Coronavirus: Preparedness and Response

A guide to what you can expect from the health and social care system

Prepared by the Department of Health and Social Care and delivery partners

Outstanding tasks:

- Check language/tone and level of detail
- Add a more reassuringly professional appearance
- Use more diagrams/graphics where possible
- Check draft with:
  - Ministers
  - Comms
  - CMO – 18.ii This version contains DCMO JVT suggestions; the CMO registrars will 'follow behind' adding in appropriate references as requested by Perm Sec
  - DAs
  - Perm Sec
  - ADASS & LGA
  - NHSE – 17.ii

Table of Contents

Commented [VTJ1]: Why does the ordering go contain, delay, research, delay? Looks slightly odd with 2 delays. Why is Annex A not just before Annexes B&C?

Commented [HJ2R1]: Presume this is simply typo but agree – critical that we get the public facing messaging on the purpose of delay correct – it is about dealying spread to support the health and social care system preparedness. If not sequenced correctly we give an impression we are just messing around until we get to definitive action

Executive summary

1. TBC

Introduction

The purpose of this document

2. The current novel coronavirus (COVID-19) outbreak, which began in December 2019, presents a significant challenge for the entire world. The UK Government, including the health and social care ~~sectors~~system, have planned extensively over the years for an event like this, and the UK is therefore very well prepared to respond in way that offers maximum protection to the public.

3. This document sets out what the health and social care ~~services~~ ssystem across the UK has~~ve~~ already done - and plan~~s~~ to do further - to tackle the current coronavirus outbreak, based on our wealth of experience dealing with other infectious diseases and our influenza pandemic preparedness work. The exact response to COVID-19 will be tailored to the nature, scale and location of the threat in the UK, as our understanding of this develops.

4. This document sets out:

    - what we know about the virus and the disease~~s~~ it causes
    - how we have planned for an infectious disease outbreak, such as the current coronavirus outbreak
    - the actions we have taken so far in response to the current coronavirus outbreak
    - ~~the role the public can play in supporting this response~~
    - what we are planning to do next, depending upon the course the current coronavirus outbreak takes.
    - the role the public can play in supporting this response, now and in the future
    -

Commented [HJ3]: The terminology for health and social care keeps changing through the paper. It is sector here, and services below – where services usually suggests providers. It is sometimes referred to in the text simply as social care which is not really a defined entity – no one would own it. My suggestion for general commentary would be to use the health and social care system – this includes providers, commissioners, planners, Public Health, primary care etc

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Commented [VTJ4]: I'd prefer substantial. Countries like the USA may well offer the maximum. Maximum may be a slight hostage to fortune???

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What we know about the virus and the diseases it causes

5. ~~A c~~Coronaviruses are a family ~~is a type~~ of viruses common across the world in animals and humans; certain types ~~, which~~ cause~~s~~ illnesses in people. For example, some coronaviruses cause ~~that range from~~ the common cold; others cause ~~to more severe~~ diseases which are much more severe such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS), both of which often lead to pneumonia.

6. COVID-19 is the illness seen in people infected with a new strain of coronavirus not previously seen in humans. On 31st December 2019, Chinese authorities notified the World Health Organisation (WHO) of an outbreak of pneumonia in Wuhan City, which was later classified as a new disease~~identified as~~ : COVID-19. The disease is called COVID-19 but the virus that causes it has now been named SARS-CoV-2.[1]

~~6.~~7. On 30th January 2020, WHO declared the outbreak of COVID-19 a "Public Health Emergency of International Concern" (PHEIC).

~~7.~~8. Based on current evidence, the main symptoms of COVID-19 are a cough, a high temperature and in severe cases shortness of breath.

~~8.~~9. As it is a new virus, the lack of immunity in the population means that COVID-19 has the potential to spread extensively, in theory anyone can catch it, ~~but this is currently uncertain~~and based on current data it seems more likely than not that the UK will be affected. Among those who become infected, some will exhibit no symptoms.[2] Early data suggest that o~~Off~~ those who develop an illness, ~~many~~ the vast majority wi[3]ll have a mild-to-moderate, /~~s~~but self-limiting illness – a bit like influenza (flu).[4]

[1] Gorbalenya A, Baker S, Baric R, de Groot R, Drosten C, Gulyaeva A, et al. Severe acute respiratory syndrome-related coronavirus: The species and its viruses-a statement of the Coronavirus Study Group. bioRxiv. 2020; doi10.1101/2020.02.07.937862

[2] Chan JF-W, Yuan S, Kok K-H, et al. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. Lancet 2020; 395: 514–23

[3] The Epidemioloigcal Characteristics of an outbreak of 2019 Novel COVID-19 – China 2020 (China CDC Weekly Vol 2 No. x) https://github.com/cmrivers/ncov/blob/master/COVID-19.pdf

[4] Xu XW, Wu XX, Jiang XG, Xu KJ, Ying LJ, Ma CL, et al. Clinical findings in a group of patients infected with the 2019 novel coronavirus (SARS-Cov-2) outside of Wuhan, China: retrospective case series. BMJ. 2020 Feb 19;368.

