in partnership and shared the task of implementation. The Health Boards usually focussed on the delivery of test kits, processing of samples, provision of trained nurses (to support testing staff in certain circumstances) and clinical governance (such as infection prevention control). The Local Authorities then tended to run the operational delivery of the Programme, for example by taking responsibility for the recruitment of testing staff and for the provision, set up and management of the sites (including for Mobile Testing Units).

Partnering with the Local Authorities was seen as beneficial due to their deep knowledge of the local contexts in which the Programme was operating, which contributed not only to the identification of the best locations in which to place the sites and maximise uptake, but also to establish or strengthen relationships with a network of other parties:

> “Within the Local Authority there's someone whose role is very much about engaging with volunteers and communities. She would be speaking to Community Councils and local groups of volunteers and local community leaders quite a lot. And there are people (I don't know if this is everywhere or just locally) called ward workers. Those are Local Authority staff who work just within a small community. They came to our meeting sometimes [and] would be a bridge between the working group and the community.”

Most of the Health Boards held regular meetings with Local Authority representatives to discuss operational aspects of the Programme and data on testing uptake, but also to share good practice and learn from each other:

> “We met weekly, I think for about nine months. From a senior level actually made it really easy to work within all of those organisations that are more [at] operational levels. So it opened doors and it gave me a really clear [understanding] if things weren't going well with one of our Local Authorities.”

> “It's never just been the NHS telling the Local Authority what to do. It's always been much more we'll share what it is that we're doing. So there were daily meetings between the different representatives, just to make sure everybody knew what one another were doing, nobody was getting in each other’s ways or doing the wrong thing that would then have to be fixed later.”

These meetings helped to shape the role of the Local Authorities, as they suggested solutions and models, and how to operationalise them, and contributed to change the original Programme design (e.g. a shift in focus from on-site testing to LFD distribution).

The good communication channels between Health Boards and Local Authorities were indicated by several interviewees as crucial for maintaining mutual relationships and fruitful collaboration:

> “The Local Authority just brought people out of all sorts of jobs and allocated them roles within Covid response. And we got really good working relationship with those people over the last two years. We were able to contact them very easily. They were able to contact us very easily. And they were really enthusiastic about the work that we were doing and would come in with good ideas, and new ideas, and an understanding of local communities.”

Overall, the Health Board leads described the collaboration with their Local Authorities in very positive terms:

> “The Local Authorities have been unquestionably brilliant the whole way through this. The flexibility, the execution, the support that they've provided for the Programme is second to none. I think my experience with that relationship has been one of being hugely impressed by what they've been able to do and I think they deserve all the credit for anything that's worked well with Community Testing.”

> “I had a lot of support from the Local Authority, definitely. They’ve come with suggestions. If I need to borrow [a] building to go and do some testing, they'll help, or if we want to go out and distribute some lateral flows for a couple of hours, then they'll just find somewhere we can do it. We haven't come up with any red tape there and the people have been very sensible, whereas perhaps there was red tape and they've just sort of ploughed through it for me.”

> “I feel I've got a really good working relationship with our partners. I wouldn’t put words in their mouth. But I think if they didn't feel empowered, that would translate into the working relationships not being as good as they are.”

Such a successful collaboration was often seen as a result of previously strong relationships. Many leads suggested that these actually improved as they worked together towards the implementation of the Programme. Some attributed it to the trust they showed in their Local Authorities as they acknowledged their expertise in their own area; others to the open appreciation for the results that could be obtained thanks to their support and efforts. The quotes below illustrate these points:

> “I think some of the working relationships with Local Authorities and voluntary sector are miles better than they were. Our approach is to try to be as consensual as possible and I wouldn't dare try and tell some of my Local Authority colleagues what [to do] 'cause I think they’d tell me what to do if I tried to do that.”

> “We worked very closely with [our] local partnership and we talked really, really regularly. We were all very consistent in our approach: it was a collective decision. [It] wasn't Public Health digging their heels in. It was Public Health helping the whole area to make those decisions.”

> “I think it's been tremendous and I'm kind of hesitating to say that it's brought us closer together, 'cause I think there were some areas that we were already working very closely together anyway, but the relationships have really developed.”

Occasionally, challenges were reported. One lead, for example, said they found it difficult “to keep Local Authorities motivated” when infection levels went down. Another interviewee mentioned difficulties related to workload in some Councils’ teams who were “short-staffed and overrun with other requests”, hence to collaborations that maybe were not as productive as they could “ideally” have been. It was only in one case that the relationships were described as actively troubled:

> “At times [Local Authorities] have been obstructive. I found working with all other partners an absolute delight, but I found the Local Authorities quite unsupportive.”

