

CORONAVIRUS 19 (COVID-19): SURVEILLANCE AND RESPONSE

**Our ongoing approach to monitoring and
responding to the virus**

July 2020

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FOREWORD

Scotland is entering a critical phase in its response to COVID-19. Through the extraordinary commitment of the people of Scotland we have suppressed the virus to low levels. That means we are seeing the terrible impact reduce day by day and this has allowed us to remove some restrictions and return to a more familiar life.

However, the virus has not gone away. It could return at any time if we do not remain vigilant. For the people of Scotland that vigilance means following public health advice on hygiene and distancing, keeping away from crowded places and wearing a face covering on public transport, in shops and when distancing is not possible.

Scotland's highly effective and experienced public health services are working tirelessly to support this vigilance, not only through Test and Protect, but also through our enhanced systems of Surveillance and Response. This involves national and local resources coming together to track and monitor where the virus is and ensure that we are ready to tackle outbreaks wherever and whenever they occur.

We have already seen how important it is that we identify and deal with outbreaks as early as possible to avoid a resurgence and I want to thank public health teams across Scotland for their efforts.

We will continue to need your help. At times, if there are outbreaks then we may have to reintroduce restrictions, not necessarily everywhere but in specific local areas where transmission causes us concern. We will also make more information available to allow the people of Scotland to track progress in suppressing the virus and to support people to make judgements about travel or activities. We can use that same information to target our actions and minimise the impact of the virus on communities.

This document sets out Scotland's Surveillance and Response approach, based on established expertise and practice. This involves partner organisations across Scotland all focused on doing what's needed to ensure that we continue to push toward elimination of the virus in our communities.

NICOLA STURGEON

The First Minister of Scotland

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1. INTRODUCTION

COVID-19: A Framework for Decision Making sets out the steps required for a managed transition out of lockdown. The framework recognises that the nature of our response will need to adapt. As we move carefully from our current position, real-time monitoring of the virus and action to suppress transmission will become increasingly important. This is our public health “Surveillance and Response” approach, which is in line with the criteria and ambition put forward by the World Health Organisation (WHO).

Scotland has a well-established public health infrastructure. This has been proven time and again in recent months. The Surveillance and Response approach, along with Test and Protect, is core business for public health teams in all fourteen of our NHS Health Boards, supported by teams in all Scotland’s local authorities and many other agencies. This approach enables us to respond rapidly and collaboratively to any incident or outbreak at a local, regional and a national level.

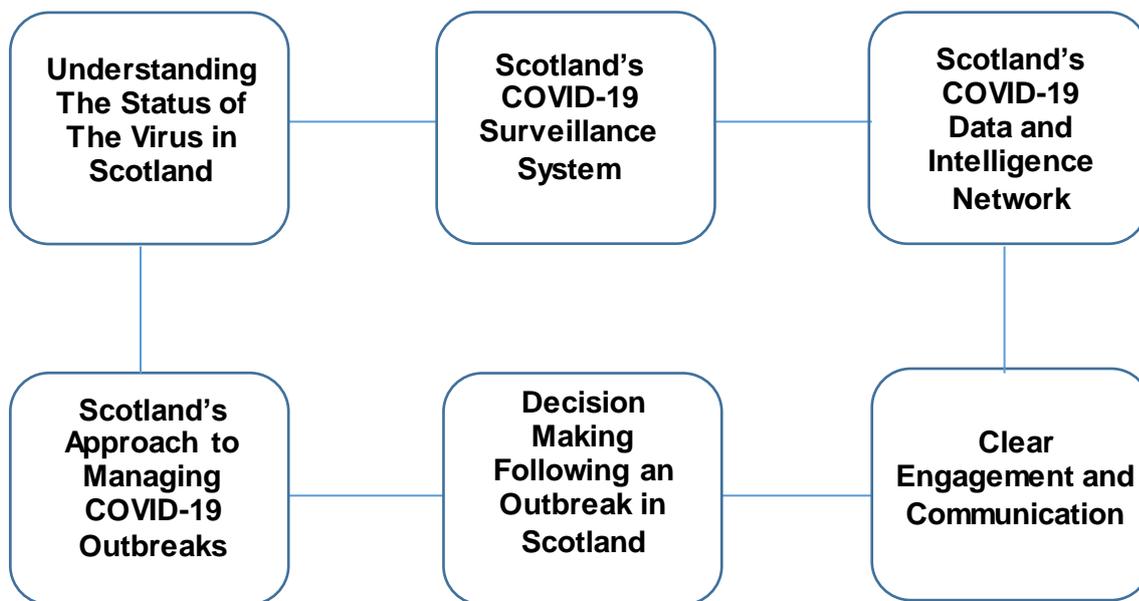
A pandemic of this scale, however, presents these services with an unprecedented challenge. We are developing new local and national resources to enhance the Surveillance and Response approach, to make it faster and more sustainable. These excellent services are not just necessary to meet the challenge of COVID-19. Our ambition is to develop Scotland’s public health infrastructure to ensure it’s ready to face any future pandemics and to contribute to improving Scotland’s population health.