Commented [VTJ6]: REF to nomenclature please

Commented [VTJ7]: Note to registrars and Comms: I know sore throat is actually pretty prominent and according to the data really should go in here. But PHE case defn does not include sore throat so suggest we do not add as it will confuse.

Commented [VTJ8]: I recognise others may want to tone this down. But I am all for honesty and given the P2P transmission in Italy and Iran (probably multiple central Asian states) I really think the tenor here has changed in the interval between you drafting and me commenting.

Commented [VTJ9]: REF please

Commented [VTJ10]: REFS please

10. However it is also clear ~~On current data, that~~ a ~~only a~~minority of people who get COVID-19 ~~small proportion (approximately one in twenty)~~ will develop pneumonia~~have an illness~~ severe enough to require hospital care.[5] In a small proportion of these, the illness may be severe enough to lead to death.[6] So far the data we have suggest that the risk of severe disease and death increases with age and in people with underlying risk conditions (in the same way as for seasonal flu).[7] [8]Illness is less common and usually less severe in younger adults.[9] [10]Children can be infected and can have a severe illness[11] but overall illness seems very rare in people under 20 years of age. So far, there has been no obvious sign that pregnant women are more likely to be badly affected.[12][13]

Commented [VTJ11]: I recognise you'd like to say small proportion but the Singapore data suggest 20% of people are needing oxygen. This is not a small proportion and NERVTAG said yesterday that 4-5% was way too low.

Commented [VTJ12]: Lots of key REFS for this para please

[5] Sun K, Chen J, Viboud C. Early epidemiological analysis of the coronavirus disease 2019 outbreak based on crowdsourced data: a population-level observational study. Lancet Digital Health 2020; published online Feb 20. https://doi.org/10.1016/S2589-7500(20)30026-1

[6] Liu Y, Yang Y, Zhang C, Huang F, Wang F, Yuan J, et al. Clinical and biochemical indexes from 2019-nCoV infected patients linked to viral loads and lung injury. Science China Life Sciences. 2020 Feb 9:1-1.

[7] Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. The Lancet. 2020 Jan 30.

[8] Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, Zhang L, Fan G, Xu J, Gu X, Cheng Z. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. The Lancet. 2020 Jan 24.

[9] Li J, Li S, Cai Y, Liu Q, Li X, Zeng Z, Chu Y, Zhu F, Zeng F. Epidemiological and Clinical Characteristics of 17 Hospitalized Patients with 2019 Novel Coronavirus Infections Outside Wuhan, China. medRxiv. 2020 Jan 1.

[10] Li, Q., et al Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus-Infected Pneumonia. NEJM. 2020 Jan 29 DOI: 10.1056/NEJMoa2001316

[11] Wang X, Yuan J, Zheng Y, Chen J, Bao Y, Wang Y, et al. Clinical and Epidemiological Characteristics of 34 Children With 2019 Novel Coronavirus Infection in Shenzhen. Zhonghua Er Ke Za Zhi. 2020; 58(0): E008-E008

[12] Chen H, Guo J, Wang C, Luo F, Yu X, Zhang W, Li J, Zhao D, Xu D, Gong Q, Liao J. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. The Lancet. 2020 Feb 12.

[13] Qiao J. What are the risks of COVID-19 infection in pregnant women?. The Lancet. 2020 Feb 12.

~~9.~~11. We don't yet have enough data on this disease. But a~~A~~s we learn more about the virus, its effects and its behaviour, we will be able to revise estimates of its potential spread, severity and impact.[14]

~~10.~~12. At present, there is neither a vaccine against COVID-19 nor any specific, proven, antiviral medication.[1516] Therefore, most treatment given will be towards ~~is to~~ managing ~~e ss~~ymptoms and ~~to~~ provid~~e~~ing support to patients with complications. The majority of people with COVID-19 have recovered without the need for specific treatment, as is the case for the common cold ~~(~~or ~~indeed~~ seasonal flu~~influenza)~~.