During the interviews, the Health Board leads also touched on collaboration with other partners, such as the volunteer sector. This kind of collaboration varied significantly by local area. In some cases the use of volunteers was fairly common, in others more sporadic (“we have on one-off used the voluntary sector or other groups to either help us or around specific events, but it's not been part of the mainstream plan”). This seemed to depend on how well the NHS, or the Local Authorities as their intermediaries, were tied in with these groups before the implementation of the Programme.

When volunteers were involved in the Community Testing Programme they usually helped with the dissemination of information, the set-up of a site, the distribution of LFD tests and the collection of samples in those Health Boards that had dual or door-to-door testing in place:

> “The British Red Cross has been very helpful to us. We need to get those [samples] to the lab somehow and having volunteers coming to our sites has been really, really valuable.”

> “We also used the Red Cross during that door-to-door testing and that was great that they came along and helped us.”

In one case, leisure providers also contributed to the Programme by lending their venues during a surge of cases:

> “That's been amazing because they managed the community leisure centres and also a number of town halls, and village halls as well. And they're really tapped in. They've got local staff who know their communities and they live and work in their communities.”

Finally, some leads mentioned the collaboration between the Scottish Government, SAS (Scottish Ambulance Service), NSS (National Services Scotland) and the Army as key relationships that developed thanks to the Community Testing Programme. One interviewee, for example, said:

> “I think there will be a lot more good positive working in the future. We've got plans to invite the military to our exercises. I think it will help with mutual aid and it will help with cross establishment working. So I think the networking element has been really positive. I've made a lot of connections and a lot of new friends and that's very nice.”

Targeted communities and barriers to Community Testing

The Community Testing Programme targeted specific groups in society: those living in areas with high or spiking infection rates, those communities at higher risk of contracting Covid-19 and those groups with limited or no access to other asymptomatic testing routes (such as testing for health workers or those in education). Knowledge of the local populations and data gathering on case rates and wastewater were key for the identification of areas to target and the effective use of resources:

> “So it's the Scottish Index of Multiple Deprivation that we mainly use. And we look at measures within that. So percentage of people without access to a car, [for example]. And also [we are] looking at things like vaccination rates, as we know some communities are more hesitant to be vaccinated. They also tend to be the ones who are less likely to get tests. It seems to correlate reasonably well. It's an indicator of people who aren't so engaged with the Covid effort.”

> “We have our internal [Index] as well, where certain areas and certain services are highlighted as being more vulnerable.”

This analytical work often benefited from the support of intelligence teams from the Local Authorities, which helped to identify testing locations based on local requirements.

In many cases, rurality emerged as one of the demographics posing a major barrier to testing, especially for people in the older age groups or those living on the islands. One of the leads, for instance, explained that their hub was five hours away from where they were sitting:

> “That gives you a scale of the area that we're covering. Last summer [2021], we recognised there were quite significant inequalities with our rural communities and the offer of people being within 20 minutes of getting a test. And this was when the home delivery wasn't as robust as it is now.”

The extent to which rurality represented an obstacle to the Community Testing Programme varied over the course of the pandemic. For example, this increased when more people started working from home and travelled less to the main towns, where the fixed sites were usually located. The remoteness of certain areas remained a challenge even after the deployment of the Mobile Testing Units:

> “It's really not efficient to go to a small village. But also the islands. You're talking about just a few 100 people that live in these islands. But there were huge challenges of going to the islands, one of which was [that] in the summer and in the autumn [2021] the islands were really attractive for people to go on holiday, so it was really hard to get accommodation. And really expensive. So we were making those judgments in terms of: is it best value to go and spend thousands of pounds on accommodation and get our crews there?”

Yet, the implementation of the Programme was perceived as paramount in those contexts as the Universal Offer did not seem to resolve the problem of accessibility: “lots of post codes were excluded from that home delivery service in Scotland. I can't remember when that changed, but it was well into this year [2021]”. One interviewee also highlighted how in their Health Board

> “mail is quite slow. So if people do request it [a test] on the Internet to be posted, it's not going to be here the next day the way it is in central belt, [where] you get it like first thing in the morning, having ordered at 10:00 o'clock at night. That's not going to be the reality of the experience here. It's going to be sort of three or four days.”

