

COVID-19: A Public Health Overview of the Pandemic

Report of the Chief Officer for Communities, Public Health, Environment and Prosperity

Recommendation: The Health and Wellbeing Board is asked to note the overview report from the Director of Public Health.

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### **1. Background**

- 1.1 This paper provides an overview of the COVID-19 Pandemic to provide context for the impact on, and responses of, the Health and Care system.
- 1.2 The rapid international spread of a new coronavirus infection – creating the viral pandemic known as COVID-19 (the virus itself is named ‘SARS-CoV-2’) – has changed life for millions of people, and many thousands of unexpected deaths.
- 1.3 Following the initial peak, the United Kingdom is still managing its ‘phase 2’ response to the pandemic.
- 1.4 In the absence of an immunisation or an effective treatment, the only management tool for COVID-19 is the prevention of spread of the virus by behaviour – social distancing, hand hygiene and protection from potential spread by isolating oneself from others.

### **2. Introduction**

- 2.1 On 31<sup>st</sup> December 2019, the World Health Organisation received reports of cases of pneumonia of unknown cause in China. During early January 2020, more reports were received of a new coronavirus, originating in Wuhan, in Hubei province, the sign of a local outbreak developing into a spreading infection (an epidemic) during January.
- 2.2 The World Health Organisation declared ‘a public health emergency of international concern’ on 30<sup>th</sup> January 2020. The Public Health Devon team convened its first ‘response’ meeting to prepare for a worsening situation on 31<sup>st</sup> January 2020.
- 2.3 On 10<sup>th</sup> February 2020 the UK Government declared a ‘serious and imminent threat to public health’.
- 2.4 On 25<sup>th</sup> February 2020 the UK Government advised people returning from affected areas of Italy to self-isolate, with testing and contact tracing. The first Devon case occurred just after this.
- 2.5 On 3<sup>rd</sup> March 2020 the UK Government published its 4-phase coronavirus ‘action plan’.
- 2.6 On 11<sup>th</sup> March 2020 the World Health Organisation designated COVID-19 a pandemic.
- 2.7 On 12<sup>th</sup> March the UK moved from the ‘containment’ phase of the pandemic (and its associated social distancing measures) to the ‘delay’ phase.
- 2.8 On 23<sup>rd</sup> March 2020, following updated modelling by Imperial College, London, the Prime Minister announced more stringent social distancing through the national ‘lockdown’ measures.

### **3. Preparation for pandemics through modelling**

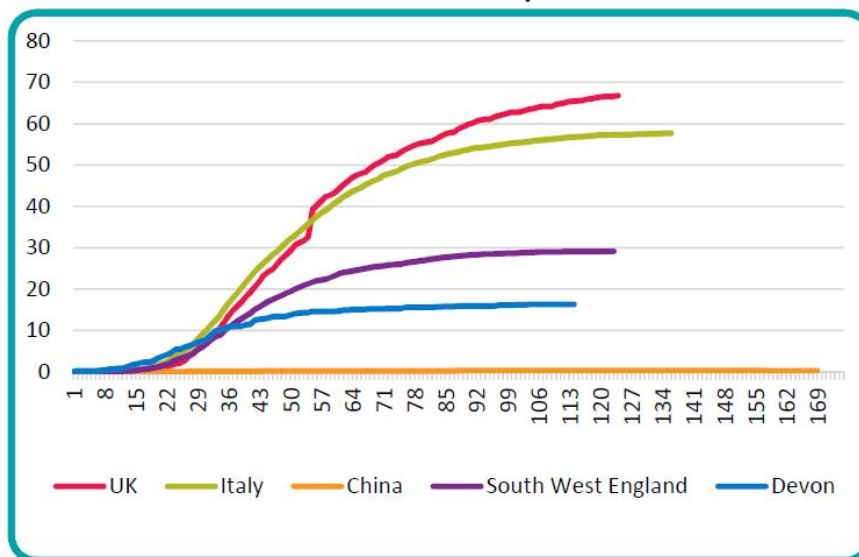
- 3.1 To prepare for Pandemic Influenza, modelling is provided to Local Resilience Forums (LRFs) prepared by SAGE (the national Strategic Advisory Group on Emergencies).
- 3.2 For the COVID-19 Pandemic, initial modelling of COVID-19 was based on Pandemic Influenza (without any population intervention) and this was shared with Local Resilience Forums to enable planning for excess deaths.
- 3.3 SAGE subsequently used mathematical and behavioural modelling, mainly from Imperial College, London, to assess the impact of changes in the person-to-person transmission rates, as measured by ‘R’.