Commented [VTJ13]: Ref weblinks for WHO Geneva meeting 11/12 Feb and CEPI website covid 19 pages

[14] Famulare, M. 2019-nCoV: preliminary estimates of the confirmed-case-fatality-ratio and infection-fatality-ratio, and initial pandemic risk assessment Institute for Disease Modelling Feb 19 2020 https://institutefordiseasemodeling.github.io/nCoV-public/analyses/first_adjusted_mortality_estimates_and_risk_assessment/2019-nCoV-preliminary_age_and_time_adjusted_mortality_rates_and_pandemic_risk_assessment.html

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[15] World Health Organization [Internet]. R&D Blueprint: Coronavirus disease (COVID-2019) R&D; accessed 23rd February 2020. Available from: https://www.who.int/blueprint/priority-diseases/key-action/novel-coronavirus/en/

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[16] Coalition for Epidemic Preparedness Innovations [Internet]. CEPI launches new call for proposals to develop vaccines against novel coronavirus, 2019-nCoV; accessed 23rd February 2020. Available from: https://cepi.net/news_cepi/cepi-launches-new-call-for-proposals-to-develop-vaccines-against-novel-coronavirus-2019-ncov/

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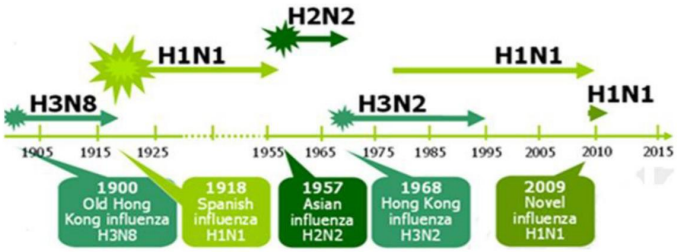
How the UK prepares for infectious disease outbreaks

~~11.~~13. Annex A shows the impact of some of the major respiratory virus pandemics and epidemics in the last 100 years.



Previous pandemics

~~12.~~14. The UK is well prepared for disease outbreaks, having responded to a wide range of infectious disease outbreaks in the recent past, and having undertaken significant preparedness work for an influenza pandemic for well over one decade~~in recent years~~ (cf. existing plan 'flu plans[17]). Our plans have been regularly tested and updated to ensure they are fit for purpose (e.g. the UK-wide pandemic flu exercise, Cygnus, which took place in October 2016). This experience provides the basis for an effective response to COVID-19, which can be tailored as more specific information emerges about the virus.

~~13.~~15. These plans ensure the health and social care system health service and social care is equipped to respond effectively, as part of a cross-Government response to minimise wider societal impact that could arise from a significant outbreak. An effective response also requires the active participation of a well-informed public.

~~14.~~16. Planning draws on the idea of a "reasonable worst case (RWC)" scenario. This is not a forecast of what is most likely to happen. It is instead based on assessing the probabilities of a range of scenarios and using the most severe scenario that it is judged could reasonably happen. These factors are unpredictable but based on previous experience it is nonetheless possible to make robust planning assumptions that in turn point the way to allocating resources to a reasonable and proportionate response.

Commented [VTJ14]: Please can we add SARS and MERS to this visual as pandemic 'near—misses'. I understand giving the time points of pandemics but the arrows may confuse the unaccustomed reader and suggest the 1918 pandemic lasted until 1957. Of course the arrows were initially used to describe periods of post-pandemic circulation of the once-pandemic virus. Accurate, but unhelpful here as we don not know if COVID-19 will persist in humans after this pandemic is over.

Commented [VTJ15]: I helped an SCMO write the first substantive DH pandemic plan in 2004!

Commented [VTJ16]: I thought CCS said we could not use this name in public???

Commented [HJ17R16]: Agree – I thought we couldn't/didn't put in the public space and if we do we will be asked for all relevant papers and planning

Commented [HJ18]: See above -

[17] https://www.gov.uk/government/publications/responding-to-a-uk-flu-pandemic

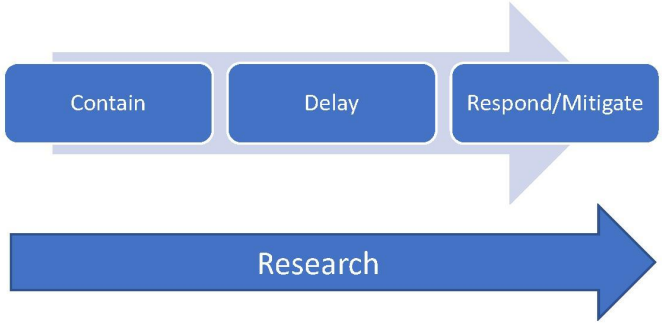
Planning Principles

~~15.~~17. In preparing for, and responding to, a serious disease outbreak the strategic objectives of the UK Government are to:

- remain as well prepared as possible
- minimise the potential health impact by slowing spread, and reducing infection, illness and death
- minimise the potential impact on society and the economy
- maintain trust and confidence amongst health and social care organisations, health and care professionals and the public
- be active global players working with the World Health Organizsation (WHO), Global Health Security Initiative (GHSI), and the European Centre for Disease Prevention and Control (ECDC), supporting international efforts to detect the emergence of a pandemic and early assessment of the virus by sharing scientific information
- regularly review research and development needs, in collaboration with research partners, to enhance our pandemic preparedness and response.

~~16.~~18. We plan an initial response based on information available at the time, in a context of uncertainty, that can be scaled up and down in response to new information to ensure a flexible and proportionate response.

~~17.~~19. The fundamental objectives are to **contain**, then **delay, research,** and finally **respond to (mitigate)** any outbreak. The different phases, types and scale of actions depends upon how the course of the outbreak unfolds over time. We monitor local, national and international data continuously to model what might happen next, over the immediate and longer terms.



Commented [VTJ19]: Helpful to add this if allowable. Gives us a better platform and basis to use PH countermeasures such as school closures if we later decide it's scientifically justified to do so. These won't reduce final infection numbers but will hopefully slow spread.

Commented [VTJ20]: WHO is a proper noun and always spelt with a z even though it's very un-British to do so

Commented [VTJ21]: Do we mention ECDC so overtly in a post-Brexit world?

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Commented [VTJ22]: We agreed the work was not strictly and series as per the diagram and were thinking about a better visual to describe the work effort emphasis over time.

Our response to the current coronavirus outbreak

Planning

~~18.~~20. There is similarity between COVID-19 and influenza (both are respiratory infections), but also some important differences. Consequently, contingency plans developed for pandemic influenza[18], and lessons learned from previous outbreaks, provide a useful starting point for the development of an effective response plan to COVID-19. That plan has been adapted, however, to take account of differences between the two diseases.

~~19.~~21. Our response to COVID-19 is guided by the international situation, the advice of organisations such as the WHO, surveillance, data modelling based on the best available evidence and the recommendations of our expert bodies (Annex C). The UK governments' Chief Medical Officers continue to provide expert advice to the health and social care system across the UK, and to government agencies involved in responding to this outbreak.

~~20.~~22. For the latest information on the current situation please refer to: https://www.gov.uk/guidance/wuhan-novel-coronavirus-information-for-the-public

~~21.~~23. The nature and scale of the response depends on the course of the disease, which cannot be predicted accurately at this point. As our understanding of the disease increases and its impact becomes clearer, we will issue further detailed advice about what to expect if/when further measures become necessary.

~~22.~~24. The overall objectives of our national plan to respond to COVID-19 are to:

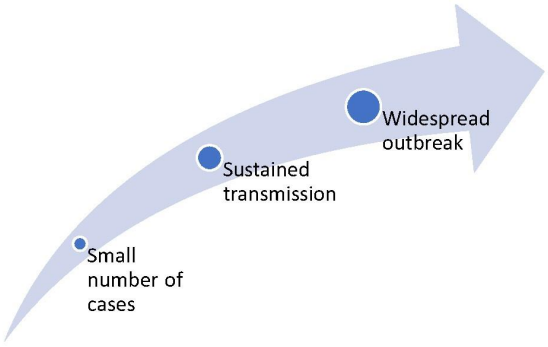
- **Contain**: detect early cases, follow up close contacts, and prevent the disease taking hold in this country for as long as is reasonably ~~if~~ possible
- **Delay**: slow the spread in this country if it does take hold
- **Research**: better understand the virus and the actions that will mitigate its effect on the UK population.
- **Respond/Mitigate**: provide the best care possible for people who become ill, support hospitals to maintain essential services and ensure ongoing support for people ill in the community to minimise the overall impact of the disease on society and mitigate the effects on the NHS.

Commented [HJ23]: This essentially repeats the wording on the previous page – can it be combined?

[18] https://www.gov.uk/government/publications/responding-to-a-uk-flu-pandemic

A phased response

~~23.~~25. The UK's approach is phased to recognise the evolving nature of a disease outbreak. We are already undertaking work to detect, assess and treat cases of COVID-19 in the UK. Our response can be scaled up or down as required to reflect the increasing impact on the population, the level of demand placed on services as cases increase and the changes to service provision to meet this demand.