During the interviews, the leads expressed their concerns about rural and island populations. They described these as “fragile” communities that sometimes “tend to get forgotten” because they're not necessarily in a deprived area or not necessarily unable to access resources. In some cases, worries related to “a definite island culture” and an alleged perception of being at low risk of catching Covid-19 thanks to geographical isolation, which could make people complacent at times.

One interviewee explained that “a lot of these communities were really safeguarded last year [2021], when ferry travel was only for essential reasons”. However, with the re-opening of society and the influx of tourism, they were actually exposed to an increased risk of recording a spike in cases, leading people to adopt protective attitudes:

> “When we put asymptomatic testing into those areas where we thought there was high community transmission, lots of people came for testing. So there was that heightened awareness that Covid is here in our community.”

> “Where there's been an outbreak, we have managed lots of testing and after that I think there's a little bit of a latent response where people do start to test more regularly.”

Socio-economic deprivation was also mentioned as impacting access to Community Testing. The leads discussed very practical barriers faced by some groups, such as travel to the testing venues and the associated costs (for example in terms of time):

> “We've got quite wealthy communities and, if they have to drive 20 minutes to get a test, for most of them that's absolutely fine. But equally we have really deprived communities and if they have to walk 20 minutes that might be a deterrent. And they don't have a car.”

Additionally, there was a belief that psychological barriers to testing were common in groups living in poverty, considered more likely to be concerned about receiving a positive test, having to self-isolate and losing earnings for taking time off work:

> “We don't have hard data that would tell us that. But I definitely think that is a real and genuine barrier. And it is more difficult for people on low income or on zero

> hours contracts or who are not working. I think there's also probably some barriers which are financial responsibilities: so if people have got responsibilities for other people then it might be tricky to see how that can be supported if they then themselves need to isolate."

Local Authorities offered financial and practical support: "We have food parcels that we can give to people. It helps them begin to isolate quickly. We can link them in the financial advice in terms of isolation, grants and so forth". Yet, a few leads mentioned how this didn't always solve testing hesitancy due to the small number of grants which were actually awarded, the sometimes lengthy process involved in receiving funds and the variation in provision between Local Authorities.

The Health Board leads also factored in ethnicity as a demographic variable affecting testing uptake through the Community Testing Programme. A few found that their local areas did not present much diversity ("We're a very, very white Scottish population"). Others, however, highlighted the challenges deriving from a diverse demographic base, such as the language barriers experienced by their local populations:

> "In some of the communities language has been a barrier, although we've translated materials. What people have said when they come into the [testing] centre is that there's still confusion and they haven't been able to understand all the materials that we've given them."

> "We have got a fair number of resettled ethnic minorities. So we've got a lot of people who don't have English as first language. So work is ongoing. And I'm not going to say we've got that 100% because I don't think you ever could say that, but we are monitoring it [uptake] and where it's falling down, we are putting in improvements."

In some Health Boards, digital barriers were identified too. These related to remoteness and connection issues, older age and lack of digital literacy, as well as deprivation and digital exclusion due to financial constraints. One interviewee explained that:

> "At the Mobile Testing Units, people just turn up. Because they can't pre-register 'cause they don't have the Internet. And then we've tried to support by having a Council team which can look up your results if you phone the Council, but it's not been great. You know, I think the emphasis on digital technology for this pandemic has been a bit excluding for a relatively large part of our population."

Other accessibility barriers indicated by the leads included the lengthy process of registering a test ("That may be slightly off-putting. Probably not a major issue, just frustration for some people who come"); poor weather conditions for those accessing pop-up or mobile solutions ("People want somewhere warm to wait so long. So that causes a little bit of upset"); and difficulties in locating the mobile solutions that were in place ("some engagement work we've done has indicated that where we were in a particular town once or twice a week, and the days of the week change, that can be confusing for people").

Additionally, according to the majority of the leads interviewed, testing uptake through the Community Testing Programme was impacted by poor health literacy and by the confusion caused in the public by the complexity of the testing landscape. There was a general perception that people struggled to understand why a test was needed in the absence of symptoms and what the Asymptomatic Testing Sites were. One interviewee attributed this to “the confusion that we, as a system, have put into it”:

> “[The barrier] is the lack of clarity on messaging and the separation between symptomatic and asymptomatic testing. While there were good reasons for it, I think sometimes we have really overcomplicated it. And the language that we use is not so helpful.”