- 3.4 In an epidemic, one of the most important numbers is R - the reproduction number. If this is below one, then on average each infected person will infect fewer than one other person and the number of new infections will fall over time.
- 3.5 When R is 1, each person infects one other person; when R is greater than one, numbers of infected people increase exponentially creating the epidemic. The higher the R number, the faster the virus is spreading in the population. When R is less than one, the epidemic reduces.
- 3.6 Because COVID-19 has spread at different rates across the country, with the South West (and particularly Devon) being one of the last places to see an upward curve and one of the last to decline, with a much lower peak, the R value will change as lockdown measures are lifted<sup>1</sup>.

#### 4. Impact of social distancing measures

- 4.1 The impact of different social distancing measures can be measured by the way that R changes. 'Stay at Home' guidance reduces R fastest, but as social distancing measures are relaxed, R rises and - with it - the risk of a resurgence in the spread of COVID-19.
- 4.2 The South West had a very different pattern of spread from the rest of England, probably because our first cases occurred 2-3 weeks after the first cases in England. Even within Devon, North Devon was affected 1-2 weeks after initial cases detected in South Devon.
- 4.3 This later effect within Devon means that the epidemic curve has been 'lower and slower' than in other parts of England such as London and the West Midlands.
- 4.4 International comparisons are also interesting, which shows how different death rates have been in Devon (figure 1):

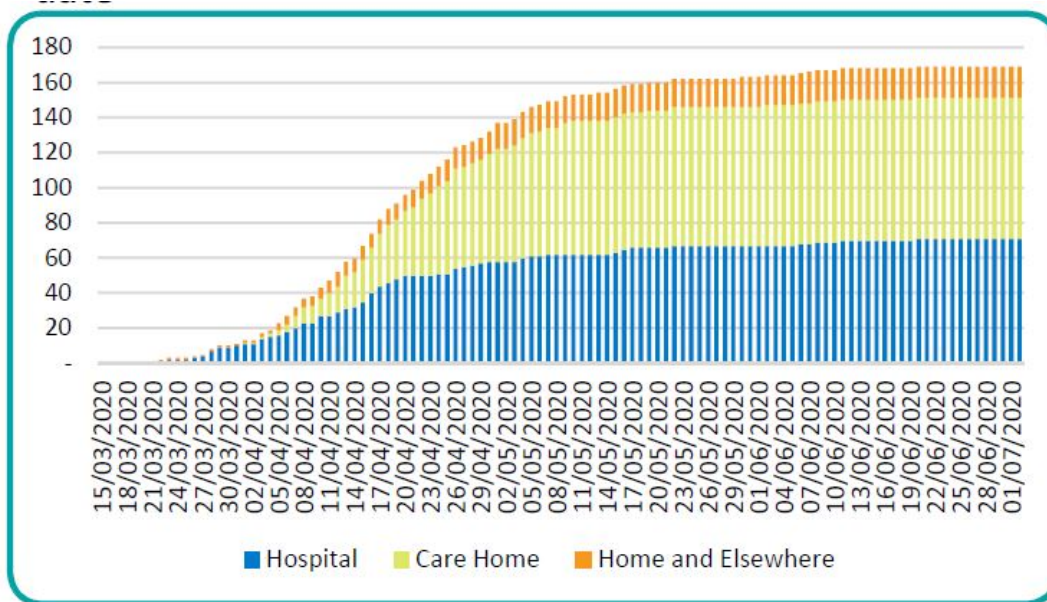
**Figure 1: Cumulative COVID-19 deaths per 100,000 population, international comparison.**



- 4.5 Activity in hospitals is the first significant indication of spread, followed by infections in care homes. This is the pattern seen elsewhere across Europe. Activity in NHS hospitals was the first to change, with the NHS acting to discharge patients to create room for a surge in acutely unwell patients. Following this, there was evidence of spread within community settings such as care home, where we saw outbreaks occurring. As a consequence, there was an increasing proportion of deaths in care homes as a total of COVID-19 deaths (figure 2):

<sup>1</sup> <https://publichealthmatters.blog.gov.uk/2020/05/15/coronavirus-covid-19-real-time-tracking-of-the-virus/> [accessed 04.06.20].