Escalating response

~~24.~~26. Following the peak of any outbreak, there will be a scaling down of the response as case numbers subside, followed by a move into a recovery phase to normalise services.

~~25.~~27. Annex A gives a broad overview of how such a response is coordinated across the entire health and social care system at national and local levels.

Actions to date

~~26.~~28. As there are already cases in the UK, the current emphasis is on **contain** and **research**.

Contain

29. Public Health England (PHE) and the NHS have established plans and procedures to detect the first cases of COVID-19 as they emerge in the UK. PHE has worked with Border Force to enhance port health measures. A PHE team was deployed to Heathrow, Gatwick and Manchester airports to support anyone travelling in from China who felt unwell.

30. The NHS and ~~Public Health England (PHE) has~~ve ~~an established plan to respond to someone who becomes unwell and information has been~~ cascaded information

Commented [VTJ24]: I've re-ordered a bit because the key stages in order are, detect, isolate and treat safely, then find and eal with contacts. 34-41 are important but secondary preparatory work but not strictly about containment

widely to all health professionals on steps to take if they identify patients who may have COVID-19.

27.31. TThe NHS has provided excellent care for all patients affected by this disease. The initial confirmed patients are being cared for by specialist units with expertise in handling such cases, using tried and tested infection control procedures to prevent further spread of the virus.

~~28.1. The NHS and Public Health England (PHE) have an established plan to respond to someone who becomes unwell and information has been cascaded to all health professionals on steps to take if they identify patients who may have COVID-19.~~

32. The NHS has expert teams in every ambulance service and a number of specialist hospital units with highly trained staff and equipment ready to receive and care for patients – these provide coverage across the whole of the country.

29.33. Once a case has been detected, PHE has used its tried and tested procedures for rapid tracing, monitoring and isolation of close contacts with the aim of preventing further spread.

30.34. We maintain strategic stockpiles of key medicines and equipment (e.g. protective clothing).

~~31. Contacts with confirmed cases are being identified and traced by PHE, to reduce the risk of further spread.~~

32.35. Work has been undertaken to identify and contact all those who have travelled from Wuhan. **[DN: check currency]**

33.36. We have worked with FCO to update travel advice and supported the repatriation of British nationals.

Commented [HJ25]: Given we are not going to be offering repatriation going forward is it worth putting a qualifier in this statement? Eg 'in exceptional circumstances'

34.37. Health information has been made available at all other international airports and major land/ sea ports (e.g. Dover and St Pancras International) in the UK.

35.38. We have provided UK residents and travellers with the latest information to make sure they know what to do if they experience symptoms and worked with NHS 111 to ensure people with symptoms are given appropriate advice. Public health advice has been widely publicised and is regularly updated at https://www.gov.uk/guidance/wuhan-novel-coronavirus-information-for-the-public

~~36.1. A PHE team was deployed to Heathrow, Gatwick and Manchester airports to support anyone travelling in from China who felt unwell.~~

~~37.~~39. Advice has been provided to employers, prisons, schools and the adult social care sector.

~~38.~~40. We continue to work closely with colleagues in WHO and the international community to ensure that we remain as prepared as we can be for what might happen next.

~~39.~~41. All NHS emergency and urgent care facilities are working to establish coronavirus assessment services to mitigate impacts to Emergency Departments.

Commented [HJ26]: Not sure this has all gone out yet...need to make sure that is the case at the time of publication

Commented [VTJ27]: Probably one for Helen and Nick. Do we mention UKPHRST deployments to help other countries in their preparation efforts?

Delay

~~40.~~42. Our expert groups are considering what actions will be most effective in slowing the spread of the virus in the UK, as more information about it emerges.

Research

~~41.~~43. The UK Government has pledged £20 million to the Coalition for Epidemic Preparedness Innovations (CEPI) to develop new vaccines to combat the world's deadliest diseases, including vaccines for COVID-19 as quickly as possible.

~~42.~~44. The Government has also additionally announced £20 million for COVID-19 research via a joint rapid research call between UK Research and Innovation and, through DHSC, the National Institute for Health Research (NIHR). This asks for proposals for projects to develop vaccines, therapeutics, diagnostics or to address the epidemiology, spread or underpinning knowledge of COVID-19.

~~43.~~45. DHSC also provides long term support to a number of NIHR Health Protection Research Units, each a partnership between a university and Public Health England. A number of these are involved in research in relation to the COVID-19 epidemic.