Our approach to Surveillance and Response will build on the well-developed and effective structures and processes that we already have in place:

- We will be informed by **real-time data streams** and wide-ranging **analysis** that tells us the nature and location of the problem and monitors the effectiveness of the response;
- We will take action through **rapid implementation** by the right people at the right time to contain any incidents;
- We will ensure **robust, agile and proportionate decision-making processes** are in place at the national and local level, based on statute, and a range of clearly defined options;
- We will ensure **clear engagement and communications** are in place to help protect our people and communities and support our businesses and services; and

- We will be **transparent over how data is being used** to inform our decisions, with regularly updated Privacy Statements and a clear commitment to ethical decisions.¹

The approach consists of the six elements set out below and the following sections of this report will set out further detail on each of these.



¹ <https://www.informationgovernance.scot.nhs.uk/covid-19-privacy-statement/>

2. UNDERSTANDING THE STATUS OF THE VIRUS IN SCOTLAND

Scotland is moving in to a new phase of the COVID 19 pandemic. Through a rigorous and consistent approach we have significantly reduced community transmission. The role of non-pharmaceutical interventions, and particularly the restriction on movement and socialising, has effectively prevented the virus from spreading.

On average each new case is only passing the virus onto less than one other person. So the reproductive number (R) has now dropped consistently below 1. At the beginning of July 2020, it is estimated that there will be around 80 (within a range of 50-115) new cases a day and around 1000 (within a range of 600-1400) individuals infected with the virus – this is referred to as prevalence of the virus. Prevalence is falling by around 25-30% per week.

The number of new COVID-19 cases recorded each day has dropped dramatically from its peak in April and there has been a sustained decline in new hospital and ICU admissions for confirmed cases. We also continue to see a sustained decline in COVID-19 deaths. A total of 13 deaths were registered where COVID-19 was mentioned on the death certificate in the latest week (6-12th July). Deaths registered in the latest week are 2% of the peak of 661 between 20th – 26th April.²

We must not be complacent, especially as we look ahead into the Winter months and the clear warnings associated with any second wave. The whole Surveillance and Response approach is about remaining vigilant and, if we continue do so, we are in a position to push toward the elimination of the virus in our communities.

There are many factors that may not make that possible, but we must explore every opportunity to suppress the virus to as close as possible to zero cases over a sustained period. Our precision public health services like Surveillance and Response, and Test and Protect, are essential to this.

Gathering and interpreting data and monitoring change is a key component of good surveillance and the approach that we are taking to do this is set out further in Section 3.

² <https://www.nrscotland.gov.uk/covid19stats>

3. SCOTLAND' COVID-19 SURVEILLANCE SYSTEM

Effective surveillance of infectious disease is an important element of the public health system in Scotland. It involves gathering and interpreting data to understand where infection is occurring, and the effect it is having on people's health. In turn, it allows us to monitor and assess how well the steps that are taken to limit infections, are working. This information is used to quickly detect outbreaks and help make decisions about how to respond and control the spread.

There are existing disease surveillance systems in Scotland. Many of these use routine data, collected as part of people's normal everyday use of health care to help track what is happening to us. This means that Scotland already has excellent routine data sources, which are now also being used to tell us about COVID-19 in Scotland.