On the other hand, one lead argued that it was “naive” and “a real mistake to think that people don't understand what testing is about at this stage in the pandemic”, and that the public had “a relatively sophisticated understanding of LFD and PCR”. The rest of the interviewees had mixed views on the matter, and reported both misconceptions and myths spreading among the targeted populations (“We've got a few people that think that putting a swab up their nose is going to give them cancer”, “We’ve got the conspiracy theories”), and a widespread awareness of the higher sensitivity of PCR tests, often resulting in mistrust of LFDs as a screening endeavour:

> “At one point we offered PCRs to everyone and then we went to an LFD first model. And that seems to have not pleased everyone 'cause they feel like PCRs are much better.”

Concerns regarding Covid-19 tests in general, considered invasive and/or difficult to administer, were mentioned as a likely further cause of disengagement from the Community Testing Programme:

> “The majority of people that we had coming to the asymptomatic clinics were older people. I guess it was just older people who weren't confident with what to do.”

> “There's some who didn’t want anyone coming near them, they wanted to do it themselves. And then other ones who absolutely wanted someone else to do it. They couldn't understand why doing a self-swab would be as good as somebody else doing it who's been trained. And it is fiddly to do. I don't know how people who maybe got problems with the hand movements or haven't got very good eyesight [do it]. The instructions are quite complicated and with the LFDs are different for each one.”

Moreover, some of the interviewees believed testing fatigue represented a barrier, given the prolonged exposure to a crisis which deprived many of social contact, holidays, and participation in events.

The convenience of the Universal Offer, which made LFDs easily accessible thanks to the option of home delivery or collection at a number of sites, was also described

as a challenge for the Community Testing Programme. Some of the leads explained how they noticed a drop in demand and need for on-site assisted testing following its launch ("Why would they [people] deliberately leave the house, especially in winter (laughs), to go and get a test?", "People actually prefer that ability to just pick up LFD tests. There's not much interest in coming and getting tested or being supported to do a test on site").

Finally, a few leads suggested that the difficulty in establishing whether they managed to identify all the populations to target was an obstacle too:

> "You just don't know if there's loads of people out there living on their own and that haven't been able to do it [test] at all. We don't tend to have high levels of deprivation and things like that, but the people that we do [have] they're dispersed throughout, so it's quite hard to know where they are and who they are."

> "I don't think we are missing out any specific group. But then you only know about things that you measure… so you don't know what you have no way of knowing."

> "We're very conscious that the people who are attending are fine 'cause obviously it's good enough that they're there. What I really care about is the people who won't attend at all and what would make them attend. I think in truth there's a lot of groups we haven't managed to engage with just because [of] the time and resource required to identify those. We know that the vast majority of people who attend for testing declare themselves to be White Scottish, like more than we think the population prevalence is. So it suggests that we're not really overcoming those social inequalities in a meaningful way."

The barriers to Community Testing presented here have also been identified in a Scottish Government evaluation report covering the earlier stages of the Asymptomatic Testing Programme (Coronavirus (COVID-19) asymptomatic testing programme: evaluation - November 2020 to June 2021). This report also contains an evidence review examining barriers to asymptomatic testing identified both in the UK and the rest of the world (Asymptomatic testing. Evidence review of existing literature and current evaluations).

Communication and outreach strategies

In order to promote awareness of the existence and objectives of the Community Testing Programme, to encourage uptake and reduce barriers to testing, the Health Boards invested in a number of communication and outreach strategies.

General guidelines, together with changes in guidance and updated advice, were received from the Scottish Government and then cascaded by the Health Boards to the Local Authority Communications teams. Materials usually included additions or modifications to the Programme discussed and agreed locally, meant to target local areas' needs and improve accessibility (for example, there was an encouragement

in some rural communities to have a supply of test kits at home given the risk of delivery or travel issues).

The local populations were reached through different channels, formats and languages. Testing was promoted through letters, door-to-door leaflets, online seminars and videos, advertisements placed on buses, at bus stops and local facilities (e.g. shops), and other resources ("We also advertised through the tenant magazine, which went to all our social housing tenants"). Each decision on the particular means to use was carefully assessed:

> "There was some kind of joint letter by the Local Authority and the Health Board for some communities and that was really welcome and had really good response. But there were also other areas where Local Authorities were very clear that such an official letter, if anything, would actually turn people away. It's certainly highlighted that that local understanding of the communities was ever so important to be able to judge what communication would be most appropriate depending on where you are and what level of trust there is in the community."

Social media, and Council or other websites, were widely utilised thanks to the flexibility they offered. In some cases, they made it possible to target specific populations "based on post code area". In others, they allowed communication to be as dynamic as the pop-up and mobile solutions:

> "When we move a site, [it's] very easy to update. Whereas with more traditional media we've had to be a bit more generic to say 'Check where the sites are on the website and please attend. It's really important'."