~~44.~~46. This includes one on Emergency Preparedness and Response led by King's College London. It brings together experts on how to conduct important research that including research on how to respond to infectious disease outbreaks such as COVID-19.

~~45.~~47. Following the last flu pandemic the NIHR set up a number of projects which are ''ready to go'' in the event of another epidemic or pandemic. These are now being adapted and can be used for COVID-19 should this be necessary. One of these projects has now been activated. It will evaluate and improve communication with the public about COVID-19, using weekly rapid turn-around telephone surveys.

~~46.~~48. The UK is a world leader in the field of outbreak modelling and data analytics. The NIHR HPRU in Modelling Methodology led by Imperial College London has

developed novel analytical and computational tools which exploit novel data streams on infectious diseases such as COVID-19. Both this group and others have developed tools to prepare for infectious disease outbreaks include real time infectious disease models, allowing policy decisions to be make using the best possible data and are actively modelling questions of relevance to dealing with the Covid–19 outbreak.

The role the public can play in supporting this response

47.49. An effective response also requires the active participation of a well-informed public. You can help support the UK's response by:

- Adhering to PHE health advice, such as washing hands and practicing catch it, bin it, kill it

- Reducing the impact and spread of misinformation by relying on information from trusted sources, such as that on www.nhs.uk and www.gov.uk
- Checking and following the latest FCO travel advice when travelling and planning to travel

- Ensuring you and your family's vaccinations are up to date as this will help reduce the pressure on the NHS through reducing vaccine-preventable diseases
- Using NHS 111, pharmacies and GPs responsibly and only visit hospital when you really need to:

  https://www.nhs.uk/using-the-nhs/nhs-services/urgent-and-emergency-care/when-to-go-to-ae/
- Being understanding of the pressures the NHS and social care may be under and receptive to changes that may be needed to the provision of care to you and your family.
- Keep checking for new advice as the situation changes

What we will do next:

48.50. In the event of the outbreak worsening, or a severe prolonged pandemic, the response will escalate and the focus will move from containment to **delay**, through to **response**, informed by **research**. During this phase the pressures on services and wider society may start to become significant and clearly noticeablely ~~onerous~~.

49.51. The following scenarios would trigger a UK Chief Medical Officers' (CMO) reassessment of the UK response:

- the advent of sustained transmission in Europe or other countries with which the UK has close ties; and/or,
- the evident failure of measures in other countries to reduce spread.

50.52. To ensure that the health and social care system is prepared to respond to all eventualities, at all phases of a potential future pandemic, the NHS and local authorities ~~are expected to~~ **[DN: check whether we can say this]** have plans in place to ensure people receive the essential care and support services they need~~ for as long as possible~~. Plans should be flexible to respond to different types of pandemics - ranging from a mild pandemic with a low impact on services (for example the 2009 H1N1 pandemic), through to a severe prolonged pandemic as experienced in 1918 ("Spanish Flu").

Commented [HJ28]: This suggests the care and support will run out. It might do but do we want to advertise this

Delay

~~51.~~53. If ~~the~~ disease becomes established in the UK, we will need to consider further measures to reduce the rate and extent of its spread. Based on experience with previous outbreaks, it may be that widespread exposure in the UK is inevitable; ~~:~~ but slowing it down would still nonetheless be beneficial. For example, the NHS is less busy in the summer months when flu and other winter bugs are not driving GP consultations and hospital admissions. In the 2009 'swine flu' pandemic school holidays significantly slowed transmission of the virus. **[DN: include more about how previous outbreaks have developed/spread/slowed]**

~~52.~~54. We will increase publicity about the need for good hygiene measures (hand washing, and catch it, bin it, kill it) and further promote the need for people~~individuals~~ with symptoms to stay at home for the full duration of their illness.~~the virus to self-isolate.~~

~~53.~~55. Other sorts of action we could consider taking to help achieve a delay in the spread of the disease include the following, but this would depend on what the evidence indicates will be effective as we learn more:

- population distancing strategies such as considering school closures, greater home working, discouraging unnecessary travelling to slow the spread of the disease throughout the population, whilst ensuring the country's ability to continue to run as normally as possible
- after consultation with clinicians and others involved in containing this outbreak, we might further strengthen legal powers to safeguard the public.

Research

~~54.~~56. It is possible that an outbreak or pandemic of COVID-19 could occur in multiple waves (it is not known yet if the disease will have a seasonal pattern, like flu) **[DN: can we say more about how this works?]** and therefore, depending upon what the emerging evidence starts to tell us, it may be necessary to ensure readiness for a future wave of activity.

