Covid-19 Pandemic National Interim Operational Review

C19 National Foresight Group

Dr Rowena Hill Dr Duncan Guest Andy Hopkinson Andy Towler Rich Pickford

NOTTINGHAM

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This review is an independent commission by Shaun West and completed by the C19 National Foresight Group. In the spirit of continuous learning and reflection, this document is to be shared with LRFs, Partners and Government Departments.

It is highly commendable that LRFs, Partners and Government Departments have engaged with such a duty of candour directly with this independent review and forthcoming reviews.

C19 National Foresight Group Title: Covid-19 Pandemic National Interim Operational Review Report

Author	C19 National Foresight Group (Dr Rowena Hill, Dr Duncan Guest, Andy Hopkinson, Andy Towler & Rich Pickford)
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Corresponding author: Dr Rowena Hill - rowena.hill@ntu.ac.uk

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Foreword

I write this foreword at a very poignant time; the Ministry of Housing, Communities and Local Government having just marked its 100th day in emergency response, reflecting the formidable service of each Local Resilience Forum, partner and government department. Sadly, 30,076 people have died to date across the United Kingdom attributable to Covid-19, of whom 113 were NHS and healthcare workers. The most enduring emergency response in modern times shows no end and every daily update on those taken from our communities by Covid-19 is as heart breaking as that previous.

As a former Chairman of a Local Resilience Forum, I recognise the value learning can add to any emergency, especially to one with such a long tail. Typically, in the form of a debrief after response, learning is carried forward into the next emergency. The opportunity to reflect and afford learning during an emergency is rare.

I commissioned this interim operational review across the United Kingdom at every level of response for that very reason, to save lives, relieve suffering and support communities during this crisis. Across all 38 Local Resilience Forums, regional partners and government, over 200 participants have contributed to share compelling personal experiences intended to shape and inform the ongoing response and beyond.

The review has been delivered by a collaboration between Professor Jonathan Crego M.B.E, Director of the Hydra Foundation, and Dr Rowena Hill and her dedicated team from Nottingham Trent University. As a previous participant of Hydra sessions with Jonathan and a Nottingham Trent University alumnus, I had confidence in this combination of resource and expertise, notwithstanding the scale, complexity and speed of the challenge. Supported by Deputy Chief Fire Officer Andy Hopkinson and Chief Superintendent Andy Towler, who kindly contributed practical expertise of civil contingencies, I am very grateful to this review team for their professionalism, dedication and uncompromising resolve.

This report presents analysis and details recommendations; priority recommendations which may be enacted now to inform this response and beyond. Other recommendations are more long term in nature and, whilst they should be considered now, may be of such scale, complexity and depth that they may not be realised as quickly. Their value is significant and should not lack traction.

My personal commitment is to share this learning, offering bespoke briefings to partners and government departments where required, to maximise the benefit and value shared by participants. Further review sessions will be conducted, the next being scheduled for 3rd June 2020. Our C-19 National Foresight Group will track each recommendation to afford transparency and detail progress made against each by relevant partners and government departments, culminating in a final debrief product.

I commend this interim operational review to you.

Shaun West Chairman, C-19 National Foresight Group

It has been both a privilege and a challenge to assist in this mid-crisis review. Traditionally, 10kv methodologies have been designed to elicit post and mid-operational debriefing and learning. Existing 10kv methods required professionals to be co-located, each given an iPad running 10kv software and through a number of facilitated sessions, be encouraged to record, anonymously, their lived-experiences. In addition, this tested and validated approach fosters a level playing field, where delegates are able to challenge and support issues raised by others. It provides a 'safe' space for quiet voices to be heard.

The requirements for this review, were to engage with emergency practitioners and their partner agencies right across the UK, simultaneously without travel. Consequently, the whole approach needed to be modified to operate on smartphones with live video streaming, to support dynamic facilitation. Much of the existing tried and tested methodologies were included into this new *10kv-Cloud* approach. The product produced by the delegates was huge, full of richness and debate. The dedicated analysis team led by Dr. Rowena Hill, worked incredibly hard and with great skill, to distil over 50,000 words into pragmatic actionable findings. This report is evidenced entirely by the comments made during the event. As such, it is the unassailable voice of expert practitioners, who are passionately working so hard to save lives. My heartfelt thanks go to all these dedicated professionals and I recognise there is much more to do. Further 10kv sessions are scheduled to be run during the next phases of the crisis.

Jonathan Crego, The Hydra Foundation

The Academic Team from Nottingham Trent University

The NTU team acted as an intelligence cell during the *10kv-Cloud* session, analysed the data and co-authored the report.

Dr. Sally Andrews

Professor Thom Baguley (Intelligence cell only)

Dr. Duncan Guest

Dr. Rowena Hill

Rich Pickford

Dr. Lisa Sanderson

This research team at NTU are psychologists and staff from Social Sciences. As a group they have worked and researched within the context of emergency management as part of a wider research focus on safety and security. The group have researched communication within Strategic Co-ordination Groups, psychology associated with emergency responders, and they are actively involved in a series of ongoing research programs focusing on disaster management. NTU have sponsored this team's time in order to support the national response to Covid-19. As part of this, Dr Rowena Hill, is seconded full time to the C-19 Foresight Working Group as the only embedded scientist. Prior to this secondment she worked almost exclusively in research and policy with emergency responders and emergency management.

The Subject Matter Experts

Deputy Chief Fire Officer Andy Hopkinson, Bedfordshire Fire & Rescue Service; Vice Chair, Bedfordshire Local Resilience Forum

Chief Superintendent Andy Towler, Cumbria Constabulary

Executive Summary

This national review was completed on the day that Matt Hancock announced that the United Kingdom (UK) was at its first (overall) peak of the Coronavirus Disease 2019 (Covid-19). This national review was therefore completed on the day the announcements of the Health Secretary and the Secretary of State for Foreign Affairs both inferred that the UK was at maximum demand in the initial response phase to the Covid-19 pandemic.

As this review aimed to capture the response at full demand, this is a unique piece of work. It captures the written comments of the very people responding to that demand at the time they were experiencing the first peak.

This review had delegates from across the UK and sought to understand the experiences of the local and national strategic decision makers in the response phase of the Covid-19 pandemic lifecycle. The qualitative data was analysed and from that process four main themes and three subthemes were identified. The four main themes are;

- Effective Working and Enabled Innovation;
- Structures: Knowledge, Complexity, Context;
- Inclusion in to the Intelligence Picture and;
- Requests for Support.

The other three themes were:

- Recovery;
- Managing Concurrent Events and;
- PPE and Testing.

This report unpacks each of those seven themes and their associated subthemes using anonymised data excerpts from the delegates. Twenty recommendations have then been developed by both the subject matter experts and the academic team to capture the learning and address the challenges reflected in the analysis. These recommendations are applied to the recovery and foresight sections to future proof the findings in those sections.

The recommendations from this report will be disseminated to the Local Resilience Forum (LRF) chairs group, key stakeholders within Government departments and the actions arising from the recommendations will be tracked by the C-19 National Foresight Strategic Group.

A cluster of recommendations from the analysis sets out ways in which learning can be captured through future reviews. The C-19 Foresight Working Group has already commissioned the Hydra Foundation and Nottingham Trent University to complete a number of subsequent reviews. Through these subsequent reviews, the learning will be captured, as well as the changing nature of current demands and pressures for those involved in the decision making relating to the Covid-19 pandemic lifecycle.

PRIORITY RECOMMENDATIONS for FINDING ONE Effective Working & Enabled Innovation

(PRIORITY) Recommendation 1.1: A national level debrief process, with a rapid turnaround, should be sustained throughout the response and recovery phases of the current pandemic to ensure learning and good practice is captured, shared and acted upon in real time, to mitigate harm and influence future activity. Future reviews should seek to include greater community engagement and participation.

(PRIORITY) Recommendation 1.5: Undertake a specific review of the policy, procedure, guidance and legislation underpinning the response to the pandemic outbreak to identify how it can be adapted and improved to aid future response and recovery phases.

PRIORITY RECOMMENDATIONS for FINDING TWO Structure

(PRIORITY) Recommendation 2.1: A short briefing note/resource summarising the roles and responsibilities of LRFs and partner agencies involved in a multi-agency response to a major incident is needed to improve awareness amongst key stakeholders locally and nationally.

(PRIORITY) Recommendation 2.2: A reference document should be shared across all LRFs and partner agencies that maps the current command, control and communication structures implemented in response to the current pandemic outbreak at both local, sub-national and national levels to provide greater clarity of what national support is available to LRFs and SCGs.

(PRIORITY) Recommendation 2.3: Resilience Direct should be re-structured to improve horizontal visibility across LRFs, to improve situational awareness and share good practice. Greater use of standard naming conventions and templates for reporting is encouraged.

(PRIORITY) Recommendation 2.7: Clear guidance is needed to assist LRFs and partner agencies better understand and navigate the complex national, sub-national and local health structures, roles and responsibilities and levels of decision making in the context of the Civil Contingencies Act (CCA).

PRIORITY RECOMMENDATIONS for FINDING THREE Inclusion in to the Intelligence Picture

(PRIORITY) Recommendation 3.1: To ensure consistent, timely and current information exchange a clearly defined National Multi Agency Information Cell (MAIC) based on the LRF MAIC model should be formally adopted to collate, synthesise and disseminate the national and subnational picture in a timely way. The information should be readily accessible via Resilience Direct to enable local strategic decision makers and Government to be able to read up and down as well as across both structures and information content.

(PRIORITY) Recommendation 3.2: Establish a multi-disciplinary Knowledge Management Centre at the national level to work alongside a MAIC to analyse data and intelligence and provide advice to key stakeholders at both local and national level, avoiding duplication of effort and maintaining a commonly recognised intelligence picture.

(PRIORITY) Recommendation 3.3: The MAIC guidance with the JESIP Doctrine should be expanded to ensure a common approach is adopted by all LRFs. Common protocols and templates should be provided to facilitate the ready aggregation and disaggregation of data and information upwards, downwards and across.

(PRIORITY) Recommendation 3.4: At local/sub national level, a policy of an inclusion protocol (where this does not already exist) should be signed by partners of the LRF and sub national partners to indicate and commit to a willingness to share (data, intelligence, strategy, decision-making, forward look) with other partners in order to facilitate local level decision-making. Similar considerations should be made when considering how to share vertically. Please note, this is not a data sharing agreement, but goes beyond the sharing of data to wider intelligence.

(PRIORITY) Recommendation 3.5: For Central Government to seek to share their assumptions, strategy, decisions, data and modelling with local level decision makers to support effective decision-making to improve the efficacy of the response, recovery and other phases going forward.

(PRIORITY) Recommendation 3.6: Each LRF should continue to have access to a named and consistent Government Liaison Officer (GLO), who ideally is familiar with the locality, for the duration of the response.

(PRIORITY) Recommendation 3.7: The communication forums between local LRFs and the national level need to be further improved to ensure they are effective, timely and bi-directional and discussions, requests, actions and decisions are logged and shared with participants.

PRIORITY RECOMMENDATIONS for FINDING FOUR Requests for Support

(PRIORITY) Recommendation 4.1: Transparency of national thinking about how LRFs will be supported and guided in continued response and recovery given the long tail of the crisis in order to empower effective decision making and planning.

(PRIORITY) Recommendation 4.2: National thought leadership on the forward look and insights of how Covid-19 primary and secondary impacts are likely to interact and their associated, projected emergent need in the community/society.

Scope

Overarching goal

Delegates afforded time and space, during the ongoing Covid-19 national emergency, to reflect upon their capacity, capability and sustainability throughout an enduring response. Individual and collective reflective practice designed to shape the future response, taking lessons from beyond response into recovery.

10kv Method

C-19 interim operational review was supported using an online model of the 10kv review called 10kv-Cloud. This system developed by the Hydra Foundation has been used in over 400 debrief and review sessions. This was the first time 10kv-Cloud has been run and was modified specifically for this review.

10kv creates space for delegates to post anonymous comment on questions posed to them. It also encourages reflection and comment on peer thoughts during the review. The contents of the 10kv are normally analysed, themed and shared as a detailed report to the sponsor and delegates. A rapid review of the material has been undertaken during this review which is shared with you here. The session parameters, invitees and strategic aims are set out below and were driven by the C-19 Foresight Working Group.

Delegate Representation



Figure 1. A graphical representation of the delegates and their affiliations.

Method

The review took place on Wednesday 22 April 2020 between 15:05 and 16:15. During the review over 200 delegates logged on via smartphones or laptops. Using the Hydra 10kV process, delegates responded (via text) to the following questions within the following sections. All responses were anonymous.

Section 1. Activity within your Local Resilience Forum

What achievements are you most proud of?

What didn't go so well?

What would you change and do differently moving forward?

Section 2. Regional Support

What achievements are you most proud of? What are the key challenges in your region? What would you change and do differently moving forward?

Section3. National Support

What achievements are you most proud of? What support might you require? What isn't going so well?

Section 4. Concurrent Emergency

What's your preparedness for a concurrent emergency? What are the pressure points? What support might you require?

Section 5. Forward Look

How much space and time are you affording to foresee consequences of

C-19 and identify legacy issues?

How well geared are your C3 arrangements to contribute to this?

What foreseeable mid to long term consequences might you anticipate as we move from response into recovery?

Section 6. Personal Reflections & Insights

Over 60,000 words and 1,500 comments were generated over the six sections. The raw data was rapidly analysed by academics from Nottingham Trent University and the Hydra Foundation to create emerging findings and preliminary recommendations for a

preliminary presentation 'Interim Operational Review UK Cross Sector 10kv-Cloud Workshop: Rapid thematic analysis to inform ongoing Response and new Recovery'. This was presented and accepted to the C-19 National Foresight Strategic Group (28.04.2020) and the UK C-19 LRF National Chair's Conference (29.04.2020). A copy of this presentation was then shared with the Chair of every LRF in the UK and uploaded to Resilience Direct. A detailed consideration of the analysis is contained within this report.