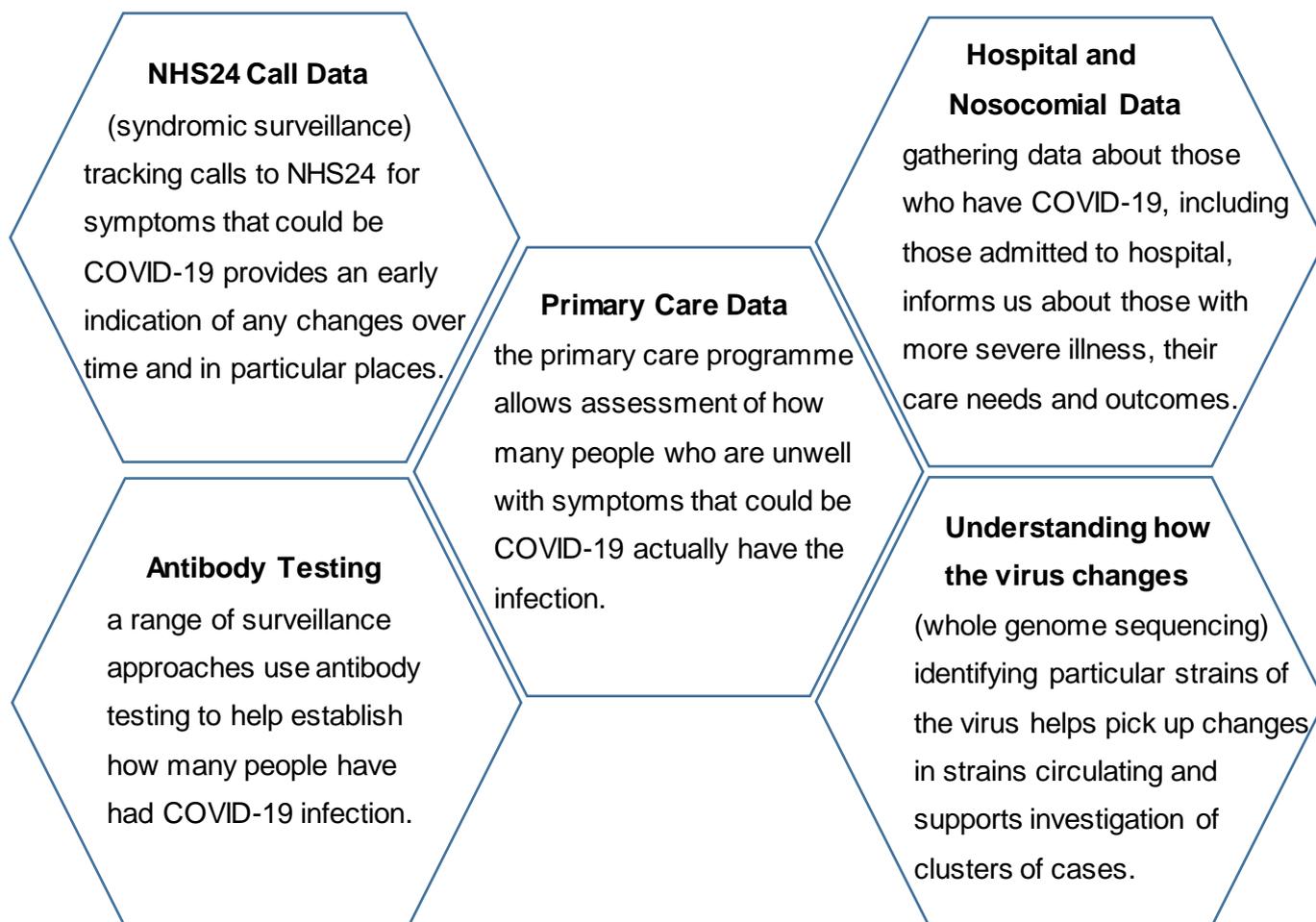
In addition to routine disease surveillance, enhanced health surveillance provides a more detailed picture by seeking out additional information on infections and the effects of infection. Both routine and enhanced surveillance systems have been expanded to meet the unprecedented challenge of COVID-19 response and work continues to strengthen them.

Building a full understanding of COVID-19 requires more detail than tracking numbers of positive cases alone. It is also important to know what sort of symptoms people are experiencing, how unwell people become, and who is most likely to become more unwell. As the response to the pandemic has developed, different groups of people have been able to access testing and by linking and comparing results to other data sources we are establishing a reliable picture of the number and spread of infections.

We are committed to go further to develop a more detailed picture of the levels of COVID-19 across Scotland. Work is in hand to collect information on symptoms and background health information from a sample of people who are being cared for in the community for illnesses that could be COVID-19. This is being further informed by the information that is being gathered through testing results and it will help us to understand more about the virus.

The COVID-19 surveillance system has a number of strands that informs us about the full range of illness severity, and provides tracking over time and for key groups of the population. The knowledge of local areas and situations, provided by NHS Board Health Protection Teams, is a crucial element of interpretation. Weighing up the importance of a change in one measurement and responding with proportionate interventions requires public health expertise. This, matched with the use of other data sources, supports our decision-making.

Key Data Sources



Source: Scottish Government 2020

Through [Test and Protect](#), the timely identification and isolation of contacts will allow us to break the chains of transmission. Combined with effective and reliable surveillance that provides information about clusters of cases, it will help us develop an early warning system that will inform our response and help us to contain any outbreaks that occur.

Test and Protect reduces the levels of community infection but to do this effectively, it is important that there is both an understanding of COVID-19 symptoms, the requirement to self-isolate when symptoms appear and the need to take appropriate action to quickly seek a test.

When notification of a positive test result is received, contact tracing services are quickly deployed. Those who may have been exposed because they are close contacts are identified and asked to isolate to prevent further transmission.

Maintenance of robust, representative and independent public health intelligence systems will be a core element of managing COVID-19 in Scotland. Public Health and research expertise in analysing and interpreting data is critical and the Scottish COVID-19 Data and Intelligence Network, described further in Section 4, will play a significant role in this as we move forward.

4. SCOTLAND'S COVID-19 DATA AND INTELLIGENCE NETWORK

We know that the virus can spread through individuals even when they don't have symptoms themselves. So, in reducing the spread of COVID-19, an early warning of any resurgence will be key. The Scottish COVID-19 Data and Intelligence Network has been established to ensure Scotland's data and research community address these challenges and help minimise the spread of the virus.