~~55.~~57. The Government will keep emerging research needs under close review and progress research activities set out above. ~~under close review~~

Respond/Mitigate

~~56.~~58. As and when the disease moves into different phases, for example if transmission of the virus becomes established in the UK population **[DN: say more about how this comes about]**, the nature and scale of the response will change.

The chief focus will be to provide essential services, helping those most at risk to access the right treatment. This means that:

- there will be less or no emphasis on large scale preventative measures such as isolation, travel restrictions and intensive contact tracing. As the disease becomes established, these measures lose their effectiveness and resources are ~~can be~~ more effectively used elsewhere.
- there will be more publicity of advice to individuals about protecting themselves and others
- treatment and the requirement for medicines and other clinical countermeasures might start to increase, with the need to draw down on stockpiles
- as NHS staff start also to become affected (and more seriously ill patients require admission), you might see a different approach to admissions (e.g. cancelling non-urgent care, prioritising and triaging service delivery) and to rostering of staff (leavers/retirees might be called back to duty)
- there could well be an increase in deaths arising from the outbreak, particularly amongst vulnerable and elderly groups. Home Office and Department of Health and Social Care guidance ~~provides~~ will provide advice for local authorities on dealing with this challenge.

~~57.~~59. Health and social care staff will face increased pressures at work, as well as potentially their own personal illness or caring responsibilities. Supporting staff welfare will be key to supporting an extended response.

~~58.~~60. We will implement a distribution strategy for the UK's stockpiles of key medicines and equipment (e.g. protective clothing). This will cover the NHS, then extend to social care with guidance for all sectors issued when appropriate.

~~59.~~61. The ~~NHS~~ health and social care ~~sector~~ systemwill start to implement their business continuity plans, which cover:

- minimising the risk of infection to patients and those receiving care
- the identification of vulnerable persons to be supported
- arrangements for the continuation of essential services, to maintain normal business for as many people as possible for as long as possible
- plans to mitigate the impact of absenteeism during the pandemic

Commented [HJ29]: I think we can't say it exists already because (a) I am not sure it does (b) what is around is not detailed and (c) it will in any case need to flex to manage risk as disease characteristics become more widely understood

Commented [HJ30]: I think we will want private sector providers to implement business continuity plans too

- systems to mitigate the impact of disruption to society and the supply chain.

[DN: need to include a strong conclusion, eg:]

~~60.~~62. The UK remains in a high state of readiness to respond robustly to any disease outbreak, and our track record of success means that we can offer a high degree of assurance that the current challenges will continue to be met successfully.

~~61.~~63. As and when we discover more about the disease and what, if any, impact its course has on the UK, we will provide further updates on how our plans are being adapted to respond to specific, changing circumstances.

Commented [VTJ31]: I don't think this is true in a RWC and it's certainly a hostage to fortune> Care here...I am not sure the public would conclude that triaging for ICU (if it got that bad) would be 'success'

Commented [HJ32]: Agree strongly with JvT. Suggest something like offer a high degree of assurance that we will be able to maximise the effectiveness of our health and care systems through the conditions imposed by a pandemic

Annex A - responsibilities for pandemic preparedness and response

Commented [HJ33]: Annex A is not correct – run out of time until 16.00 hrs. Will update then - Jenny

National responsibilities

[add reference to Devolved Administrations and DPHs]

1. The Department of Health and Social Care (DHSC) is the lead Government Department with responsibility for responding to the risk posed by a future pandemic. It leads the health response in England with the wider cross-government response co-ordinated through COBR.

2. The UK CMOs provide ~~medical~~ public health advice to the whole system and government.

3. ~~PHE and~~ NHS England and NHS Improvement are responsible for oversight of pandemic preparedness and response delivery in healthcare systems in England. ~~PHE~~ PHE provides specialist technical expertise to support both planning and delivery arrangements in England. These organisations have developed plans for coordinating the response at a national level and supporting local responders through their regional structures. The tri-partite partnership of the English Department of Health and Social Care (DHSC), PHE and NHS England provide strategic oversight and direction for the health and adult social care response to an influenza pandemic, with Department for Education (DfE) leading on the children's social care response.

Commented [HJ34]: This is not true. LRFs have to plan and local systems deliver
Note also PHE does very little operational delivery – they provide expert support (to LGAs, NHS, LRFs and other organisations eg police etc) to both plan for and respond to pandemics

4. PHE ~~has responsibility for~~ leads on provision of expert advice on health protection issues and actively contributes to the planning and delivery of a multi-agency response. PHE provides health protection services, expertise and advice, delivering specialist public health services to national and local government, the NHS and the public, working in partnership to protect the public against infectious diseases. There are similar public health expert advisory support arrangements in each of the UK countries.