Mapping between the report and the presentation document of initial findings

Title of presentation document mapped to: 'Interim Operational Review UK Cross Sector 10kv-Cloud Workshop: Rapid thematic analysis to inform ongoing Response and new Recovery'

The above presentation contains the initial findings of this report. As the analysis informed the development of this full report, some opportunities were taken to synthesise or improve the presentation of the analysis. These minor improvements are documented below:

- The re-naming of the first finding. In the presentation this was called 'Positivity and Pride', through further engagement with the theme and data the name of 'Effective Working and Enabled Innovation' was felt by the analytical team to represent the content of the theme more effectively. All other aspects of the theme; the structure, content, subthemes etc, all remain as was used to inform the presentation. There are no further naming changes.
- The structures of the four main themes map across directly from the • presentation to this report. There are no changes. There are three more themes which are included. Two cluster under the theme 'Planning for the Future'. This contains the subtheme of 'Managing a Concurrent Event' and 'Conceptualising Recovery'. The presentation was a rapid view of what was a priority here and now. This report offers the opportunity to look in a wider context and offering colleagues the chance to look at the discussions focused around the future seemed a valuable offer. The last theme was looking at issues specifically related to 'Logistics, PPE and Testing'. This stands alone as although challenges related to PPE are present throughout the data, and the current and future challenges relating to testing were discussed fully by delegates, the separation of the challenges from the context was needed to extract the issues sitting behind those challenges. In other words, the authors of this report would like to identify learning associated with the challenges, rather than author a report on PPE. This is important work, it was not the focus of this review.
- As a consequence of the additional themes, and the ability to consider the learning in a longer time frame, the process of the report writing allowed the multi-disciplinary team to further develop more detailed recommendations. The original nine recommendations still remain in the report, but these are joined by other additional recommendations. This is so we can track the recommendations as the reviews aggregate to a full debrief later on in the process.

 Following on from the full write up of the analysis and the additional recommendations, this has allowed the recommendations to be split in to two distinct time frames. The purpose of this interim review is to present the fast time recommendations and they are labelled as such. Recommendations which can be implemented in a longer time frame are labelled as 'Long-term'.

Analytic Approach

All academics followed the steps outlined in thematic analysis (Braun & Clarke, 2006) who coded line by line all the material produced. In order to provide a fast turnaround of the review findings so as to influence response in real time response analysis of the full data set was split up per section, with a member of the analysis team generating themes for each question. Through this coding, themes have been shaped which represent the responses across each of the sections. The analytic process started with familiarisation where initial understanding of the data set was established by reading the responses to the questions in each section. Initial codes were then generated through the coding of every statement. Many of the initial themes were used as codes (with some additional specification) with the name of the code being adapted as the coding progressed. Codes were collected into similar thematic groups. Some codes were then merged into subthemes and some subthemes discarded. A theme structure was created for each section with these different themes and subthemes. The themes were reviewed several times, in the process of collapsing and merging themes or separating out subthemes. This generated a final set of themes for each section. Graphical representations of these themes are shown in the Technical Appendices.

Subsequently the steps of clustering, nesting and theme mapping were undertaken to develop an overall theme structure for the full dataset. These overall themes were named according to their cluster to provide better representation of the underlying subthemes and coding. The mapping of the themes generated in each section to these overall themes is shown in Table 1 in the Technical Appendices.

To ensure reliability of findings, the line by line codes and the themes created in each section were double checked by another member of the analysis team.

Report Structure

The report is broken down into several sections. The first reviews four main themes derived from the analysis and explores the major subthemes underneath each of the major theme. The themes and subthemes are described and evidenced with direct quotes from the data, and numerical information is provided to indicate the extent to which each subtheme was represented in the data. A separate section focuses on Planning for the Future which brings together findings from the data that were focused on a forward look. A final section focuses on Logistics, PPE and Testing. These are not reported as a separate theme because they represent specific issues into which many of the four main themes came into play. They were mentioned frequently, particularly PPE, and frustrations were clear. As single issues, they are examples of how, in this current situation the broad challenges outlined in the themes played out and as such they are symptoms of wider issues. The central focus of the report is on these wider challenges, which generalise beyond the current situation. Importantly however, the specific issues of PPE and Testing exemplify how these wider challenges can interplay to create bigger challenges and make them difficult to overcome. The final section therefore focuses on what delegates said in relation to these specific issues.

During initial analysis the wellbeing of frontline staff also came through very clearly. This was considered an important issue and as such resulted in a high priority urgent initial action.

Fast (Actioned) recommendation 0.1: Within 24 hours of the 10k review specific wellbeing resource reminders were created for emergency responders working in fire, police, urgent pre-hospital care and health care workers and sent to key stakeholder wellbeing leads for dissemination (NFCC, NPCC, NHS and LRF Chairs).

Findings

The number of responses per section of the report is shown in Figure 2a, and the number of codes generated from each section shown In Figure 2b. The pattern is broadly similar, although codes are more numerous because a single comment could be extensive and relate to a number of themes, by far the most commented on section was the section on Activity within your Local Resilience Forum. It is probable that this was due to two reasons. First, delegates were in the main from LRFs and so would have been best placed to provide extensive responses to questions in this section. Second, this was the first section in the debrief. Although delegates could move freely to any section of the debrief and any question within it, it is probable that many worked through it in a logical order. It is of interest that the second largest section by responses was Personal Reflections. Clearly delegates wished to express themselves in ways that were not bounded to the other questions asked. This section therefore allowed good representation of other issues not necessarily provided elsewhere.





Figure 2: Frequency of responses per section of the debrief (A) and frequency of the codes per section of the review (B).

A graphical representation of the final overall themes generated is shown in Figure 3. These show the overall themes and their associated subthemes. The size of the circle represents the number of data excerpts codes associated with that theme/subtheme. Analysis of the data generated four main themes; 1 Effective Working and Enabled Innovation, 2 Structure Knowledge, Structure Complexity, Structure Context, 3 Inclusion in to the Intelligence Picture; Sharing Information and Communication and 4 Requests for Support. These were further underpinned by thirteen associated subthemes. These themes represented issues that spanned the full dataset. A further two themes were also identified. One of these related to Planning for the Future which represented issues that arose only in the Concurrent and Forward Look sections primarily because of the differing forward look in those sections by way of time and event management. Lastly, the very specific issue of Logistics, PPE and Testing is shown. This was not a theme per se, as this related to very specific issues that were symptoms of issues arising in the four main themes. However, given the extent to which they were mentioned they are represented here.

Overall, the largest in terms of the frequency of issues that related to it was Inclusion in to the Intelligence Picture; Sharing Information and Communication. Broadly, however, each of the central four themes was well represented by the data excerpts.



Figure 3: Graphical representation of findings from the analysis. The size of the circle relates to the frequency of issues that arose that pertained to these themes. The four main themes are shown in blue. Subthemes relating to the larger themes are shown in yellow.

Finding One: Effective Working and Enabled Innovation Forward

Across delegates it was widely reported that the LRFs and the people in them have been swift, flexible, adapting in their initial response to Covid-19. The delegates were clearly proud of their collective response and working practices. They report that they have used prior planning to activate early and make decisions. They provided many examples of effective practice and multi-agency working, and where clear leadership and strong networks and relationships facilitated response. Examples were provided where the collective achievements were clearly evidenced. These effective practices are seen throughout the data, particularly in Sections 1, 2, 3 and 6. This theme captured the positive assessment of many delegates about their colleagues who have stepped up to the plate and shown commitment and dedication, innovative ways of working, or strong leadership. Throughout the discussions of this theme was the desire to capture this for further reflection and learning.

In the remainder of this section, this overall theme is broken down into several subthemes. The extent to which the issues pertaining to these subthemes were generated by delegates is shown in Figure 4. As can be seen, Effective multi-agency working and networks of partners was the most frequent subtheme, accounting for nearly half of the comments in this overall theme. These subthemes are broken down in more granularity in the technical appendices which details how the themes generated in each section of the report mapped onto these subthemes.



Figure 4. The percentage of the codes generated for each of the subthemes in the overall theme of *Structure Knowledge, Structure Complexity, Structure Context* (% of Theme), and as a percentage of the total codes generated across all themes (% across all Themes).

Adapting structures and roles

This broad subtheme recognises the set of characteristics that were commonly associated with effective performance. LRFs have been swift to stand up and take action, and have shown agility and flexibility, being able to adapt their composition and ways of working to meet the challenges they face quickly and adeptly. This was seen as an accomplishment in itself, but also innovative in the speed and ways in which this was achieved.

"Agile working at speed - not being bound by traditional ways of working or structures in order to design the local response to what is needed, particularly with no face-toface meetings"

"The ability to move to a complete virtual response in 2 days and then creating the most expansive 3C structure we have ever put in place for an incident"

Complementing the evolving and responsive structures was the staff who populated those structures. Effective processes of role allocation within and around the SCG was seen as pivotal to success. The allocation of roles happened quickly and the whole structure had to be staffed appropriately. The allocation of roles spanned the following systems; command, control and communication (C3); the Strategic Coordinating Group/Tactical Coordinating Group (SCG/TCG); subgroups and cells of the SCG/TCG. Deployment of these staff and their effective integration into the structure of the SCG and related bodies (e.g., multiple LRFs, military planners) was noted as a challenge, but one that was broadly successful. Amongst this, the successful role allocation facilitated the quick and effective operation of these structures, ultimately enabling the management of the initial response to be quicker and appropriately paced through battle rhythms. This was offered as part of the explanation for how local strategic decision-makers were able to quickly assess what immediate changes and arrangements were needed to respond to such a large and dynamic situation. This feeds in to the development of recommendation 1.5.

Command, Control and Communication (C3)

"Command and control arrangements set up early March, and all LRF partner agencies fully engaged and nominated deputies in place for all agencies at TCG and SCG level."

"Willingness to review, refresh and evolve C3 structures as needed"

Strategic Coordinating Group (SCG)

"Refreshing the LRF SCG Model to reflect the health service dominant nature of the crisis (ie we needed to talk more about NHS services so we changed the format)"

"Multi-agency support was quick, with agencies putting forward strategic leaders to share the SCG chair in a rotational basis."

"Attendance at SCG good and strategic level – normally the same person which has assisted in continuity."

Subgroups and Cells

"First time we have used the MAIC. Hugely valuable resource and benefitting all parts of the command structure" (NB MAIC is the Multi-Agency Information Cell)

"How quickly we stood up an effective LRF body including a number of cells (excess deaths/ppe/voluntary and community sector etc) SCG, TCG, Regional SCGs. Setting up our MAIC to collate and share responses and complete DELTA forms."

"Being able to rapidly call on multi-agency partners to set up specific cells at very short notice." "Integration of partners into most of the cells including Council, blue light, health and military colleagues"

"Combining 2 x LRF to form 1 x SCG due to health trusts spanning both and one LRF area being considerably bigger than another. Strategic alignment and decisions making has worked well while considering the impact on partner staff and resources."

Battle Rhythms/Flow of Working

"Quickly established SCG and TCG/HETCG rhythms which were refined over the first 7-10 days"

The ability to quickly and effectively adapt structures and the enabling characteristics delegates commonly associated with effective practice within the LRF and response community are valuable learning to take through to the next stages and ultimately through to recovery. These common characteristics and effective practices should be identified and recorded to enable learning. This feeds in to recommendation 1.1 and 1.2.

Positivity and Pride

Throughout the data there was a large amount of discussion of pride and gratitude for the way that the colleagues of delegates had performed in their roles and provided support. This was highlighted as a common perception of colleagues, unboundaried by geography, scale, organisation or sector. In other words, this was reflected as relevant across geography, from local to national layers of response, across all sectors involved, and something felt beyond the direct contact with other individuals to the wider groups. The following quotes taken from the Personal Reflections section exemplify this.

"As a new SCG chair it has been a steep learning curve but I have been hugely honoured to coordinate a great bunch of partners coming together locally to address our needs"

"This is a new and unique situation where people have been called upon to deal with a situation never faced before. The previous planning has had minimal impact on the initial response to the incident and it has been a case of "making it up as we go along" for most of the time. That said, I have seen an incredible response from individuals and teams and some excellent decision making in stressful situations. We will quite rightly look back and be critical about national and local plans, but we should also be proud of how we have addressed the issues our county faces."

"It is amazing what a crisis can effect in terms of rapid change and drawing together of hearts and minds across NHS and wider systems. I feel really proud to be part of what is also a very challenging and worrying time."

"Immensely proud of those working in our health system in (CITY REFERENCE REMOVED FOR ANONYMITY), and of what has been and will continue to be achieved. From setting up the Nightingale Hospital, to meetings of minds across the system, and sharing of experiences and learning. A great privilege to be involved!" "The support provided by colleagues across the country (some of whom I have never met) as well as those locally, has been outstanding"

The ability to identify the skills, qualities and attributes of an effective wider multidisciplinary team and the enablers of collegiality irrespective of sector and organisation, will inform practices for the recovery phases of the pandemic. Specifically how to hold and respect the human capital and collegiality of those leading recovery work towards a 'new recovery/new normal'. This feeds in to the development of recommendation 1.2. Although this subtheme focused on the individual contribution, delegates also discussed the effective multi-agency working across organisations. This will now be discussed in more detail in the subtheme below.

facilitated the quick and effective operation of these structures, ultimately enabling the management of the initial response to be quicker and appropriately paced through battle rhythms. This was offered as part of the explanation for how local strategic decision-makers were able to quickly assess what immediate changes and arrangements were needed to respond to such a large and dynamic situation. This feeds in to the development of recommendation 1.5.

Effective multi-agency working and networks of partners

This broad subtheme encapsulates comments that articulated how well different organisations were working with and supporting each other. This joint working allowed identification of emerging issues, sharing ideas, learning and understanding, establishing best practice and providing mutual aid. Collaborative working was a prevalent theme throughout the local and regional data and features in the sections documenting delegates' achievements. Pre-existing relationships aided this process substantially. Organisations working together enabled the completion of major projects in a timely fashion, the Nightingale hospitals being cited as an example of this.

"We have worked outside normal silos and supported a wide variety of critical services and in less than 3 weeks are sharing staff."

"Collegiate approach of all partners during the response to outbreak. In particular, excellent support provided by NHSE, PHE and Local Authority Directors of Public Health."

"Partnership working has been strong, across the LRF and between police and local authority, dealing effectively with the issues of the visitor economy in a responsible and responsive way."