The Network brings together expertise from across local authorities, health boards, Directors of Public Health, Health and Social Care Partnerships, Public Health Scotland, Scottish Government, academia and other public bodies.

It will ensure that we have data and intelligence in the hands of the right people, in a form they can use, at the right time – sharing and analysing data at pace, and at the right quality to avoid multiple versions of the truth. The coordinated management of this information will allow people to make rapid and proportionate decisions at both the local and national level. It will allow us to:

- Quickly identify where any outbreak of COVID-19 occurs;
- Protect vulnerable populations; and
- Evaluate the impact of the outbreak on health, care and society

We also need to make sure that we gather and use this data and intelligence with the right scrutiny in place to ensure data is shared and analysed safely and securely. The ethical use of data is critical to the operation and success of the Network and clear and transparent communication to the public about the uses of data and by whom will be key.

Building on existing relationships and systems, the sharing of data about individuals will be subject to scrutiny by our existing Public Benefit and Privacy Panels³. The network will regularly publish details on how data about individuals is used and ongoing engagement with the Information Commissioner's Office will provide reassurance about the approaches taken.

The Data and Intelligence Network has already introduced products that help inform decision making:

- On the 28 May, a COVID-19 [data research service](#) was established. This provides secure access to data to help provide answers to key analytical and research questions about the nature of spread, risks and effects of COVID-19;

³ <https://www.informationgovernance.scot.nhs.uk/pbpphsc/home/about-the-panel/>

- On the 10 June, a management information system for Test and Protect was implemented. The [statistical report](#) is published weekly by Public Health Scotland;
- On 22 June, new systems to provide Health Boards with key management information to support the operational control and delivery of the test and protect service were introduced; and
- On the 6 July enhanced systems for public bodies to provide virus surveillance dashboards were introduced. These enable access across public bodies to current local level data and a range of information products. This will support local public health teams identify potential new COVID-19 clusters. It will include lead indicators such as the number of calls to NHS 24 for respiratory conditions and the percentage of positive COVID cases. Further early warning indicators will be added later in July.

As we move forward, more public facing information and surveillance products are planned. This includes a product that will help people and communities across Scotland understand and manage risk. This is currently in development and planned to go live as part of phase 3 of the [Scottish Government's Routemap](#) through COVID to support the public in making decisions about their own actions.

The intelligence will continue to build, and as it does our understanding of the risk of different factors in contracting the virus and its severity will increase. The Scottish COVID-19 Data and Intelligence Network is focussed on enabling local Health Boards and local resilience partnerships to take rapid, effective action. This will be an integral part of our approach to suppressing outbreaks and is described further in Section 5.

5. SCOTLAND'S APPROACH TO MANAGING COVID-19 OUTBREAKS

When the SARS-CoV-2 virus – the virus that causes COVID-19 – was first detected in Scotland, each new case was isolated and their contacts identified and quarantined to try to stop the virus spreading any further. As the COVID-19 virus spread across the country it could no longer be controlled by a containment response, we then moved to a delay phase and the nationwide lock-down was introduced. This lock-down was needed to stop community transmission of the virus across the population of Scotland.

As we release from lock-down, there remains a risk that the virus will break out into the wider population again. This is why we have expanded our contact tracing system, and published additional [guidance](#) to support businesses and other establishments to collect customer and visitor data to ensure comprehensive contact tracing can be carried out in the event of a localised outbreak linked to a specific venue.

The virus could re-emerge as a single workplace cluster; a local community outbreak; within health or care settings as a wider local or regional level problem; or a more systematic breakdown of virus control with spread occurring across all of Scotland again.

There are well established mechanisms in place to manage this possibility involving a multi-tiered, multi-agency coordinated approach. The procedures used to control outbreaks of any infection are set out in the [Management of Public Health Incidents Guidance](#).