> "There's a website which has all of the information about access to testing in [our Health Board] and it's updated at least weekly. So that if you go on right now, you can probably find out where to be tested today, where's available."

Another advantage of social media was that they could offer live support to those asking questions or requesting information. Moreover, they provided data on users' engagement and barriers to testing, although with some caveats:

> "For some of our media, we've got QR codes that go to specific URL, so we can track which part of the campaign gets the most response. And our Comms team does report Twitter metrics, impressions and shares, and likes, and that kind of thing. I suppose a Twitter impression can be a very fleeting thing. It doesn't necessarily mean that someone has even read: it just means they've scrolled past. And it's always that thing: even though someone may have seen a message, has it changed their behaviour?"

> "Social media is not representative of real life. Our Comms manager is very close to the ground and there's these profiles that are very very vocal. And she thinks that they're not real people 'cause our communities are generally really small communities. People know on the ground who's who, come on. I think there might be some merit in that [collecting data from social media], but I think that feature could just be completely skewed."

Despite lacking robustness for a number of reasons, including the fact that different social media appeal to different demographics, data collected through these channels still contributed to depict a picture of emerging issues, hence helping the Health Boards to develop targeted solutions:

> “We did use some of the information from the Facebook comments, like worries, concerns, myths. It was quite a good insight into some of the more reticent people.”

> “There are communications representatives from the NHS and from the Local Authorities and they're also responsive if they hear of things being posted on social media. They'll bring that to the [coordinating] group and say ‘We need to address this’, and we'll put out messaging that says this.”

Traditional media were used in all the Health Boards too. These included local TV, radio and press, both for news releases and interviews with the leads (particularly when dealing with high infection rates or when a pop-up site was set up in the area).

Despite these comprehensive communication strategies, two interviewees reported that, based on the exit surveys at their testing venues, users had heard about the sites mostly by word of mouth, with one concluding that although this was “maybe good, it also suggests that our media efforts maybe don't get quite as much traction as we like to imagine”. A third lead reported that in their Health Board “the Army really was the main advertising 'cause people found that incredibly exciting”.

Efforts to encourage uptake also focused on accessibility (e.g. good public transport links and flexible opening times), visibility of testing sites and staff (not only in terms of location, but choice of colour for the site and the staff uniforms), and clarity of signage:

> “We do stay open later so the people who are working in the industries can come and get a test before they pop home. And, for example, we weren't going to keep the portacabin until we found from the survey that a lot of people were saying ‘we are coming because we can see the testing site’. So it's obviously working visually for people coming off the motorway and maybe commuting into work.”

Additionally, accessibility was promoted through initiatives meant to support other testing routes too (e.g. schools and workplaces). One lead said that their aim was to fill any gap in the system, for example by introducing additional resources in educational settings during an outbreak: “just offering tests for the pupils is a bit pointless when pupils are going back to their households. Some Local Authorities have got flying squads that go in and provide that sort of wrap around, so all family household members can get access”.

With the adoption of the LFD collect model, access to test kits was facilitated by the introduction in the list of distribution points of a range of places where people congregate or pass through: train stations, leisure centres, town halls, libraries, supermarkets and shopping centres, cafes and pubs, garden centres, fire stations,

airports, sport clubs and venues, churches and mosques, food banks, temporary accommodations, local organisations, public car parks and along cycling or walking paths. One Health Board even tested high street shopping vouchers as incentives, with the purpose of increasing compliance with the online recording of LFD results and supporting local businesses: “they had to have a registered test before they could get into the draw for a voucher. That also helped with the economic growth of the area, so we were trying to link all our services together”.

Events such as festivals, book presentations and sporting events were also seen by some leads as opportunities for outreach work:

> “We've done things like the after events with the football stadium. We were very proud of that. We got their football players to advertise the Testing Programme and that seemed to help, especially with the targeted demographic at that time, which was 25-year olds and under males. We went to quite a few outdoor events.”

Some of the leads stressed how this level of engagement wasn’t always possible in rural contexts, due to structural factors such as limited facilities:

> “It just feels like their [larger Health Boards] experiences are very different to ours, just in terms of scale. We're an awful lot smaller. They've been saying they've been going out to football matches and handing them out here and there. You know, we haven't really got that. They’d be going to all loads of different Tescos. We've got one Tesco!”