"Partners coming together to support workstreams and cells has been instrumental in the achievements to date"

"Joint working across the sector established and working - no egos just focused on getting the job done"

"Our ability to connect quickly, help each other out, PPE mutual aid quickly - excellent. Also outside of the region into other regions, sharing ideas, documents TOR etc, outstanding, a real 'we are in this together approach'" Conversely, however, collaborative working did present some challenges, one of which was that a range of individuals were arriving at the LRF with no prior knowledge of structures or procedures. The dissemination of key messages about what the LRF is and what it does could address this challenge. It was also suggested that organisations would benefit from a better understanding of each other's capabilities and limitations. There were some suggestions of a duplication of efforts; a clear division of the roles and responsibilities regionally and locally is required to ensure no duplication of activities. Opportunities for further mutual aid and data sharing were identified and need to be explored further. These issues are addressed in other sections of the report. These suggestions of familiarising individual's with the LRF, its structure and responsibility should be actioned and shared in order to enable more effective ways of working as the response moves in to the following phases and recovery. This feeds in to recommendation 1.3.

The importance of pre-existing networks developed through previous live work, or through exercises, were highlighted as beneficial by delegates. These networks were seen as pivotal in being able to operate effectively. Delegates also reflected positive comments about building new networks to facilitate response.

"Existing positive working relationships between agencies and individuals (honed through previous incidents) - plus a pragmatic approach – helped ensure we moved swiftly into dealing with covid-19 as a major incident"

"Knowing our Strategic Partners before the C-19 Event means we are working in a high trust environment.

- Totally agree and this CANNOT be overstated as THE MAIN ingredient for success
- Agreed"

"The way organisations from across the LRF have worked well together, based on strong relationships and previous exercises and incidents. In particular the experiences of Brexit made adopting a regional concept of operations and battle rhythm easy."

"Fire Service embedded with military planners has assisted with forging connections and progressing things quickly."

The training, exercising and building of relationships ahead of any event are the principles of sound emergency management. Training and exercising plans could contain the specific aim of relationship building between members. Ways in which relationships are cultivated and facilitated within the LRF feeds in to recommendation 1.3.

In the discussion, delegates identified one way in which pre-existing networks were created, which is through training. There was a clear recognition that joint training and exercising delivered both important training itself, but also the creation of professional relationships which become established before the crisis. Training provides a common lexicon of language, terminology and policy supporting major incidents and an understanding of the roles agencies play. Without this, a shared mental model of the unfolding crisis can be difficult to achieve and become a barrier for good inter-agency working and efficient decision-making. This feeds in to recommendation 1.4.

"Organisations such as local authorities have wound down emergency planning functions and suddenly they are finding folly in previous decisions, meaning a lot of on the job learning and teaching is having to take place, and perhaps staff who are in a relatively junior organisational position are suddenly being expected to punch well above their weight"

This discussion so far has focused on the partnerships and relationships between the organisations within the LRFs. The relationship with the wider community starts to be explored in the theme of 'Conceptualising Recovery' within 'Planning for the Future'. This review was carried out with a specific focus on response, so the wider community relationships were not the focus. In future reviews, the communities who the LRFs work for and to, will be included. This feeds in to recommendation 1.1.

Within this current review theme, delegates did discuss the community and volunteers and this will now be explored in the following subtheme.

Volunteers/community

When reviewing the wider partnership network, the volunteers and community response is at the heart of that local and regional network. Delegates discussed the mobilisation of volunteers and community hubs to help the response. This was particularly the case with shielding.

"Made excellent use of already existing Emergency Volunteer Network to deliver urgent support for those shielded not yet supported by the NSDR"

"Excellent mobilisation of VCSE and recruitment of volunteers to support the community resilience work"

"quickly establishing a network of community support organisations able to coordinate volunteers and other help at the local level to assist shielded and self isolating people with shopping, prescription collection, phone calls to reduce isolation etc"

"Creating and implementing our Community Support Hubs, including engagement with volunteers and vulnerable members of the community."

Effective practice

As established throughout this theme there were many examples of good or leading practice and innovation. Delegates used specific examples of where their LRF had worked together well to produce positive responses and in many cases these went beyond the role of the LRF and achieved some substantial achievements. Learning from these can inform future practice as the response moves in to the coming phases of the pandemic lifecycle and recovery and feeds in to recommendation 1.1 and 1.2. Broadly, these effective and innovative practices related to managing the death process, PPE, shielding, assisting hospitals and recovery, mutual aid and general logistics.

"Filling the gap/void left by the National Supply Distribution Response NSDR

- Support that the LRF has picked up an extremely challenging area here and managed it
- SCG filled this gap early and still is, with a number of National and Regional Supply hubs simply not getting up and running early enough or anywhere near the capacity required. SCG forged local supply chains and local"

"Shielding hubs stood up very quickly and effectively, despite short notice and conflicting national information during early phases. General local view was to get on and do it rather than wait for national guidance. That proved sensible I think"

"Mutual aid between organisations. It shouldn't be necessary but in the absence of reliable equipment supply it has been invaluable."

Leadership was mentioned consistently as an enabler of effective practice. There was no clear census on leadership style or background, nor what in particular has made leadership effective, but it was identified as a key enabler of innovation and effective practice.

Identifying good or leading practice and innovation and the leadership qualities which enabled this would be advantageous to inform learning and future practice, particularly the challenges which lie ahead in the recovery. This feeds in to recommendation 1.4.

"SCG is well established. Senior leaders have stepped up to lead cells which is welcomed and effective."

"SCG chair is CCG Ch Exec, not police – means effective focus of SCG is on core nature of the crisis."

"Both our tcg and scg chairs are police and I think that has been a strength as it has triggered different thinking and an active challenge to NHS"

"Some excellence leadership by the cell leads with good support from cross agency meaning that we could mobilise and meet any challenges"

Timely decisions and prior planning

Delegates' comments noted the value of prior planning, making very early decisions or standing up early in terms of providing a response that was well managed and ahead of the curve was seen as valuable to increase the efficacy of the response.

"Standing up the SCG Early allowed for the battle rhythm to be set early, adapting to virtual working really well. RD standing up well.

- Agree that we found having the structures in place early locally helped
- Agree and the participation and commitment of agencies."

"Early dialogue with Health partners (Jan 2020) and establishment of a robust Tactical and Strategic Co-ordinating group structure with a strong partnership from key agencies, organisations and voluntary sector."

"The LRF reviewed the pandemic flu framework really early on in the process and was clear from an early stage of the need to establish strategic coordination with a 'whole system' approach."

"We've managed to perform well in the circumstances having recently exercised and tested our Flu Pandemic plans. A key strength of our trusted partnerships"

Whilst pre-planning is a key facet of sound emergency management, the ability to make decisions in a timely manner within the context of an unprecedented event was seen as a valuable part of having an effective response. Capturing learning regarding the timing and scope of decisions within a 'whole system approach' and sharing any principles of leading practice would support strategic leaders in their decision-making in the next phases of the pandemic lifecycle. This informed recommendation 1.5.

Summary of recommendations from finding one: Effective Working and Enabled Innovation

(PRIORITY) Recommendation 1.1: A national level debrief process, with a rapid turnaround, should be sustained throughout the response and recovery phases of the current pandemic to ensure learning and good practice is captured, shared and acted upon in real time, to mitigate harm and influence future activity. Future reviews should seek to include greater community engagement and participation.

Recommendation 1.2: To specifically review and contrast the structures adopted by LRFs when implementing local and national plans and guidance for responding to a pandemic influenza, with a focus on identifying innovation and enablers of good practice.

Recommendation 1.3: All Cat 1 & 2 responders and government departments performing a key role in the SCG environment must ensure their staff are trained and accredited in the effective strategic management of multi-agency major incidents. LRFs must ensure their training and exercising plans include a competency register for all partners.

Recommendation 1.4: A review of the national training and competency framework for the strategic management of multi-agency major incidents should be undertaken to improve the consistency and capability of the multi-agency response across the country. To include the training and accreditation required to undertake the critical role of SCG Chair.

(**PRIORITY**) Recommendation 1.5: Undertake a specific review of the policy, procedure, guidance and legislation underpinning the response to the pandemic outbreak to identify how it can be adapted and improved to aid future response and recovery phases.

Finding Two: Structure

Whilst there was a lot of discussion about the strength of the emergency management structures in the previous finding, those discussions focused on the flexibility and effective workings of the LRF itself and how it operates within its own membership. This theme focuses on how that is understood by others, how it is placed alongside other structures and the disconnect between local, regional and national structures and ways of working.

In the remainder of this section, this overall theme is broken down into several subthemes. The extent to which the issues pertaining to these subthemes were generated by delegates is shown in Figure 5. As can be seen, comments were relatively evenly split across these subthemes, with issues relating to Structure Context noted most. These subthemes are broken down in more granularity in the technical appendices which details how the themes generated in each section of the report mapped onto these subthemes.



Figure 5. The percentage of the codes generated for each of the subthemes in the overall theme of *Structure Knowledge, Structure Complexity, Structure Context* (% of Theme), and as a percentage of the total codes generated across all themes (% across all Themes).

Structure: Knowledge

There is a clear challenge within the vertical and horizontal briefing lines of LRFs which stem from misunderstandings of others about what the LRF is and is not and what it can/not do. There is a lack of training and awareness of others in that sphere of influence/briefing line, particularly the lack of knowledge from ministers, Government representatives and partners. The lack of knowledge of the LRF role, function, powers, lack of resource, capabilities needs to be addressed. This feeds in to the development of recommendation 2.1 and 2.5.

"Central Government don't really have a understanding of what an LRF is or what it does. The demands being placed on LRFs by central government demonstrate a lack of understanding of the role of the LRF - LRFs are not legal entities under the CCA and have no statutory responsibilities in response"

"LRFs are a statutory planning process, not a body, and not a responder. We are now firmly in response. I do not understand how responsibilities can be given to an LRF, it would be better being clearly delegated to an appropriate sector/body – with agreement of the SCG membership."

This theme provided powerful arguments to look at the role or LRFs both before and during the crisis and what they are to become during the recovery and post crisis world. Part of this issue appeared to be a misunderstanding about the role of the LRF. This would be partly addressed by enabling horizontal sharing for LRFs to look across to other LRFs and learn from each other, which feeds in to the development of recommendation 1.1. This understanding of role and function could be supported by action to support the sharing of documents and approaches to shared and common challenges. This feeds in to the development of recommendations 2.3 and 2.5. As well as increasing understanding across the LRF of different partner's roles, capabilities, capacities and responsibilities, in order to effectively manage the duties of the LRF itself. This feeds in to the development of recommendation 2.6.

"Future thought needs to be given to 'what is an LRF' - so many tasks / responsibilities have been put on 'LRFs' which means no clear accountability for their delivery and a significant pressure on LRF 'office' functions to suddenly become 24/7 response organisations with never ending OOH email requests to what are in the main part small offices of 2/3 people."

The strong sense of lack of knowledge around the remit and capabilities of various roles, most commonly (although not exclusively) with regards to the LRF, was associated with a need for clarifying understanding of the capabilities, capacity, and role of the LRF in emergencies and a reconciliation of ambiguities of the role. This feeds in to the development of recommendation 2.1 and 2.6. This lack of understanding of roles was attributed to resources being used inefficiently or inappropriately and delaying responses.

"Give the LRF the powers, tools and cash to set up a local structure, a legal entity that can take full legal responsibility for decisions and response. This can be staffed with secondees who can be 100% dedicated to covid-19 and are not trying to do multiple jobs simultaneously. This is no longer an unexpected emergency, it's a day job. It needs to be treated as such."

"LRF is often bypassed on key issues because there is perhaps sometimes a narrow view of an LRF (ie as a group that writes emergency plans rather than a group of senior leaders which are representatives of the local system). We'd probably need to give examples in order to help gov understand what we would and wouldn't expect to come through the LRF route."

"There is not a clear picture of what an LRF is compared to an SCG, Government use the LRF as the dump for their too difficult issues, often with little notice to put arrangements in place." Delegates felt that there was a need for an LRF role definition and clarity of LRF function and powers, particularly going forward towards phases of recovery and the complexities that lie ahead. This was specifically relating to the vertical briefing lines of LRFs. The clarity of what LRFs and SCGs could reasonably expect in terms of structure and support of MHCLG and upwards in the briefing chain, or clarity of the specific role of the LRF moving forwards and the support needed by LRFs in their discharge of the Civil Contingencies Act 2004. This feeds in to the development of recommendations 2.1, 2.4 and 2.6.

"LRF model, needs formalising and supporting in resourcing and funding, as government are treating the LRF like FEMA not an un-constituted forum"

"Recognition of the role of the LRF, either by way of a change to the legislation within the CCA to include the functions it has been required of in this incident."

"The LRF and SCG are not legal bodies but co-ordinating functions for emergencies where partners come together and much responsibility has been placed on them. Perhaps more than was ever envisaged and a review of their status will be helpful in the future."

There were specific asks to clarify misunderstandings of the funding of LRFs, to ensure key stakeholders were aware that LRFs were not organisations in and of themselves. This feeds in to the development of recommendation 2.6. This was accompanied by a request for appropriate funding and allocation of resource to LRFs. This was to ensure they could discharge their responsibilities appropriately and also to ensure sustainability of LRF activity over the coming months and years through response and other phases through the pandemic lifecycle and in to recovery. This aligns to the discussions within theme one in 'Role Allocation' where the identification of effective practice was also balanced with the challenge of sustainability. The funding sustainability challenge is considered in more depth and explored further in theme four called 'Support', which includes a specific ask for financial assistance.

"Having no funding direct to LRFs, which was asked for early and worked very well during no deal Brexit planning, has hampered the ability to deal with administration and implementation of plans and has also hampered ability to deal with concurrent incidents"

"Either fund it properly or put key actions as the responsibility of statutory organisations. LRFs will distribute PPE being a key example of this"

Military involvement was also discussed in relation to misunderstandings of the LRF role and function. This referred mostly to the deployment of military planners to LRFs. The comments noted that this was initially a confusing engagement, but this was soon resolved, but the military deployment of planners was welcomed across the board.

"The role of military planners is undefined and although here to support LRFs often feels as though they are creating an additional reporting burden with sometimes no apparent purpose." MOD planners descended upon us were unsure of their role initially, perhaps some of them still are."