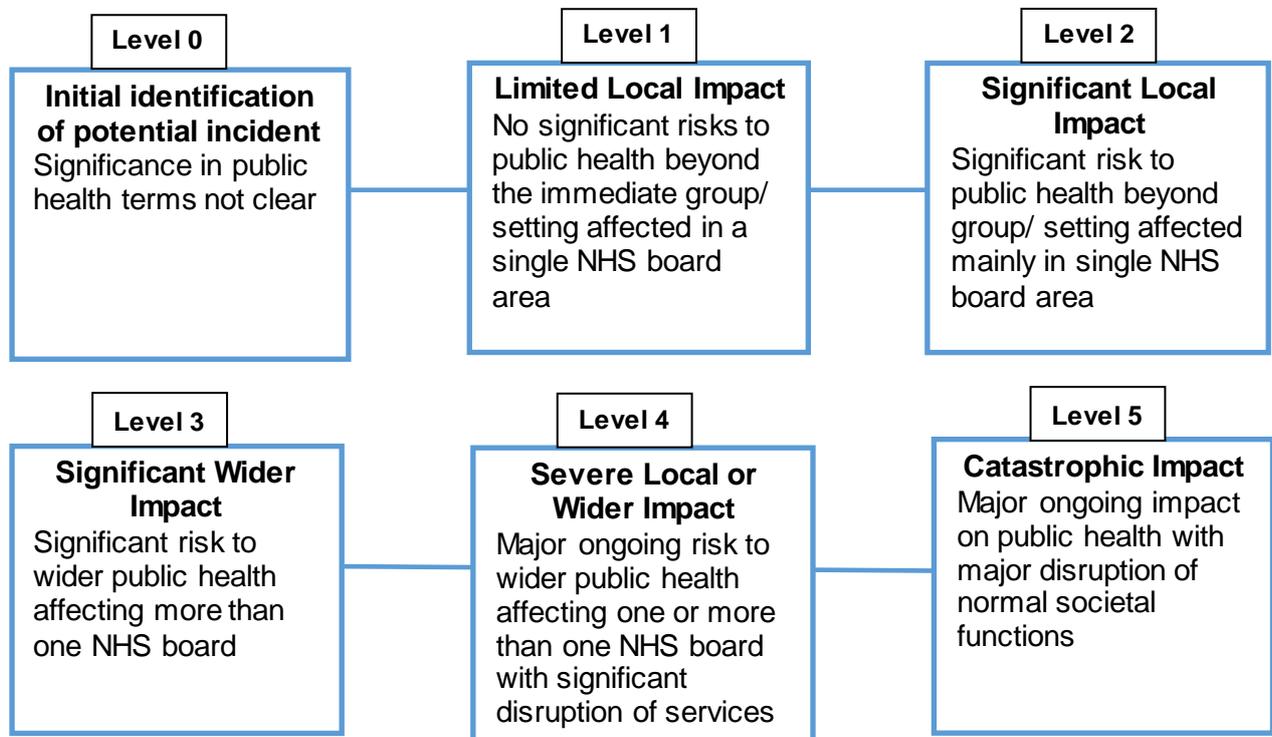
This guidance provides information to support NHS boards in preparing for or in response to public health incidents. It outlines the roles and responsibilities of all relevant agencies involved in the event of an outbreak and provides direction around the process of identification, investigation, risk assessment and incident evaluation. It is intended to be strategic but not prescriptive, allowing for flexibility so that NHS boards can respond appropriately to each incident.

It sets out a tiered framework for public health incident management. This starts with an outbreak where the local impact will be limited and that will be managed locally (Level 1) by an NHS Health Protection Team led Incident Management Team – up to the highest level national emergency situation (Level 5) which involves a full scale Scottish Government Resilience (SGoRR) response and national level leadership.

In many cases clusters and small outbreaks will be defined as Level 1. However, it is clear that overall in the context of a pandemic, Scotland is effectively at incident Level 5 where there is a major ongoing impact on public health with major disruption of

societal functions. This justifies, therefore, a very close relationship between national and local decision making and incident management. Local decisions can have a national significance and vice versa.

Levels of Incident



Source: Adapted from Management of Public Health Incidents: Guidance on the Roles and Responsibilities of NHS Led Incident Management Teams Scottish Health Protection Network Scottish Guidance No 12.1 – interim update (2020)

Outbreak management follows an established process of investigation to establish the who, what, why, when, where and how of any incident. This includes investigation of: epidemiological data; the source (this may include laboratory investigation); and the method or environmental reason for the exposure. This will be complemented by a risk assessment to determine interventions or control measures that have to be put in place to minimise the impact and the development of communications to explain what has happened and what to do next.

Following the notification of any outbreak, what follows is well-established partnership action. There are well developed relationships and protocols through which information is passed and decisions are made both at the local and national level between public health, resilience partnerships, Scottish Government and wider partners.

In responding to an outbreak, local partners will make use of a wide range of tools and techniques. This will include: access to testing, including mobile testing units; potentially extensive contact tracing, utilising both local teams and national support; enhanced surveillance to access and assess all available data and intelligence; and support from a range of partners for all those involved. These are the critical capabilities underpinning our Surveillance and Response approach.

Many of the situations we might face can be dealt with effectively by our Test and Protect service. Other situations may be more complex involving higher levels of risk. This will include: settings where people are in proximity (including workplaces); settings where exposure to COVID-19 is more likely (including care homes and hospitals); situations where the people involved are at higher risk (including older people and BAME community); and also situations which cross geographical and organisational boundaries.

In more complex, higher risk situations, in addition to Test and Protect, direct, practical intervention from public health teams and partners “on the ground” is likely to be required. We have already seen this in complex settings such as care homes. In the weeks and months ahead we may see outbreaks in other complex and higher risk settings, such as food processing plants, schools, and on public transport.

The national and public interest in any COVID-19 outbreak will remain high over the coming weeks and months as will the potential societal impact. Local outbreaks could have national implications and in this regard Scottish Ministers will wish to remain informed and engaged on local decision making.