**Figure 2: Local registered cumulative COVID-19 deaths by location (including hospital, care home and other deaths in the community) in Devon, by date.**



- 4.6 As of 03.06.20 there have been 1,094 confirmed cases of COVID. Policy changes around testing will result in fluctuations. Therefore we would expect to see increases in confirmed cases in the coming days and weeks.
- 4.7 As of 01.06.20 there have been 162 registered COVID deaths
- 4.8 Deaths across Devon have plateaued, and as of the date of this report we have not seen any recent deaths due to COVID-19 in almost two weeks. Any deaths registered over the last two weeks have related to earlier dates and are less than a count of 5.
- 4.9 Devon ranks 145 out of 150 upper tier LAs across the country for confirmed cases per 100,000 resident population (rank 1 is the highest rate of cases; rank 150 is the lowest).

## 5. The future

- 5.1 To successfully move out of lockdown and relax social distancing measures, there are a number of considerations.
- 5.2 For Devon, the main factors that need to be taken into consideration are:
- Comparatively low rates of COVID-19 activity and therefore low levels of population exposure (and immunity) to the virus
  - An age profile and long-term condition profile of the population that creates more risk from infection
  - A potential large influx of visitors in peak holiday periods
  - An NHS sector which is already susceptible to seasonal service pressures due to the age and disease profile of the population
  - The risks of either a prolonged period of COVID-19 activity or further peaks as lockdown and social distancing measures are relaxed
  - The effectiveness of a 'Test and Trace' approach – wider population testing and contact tracing to contain outbreaks, through advice to and isolation of individuals.
- 5.3 The Government has recently asked Upper Tier and Unitary Local Authorities to establish COVID-19 Health Protection Boards (chaired by their Directors of Public Health) and Local Outbreak Engagement Boards (Chaired by Leaders) to ensure outbreaks of COVID-19 can be managed at local level. The Devon Local Outbreak Management Plan was endorsed by Cabinet on 8<sup>th</sup> July.

5.4 Devon County Council was selected as a 'Beacon Council' in the South West to develop and share best practice, one of eleven nationally.

## **6. Financial considerations**

6.1 The Government has made a number of financial provisions to mitigate the effect of COVID-19.

## **7. Legal considerations**

7.1 The Director of Public Health for Devon County Council discharges a statutory responsibility for assurance health protection plans under the Health and Social Care Act 2012.

## **8. Environmental impact considerations**

8.1 Contained within the report.

## **9. Equality considerations**

9.1 There have been concerns about the differential impact of COVID-19 on people from Black and Asian Minority Ethnic (BAME) Backgrounds. Public Health England has recently produced a report on disparities in outcomes<sup>2</sup>.

## **10. Risk assessment considerations**

10.1 Contained within the report.

## **11. Recommendation**

11.1 Health and Wellbeing Board is asked to receive the report of the Director of Public Health and to note the further work taking place on the development of Local Outbreak Management Plans.

**Dr Virginia Pearson**  
**Chief Officer for Communities, Public Health, Environment and Prosperity**  
**Director of Public Health**  
**Devon County Council**

### **Electoral Divisions: All**

Cabinet Member for Community, Public Health and Transportation and Environmental Services: Councillor Roger Croad

Local Government Act 1972: List of Background Papers

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Background Paper

Date

File Reference

The 2019-20 Public Health Annual Report on 'Planetary and Human Health' makes reference to the risks of novel viruses

[www.devonhealthandwellbeing.org.uk/aphr](http://www.devonhealthandwellbeing.org.uk/aphr)

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<sup>2</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/889861/disparities\\_review.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/889861/disparities_review.pdf)