"Military support is brilliant, however their understanding of local authority, health, social care has created some challenges, particularly around the politic environment"

"Military support and relationships have been outstanding."

Resolving this ahead of any future deployment and integration of military personnel developed recommendation 2.4 and 2.6.

Structure complexity

There is a clear challenge to navigate and align organisational and partnership structures to successfully initiate and maintain partnership working. The other organisations (e.g. health, local Government) size, shape and thinking are sometimes misaligned with LRF adding layers of complexity to the response when alignment and co-ordination should have been easier. The subtheme also covers the complexity within the LRF itself as well as the LRF's relationship with its partner organisations. This incorporated comments that delegates made, whether positive or negative about their own structures and other structures involved in the emergency response.

Health structure

Health structures were reported to be complicated, health members were not represented or empowered to make decisions at the SCGs and the addition of NHS regional structures added complexity. The majority of the items in this theme referred to the issues of integrating complex healthcare structures with the LRFs. A shared understanding of how LRFs could and should navigate their sub-national and local health structures was called for. The main challenge was trying to ensure that the right person was represented at the SCG and other LRF structures. Specifically challenges to understanding health structures, purpose and memberships in relation to the LRF. There was also discussion of the need to substantially strengthen the relationship between the LRFs and health in training, exercising and meetings. This feeds in to the development of recommendation 2.7

"Involvement from health partners. SCGs/TCGs/Resilience Direct response page has not been led at all by health partners, was very difficult to get any reps from health to be involved at local SCGs/TCGs. Some health partners still not involved at SCGs/TCGs. Seem to be majorly understaffed"

"Having two health economy's over one LRF has proved problematic with the coordination of activity and access to data. This has had the potential to highlight different responses across the LRF footprint and highlight a 'postcode lottery'"

"Trying to run an SCG with health authorities that work on a different footprint is very challenging, particularly in getting agreement on programmes of work and consistency. Agencies are confused by varying health approaches in the same LRF area."

"To be honest, in my NHS and social care world, there has been limited cross over with LRFs. Have we been operating on parallel tracks?" A clearer overall picture of how NHS structures aligned with LRFs was called for.

"Review of the Health structure! with clear delineation of responsibility and preferably in keeping with other local or regional footprints"

Specifically, there were some issues identified in relation to decision making within the health sector, with a clear difference in decision-making structures within the health and the LRFs. Navigating the command and control structures of health more effectively to enable decision-making at the lowest possible level with health partners was also discussed. The perceived requirement for discussions to go up the chain and then come down again slowed the speed of decision-making which frustrated partners. This feeds in to the development of recommendation 2.7.

"Health appears to have little command and control nationally and has an over complicated governance structure."

"Our examples of working with Health locally are good but they are a top down organisation and little subsidiarity exists with NHS during crisis it seems."

"NHS leadership. Too much national grip on everyone in their system is surprising and breath taking. People dance to the one national tune and will not make local decisions without national agreement that can take weeks"

Challenge of councils

There is a lack of clear regulations in respect to councils which means that they can take decisions which do not align to other councils thus in some cases causing public anger and confusion.

"Complexity of working in a two tier area compared with unitary areas"

This leads on to the next subtheme and is contextualised in the wider challenges of the interplay between national and local.

The LRF functioning

The functioning of the LRF was a subtheme focused on organisational issues of LRFs, the discussion of SCGs tending to be too operational rather than strategic, issues identified with multi-agency working within the LRF and issues around lack of prior training and some practical issues.

"Inconsistent approach to regional coordination. one part of England has a ResCG, but to my knowledge no other. Some parts have joint partnerships, others operating separately. This is confusing for regional and national organisations who are dealing with multiple similar demands for information and expectations on engagement. A more consistent regional coordination of effort would help in sharing information and reducing the number of similar SCG inputs required."

"Complexity of working in a two tier area compared with unitary areas"

"Little debate of strategic issues in SCG meetings, possibly compromised by being telephone conferences rather than face-to-face meeting." "Some partner agencies are at different levels of baseline knowledge. This has led to assumptions and the need to go over "basics" but in the context of an actual live incident"

"Although the TCG is now running very well we found that the scope of the response activities was so broad that we needed to involve people who had never engaged with the LRF before, were unfamiliar with protocols and the use of Resilience Direct."

> The discussion within this subtheme also focused on how the LRF could work better. This included aspects already outlined in full in theme one, but discussions also included the duty of strategic leaders to share outside of their organisation.

"Leadership behaviours too protective of organisations and not approached with the candour required for joint working."

All of the above aspects feed in to the development of recommendation 2.7.

Structure context

This subtheme represents the delegates discussions of a disconnect between the national and local layers of decision-making. There is a clear challenge that national assumptions are not being articulated to the local or regional level. In a fast-changing response, national assumptions have often adopted a one size fits all approach. There is an opportunity to take a longer term, more nuanced view as the initial response phase passes. There needs to be a commitment to candour and a willingness to articulate assumptions at the local level to ensure effectiveness. The challenges of not articulating the national plans and assumptions at local level, is that local planning assumptions cannot be developed. This challenges the ability of local strategic decision-makers to apply and manage the pandemic lifecycle in their own communities and geographical areas.

Delegates commented on the need for national structures to support local efforts. There was a sense that national and local bodies were operating separately, and in doing so were uncoordinated in efforts, leading to inefficiency, duplication of responses, or efforts being hindered. Delegates reported that national structures do not consider local variation in need, with processes that are effective only for some regions, resulting in solutions being developed at the local level. To facilitate local decision-making, local decision makers expressed a view that they need to be able to interpret and apply national assumptions to local risk and threats within their communities. This feeds in to the development of recommendation 2.2 and the recommendations developed in theme three below.

"Lack of an effective communication chain between local and national - information was accessible earlier via the military network than the leads."

"On the whole, the National support has been pushed out with little regard for the differences between areas of the country. Testing sites are a good example where one size does not fit all and local understanding/liaison with local LRF's of those differences may have provided a better service" "The dissemination of data relating to the pandemic is not being released to inform local planning in an equitable manner. Cat 1 responders have variable access to data but are subjected to limitations on what data n be shared and in what modality. This had led to the establishment of local scientific groups analysing information from often unsubstantiated sources based on locally developed assumptions. Consequently this can (has) lead to significant discrepancies between LRF's, with funding and response implications"

Sub-national (regional) structures

There are challenges in how to resolve this disconnect as there are challenge in strengthening the sub-national structures. Not all delegates were supportive of the regional/sub-national structure, some thought it was not needed, instead adding to the complexity and bureaucracy in an already overstretched system.

"Regional coordination would just add another layer of pointless bureaucracy to an already cluttered timetable"

"Some LRF areas and partner agency boundaries readily lend themselves to establishing a regional structure to information sharing and decision making whilst other simply add to the complexity and bureaucracy"

"MHCLG should enforce regional coordination groups when an incident crosses boundaries. Chair was left to make this decision when other members welcomed it. Improved competency based training for TCG and SCG members. A national push is required for this."

"Consistent and senior membership by government, on behalf of all government departments (bring back the Regional Government Offices, rather than the silo working and inconsistent engagement we have now)."

There were suggestions that there had been a time delay in establishing regional structures that had impacted on its effectiveness. If a regional tier was to be incorporated, it needed to have been at the outset so it could be incorporated into the ongoing rhythm of work. It was evident more work to formalise the regional structure was needed with a clearer remit to avoid unnecessary duplication of effort. A more regional response to recovery was called for and the establishment of a regional intelligence cell, mirroring the intelligence cell within the LRF described as 'invaluable', to provide definitive sources of data by area. This provides support for the recommendations set out in theme three.

"Regional co-ordination meetings should have been established from the outset. This would have saved repetition of work"

"Not duplicating activity at regional/local level and being clear on division of roles and responsibilities and where regionally we can 'add value"

Some delegates felt that the organisation of the regional hubs took too long as did the establishment of links into the NHS regional structures and getting the GLO in place. Frustrations occurred when having to wait for national policy and modelling and when discrepancies existed between what was deemed urgent at both local and regional level.

"At times waiting for national policy / modelling etc when i thought we should have just agreed to push on and start delivering"

'Queries that are escalated as urgent issues from the local level are not deemed urgent at regional - so may sit for weeks with no action"

"The coming online of the dashboard of data was discussed and it was felt that the need for this should have been recognised earlier."

Regional structures were discussed by delegates when looking at the management of concurrent events specifically. As capacity is already restricted across every region, the drawing and offering of mutual aid was discussed by delegates. This was identified as a concern when planning for concurrent emergencies. The military was raised as an additional resource to alleviate this concern, as well as a layered escalation process to draw at regional and national level.

The subtheme described the disconnect between the national and local layers of response. This will be considered further in the next theme, theme three.

Summary of recommendations developed from finding two: Structures

Structures: Knowledge

(PRIORITY) Recommendation 2.1: A short briefing note/resource summarising the roles and responsibilities of LRFs and partner agencies involved in a multiagency response to a major incident is needed to improve awareness amongst key stakeholders locally and nationally.

(PRIORITY) Recommendation 2.2: A reference document should be shared across all LRFs and partner agencies that maps the current command, control and communication structures implemented in response to the current pandemic outbreak at both local, sub-national and national levels to provide greater clarity of what national support is available to LRFs and SCGs.

(PRIORITY) Recommendation 2.3: Resilience Direct should be re-structured to improve horizontal visibility across LRFs, to improve situational awareness and share good practice. Greater use of standard naming conventions and templates for reporting is encouraged.

Recommendation 2.4: LRFs should adopt a formal induction process for all participant members to ensure knowledge of roles, responsibilities and structures are fully understood.

Recommendation 2.5: LRFs must ensure they fully adopt and embed the use of an agreed online platform for sharing and acting upon learning and good practice that may impact on multi-agency working (such as the JESIP/CCS Joint Organisational Learning).

Recommendation 2.6: LRFs should review how partner agencies develop and maintain a mutual understanding of their respective roles, capabilities and capacity to support multi-agency major incidents.

Structure: Complexity

(PRIORITY) Recommendation 2.7: Clear guidance is needed to assist LRFs and partner agencies better understand and navigate the complex national, subnational and local health structures, roles and responsibilities and levels of decision making in the context of the CCA.

Finding Three: Inclusion in to the Intelligence Picture

This was the strongest theme within the data (both in terms of the number of comments and strength of feeling). The LRFs feel that the national stakeholders are not sharing data, modelling, information, strategy, decisions or knowledge with them. The sharing of information to build this broader intelligence picture, and the communication pattern by which this is done, was seen as a top priority to improve local strategic decision-makers efficacy in managing the response, next phases and the recovery. Delegates felt that communication with central Government is currently one way and restricted to broadcasting requests for information and auditing information. GLOs are a welcome move, widely appreciated by LRFs but the communication with central Government and departments needs to be two way, timely, effective and open.

In the remainder of this section, this overall theme is broken down into several subthemes. The extent to which the issues pertaining to these subthemes were generated by delegates is shown in Figure 6. As can be seen, issues pertaining to both the subthemes of Sharing information and Communication were mentioned a similar number of times. Together they accounted for 24% of the issues coded, the most of any of the overall themes discussed in this report, indicating the strength of feeling in relation to these issues. These subthemes are broken down in more granularity in the technical appendices which details how the themes generated in each section of the report mapped onto these subthemes.



Figure 6. The percentage of the codes generated for each of the subthemes in the overall theme of Inclusion in to the Intelligence Picture; Sharing Information and Communication (% of Theme), and as a percentage of the total codes generated across all themes (% across all Themes).

Sharing Information

It is clear that delegates feel sharing data, modelling, information, strategy, decisions regarding interventions and knowledge is a top priority to improve the efficacy of the response, recovery and other phases going forward. This includes sharing at local/ regional level as well as from Government to local stakeholders. This is essential to
ensure the ability for local strategic decision-makers to plan accordingly and mitigate risk for their communities. The perceived challenges of not sharing information was focused mostly on central Government, but was also experienced from LRF and regional/sub-national partners (e.g., health).). It is clear that better systems/ processes are required, and a willingness to share or establishing a duty of candour, is needed in order to address this. This is especially the case in light of managing intervention measures and exit strategies at a local level. Planning and risk mitigation needs to be empowered at the local level in the context of briefing on the national strategy. The current tight management of knowledge, data and decision making by key stakeholders was also seen to restrict the ability to respond with full efficacy to a concurrent emergency. This includes specifically perceived impacts of decision making surrounding care homes both regarding primary and secondary impacts of the pandemic, leading to strain on the system which would be a reduction of capacity and capability available to manage a concurrent event.

"The information sharing is woefully lacking from central government"

"Central Govt wanting to check and recheck data before releasing it, and ultimately not trusting LRFs enough to share the data with us anyway (excess death modelling being the obvious example)"

"Good emergency response starts with good quality and accessible data. Our LRF has been slow to develop an intelligence cell, and to ensure that the data generated by LRF partners was properly pooled. But there has also been a disconnect between the available of national data and forecasting and locally-available information"

"LRF and/or SCG chairs need to be trusted more by MHCLG. We deal with sensitive information everyday in our day jobs."

"Government needs to understand that local planners cannot plan without accurate and well communicated planning information. Government approach to date has been opaque, obstructive and incredibly frustrating"

Due to paucity of information and intelligence, LRFs clearly feel isolated from national decision-making and unable to effectively plan and strategise response. Although it was felt that information was not being shared or released in a timely manner it is clear that underlying this is an issue of communication about the availability of data to be shared. Where there was sharing of data and guidance from central government, the way in which it was managed appeared to create additional confusion. Delegates called for a better system to enable more effective data sharing. Delegates recognised the need for clear, relevant, and timely sharing of information. An absence of relevant information means LRFs generate their own solutions, which is expensive when replicated across the country and sometimes unnecessary. This feeds in to the development of recommendations 3.2, 3.1, 3.3, 3.4 and 3.5.

Sharing at the local level

Delegates reported issues about information being shared from central government, but also between agencies at the local level, particularly the health sector.

"The lack of clear data form MHCLG to inform our planning has been less than helpful. data is being cobbled together from PHE and other sources but remains patchy and fails to instil confidence in partners."