As set out in section 4, decisions at both the national and local level will be informed by data that will be visible to all partners for interpretation. If any outbreak is reported, Local Health Boards, Public Health representatives and local resilience partners, including local authorities and the emergency services, will engage at an early stage with national advisors and representatives including the Chief Medical Officer. Scottish Ministers will be informed and the engagement and communication that follows will focus on public health and public safety.

Timely and clear communication will be essential and it will be a priority to ensure that messages are issued at an early stage to raise awareness of actions that require to be taken. In all likelihood, this will involve complementary communications approaches at the national and local level.

[Management of Public Health Incidents Guidance](#) sets out in further detail the stages of escalation of any outbreak and who is involved at each stage. Where the Scottish Government is involved in the response to any outbreak, the principles of this engagement are set out in [Preparing Scotland](#). This guidance on responding to emergencies brings together the implementation of the Civil Contingency

Regulations, good practice and the integration of national and local planning for emergencies.

As we move forward it will be essential to keep under review how this process of early identification, escalation and decision-making is working. Over the coming months, the partners involved will continue to ensure that the response to any COVID-19 outbreak remains flexible enough to be appropriate to the local situations that arise. We will review how the process is working on a three monthly basis up to April 2021 to ensure that the response and level of engagement remains proportionate

Robust decision-making to determine the next course of action will be key to managing any outbreak, and further detail on how this will work is set out in Section 6.

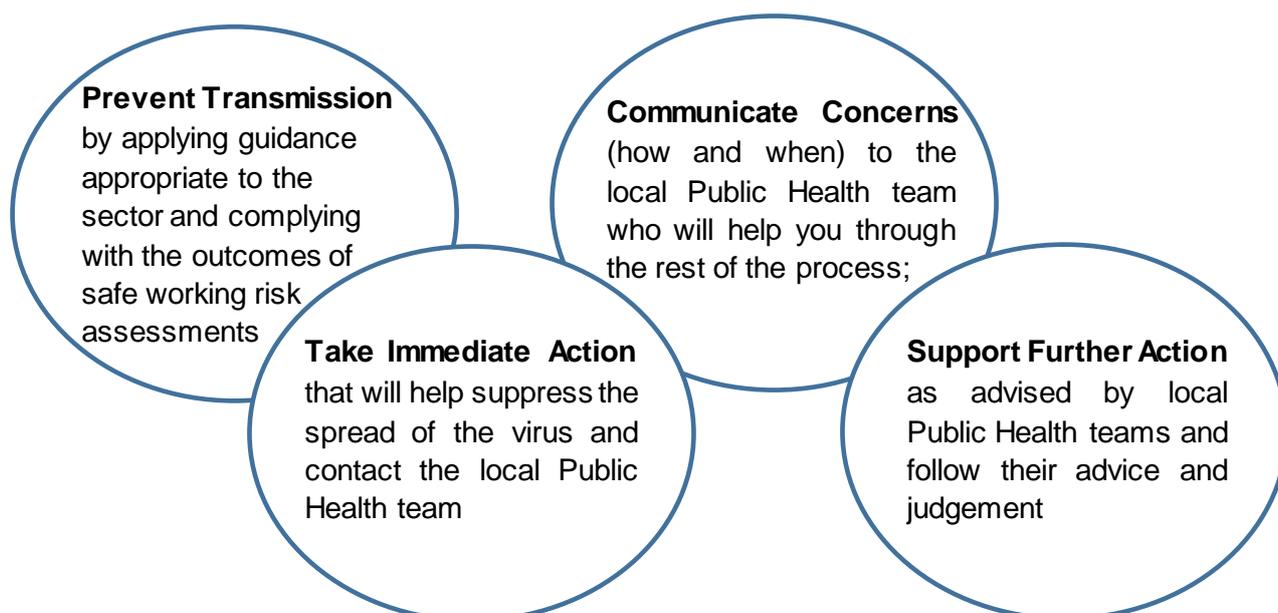
6. DECISION MAKING FOLLOWING AN OUTBREAK IN SCOTLAND

Following the identification of an outbreak it will be essential that any actions taken to mitigate further spread of the virus are robust, agile and proportionate. The first line of response sits with everyone in Scotland as we continue to adapt our behaviour to reduce the risk of the virus spreading. We will need to continue with physical distancing and good hand and respiratory hygiene, including the appropriate use of face coverings.

To support organisations and businesses across Scotland to prevent, communicate and take action if someone reports symptoms, work is underway with Public Health Scotland to develop a Scottish COVID-19 Workbook and sectoral Advice Cards. The Workbook will bring into one place advice on how local and national public health agencies will provide support to prevent virus spread and provide advice on the management of an outbreak.

The Advice Cards are being designed to be used by those who have responsibility for an individual setting, e.g.. food processing, cafés and restaurants. They do not replace but complement existing guidance by providing a single point of access to the key information for the sector; and to inform on what to do if someone reports symptoms of COVID-19. They will be updated as sectoral guidance is progressed and work is underway with Public Health Scotland to develop and publish the first set of Advice Cards by early August.