The presence of sparse or dispersed populations often posed a question on whether outreach efforts would have given value for money:

> “That's not to say there aren't BAME groups, but it's very hard to class them as communities because you might have towns that have got small, small populations of migrants of fishermen. Probably numbers are less than 100. And then there's people who maybe work in the hospitality sector but, again, they're quite dispersed over our communities. They don't necessarily identify as a cohesive community as such. We have considered it [targeting this], but we end up in balance in terms of it's very small numbers and an awful lot of effort for actually quite low gain. Which isn't ideal, but at the end of the day it's about being proportionate, I think.”

As a result, those Health Boards having to tackle remoteness adopted flexible and innovative approaches to testing capable of addressing their unique issues, such as door-to-door distribution:

> “Door-knocking works really well. We're really excited by that. It's really interesting in terms of the difference between what is portrayed in social media and all of the scepticism, and the actual reality of the conversations that happen on people’s doorsteps. Very few people won't engage in conversations. Very few people won't accept a box of tests and if they do refuse a box of test it’s because they're getting them through their work or some other route.”

Indeed, positive interactions with the testing staff emerged from the interviews as one of the strengths of the Programme. This successful outcome was attributed to the emphasis on “relationship building” and communication, which made the testing teams “recognisable” and “accepted” within the local communities. Even when footfall at the fixed sites dropped, the Community Testing teams didn’t only focus on distribution of test kits. They kept “talking to people about why they might get tested, what their understanding of Covid is, what their thoughts about the different measures are. Kind of dealing with preconceptions, dealing with misconceptions, helping people talk through some of their anxieties”. A couple of leads highlighted how this approach was based on a consideration of the Programme “as a social endeavour as much as a Covid reduction public health measure”, which contributed to turning it into a “significant wellbeing resource” at a time of “social isolation and loneliness”:

> “Sometimes it has just been used for people coming and having a chat. For quite a long period of time in the same site, the same one or two people would turn up every day to make social contact and have a test.”

> “I think that's a kind of under-recognised but important part of what we were doing in some of our remote communities because everything else for people in those communities had been taken away. These were people who basically, because of lockdown, had no contact with the outside world for months and months and months. And it became really part of their week, part of their social contact to come out and get tested in our testing sites. We've seen a small number of people come back every week to get tested, but mostly to chat to the testing teams and have a bit of social contact and spend some time with them.”

Some of the leads also described the collaboration with third sector organisations, Third Sector Interfaces (TSIs) and faith groups as crucial for the promotion of testing through trusted voices. The involvement of these actors didn’t just provide channels to engage the local population, but represented a way to gather additional information on specific groups and communities to better target interventions:

> “There were weekly meetings for quite a long time chaired by a health improvement team and they managed to put people together who represented lots of different community groups. So there was a lot of information shared and not just the information that went out after the meetings. Community representatives were able to ask questions [that] were coming up from the groups that they represented. [But] they've [also] been very valuable about informing us in terms of what their local communities are seeing and thinking and [how they are] behaving in relation to testing.”

Finally, a few leads found that their outreach work benefited from establishing links with vaccination venues and pop-up options, said to have facilitated testing uptake thanks to the high public attendance. In some cases, the “huge interest” recorded meant that one Health Board had to limit test kits to one per person. Yet, one interviewee reflected that, although joining the two Programmes made it possible “to increase our footfall and our capacity and integrate more people”, there was a

risk of targeting the wrong groups, as those getting vaccinated were clearly engaging with Covid preventative measures and probably already accessing tests through other routes.

Reflections on the overall Testing Programme

The implementation of the Community Testing Programme evolved over the course of several months, as it adapted to changed circumstances and incorporated lessons learned from experience. During the interviews, the leads reflected on what this meant for their Health Boards.

Some interviewees mentioned initial resistance to the Programme, questioning its necessity, as well as the usefulness of LFD tests as a screening measure:

> “I think the main barrier has been the lack of understanding of how important it was right at the beginning. And that is across the Board. That is all establishments, including Councils. Perhaps people were hoping that if they delayed it and push it back, the [Community] Testing Programme would go away.”

> “This time last year I wasn't fully invested in lateral flow [testing] as an effective intervention. I'm happy to say, I've completely changed my mind now.”

A few leads focused on the operational side of the Programme and discussed the choice of different models and uncertainties around uptake. One felt that there should have been “less emphasis” on the fixed sites, although they admitted that “we didn't know that people wouldn't come. So I think it was great that we tried that out. [But] possibly we could have been a wee bit swifter in moving away from that model”. Another questioned the added value offered by the introduction of vans:

> “They thought they were actually going to be testing people in it. But then, when it was built, it's not big enough to allow for social distancing. So we've got this really top of the range vehicle, that's been modified, that's not going to be used for [its] purpose. I'm confident that somebody else in the NHS in due course will be able to use it, so that's fine. But I don't think that's been a great success. It’s nobody's fault at all. It's just how these things morph and change and there's no way you could have predicted that.”