"Parallel running of NHS – it seems to be on their terms – they are running separately to LRF. They hold more data and are not keen to share it."

"Modelling at a local level could be better"

"Poor quality of local community level intelligence sharing across organisations."

"Adept use of JESIP doctrine within SCG and TCG structures ensuring the effective management of cross sector thematic risks. Due to the communications challenges, a SCG dashboard and slide deck structured around the Joint Decision Model has ensured a focused and actioned orientated approach."

The lack of intelligence sharing at the local level is a challenge which is not simply addressed through data sharing agreements. These were clearly not enabling sharing in all cases, and in addition the encouragement of sharing wider intelligence and strategies of partner organisations was called for. This feeds in to the development of recommendation 3.2, 3.1, 3.3 but particularly recommendation 3.4.

Resilience Direct was mentioned as a solution to enable data sharing at the scale required. Supporting recommendations 3.2, 3.3, 3.4, 3.5 but particularly 3.1.

"The RD platform, whilst the agreed secure information sharing platform, remains clunky to use and needs updating with a set of common tools available. For example, the MAIC daily agency updates and COP template could be made available in a consistent manner across all LRFs rather than individual LRFs developing their own approaches."

"Resilience direct needs to be more user friendly and less clunky"

Information was required to facilitate decision-making, however the timing and delivery method of how these are communicated, and that of the wider intelligence, was also defined as a priority by delegates. This subtheme will now be discussed below.

Communication

Most of the issues surrounding communication were about communication with central Government. There were frustrations with the timeliness of communication (with LRFs often having little or no advance warning of policy changes). The pattern of communication also appeared to be unidirectional. Requests for tasks and information were coming out of central Government and to LRFs, but when questions or clarity requests were going back in to MHCLG or other departments, there was a long delay for answers, hindering the effectiveness of the response. There was a clear feeling that issues around communication were influencing ability to deliver an effective response. These feed in to the development of recommendations 3.6 and 3.7.

Timeliness of communication / National announcements

Many delegate comments on the timing of announcements of changes to policy/ practice. Many referred to announcements being made without prior warning, often late in the day and the notification coming via the press or conference calls, resulting in rapid implementation at the local level, with LRFs not having the time to plan the implementation of these changes at local level.

"The lack of information from Central Government is not allowing the LRF's to get onto the front foot and ahead of the Daily COVID-19 briefings. It is not acceptable that we hear at the same time as the general public and constantly chasing the ball placing unnecessary pressure on small LRF Secretariat teams."

"Central government release information and guidance at the end of play of each day, the impact of this is that services have to work overnight to interpret the guidance, this can sometimes be changed without notice the next day, this unsettles staff as the y can feel under protected."

"This is the first emergency i have been part of where the SCG is not advised in advance about critical decisions and their first notification is via the BBC"

"We asked directly on the national LRF Chairs call about school closures and were told no decisions had been made...2 hours later school closures were announced on the BBC"

"On an ongoing basis it appears UK govt decisions are shared by the press rather than communicating this to the local level in advance to enable us to prepare for what is being communicated"

This frustration about timing, method of communication and a lack of clarity around communications made it difficult to plan. With a forward look there was a clear need for more timely and clear communications around policy and policy changes. Discussions focused on how the communication with Government and its departments needed a more inclusive and two-way communication strategy with LRFs and SCGs. This supports the development of recommendation 3.7.

"Poor national coordination arrangements to allow SCGs to interact properly with govt. A single weekly national teleconference is not responsive enough and the ResCG model should have kicked in by now to allow SCGs to have a more regular 2 way interaction"

"Better timely information to LRF's, guidance from central Government on strategies such as large scale public events, relaxation of lock-down etc as time is being wasted planning for events that are highly unlikely to take place."

"Accepting things will change but accuracy and timeliness of decision making and the mobilisation of activities on the back of it require a lead in period."

Government response

Delegates discussions regarding communication focused around central Government or Government departments. Delegates comments about the Welsh Government were polarised. They were praised for their engagement levels with the SCG but conversely criticised for their slow response and lack of value. MHCLG was subject to various tensions expressed between engagement and timely response. The lack of provision of co-ordination and inconsistent attendance at SCG meetings by GLOs was pointed to as resulting in delays in information flow or hindering response.

"The biggest thing I would change is having to involve/ deal with the Devolved Government of Welsh Government who never got up to speed (and still have not) and added little value, but created huge amounts of confusion and additional work"

"Attendance by MHCLG (GLO) at SCG has been inconsistent. We keep being told we will have a designated rep but this simply isn't happening. The result is slow feedback from the region to national, hence delay in getting answers to urgent questions"

PHE was discussed as a small team under pressure but delegates discussed key challenges being timely answers to questions not being provided and a disconnect between the guidance PHE produced and the reality on the ground. It was suggested that once this incident was over a review of their structure would be appropriate.

"Key challenge has been the disconnect between policy / guidance and on the ground realities in respect of PPE and the guidance being produced by PHE"

"Communications from the centre to LRFs has been poor throughout. A reluctance to share information, even by a HMG provided secure communication platform (Res Direct), has been to the detriment of the whole situation."

"There will be a public inquiry to learn the considerable number of lessons from the pandemic. It should consider the following; a single communications team for statements from Government, greater emphasis on brainstorming policies with affected agencies rather than a concentration on keeping information close to prevent media leaks, agreed Data Sharing protocols between Government and non Government agencies and blue lights; transforming LRFs into a responder organisation with the funding, estate and personnel to control their own PPE procurement, local databases and distribution...preparation of a Buy British campaign, broken down into local area campaigns, to act as a catalyst for economic revival."

This last excerpt summarises the complexity of the LRF processes and serves as a good exemplar of the call for relationship building between LRFs and central Government and departments, both in terms of current and future challenges, and also the resultant communication demand needed to successfully facilitate that relationship. This supports the development of recommendations 3.6 and 3.7.

Communication with the local

A need was highlighted to consult with and create a two-way communication between the LRFs/SCGs and central Government and departments, this consultation communication channel is needed to facilitate effective working between the national strategies and the local planning and implementation. "Government need to actually consult about what is planned, not simply announce something at a press conference and expect it to work the next day."

"Government departments need to keep up with our pace and answer our questions"

"A lot of the tension and frustration has been caused by poor communications with govt to help process issues and solve concerns"

"Communication lines between Govt and SCG's have been exceptionally poor. The lack of structure to support an event affecting all areas of UK is hampering response"

"There does not seem to be a clear national coordination framework that ties in COBR to SCGs. If there is, it isn't being used and the MHCLG RED channel lacks capacity and capability to act as the national coordination body"

"The usual information flow through MHCLG has not worked. Lack of consistent membership has not helped, but key questions on these areas remain unanswered for days an into weeks."

"Poor national coordination arrangements to allow SCGs to interact properly with govt. A single weekly national teleconference is not responsive enough and the ResCG model should have kicked in by now to allow SCGs to have a more regular 2 way interaction."

"Lack of an effective communication chain between local and national - information was accessible earlier via the military network than the leads."

From discussions it seems that the LRFs welcomed and sought support from central Government and departments, they are seeking more of a consultation. This was established at local level and they invited national level bodies to lead and participate in a wider communication exchange. This feeds in to the development of recommendation 3.7.

At the local level delegates did note down positive aspects of communication that provided support and cohesion. There was also evidence of some good sharing of information across partners, which, helped avoid duplication of effort. Good communication between LRFs meant that mutual aid and sharing of good practices worked well. One participant reported that response had been improved by consistent briefings that were produced by one ReSCG.

"Good communication between partners from the outset"

"The open communication and ability to support each other to achieve common goal"

Key contacts

One of the issues that hindered communication was the lack of key contacts. The reported challenge was the lack of consistency with key contacts in other agencies, particularly MCHLG as well as the familiarity of those contacts with the LRF. Developing these contacts and increasing their familiarisation with the LRFs feeds in to the development of recommendations 3.6, 2.1 and 2.2.

"We have a dedicated MHCLG RD Advisor, as soon as an emergency occurs they get pulled away in to the centre and get given someone who doesn't know the LRF and we don't have a strong work relationship with. This creates more of a blockage and having a different RED RA on each call means they have little to no understanding of the previous meeting discussions,"

"Never the same MHCLG rep, so actions allotted to MHCLG were not completed."

"Some reps did not know how to work Resilience Direct, had to be outlined by LRF."

"Inconsistency of MHCLG reps dialling into SCG meetings and being unable to answer questions and not getting back with answers when promised."

"MHCLG having sufficient GLO's to service all LRF's to ensure adequate coverage and level of service. At least a point of contact who has some understanding of the respective LRF and common issues."

Media, Political and Other External Influences

There was significant tension in the delegates comments relating to Central Government, Local Government and LRF and SCGs. The following comments are a summation of the range of issues raised by the delegates. The political influence within the LRF and SCG environment was expected, but raised concerns from the delegates. This feeds in to the development of recommendations 3.7, 2.1 and 2.2.

"As a Multi Agency Partnership we have really met the challenge and coped with all the changes and issues Nationally we have been sent, but it would be nice to focus on the local issues and do what is right for our area opposed to fire fight National direction and demands."

"Over the last month meeting my LRF partners on a daily I have built up a fantastic trusting relationship - we are one team, a team of equals working toward a common goal. If we had the same relationship with the centre, then together we could move mountains"

"Whitehall is still isolated and insulated from the coal face of the impact of this crisis. The crucible of where the solutions are being formed is at LA. They need to have access to the resources to respond."

"We need a different way to look at response/recovery. Political leaders at all levels are uncomfortable that they don't have a role within the SCG and establishing a different Recovery body working alongside and in tandem with the SCG would be a way forward rather than handing from one to another. The analogy I use is a seesaw with recovery and response at either end. As the pandemic progresses different ends of the seesaw will be highest at different times"

"How un-joined-up central government can sometimes be! Our local MP is a cabinet member but was unaware on certain matters until he was briefed by us as the troops on the ground. It was taken as read that they would already be aware!"

"I thought that Government's approach to no-deal Brexit planning was bad. This has been worse. Poor understanding. Poor communication. Very little confidence. I agree. Developing a culture of disrespecting and ignoring experts cost us dearly over Brexit but has literally been fatal for many people during this crisis."

Summary of recommendations developed from finding three: Inclusion in to the Intelligence Picture

Information sharing

(PRIORITY) Recommendation 3.1: To ensure consistent, timely and current information exchange a clearly defined National Multi Agency Information Cell based on the LRF MAIC model should be formally adopted to collate, synthesise and disseminate the national and sub-national picture in a timely way. The information should be readily accessible via Resilience Direct to enable local strategic decision makers and Government to be able to read up and down as well as across both structures and information content.

(PRIORITY) Recommendation 3.2: Establish a multi-disciplinary Knowledge Management Centre at the national level to work alongside the National MAIC to analyse data and intelligence and provide advice to key stakeholders at both local and national level, avoiding duplication of effort and maintaining a commonly recognised intelligence picture.

(PRIORITY) Recommendation 3.3: The Multi Agency Information Cell (MAIC) guidance with the JESIP Doctrine should be expanded to ensure a common approach is adopted by all LRFs. Common protocols and templates should be provided to facilitate the ready aggregation and disaggregation of data and information upwards, downwards and across.

(PRIORITY) Recommendation 3.4: At local/sub national level, an policy of an inclusion protocol (where this does not already exist) should be signed by partners of the LRF and sub national partners to indicate and commit to a willingness to share (data, intelligence, strategy, decision-making, forward look) with other partners in order to facilitate local level decision-making. Similar considerations should be made when considering how to share vertically. Please note, this is not a data sharing agreement, but goes beyond the sharing of data to wider intelligence.

(PRIORITY) Recommendation 3.5: For Central Government to seek to share their assumptions, strategy, decisions, data and modelling with local level decision makers to support effective decision-making to improve the efficacy of the response, recovery and other phases going forward.

Communication

(**PRIORITY**) **Recommendation 3.6:** Each LRF should continue to have access to a named and consistent GLO, who ideally is familiar with the locality, for the duration of the response.

(PRIORITY) Recommendation 3.7: The communication forums between local LRFs and the national level need to be further improved to ensure they are effective, timely and bi-directional and discussions, requests, actions and decisions are logged and shared with participants.

Finding Four: Requests for Support

There were some clear asks for support within the data. Resources were a common theme in participant comments, which broadly fell into the categories of financial, physical resource, and support, with support being the most frequently occurring reference to resource. Support was also requested in terms of clear guidance. In particular, delegates wanted new of updated guidance and frameworks to help them plan effectively, guidance around what recovery might look like and what to anticipate in the new normal.

In the remainder of this section, this overall theme is broken down into several subthemes. The extent to which the issues pertaining to these subthemes were generated by delegates is shown in Figure 7. As can be seen, substantially more (24%) issues were noted that related to the subtheme Guidance. Given that the current situation has not been experienced within the UK, LRFs clearly want more guidance and thought leadership on how to deal with their ongoing response and future recovery. These subthemes are broken down in more granularity in the technical appendices which details how the themes generated in each section of the report mapped onto these subthemes.



Figure 7. The percentage of the codes generated for each of subthemes in the overall theme of Requests for Support (% of Theme), and as a percentage of the total codes generated across all themes (% across all Themes).

Support: Physical, Financial and People

There was a large overlap with the requests for support in order to successfully respond and recover from concurrent emergencies. Delegates wanted three aspects of support. Sound financial management of national bodies to manage and respond at national and local level. Support through accommodation national expectations of usual demanding processes. Lastly, consistency and predictability of national positions to allow the local response to align and plan within that position. This feeds in to the development of recommendation 4.1 and 4.2.

Physical resource comments centred largely on PPE, and issues with sourcing and distributing to those in most need. There were concerns with existing plans for sourcing and distributing PPE and a requirement for greater communication around plans. More detailed discussions of PPE are discussed separately in a section with PPE in the title. There is a notable link with the physical resources and capability and capacity to deal with the next phases of the pandemic lifecycle and the ability to deal with a concurrent event (please see the section on 'concurrent events' for more detail).