Key Actions following identification of a Case



Source: The Scottish COVID-19 Workbook 2020

When an outbreak is confirmed the formal decision-making about local services principally remains with those legally responsible. Decisions around the most appropriate action will be driven by Public Health leadership, working in partnership through the Incident Management Team.

Depending on the scale of the outbreak, local authorities and other local bodies may limit or close individual facilities or services in response to evidence and concerns raised by the local data, and where they have powers to do so.

Scottish Ministers receive comprehensive information, on a daily basis, drawing together the local positions on Health and Resilience in relation to COVID-19 and any other emerging issues. For the reasons given in the previous section (the scale and seriousness of the pandemic, the implications of local outbreaks for the national picture), Scottish Government advisors and / or Ministers will seek assurance from Directors of Public Health and others on the Incident Management Team to ensure the actions being taken are appropriate and proportionate.

When circumstances dictate, the Scottish Government Resilience Arrangements may be activated to enable clear lines of communication between Ministers and Partners. Depending on the scale of any outbreak, the risks to public health and the potential impact of a more widespread local spike, Ministers may decide to re-impose local or national lockdown conditions, either through direction or through targeted regulations.

In all cases, any national decisions to implement restrictions will be undertaken on the basis of national/local dialogue and informed by intelligence gathering, analysis, availability of resources and the best interests of our communities. This approach to decision-making is founded on established resilience policy, practice and legislation, and aligned with the principle of subsidiarity.

If an outbreak occurs, clear communication will be essential in ensuring that the right actions are taken at the right time. The approach to this is set out further in Section 7.

7. CLEAR ENGAGEMENT AND COMMUNICATIONS

Timely, clear and consistent public communication will be essential to the prevention and management of any outbreak. This will ensure that those affected or at risk are supported in taking protective actions and that the wider community understands clearly the situation and the nature of the response.

Extensive communications coordination arrangements have been in place in Scotland since the outset of the COVID-19 pandemic, both at a local and national level. These have ensured that health, local government, “blue light” responders and others work together to provide consistent information to the public. These arrangements will continue through the next phase of our response.

Long-standing arrangements exist for informing the public of outbreaks in their area and these will form the foundation of our approach to COVID-19. Following any local outbreak, the relevant NHS Board will lead on public health advice. A communications specialist from the Board will usually be a member of the Incident Management Team and will coordinate local messages regarding public health advice to those affected or at risk.

The Health Board communications lead will work with partners, in particular local authorities, on the communication of second-order impacts and decisions such as the temporary closure of facilities. Full detail on the approach that NHS boards and Health Protection Scotland will take in the event of an outbreak is included within the [Management of Public Health Incidents Guidance](#) and the Health Protection Network guidance [Communicating with the Public about Health Risks](#).

This wider partnership work will be coordinated, where necessary, through the existing multi-agency “Public Communications Groups” of the relevant resilience partnership. More information on these arrangements can be found in [Warning and Informing](#), the national crisis communications guidance.

Health Board communications leads will keep the Scottish Government and Health Protection Scotland closely briefed on any communications related to local outbreaks. If an incident expands to become a regional or national issue, or if the impacts of the outbreak become more complex and wide ranging, the Scottish Government and Health Protection Scotland will take a more active role in coordinating, supporting and where appropriate leading the public communications.

For any aspects of the response which involve Ministerial decision-making, for example the imposition of “local lockdowns”, the Scottish Government will lead on public communications of that decision, again working closely with all relevant partners.

These arrangements will allow for a flexible, coordinated approach to be taken to outbreaks of any number or scale and will build on well-tested structures for collaboration and information sharing already in place between agencies. The shared goal will remain the provision of clear, consistent, factual advice as quickly as possible to those who have been infected, those who have been at increased risk of exposure, and those who are part of the wider community affected by the outbreak.

8. CONCLUSION

The COVID-19 pandemic presents an unprecedented challenge. The knowledge and experience of our public health teams across Scotland will continue to help guide our way through the virus until a vaccination programme has been delivered. It is essential that we all play our part and remain vigilant, follow public health advice on hygiene and distancing, keep away from crowded places and wear a face covering on public transport, in shops and when distancing is not possible.

Surveillance and Response will play a very important role in how we manage, contain and eliminate COVID-19. It will allow us to respond rapidly and collaboratively to any incident or outbreak at a local, regional and a national level.

As we develop new local and national resources to enhance the Surveillance and Response approach to meet the challenge of COVID-19, our ambition is to ensure that Scotland's public health infrastructure is also ready to face any future pandemic and to contribute to improving Scotland's population health.

Together, we are moving as a nation out of lockdown, but we must remain alert. The information that we are gathering and the experience and understanding of our health and resilience professionals gives us confidence that we can continue to meet the challenge of COVID 19 and reduce its impact on our communities.