A couple of interviewees believed that the Programme could have benefited from a model requiring no qualified staff and focusing on the mere distribution of test kits in key locations such as churches, post offices or pubs, “so that boxes can be around and about for people to collect them rather than being manpower intensive and having to hand them out”. This was seen as an effective solution especially in remote settings, where accessibility to testing locations could be a particular problem:

> “If [people] know that there's a box at Tesco or at the leisure centre all the time, they can just go and get one from there. And to my mind that makes far more

> sense. We can even put notes on with our phone number, so if somebody got a question they can ring us. I think that's the important thing going forward 'cause people are going to get testing fatigue and they're not going to want to have to go and specifically get them. So if they just happen to be lying around, people will help themselves."

The need for better data was reported by a few leads, who explained the difficulty in understanding case distribution (e.g. due to people possibly testing in the area where they worked rather than where they lived) or the actual impact of different models (e.g. the use of Mobile Units in certain areas). It was argued that "you need a very sophisticated bit of analysis to try and tease it all out", together with time and financial resources. One interviewee advised that they "did things because there was a logic to them", but that "the best way would be qualitative and evidence-based". Another stated that more robust evaluations of the Programme would have helped decision-making. Yet, some advised that, even if better data had been collected, these would still have covered only "a very small proportion of the overall testing effort". While repeated attendance from the same users suggested that the Programme helped "to form good testing habits", leads felt there were important considerations to take into account regarding the overall number of tests processed, deemed too low to reveal significant information on the impact that the Programme had. Furthermore, with the implementation of the LFD Collect model, the difficulty in establishing whether tests were collected but not used and/or recorded online made it trickier to assess any success.

A good number of interviewees believed that the Community Testing Programme maximised the opportunities for the public to find and pick up tests. One lead agreed with a Local Authority representative in their area maintaining that "this is something we never got complaints about: that people haven't been able to access testing". Such a "degree of saturation" was also testified to by users' comments at some distribution points ("folks have said 'please don't give me any more of these tests. I've got hundreds of them at home'"). Wide availability and ease of accessibility of tests were considered by the leads as proof that the Programme achieved its main aim:

> "I think it's been good for people to have that extra access to testing and, as time has gone on, I've been much more convinced that people need it to be able to access testing. And the people needed to be able to access testing asymptomatically particularly, given we stuck to a very very rigid definition of 'symptomatic' meaning that people with colds and with concerns wouldn't have had access to testing without [the] asymptomatic testing route. So I think that was extremely valuable."

> "I think our numbers were really good. I think as cases went up, our community testing went right up in response to that. And I think that's a recognition of A. people had access to testing and B. people understood the value of testing and why they would do testing. So I think both of those are probably an indication that it [the Programme] did do what we'd hoped it would do it in terms of its main aim."

Additionally, some leads stressed the successes achieved thanks to the communication and outreach work addressing the targeted populations. They spoke about the sense of purpose that tackling inequalities gave them as they offered valuable support to local groups and strengthened relationships:

> "[It was] about reassuring the community and making them feel that we, as a Health Board, as a Local Authority and ultimately Scottish Government and National Services Scotland, were interested in their lives and their communities. So that idea of Community engagement, community resilience, community cohesion was really important for us. It was about making communities feel included, making them feel valued, making them feel that we knew they were there, and giving them access to things that they needed."

> "These [vulnerable] groups don't have that many alternatives to turn to, perhaps they're not able to access test sites far away, they're not able to isolate financially or logistically without some help, so we're confident that we've made differences on an individual scale to a number of people. The hope is that at least we're delivering a short term benefit, even if that's not a sustained behavioural change [testing regularly]."

On the other hand, other leads highlighted how these successes had to be measured against the costs of the Programme, with some questioning whether it was "financially sustainable", especially longer term :

> "We haven't really found that to be particularly popular, useful, financially beneficial. The amount of money that's been given to us to do it, I don't think is proportional to the amount of work we're doing with it. We have very low uptake and I don't know how to increase that 'cause there just doesn't seem to be the demand for it at all. We haven't done anything like the amount of asymptomatic testing that I think it was envisaged we would do."

One interviewee suggested that the Community Testing Programme was potentially destined to be superseded by the LFD Collect model, described as "a much more effective way of doing things":

> "People don't need to be shown how to do LFD by and large. I think that having a Community infrastructure for testing is a desirable thing in some way, but it might be an infrastructure around LFD collect or plus PCR testing [dual testing]."