"The NHS are understandably a priority, but other key agencies, particularly those attending deaths in the community (Police, Fire, Medics, Funeral Directors) have had difficulties in accessing PPE. It 's not just PPE, there has been a critical shortage of

The financial implications of Covid-19 was discussed by delegates, there was an a ask for LRFs to have funding. This came from the clear knowledge of already incurred costs to respond to Covid-19, but also to enable the LRFs to ensure sustainability of their responsibilities. There was an acknowledgement from delegates that the longer term requirements needed to manage the next phases of the pandemic lifecycle would currently be based on the goodwill of member organisations to staff and deliver the functions of the LRF. This raised concerns over the ability to maintain momentum in the coming months and years for recovery while relying on the goodwill of member organisations.

"The NHS are understandably a priority, but other key agencies, particularly those attending deaths in the community (Police, Fire, Medics, Funeral Directors) have had difficulties in accessing PPE. It 's not just PPE, there has been a critical shortage of body bags, with suppliers providing them at 10 times the normal price."

"We urgently need clarity on funding (and sufficient funding) to ensure we can put a longer term structure in place to manage the longer term response (6 months to 18 months)."

"Funding - for LRFs - as you are using them as if they are an organisation then there really should be some form of funding for them."

"Agree the LRF is dependent on the goodwill of partner agencies"

"We can't rely simply on good will and informal secondments"

The need for a combination of financial assurances and an increase in financial allocation for the LRF and its members to cover both money spent in response so far and future spend to come to facilitate recovery.

"Recovery is where all the activity will have to take place and learning in from Salisbury and Amesbury knows that will fall mostly to LAs and be for a very very long time, so national (USEFUL) support to recovery and a bung of cash is the only option really or all LA emergency planning will be sucked into recovery and there will be no capacity for planning for other issues, or supporting any other response" This subtheme discusses the various roles and people needed as the first peak passes and the initial response moves in to the next phases. Delegates sought the assurance of people, such as military support (recovery work), GLOs, key contacts in central Government. The Military support was noted as a resource that is currently working well, and the importance of GLOs recognised as a channel through which questions can be asked and answered. Many comments referred to a need for appropriate support to be implemented early and provided consistently to enable continuity and timely responses to questions.

"GLO now in place for us and operating very well. An excellent move to get someone in this space for us"

"Mutual aid"

"Continued military support"

"Dedicated GLO from MHCLG who understand the LRF."

"Until this point we have no dedicated GLO. Subsequently no continuity in questions and no speed in response."

Support: Guidance

There was a request by delegates throughout the discussions for some national thinking or guidance in specific areas. The guidance or thinking is particularly targeted and specific and the balance between requesting guidance and maintaining their ability to contextualise that in their local granularity was evident. There were two clear purposes of the requests; firstly a request for the development of new guidance/ frameworks, the second was for clarity of existing guidance which is currently conflicting or in need of an update in the context of Covid-19 (this was referred to in particular reference to PPE guidance ad evacuation in reference to managing concurrent events). Guidance was commonly noted by delegates as a requirement for effective operations. Delegates expressed a need for guidance to be clear, consistent, and timely, with changes communicated clearly and ambiguities resolved as well as the clear communication and recognition of constantly changing guidance.

New Guidance or Frameworks

In the context of managing concurrent events delegates spent some time considering the structures needed to respond to a concurrent emergency. There were mixed views as to whether the existing structures could accommodate the additional management demand of a concurrent emergency.

The impacts of Covid-19 have created additional processes and considerations for the planning of concurrent emergencies, requiring the review of existing ways of working and plans for incidents. Delegates raised the concern of evacuation processes needing to be updated to incorporate guidelines for staff and the public to wear PPE when required. This includes the logistical challenge of delivering to site as well as meeting this additional, unplanned, PPE demand. This demand is two fold; the addition to the existing PPE 'burn rate' in to the system, and the additional demand on the PPE logistics. The logistics of evacuation also poses a challenge as it usually coincides with a need to exit quickly and the public advice is to keep to a two metre physical distance between people. This also poses a problem for capacity at assistance centres. A solution to address this is taken from the data, where one delegate suggested the need for advice to be re-written from evacuation to 'i-vacuation' where advice guides the public on how to safely evacuate themselves.

"Traditional capabilities such as evacuation wouldn't be appropriate eg evacuation
Agree - our position/advice may need to move form evacuation to i vacation"

Different structures were proposed as currently operating across the delegate group. In contrast, some delegates suggested additional structures would accommodate the additional pressure of a concurrent emergency. There was some consensus that the pinch points would be at TCGs and the silver layer. Some delegates called for national guidance or coordination of management structures for concurrent emergencies.

There was a call for guidance as to whether there was a role for the PCC in SCGs. Given the political context of that role, there were mixed views as to what that guidance should say, further highlighting the need for that guidance.

"It is imperative that SCGs have input from Police and Crime Commissioners since they have the authority to make immediate funding and community support decisions without having to defer to others"

"The PCC is an elected role, for them to attend SCG will invite in leaders of Councils and other elected roles. There should be forums for elected roles, but not the SCG"

Recovery Guidance and Sharing

Delegates were interested to hear what the broad picture going forward might look like. Recovery was a clear subtheme, but the notion of what that consisted of called for a framework within which to work. Delegates were keen to see guidance and sharing specifically relating to recovery. They highlighted the useful role central structures such as Government departments could play in the facilitation of sharing practice and showing thought leadership on recovery, but also by facilitating the communication and sharing of Government public policy, the development and design of structures to coordinate the national recovery approach, and the facilitation of national conferences to enable regional development of strategy and sharing of approaches. More detail of what delegates called for within this guidance can be found in the recovery section of this report.

"We have established a recovery cell, but without a direction the cell is merely a formality"

"A clear understanding of how we are going to move towards recovery when the old model of response straight into recovery no longer fits the circumstances."

"An oversight of issues affecting other LRF's that may cause local concerns. Further horizon scanning."

"We are mindful that we could pull together a recovery strategy only for central government to announce something. The lack of guidance or communication will create duplication. We are just initiating our first learning event to capture the innovation and new ways of working, and trying to encourage all departments to think about a world that continues to have lock down procedures, infection control and social distancing, recognising that some services may never return" "National guidance and forward look of things to cover would be much welcomed so we can have a consistent approach."

"There is a need to establish a forward looking planning assumption or series of planning assumptions to enable the recovery effort to be consistently focussed on the most accurate data moving forwards -the lesson from response is we can't be waiting for a long time for clear direction"

"Process has commenced National Guidance and best practice would be welcomed from others for consistency. Clearly this is dictated by the next steps by HM Government."

Delegates spoke of moving forward to recover to a "new normal". Delegates identified the many new ways of working developed through adversity during the Covid-19 response, which should be adopted. This included working practices and new partnership working, but also looked forward to future ways of working which will develop through the foreseen big secondary impacts. These are detailed as the opportunities and risks coming from the financial adversity necessary to recover the cost of the Covid-19 response and the beneficial flex of boundary management of both geography and organisational working. They also identified technological opportunities, particularly for ways of organisations doing business. Lastly, they identified the opportunity to achieve the Big Society and to maintain volunteering and community engagement and local social organising.

"the new normal we will go on to is a gift to take what we have learned and how we want to go forward as opposed to reverting back to where we were. Lots of opportunities to learn and improve our service and capability for our service to the public"

"we intend to put the as much effort and resource in to a structured and wholesome recovery process as we have the initial response. A big ask but the long term benefits and potential is too great to pass up"

Summary of recommendations developed from finding four: Requests for Support

Guidance

(**PRIORITY**) **Recommendation 4.1:** Transparency of national thinking, assumptions, strategy, decisions, data and modelling with local level decision makers is required to support effective decision-making and improve the efficacy of the response, recovery and other phases.

(**PRIORITY**) Recommendation 4.2: National thought leadership on the forward look and insights of how Covid-19 primary and secondary impacts are likely to interact and their associated, projected emergent need in the community/society.

Planning for the Future

Two sections in the debrief, Concurrent Emergency and Forward Look focused on the future. Delegate's discussions within these sections generated a lot of data which did not align to the other themes reported in the four main findings. This was predominantly because of the differing forward look by way of time and event management. Following the conventions when writing up findings of qualitative data, these are presented outside of the four main findings, but as important to include for review and discussion in the report. Note that, where issues were noted by delegates that did map onto the themes in the main four findings, they have been included in those sections and are not repeated here. Thus, this section is not an exhaustive overview of everything mentioned in these two sections.

As these two aspects are discussed in the time frame of the future, the recommendations from the rest of the report are applied here and add to the recommendations already discussed in the report. These are noted and cross referenced in the report text for ease.

In the remainder of this section, this overall Planning for the future is broken down into Conceptualising Recovery and Managing a Concurrent Event. The extent to which the issues pertaining to these subthemes were generated by delegates is shown in Figure 8. Substantially more issues were noted that related to Conceptualising Recovery. Note that, this was still the case when counting all the issues in these sections, and not just those that did not map onto the themes in the main four findings (the data underpinning Figure 8). Clearly, recovery was something that many delegates had been thinking about and wanted to discuss. Fewer issues pertaining to concurrent events were mentioned, but this may have been because fewer delegates had been considering the impact of concurrent events before the debrief. These subthemes are broken down in more granularity in the technical appendices.



Figure 8. The percentage of the codes generated for each of the subthemes in the overall theme of *Planning for the Future* (% of Theme), and as a percentage of the total codes generated across all themes (% across all Themes).

Managing a Concurrent Event

Delegates were asked about their views on the capability and capacity to manage a concurrent event. This section overviews the subthemes from this section.

You asked the question the wrong way round

This theme proposed a divide between the conceptualisation of what the concurrent emergency is. One set of thinking among delegates was that business as usual and incident management happens as usual, and additional resource is created for Covid -19, instead of prioritising Covid-19 and then provisioning response and recovery for other emergencies around that. Delegates described the Covid-19 pandemic as fast paced, but more predictable than other types of emergency. By this rationale the unpredictable concurrent events should be prioritised for planning as Covid-19 is more predictable for resource allocation, albeit an unprecedented high resource demand.

"We have plans in place to look at concurrent emergencies and how mutual aid support can be provided through the most efficient utilisation of assets. The main concern remains around how we can effectively deal with the current pandemic whilst balancing the need to continue to support business as usual activity."

"Managing additional pressures caused by the Covid-19 incident"

Planning maturity and perceived success

Most delegates reported that their planning for concurrent emergencies was underway with plans and processes being updated to some degree, but that on the whole this had not been progressed due to the high demand presented with Covid-19. There was variety within the responses of who was doing this within the LRF and within which structure. Although plans were reported as being under consideration and review, there was some implication that the likelihood of executing those plans with a successful outcome was not assured. In other words the plan was written but the capability and capacity to deliver that plan may not be sufficient in the current demands of Covid-19. The nature and capacity of the current stretch across the multi -agency management created a point of hesitation to say that the plans made would see successful implementation.

"A concurrent emergency of any nature would overwhelm resources, albeit I have no doubt we would endeavour to continue delivering, but at what cost?"

"Unprepared for a concurrent emergency. When representing this in our own organisations, there is a sense of denial."

What incident

Discussions alluded to the type and nature of incidents being considered. Delegates had a clear view that their local ability to respond to concurrent incidents would depend on the nature, scale, 'unpredictableness' and run time of the concurrent incident. The threats considered ranged from long standing known threats (flooding), to new and evolving threats (new hospitals). A specific subsection of the specific threats to note is Brexit, as this would compound Covid-19 with a second UK societal wide, economic and social, chronic threat. If the transition period was not extended

then the LRFs would have to plan for a no-deal situation and this would be overwhelming for the structures. The secondary impacts of Covid-19 were also discussed as a significant threat in and of themselves. Beyond the response, the impacts arising from the chronic nature (long time line), complexity and the additional shifts in focus and demand from the application and release of interventions, of Covid-19 were identified as needing additional attention in and of themselves.

"Plans are I place for concurrent incident, however dependent on type of incident will depend on how well we would respond."

"Challenges will vary depending upon whether concurrent incidents are rising time or spontaneous incidents"

"Would depend on what it is. Feedback on the daily MHCLG returns doesn't offer the opportunity to say 'if small, then fine but a really big impact concurrent incident would

More stuff

When discussing the requirements of concurrent emergencies delegates discussed the requirement for more equipment within the broader ask of their needs. This is separate from reflections on staffing or capacity. It is about specific equipment and resources. Namely there was the frequent request for PPE supply to be sustainable and to be able to be scaled up if a large number of staff are required to quickly manage a large incident. The 'operating environment' to reduce the spread of the virus was highlighted as a certain challenge to the current PPE arrangements and requirements if a concurrent emergency were to occur. When thinking of evacuation, particularly of environmental threats such as flooding, arrangements for accommodation was also identified as a risk factor. Specifically as hotels (which would usually be offered as alternate accommodation) are no longer in operation, or are already re-purposed, such as accommodating those in the community with no fixed address.

"Local plans with local hotels helped with planning for evacuation"

"In relation to concurrent environmental incidents and the PPE requirements (and stocks), to ensure we have planned best for such risks."

Capacity in the system

As well as reporting their current perceived capacity available to manage concurrent emergencies, delegates also discussed capacity enablers and capacity drains. Capacity enablers were identified processes and savings to add in to the system to allow capacity to respond and absorb concurrent emergencies. These included early warning systems of environmental emergencies; increased knowledge and role understanding across agencies (see recommendations 1.2 to 1.5); recognition of the pause in 'usual demand' in some activity, which frees up some capacity of people, resources and space; LRF membership reported trying to manage their own capacity so as not to drain capacity of other member organisations. Capacity drains focused on two areas; capacity misalignment and the threat to capacity from testing. Misalignment was discussed in reference to misalignment between multi agency working, the effect on joint working when some members have more capacity and some members have less capacity. As well as capacity between members, delegates also discussed the challenge of needing to staff and absorb potential additional activity to manage a concurrent incident. This leads on to the second subtheme within capacity drains which was activity identified as threatening levels of capacity. Provisioning of new testing arrangements and the perceived inability to rely on test results to deploy staff confidently was seen as a threat to manage capacity with efficiency and effectiveness.

"We would service a further significant incident however I think we would require mutual aid and support for anything more then 2 concurrent incidents of scale"

"we dealt with a large scale incident last night - we have to it our responsibility but we ensured the impact on specific partners was minimised"

Conceptualising Recovery

Delegates widely recognised that recovery associated with Covid-19 would not be experienced in the same way as has traditionally been experienced through other major incidents. A consensus emerged of how things would be different for Covid-19 and what the potential impacts might be.