Commented [HJ35]: ?comparable or equivalent

Local/Regional responsibilities

5. In England (and Wales), local organisations, working jointly through the Local Resilience Fora, have the primary responsibility for planning for and responding to any major emergency, including a pandemic.

Commented [HJ36]: I am not sure this is correct for Scotland – needs checking

Commented [HJ37]: These responsibilities are all set out in the Civil Contingencies Act – we could add in comments about first responders etc but it appears you want to keep this simple

Multi-agency working

6. Multi-agency working at both a national and local level ensures joint planning between all organisations. A coordinated approach to ensure best use of resources to achieve the best outcome for the local area.

7. NHS England and NHS Improvement and partners have published a series of quick guides to assist multi-agency working and support local health and care systems manage increasing demand on their services. The series of guides can be found at - www.nhs.uk/quickguides.

Annex B - major respiratory virus outbreaks

Pandemic	Area of emergence	Estimated case fatality ratio*	Estimated attributable excess mortality worldwide	Estimated attributable excess mortality in the UK	Age groups most affected (simulated attack rates)	Status
"Spanish Flu" (H1N1) 1918 – 1919 (influenza)	Unclear[1]	2%	20 - 50 million	200,000	Young adults	Severe pandemic
"Asian Flu" (H2N2) 1957 – 1958 (influenza)	Southern China	0.1 – 0.2%	1 - 4 million	33,000	Children	Moderate pandemic
1968 – 1969 (H3N2) "Hong Kong Flu" (influenza)	Southern China	0.2 – 0.4%	1 – 4 million	80,000	All age groups	Mild-moderate pandemic
"Swine Flu" (H1N1) 2009 – 2010 (influenza)	Mexico	<0.025%	18,000	457	Children, young adults and pregnant women	Very mild pandemic
"Middle East Respiratory Syndrome"(dates) (coronavirus)	Middle East	34%	861	0	Elderly (60+)	Very severe disease; continuing pandemic threat
"Serious Acute Respiratory Syndrome" (2003-xxx) (coronavirus)	China	15%	774	0	Middle aged adults (45 - 65)	Severe disease; pandemic 'near-miss'
Seasonal flu epidemic January	UK	Data not available	Not applicable	26,000 excess deaths in	Elderly 75+	Severe seasonal epidemic

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1989 to February 1990				England & Wales		

*the proportion of people who became ill with symptoms and subsequently died

Annex C - expert advice and guidance

1. The Government have ensured that all of our actions are based on the best possible evidence and is guided by the UK CMOs.

2. The UK health departments preparations and response are developed with expert advice, ensuring that staff, patients and the wider public can be confident that our plans are developed and implemented using the best available evidence. These groups include:

    - the **Scientific Advisory Group for Emergencies (SAGE)** – Co-Chaired by the CMO and Government Chief Scientific Adviser - provides scientific and technical advice to support government decision makers during emergencies, ensuring that timely and coordinated scientific advice is made available to decision makers to support UK cross-government decisions in the Cabinet Office Briefing Room

    - the **New and Emerging Respiratory Virus Threats Advisory Group** - NERVTAG is an expert committee of the Department of Health and Social Care and advises the CMO and, through the CMO, to ministers, DHSC and other Government departments. It provides scientific risk assessment and mitigation advice on the threat posed by new and emerging respiratory virus threats and on options for their management

    - the **Advisory Committee on Dangerous Pathogens** (ACDP) - provides independent scientific advice to the Health and Safety Executive, and Ministers for the Department of Health and the Department for Environment, Food and Rural Affairs, and their counterparts under devolution in Scotland, Wales and Northern Ireland, as required, on all aspects of hazards and risks to workers and others from exposure to pathogens

    - the **Scientific Pandemic Influenza Group on Modelling** (SPI-M) - gives expert advice to the Department of Health and Social Care and wider UK government on scientific matters relating to the UK's response to an influenza pandemic (or other emerging human infectious disease threats). The advice is based on infectious disease modelling and epidemiology

3. The actions we are taking to tackle the COVID-19 outbreak are being informed by the advice of these committees.

Commented [VTJ38]: Do we add JCVI who might yet be called quite soon to opine on extended use of pneumococcal vaccine PPV23 etc. And on any breakthrough vaccines (not that these are terribly likely anytime soon)