Overall, the leads struggled to imagine what the future of Community Testing would look like, recognising that the testing landscape had been constantly changing as the pandemic evolved and understanding of Covid increased, as well as case rates and perception of risk varying over time (for instance, due to the emergence of a new variant):

> "Generally the numbers of people coming along have been very, very small. Some days it was maybe in single figures. It was quite demoralizing. But Omicron came about and that's kind of throwing everything on its head, because October time we were sort of looking ahead to March next year and thinking 'This

will definitely tail off and not be a feature in the response from April 2022'. And obviously here we are. And that's the main lesson, the unpredictable nature of it."

"For a while our asymptomatic testing here was basically at capacity and we were getting positives, whereas before the people who had gone along for testing were very small numbers and most of them negative. So you know it was night and day."

In an effort to be "as adaptable as possible", some interviewees advised that there may be scope for reviewing the original aims of the Programme, which may not be relevant in the future, and for evaluating whether the Asymptomatic Testing Sites as they were initially designed could still add value.

Finally, the leads recalled how being part of the Community Testing Programme meant working in a fast-paced and dynamic environment, characterised by frequent demands and unexpected challenges ("Some days it seemed like it was changing every hour. We've been through a lot of upheaval"). As they faced an ongoing public health emergency and staff absence due to Covid sickness, long work hours and stress heavily impacted on their own and their team members' work-life balance ("It was almost right down to last man/woman standing and then no one standing"). Commitment to deliver the Programme was relentless:

"Quite a lot of midnight oil I have to say. It was exhausting. It was incredibly long hours, incredibly long weeks. Because of course, it wasn't the only thing happening. I remember sitting on Christmas Eve at 6:30 sending an email to my team saying 'Look, go off and enjoy your weekend, but for those of you who are around on Tuesday, we're going to meet and we're going to go through these bullet points [requests from Government]'. So that's what we did. And we met daily as a testing team between the 27th of December right through to the end of January to make that testing happen."

Some interviewees stated that one of the drawbacks of working at that pace for months was that they had no time to stop and reflect on the management of the Programme:

"I'm not sure [there] is an awful lot that we could have done differently. At the time things were moving so quickly, we genuinely had no time to think. And at weekends I would be working. It did get very difficult."

"I think we might have paused a little longer, evaluated the pilots and taken that into account in more detail. It did feel like some of that wasn't really used, maybe because [it] all had to happen quite quickly."

However, there was also a sense of fulfilment in having worked towards achieving ambitious objectives and having been part of an historic effort:

"It has made me very confident that I can set up services. I know that NHS can come together and make things happen very quickly now. We don't have to wait

for permission for six months. We can do it in some cases [in] six days or less, and in a really robust way."

"We're all gonna look back on this as being an extraordinary time. Who would have known a while ago that we would have done what we've done. It's amazing what the NHS and Local Authorities have done to be able to establish testing at that scale."

"I'm very proud of everything that we've done so far up until this point. We've all been put in a position where we've had to come up with some innovative ideas. We've also been put in a position where there was no right answer, so that's quite fun because you can't be wrong (laughs). But I do think that a lot of it has been done on goodwill. I think most of us are very happy working in it. It's not been the most wonderful, rosy experience, but it's been nice to be part of it. It'll be something to tell the grandchildren. And they'll ignore us (laughs)."

How to access background or source data

The data collected for this <statistical bulletin / social research publication>:
☐ are available in more detail through Scottish Neighbourhood Statistics

☐ are available via an alternative route <specify or delete this text>

☒ may be made available on request, subject to consideration of legal and ethical factors. Please contact socialresearch@gov.scot for further information.

☐ cannot be made available by Scottish Government for further analysis as Scottish Government is not the data controller.

social research

The views expressed in this report are those of the researcher and do not necessarily represent those of the Scottish Government or Scottish Ministers.

This document is also available from our website at www.gov.scot.
ISBN: 978-1-80435-903-7

The Scottish Government
St Andrew's House
Edinburgh
EH1 3DG

Produced for
the Scottish Government
by APS Group Scotland
PPDAS1151142 (09/22)
Published by
the Scottish Government,
September 2022

GSR
GOVERNMENT SOCIAL RESEARCH
Social Science in Government

Social Research series
ISSN 2045-6964
ISBN 978-1-80435-903-7

Web Publication
www.gov.scot/socialresearch

PPDAS1151142 (09/22)