Not 'back to' or 'return to'

There was a recognition that recovery would not be recovery back to the life before Covid-19 reached the UK. Terminology expressed a desire, but not the ability to go "back" or "return" to pre Covid-19. Discussions of moving forward included ways in which thinking should move on to accommodate a new future, but also the mechanisms and processes that need to be suspended or altered (such as daily reporting) to accommodate the transition and pressure point as LRFs were managing both response and recovery.

"Suppose this depends on how recovery is considered -recovery doesn't necessarily mean a return to how things were pre COVID and often 'recovery' in many ways never ends"

"This is not going to be a recovery but an adaptation to a new way of working!"

"We are having to rethink and reshape the how and what of recovery"

To accommodate this future need, the recommendation 3.2 (To ensure consistent, timely and current information exchange a clearly defined National Multi Agency Information Cell based on the LRF MAIC model should be formally adopted to collate, synthesise and disseminate the national and sub-national picture in a timely way. The information should be readily accessible via Resilience Direct to enable local strategic decision makers and Government to be able to read up and down as well as across both structures and information content) should be balanced with the request to streamline the demand for information requests. Particularly as response and recovery phases are now both active. Clarity over responsibilities for 'contributing to' (as opposed to 'benefitting from' as outlined in recommendation 3.1) the intelligence picture moving forward was sought (e.g. would the reporting for the recovery process sit with LRFs or Local Authorities).

Indicative timeframes

Delegates generally spoke of three main time frames in their discussions; 3 to 12 months; 12 to 18 months; and 18 months onwards.

Recovery structures

Regarding the advancement of the recovery process, this appears to be in the early stages. Although there appears to be pockets of more advanced preparations, a high number of delegates reported that their Recovery Coordinating Group (RCG) (or other named recovery decision-making body, here on in referred to collectively as RCGs for ease and clarity) has only just been formed and activated. There was no clear preference of whether the RCG structure should sit within the SCG (e.g. the SCG is seen as governance over the RCG) or the RCG structure sits above (e.g. the RCG has equal standing with the SCG and has multiple cells which it tasks out to). Of the delegates, 22 reported that their recovery structures had been put in place and activated and 7 talked about structural changes they felt were needed to fully enable the recovery structure.

Recovery Partnerships

Discussion of the empowerment and beneficial nature of relationships between people and organisations at local and sub-national level was discussed by delegates. This included partners who were taking leads on specific sub-topics of recovery (for example Local Enterprise Partnerships (LEPs) for economics and Mental Health Trusts for wellbeing), but also the increased rich nature of partnerships following the initial stages of the Covid-19 response.

"It is important to keep involving key partners in communications as we go forward this includes voluntary/community/faith/non-faith links"

"Different partners see this in different ways and not all are into "structures". This can lead to the Emergency Services stepping in again as they are "doers" and like to see activity. This needs to be resisted but also steps along the recovery or new situation need to be taken asap"

Recovery Process

Delegates discussed the process related to a successful recovery at this time point. These included the Recovery Impact Assessments needing to become iterative through the phases of recovery, the challenges of managing different phases and those phases transitioning back and forth during a protracted period of time, that the response and recovery dichotomy no longer fits with the Covid-19 pandemic lifecycle.

"We are anticipating running response and recovery for a protracted amount of time as we anticipate 4 waves of infection over a significant period. This leads to a challenge surrounding fatigue and potential impact on the quality of decision making."

"Given the nature of COVID-19 it could be that many of those longer term impacts identified are actually addressed through response structures. This highlights the importance of treating the recovery impact assessment as a frequentative process."

Recovery Capacity

Delegates noted the capacity opportunities and risks of capacity when considering recovery planning and delivery. Considerations include the need for a flexible approach whilst using existing plans, adaptation of the existing command, control and communication (C3) arrangements, the view that current C3 arrangements are fit for recovery. Challenges associated with personnel included appropriate staff being upskilled and moved as needed, the challenge when one person is currently covering two roles and the risk that proposes to service provision, and the wider challenges associated with frontline staff. These include the risks when a slower pace returns and organisational stressors can present again, alongside the personal impacts on their families, their own fatigue and low resilience, with financial predicaments, these together will present a significant challenge to welfare structures, which needs medium to long-term support.

"Resilience of staff -fatigue will become a real issue and readjusting to 'normal' ways of working will take time"

"Staff welfare is a concern, currently I have never saw such high levels of morale and staff engagement. A common experience, clear purpose, organisational compassion and community appreciation has provided a working environment that supports and delivers huge effort and investment. How long can we maintain this, when inevitably transition returns some semblance of normally which for many brings mundane but significant organisational stressors. Combine this with personal impacts on families financial predicaments present significant concerns for our welfare and wellbeing structures. Medium to long term support requires aligned to these issues."

Recovery Challenges

These were outlined by delegates in five broad subthemes; Lack of clarity of roles or focus; scale and scope of Covid-19 being so broad and encompassing; the response and recovery model not being a good fit for Covid-19; the challenge from the political contexts; and the financial cost of Covid-19.

Delegates discussed that now that most LRF areas are over the first peak more attention should be paid to recovery. They feel that there is a need to clarify the role of recovery in the context of Covid-19 as it can become large and unwieldy to conceptualise. They also called for a definition for the phases. Regarding the transitions between phases, they felt that people moving between roles needed consideration and some clarity brought to that potential shift multiple times. Community resilience throughout the life of recovery was discussed as a challenge as was the maintenance of the volunteer army to aid in the resilience buoyancy of that community resilience. They also spoke of the need for recovery plans to develop and not just focus on the economic recovery.

"We are having to rethink and reshape the how and what of recovery"

"this needs long term leadership which is in the room (so to speak) but many organisations are just about coping with the here and now -its hard to lift your head up and look forward at times"

"need to manage expectations/understanding of local politicians and how they fit into recovery process."

Recovery Foresight

The delegates described their work to scope the foresight and consequences of Covid-19. The development of this work was typically described as 'limited or little', or considerable. Delegates offered insights in to what those foresights might be. The next subtheme details these.

Foresight Consequences

Delegates discussed foresight and future scoping past first peak. The primary and secondary impacts of Covid-19 and probable consequences identified by delegates generally clustered in to twelve broad categories. Those with a higher proportion of coding underneath them will now be discussed.



Figure 9. Frequency of the different Foresight Consequences identified

Economic impacts focused on recovering the costs of Covid-19 and a projected new era of austerity to repay the public purse, and the recognised secondary impact that is likely to have on the most vulnerable in the community.

"Money -we need to be really considered when trying to recover the costs of COVID19"

Wellbeing/psychological health consequences for the public were noted, stemming from experiencing such things as social and financial adversity and physical distancing. The wellbeing/psychological health, emotional burden and fatigue of frontline staff was also a concern which permeated throughout the data of all sections.

"Mental health need increase for general population, workforce and patient PTSD, depression and anxiety"

"It is hard to estimate the burden of mental health legacy that we will carry post-Covidfrom those grieving, often in the most difficult of circumstances, to livelihoods lost, school careers disrupted and pre-existing health conditions exacerbated. This has to be a priority for any recovery plan and needs describing and resourcing properly"

"National depression repeating itself every year -are we going to have an annual day of remembrance for all those lost to C19 -may help with mental health of the nation"

> These quotes exemplify the types of responses which led to the prompt implementation of recommendation 0.1 (Within 24 hours of the 10k review specific wellbeing resource reminders were created for emergency responders working in fire, police, urgent pre-hospital care and health care workers and sent to key stakeholder

wellbeing leads for dissemination (NFCC, NPCC, NHS and LRF Chairs)). The authors of this report would also like to highlight their academic informed concern for the emotional burden and fatigue of SCG chairs, those in response within Government departments and other supporting staff. We advise all relevant organisations review their support and continue to run educational communications informing their people of that support.

The discussion of the financial precarity of business was recognised and linked to social and health outcomes, aligned to secondary impacts.

"RCG established early and really good support from local authorities and the combined authority (LEP) to understand the economic impacts"

"We need to develop the conversation to include Covid as an acute shock against a chronic pattern of economic downturn etc which will increase vulnerability (for some) to both future chronic and acute risks"

The discussion of social impacts focused particularly on the impacts of those most vulnerable in society and the consequential impact on public services (outside of health which is discussed more directly in clusters below), both of the primary impacts of the Covid-19 response and the secondary impacts.

"Homelessness. Closure of the pub entertainments industry, less pub, more people in them, more concentrated violence NTE (night time economy) related"

"The policing of an ever-changing set of guidance/rules/laws will be very challenging and a threat to the legitimacy of the police. They are being called upon to enforce badly thought out, confusing, and inconsistent laws that will become deeply unpopular as times goes on"

Delegates expressed a concern for the consequences of a health surge after lockdown is lifted and health inequalities.

"Unmet need of those who are dutifully protecting the NHS but perhaps 'sitting on' symptoms that might ordinarily prompt a GP attendance -risks such as delayed diagnoses of more advanced disease or of more significant pathology with increased NHS burden"

"Socioeconomic fallout for our city will be tremendous. This, in turn, will further impact on health inequalities, health outcomes, population well-being, morbidity and mortality indices [all already amongst the worst in the country]. My patient population are still realising the burden of austerity. Covid is now another assault on their future prospects adding to their inability to regain a life free from poverty and deprivation"

The realistic capability and capacity to deliver Brexit was discussed and the continuation of a no deal Brexit was strongly advised against due to the risk to staff wellbeing and health.

"BREXIT -we are currently in an unprecedented national emergency that will have health, economic, social and political impacts for years to come. The responder community is exhausted -floods, Novichok, terrorism, Brexit preparations etc. The last thing we need is a 'no deal' Brexit on 1/1/21. If we are to do Recovery properly we do not have the space to start scaling-up a Brexit response too. This needs to be fed into HM Government thinking now!. This isn't pro/anti-Brexit -it is about being sensible for the Recovery process and the health and wellbeing of our responders"

"Dare I mention Brexit and the likely LRF role -there is a real danger of LRF burnout"

Delegates shared their foresights of impacts on community settings, including adult social care, changes in the lifestyle of the population and safeguarding risks. These excluded concern for children which are detailed separately below.

"Increase in demand on MH services anxiety, loneliness Increase in safeguarding and domestic abuse, impact of increase in sedentary life style on health and well-being"

"Adult social care –Mental health, domestic abuse, vulnerable adults abandoned"

"Increased social care issues due to early deaths / adoption / fostering etc"

Impacts on children were defined as those impacts through disruption to their typical methods of education and also through the lack of traditional safeguarding mechanisms in the community.

"Children services -unreported incidents once schools re open, increase in need for care"

"there hasn't been enough focus on education. Disparity of schooling at home is terrible. Is there a clear recovery plan for our children's education. Especially those at key exam points? Little involvement from education at LRF"

Delegates spoke of their understanding of how the primary impacts of Covid-19 will have consequential secondary impacts which are all interconnected through the fabric of society and people's lives. This was particularly focused around community, family and individual level.

"Too many issues to list however important to note that this is also about opportunities. Addressing inequalities (which have been further highlighted and exacerbated by COVID10) will be a core priority for us"

"3 months –legacy issues around restrictions due to COVID, impact of things not being done i.e routine operations, non delivery of services, unemployment. 12 months Impact of interrupted services –care on chronic conditions, do we yet know any legacy issues of having Covid itself. Changes in demography, vulnerability unemployment, social unrest. 12 months and beyond –trauma, mental illness, burn out, economic impact, potential litigation."

Some delegates noted the potential for impacts on justice for those who have lost their lives and the litigation it may bring to those who have responded to the first peak of Covid-19.

Reviews and learning for recovery

Drawing on the experiences of the response, there is a clear thirst for local strategic decision makers to be informed of national data, strategy, intelligence and plans. From those experiences, delegates were clear to make the point that moving forward, these should be shared ahead of implementation throughout the rest of the Covid-19 pandemic lifecycle and especially regarding national strategies for recovery. This is to enable and empower them to complete the articulation to the local, and to create planning assumptions from national strategy, which are sometimes safety or time critical, ahead of implementation.

Delegates raised questions and considerations they would like exploring on a national platform. These include: knowing how long to plan for; what the reasonable and worst case assumptions are for the number of phases within the UK's pandemic lifecycle; what a 'closed' response looks like; what a long standing RCG structure looks like within recovery; a new framework to replace the response and recovery dichotomy as this is not fit for purpose for Covid-19; if we accept that returning/ restoring back to pre Covid-19 is widely accepted to be neither achievable nor desirable, then what are we heading towards.

The above questions further enhance and detail recommendation 4.1 (Transparency of national thinking, assumptions, strategy, decisions, data and modelling with local level decision makers is required to support effective decision-making and improve the efficacy of the response, recovery and other phases).

There is a clear thirst for support from sub-national/national guidance in the approach for recovery. This is specifically to facilitate the sharing of good practice and leading practice (from Government or between LRFs) which may also involve a national conference.

Delegates were keen to continue to learn from their experiences as they progress through the experience of Covid-19, and to have an opportunity to reflect on their growing experience to apply to the future management of the incident. They requested further reviews to provide that opportunity to learn and develop their approach as recovery unfolds.

This request further informs recommendation 1.1 (A national level debrief process, with a rapid turnaround, should be sustained throughout the response and recovery phases of the current pandemic to ensure learning and good practice is captured, shared and acted upon in real time, to mitigate harm and influence future activity. Future reviews should seek to include greater community engagement and participation).

Logistics, PPE and Testing

This section reviews a set of related specific issues that were frequently mentioned in the review by delegates, These are not a theme per se, as themes provide a high level framework within which to understand a dataset. Moreover, these single issues were symptoms of the current pandemic crisis, as the issues identified were due to a convergence of the issues identified in the main findings. As such these issues regarding logistics, primarily related to PPE and testing, cut across the central themes and subthemes and help exemplify how some of the issues arising in the main themes can combine together and lead to problems with some specific areas.

The extent to which these issues were mentioned in the different sections is shown in Figure 10. Overall 4.6% of the issues coded across the whole debrief related to concerns around logistics, PPE and Testing, with vast majority of this focusing on PPE. Comments relating to PPE mainly came up in the Local Section of the debrief.