ANNEX A: LIST OF DATA SOURCES

Local partners will use a wide range of data sources to inform their decisions. This includes the measures below. These will grow as new data sources become available:

Current Indicators

- NHS24 calls for respiratory symptoms
- Number of people confirmed positive for COVID-19
- Number of tests carried out
- Percentage of positive tests from all tests
- Numbers and percentage of people attending community hubs with respiratory symptoms testing positive for COVID
- New hospital admissions for confirmed COVID-19
- New admissions to Intensive Care for COVID-19
- Deaths from COVID-19
- New cases referred to Test and Protect
- Total contacts identified and traced through Test and Protect

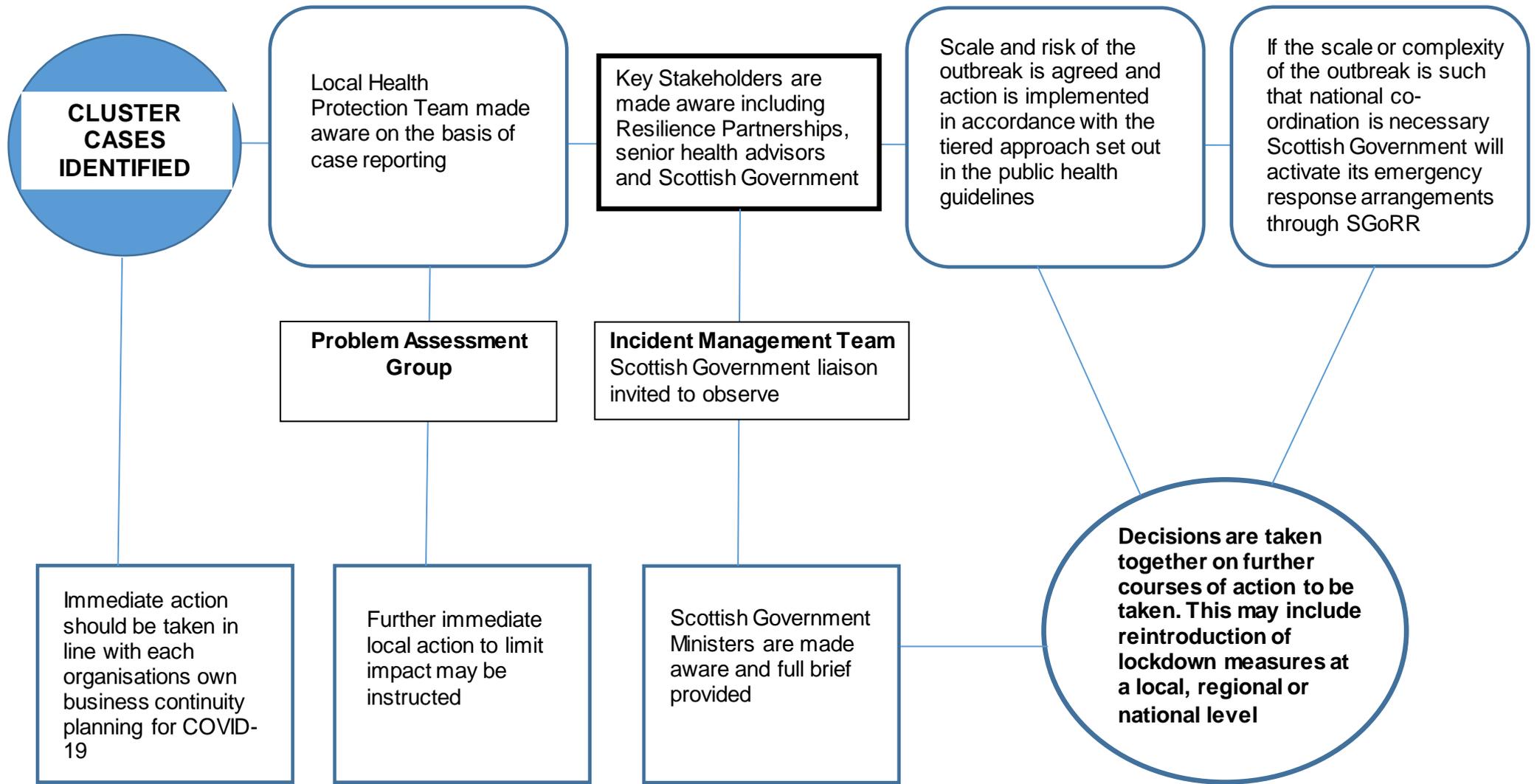
A range of these data are already published as open data by Scottish Government, National Records of Scotland and Public Health Scotland. They can be found here:

<https://www.gov.scot/publications/coronavirus-covid-19-daily-data-for-scotland/>

<https://www.nrscotland.gov.uk/covid19stats>

<https://www.publichealthscotland.scot/our-areas-of-work/sharing-our-data-and-intelligence/coronavirus-covid-19-data/>

ANNEX B: SURVEILLANCE & RESPONSE: ESCALATION AND DECISION MAKING





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