Figure 10. The percentage of the codes generated in each section (here only Local, Regional or National) for the overall issue of Logistics, PPE and Testing (% of Theme), and as a percentage of the total codes generated across all themes (% across all Themes).

In terms of the challenges noted by LRFs, issues around PPE were frequently mentioned. These focused on issues surrounding communications and data sharing which fed into logistical problems.

"Lack of clarity on matters such as national PPE deliveries temporary resting facilities/interfaces with acute trusts and up to date mortality modelling for our LRF (and others), has made it difficult to plan and put measures in place."

"The initial delta return form wasn't as clear as it is now, it's taken too long for MHCLG to give any clarity on delivery of PPE." "Clarity on PPE and Testing. Consistent representation from Government - which I understand is tricky. But some disconnects and duplication of information requests"

"LRFs given little to no notice but expected to set up systems to deliver PPE, with no software provided. LRF coordinator contact information shared widely, LRF coordinators unable to effectively deal with this. Any requests for assistance from MHCLG RED to create a platform to share PPE contact information ignored."

"PPE distribution. The deliveries are never accurate and we have no way of feeding into the system what we need and instead just get what they have in the warehouse."

"Confusion over critical issues of different testing regimes and PPE – apparently between different national bodies."

At the regional level it appeared that there had been some success in the movement of PPE between regions, and this appeared to be related to being able to connect quickly and improve co-ordination. Specific challenges were also reported and at the regional level that appeared to be around methods of communication to facilitate coordination. Similar issues were noted with testing, with comments focusing on how that was landed at a local level and the need for guidance and data to better plan how to access testing.

"Ability to support each other across region re movement of PPE has been a success"

"Our ability to connect quickly, help each other out, PPE mutual aid quickly excellent."

"Coordination around PPE has improved but remains sporadic and unreliable"

"Same as challenges everywhere – PPE, testing, mortuaries etc, but no current coordination by MCLG they default to the Chairs Call which is not effective"

"There appears to be a lot of duplication effort. When extra requests come in e.g. why are we sending data on PPE supplies to the regional level, is it just to produce a dashboard? We are so stretched for time and resources if we are already collating Delta returns making us send information to others without a clear benefit is frustrating."

"Testing also remains a concern, who can access it, the location of testing stations which fall outside of guidelines in rural areas and delays in testing capacity."

"i guess the issues are the same across the areas PPE, robust data on which to base plans for aspects such as mortality management, testing and who can access it"

"Increasing collaboration across LRFs, including recent decision how to prioritise Testing capability."

Moving beyond the present, PPE was noted as a significant ongoing challenge in terms of managing the logistics of the process within a landscape in which clearer advice and strategy was needed in terms of procurement and prioritisation. Critical to this was a regionally co-ordinated approach. There were clear capacity issues noted in terms of LRFs now having significant logistical demands placed on them. Specific issues were noted in terms of dealing with a concurrent major incident in terms of having a sustainable level of PPE to enable deployment of staff with the required PPE. The 'operating environment' to reduce the spread of the virus was

highlighted as a certain challenge to the current PPE arrangements and requirements if a concurrent emergency were to occur.

"Coordination of PPE and procurement processes. This is critical to protect frontline workers."

"Use of regional procurement arrangements to maximise procurement activities."

"PPE deliveries and the role of the LRF. The change in process from normal order, NSDR and then LRF as final port of call to normal ordering channels, LRF, then NSDR has placed huge demands on LRF's to consider and coordinate requests."

"Need to support Care homes better going forward, clear advice priority testing and PPE support."

"a co-ordinated response to obtaining the relevant PPE, locally all sorts of arrangements were being made off of procurement contracts to try and obtain equipment because frontline staff were unprotected. It seems some partners had plenty of equipment and others were scratching around for it - this cannot be right - it felt a little like the situation in the USA where States were bidding against each other. If this had been centrally co-ordinated then those organisations that were 'sitting on stocks' when others had none could have been avoided and the issues smoothed out"

"PPE we have found that we cannot rely on any national plan or arrangements which is fine as we started off with that opinion and have therefore been able to find and source our own sustainable supplies. In future be honest about things at the start so others don't wait for things to happen that won't."

"Wider testing is just starting to come on line in my county. There has been little clarity, it just seem to evolve from different national partners. I would like to think that for the next steps forward - for example contract tracing that we are given clarity from the start, so we know our role in supporting and delivering it."

"PPE! Not just for a concurrent incident but is a critical constraint for us even for thinking about restarting some BAU hospital activity (eg surgery)"

"Public expectation: this could be a real challenge given the public may expect our 'typical' level of response to a major incident yet we may be operating under strict social distancing and PPE requirements - both of which may hinder our ability to provide our usual standards of service in relation to incident response."

"In terms of pressure points for a concurrent emergency; anything that required PPE, the lack of a testing strategy that would help me identify colleagues I could deploy. And the fact that this is long and difficult."

Summary of Main Findings and Conclusions

This was the first national review to capture the UK's response to Covid-19 at maximum demand in the initial response phase. As this review aimed to capture the response at full demand, this is a unique piece of work.

Main Findings

The four main themes were presented based on the analysis, with three further themes also presented. The four main themes are; Effective Working and Enabled Innovation; Structures: Knowledge, Complexity, Context; Inclusion in to the Intelligence Picture and Requests for Support. The three stand alone themes were; Recovery; Managing Concurrent Events; and PPE and Testing.

This report has presented each of those seven themes and their associated subthemes, detailing twenty recommendations which have been developed from those themes.

Next Steps

The recommendations from this report will be disseminated to the LRF chairs group, key stakeholders within Government departments and the actions arising from the recommendations will be tracked by the C19 National Foresight Strategic Group.

A cluster of recommendations from the analysis sets out ways in which learning can be captured through future reviews. The C19 Foresight Working Group has already commissioned the Hydra Foundation and Nottingham Trent University to complete a number of subsequent reviews. Through these subsequent reviews, the learning will be captured, as well as the changing nature of current demands and pressures for those involved in the decision making relating to the Covid-19 pandemic lifecycle.

Conclusions of the Review Process

This review was carried out online by Hydra, which required a significant scale up of the existing technology and capacity. The technology and methodology was successful and will be used moving forwards to the next review. Initially the concept of the review was untested in some aspects due to the innovative technological and multi-disciplinary approach of academics and subject matter experts. These turned out to be strengths of the review process. Before the review the data quality was unknown as the approach and technology had not been used previously. It is extensive and a rich seam from which learning can be deduced.

This review took place in real time during response. It is rare that such an expansive review has happened mid-response, and in the UK, a review has not been completed during response which brings in the breadth of LRFs across the country. This means the learning contained in this report is important and unique as it is not specific to a single LRF, nor is it post-incident.

The review has taken place mid-response in order to influence policy and practice in real time. A measure of the success of the review process and the flexibility of the national response structures will be the extent to which it does influence policy and practice in real time.

That it has taken place mid-response and gone from data collection though to analysis and then production of a signed off report within three weeks has been a significant, but highly worthwhile challenge.

Technical Appendices

Overall Theme	Subtheme	Theme generated in section (Local/Regional/National/ Concurrent/Forward Look/ Personal Reflections)
Effective Working and	Subtheme 6 - Timely decisions and prior planning	National- Sustainability Local- Early decisions/early standing up/prior planning
	Subtheme 5 - Effective practice	National- Recognising successes Local- Leadership Local- Exemplar of effective practice
	Subtheme 4 - Volunteers/ community	Local- Volunteers/Community
		Regional- Effective Multi-agency working
		Reflections- Magic course
		Reflections- Lack of expertise Reflections- Impact of prior training and joint working
Enabled Innovation	Subtheme 3 - Effective multi- agency working and networks of	Reflections- Decision making
	partners	Reflections- Capturing the learning
		Reflections- 10kV method National- Cross group working - Operating effectively
		Local- Networks Local- Effective multi-agency working
	Subtheme 2 - Positivity and Pride	Reflections- Positivity and pride Local- Stepping Up - Commitment and dedication
	Subtheme 1 - Adapting structures and roles	Reflections- Understanding agency roles
		Local- Swift/agile/flexible/adapting
		Local- Role allocation
	Subtheme 3 - Structure Context	Local- Cross boundary working
		Regional- Regional activity
		Regional- Other challenges
Structure		National- Cross group working - local/national, consistency, sharing, situational awareness
		Concurrent- Working together
		Reflections- Military
	Subtheme 2 - Structure Complexity	Local- Healthcare structure
		Local- LRF functioning
		National- Regional differences
	Subtheme 1 - Structure Knowledge	Local- Role of LRFs Reflections- Defining and re- defining the LRF
		National- Role clarity

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		Local- Communication/cohesion
		Local- Communication
	Subtheme 2 - Communication	Local- Key contacts
		Regional- Communication
		Regional- Time delays
		Regional- Govt response
		National- Communication Reflections- Media political and other influence
Inclusion in to the		Local- Data sharing & quality
Intelligence Picture		Local- Modelling/data sharing
		National- Accountability National- Cross group working - Relationships
		National- Information
	Subtheme 1 - Sharing Infor-	National- Media
	mation	National- Planning
		National- Processes
		National- Timeliness
		Forward Look- Recovery capacity
		Reflections- Trust and judgement Reflections- Inclusion in the intelligence picture
		Local- Broad forward look
		Regional- Role of PCC in SCG
	Subtheme 2 - Guidance	National- Continuity
		National- Guidance
		National- Policy
Requests for Support		National- Strategy Concurrent- Updating plans and procedures
		Concurrent- What structures? Forward Look- Recovery 'new working' Forward Look- Recovery guidance and sharing
		Forward Look- Recovery structures
		Forward Look- Recovery processes Forward Look- Recovery time frame
		Local- Broad Forward Look -
		Learning, Training & Horizon scanning, Learning
	Subtheme 1 - Physical, Financial,	
	Subtheme 1 - Physical, Financial, People	scanning, Learning Regional- Resources National- Cross group working -

Planning for the Future	Subtheme 2 - Conceptualising Recovery	Forward Look- Back and return
		Forward Look- Partnerships
		Forward Look- Review and debriefs
		Forward Look- Foresight
		Forward Look- Challenges
		Forward Look- Consequences
		Reflections- New Normal Reflections- Prior and forward plan- ning
	Subtheme 1 - Managing a Con- current Event	Concurrent- More stuff
		Concurrent- What incident
		Concurrent- Where is the strain? Concurrent- You asked the question the wrong way round
		Concurrent- Capacity in the system Concurrent- Planning maturity and perceived success:
		Reflections- Capacity
		Reflections- Protracted crisis
Logistics, PPE and Testing		Local- Logistics, PPE and Testing
		Regional- PPE and testing National- Processes - PPE and Testing

Appendix Table 1. Mapping of the themes generated during coding of each section to the overall themes reported above and their associated subthemes



Appendix Figure 1: Theme percentages for Section 1 from the question "What achievements are you most proud of?". Note that the themes generated from data in this question had only a very small overlap with the themes of the other questions in this section. As such they are presented in different figures. Percentages shown in terms of the number of codes generated from the questions in this section (% of Question Theme), and as a percentage of the total codes generated across all themes (% across all Themes).



Appendix Figure 2: Theme percentages for Section 1 from the questions "What didn't go so well?" and "What would you change and do differently moving forward?". Percentages shown in terms of the number of codes generated from the questions in this section (% of Question Theme), and as a percentage of the total codes generated across all themes (% across all Themes).



Appendix Figure 3: Theme percentages for Section 2 "Regional". Percentages shown in terms of the number of codes generated from the questions in this section (% of Question Theme), and as a percentage of the total codes generated across all themes (% across all Themes).



Appendix Figure 4: Theme percentages for Section 3 "National". Percentages shown in terms of the number of codes generated from the questions in this section (% of Question Theme), and as a percentage of the total codes generated across all themes (% across all Themes).



Appendix Figure 5: Section 4, Theme percentages for Section 4 "Concurrent". Percentages shown in terms of the number of codes generated from the questions in this section (% of Question Theme), and as a percentage of the total codes generated across all themes (% across all Themes).



Appendix Figure 6: Theme percentages for Section 5 "Forward Look". Percentages shown in terms of the number of codes generated from the questions in this section (% of Question Theme), and as a percentage of the total codes generated across all themes (% across all Themes).



Appendix Figure 7: Theme percentages for Section 6 "Personal Reflections". Percentages shown in terms of the number of codes generated from the questions in this section (% of Question Theme), and as a percentage of the total codes generated across all themes (% across all Themes).



Appendix Figure 8. The percentage of the codes generated for each of the subthemes in the overall issue of Effective Working and Enabled Innovation (% of Theme), and as a percentage of the total codes generated across all themes (% across all Themes). Also shown is the percentages for the themes generated when coding each section, and their mapping to the subthemes for the overall theme.



Appendix Figure 9. The percentage of the codes generated for each of the subthemes in the overall issue of Inclusion in to the Intelligence Picture; Sharing Information and Communication (% of Theme), and as a percentage of the total codes generated across all themes (% across all Themes). Also shown is the percentages for the themes generated when coding each section, and their mapping to the subthemes for the overall theme.



Appendix Figure 10. The percentage of the codes generated for each of the subthemes in the overall issue of Effective Working and Enabled Innovation (% of Theme), and as a percentage of the total codes generated across all themes (% across all Themes). Also shown is the percentages for the themes generated when coding each section, and their mapping to the subthemes for the overall theme.



Appendix Figure 11. The percentage of the codes generated for each of the subthemes in the overall issue of Effective Working and Enabled Innovation (% of Theme), and as a percentage of the total codes generated across all themes (% across all Themes). Also shown is the percentages for the themes generated when coding each section, and their mapping to the subthemes for the overall theme.



Appendix Figure 12. The percentage of the codes generated for each of the subthemes in the overall issue of Planning for the Future (% of Theme), and as a percentage of the total codes generated across all themes (% across all Themes). Also shown is the percentages for the themes generated when coding each section, and their mapping to the subthemes for the overall theme.

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Contact Dr Rowena Hill for further information on this report: <u>rowena.hill@ntu.ac.uk</u>

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