APPENDIX A

THE IMPACT OF COVID-19 ON LINCOLNSHIRE

DIRECTOR OF PUBLIC HEALTH ANNUAL REPORT (2020)

December 2020

Contents

Foreword

Welcome to this, my second annual report as Director of Public Health for Lincolnshire. I must admit that the topic for this year's report is one I never hoped to have to write.

As we are all only too well aware, we are in the middle of a global pandemic that we have not seen for more than a century. It's brought huge challenges for us all and unsurprisingly has been the main focus of our work for most of this year. Which is why this report is a cut down version and without the broader look at health in the county than would normally be the case.

We've had to endure the difficult restrictions of lockdown and our way of life has been affected like never before. But the response of the people of Lincolnshire has been magnificent, with overall lower rates throughout the long months of the pandemic due to our residents sticking to the rules and restrictions, together with the support of a robust and well established health protection system. But as we've seen in many areas, the picture can change very rapidly and we continue to face big challenges with rising infection rates as more testing is carried out and the virus takes hold again in the winter.

Amidst the challenges there are positives. Science is starting to come to our aid, with more testing capacity, more rapid testing, and the hopes of a new vaccine. And the pandemic has done what all emergencies do in Lincolnshire – it has brought people together in a tremendous community spirit - socially distanced of course – as volunteers, neighbours and friends help those who are most vulnerable.

Our Lincolnshire Local Resilience Forum - bringing together the county's emergency services, health, local authorities, the voluntary sector and other partners – has played a major part in the response, supporting residents through the pandemic. Schools and their staff have endured the most difficult of times to ensure children continue their education in the safest way possible. Care homes and their staff have gone the extra mile to look after some of our most vulnerable older people. And we mustn't forget the magnificent response from NHS staff in the most trying of circumstances.

It has been a privilege to be part of this county response to the pandemic and to work alongside the best public health support network in the country. We aren't out of the woods yet. At the time of writing we are in lockdown 2 and we have a difficult winter period still ahead. So we need to stay focused and keep going, however difficult that may seem.

I said in my first meeting about Covid on the last day of January 2020 that this would be a marathon and not a sprint. We are entering the final quarter so we need to redouble our efforts to protect ourselves, our loved ones and each other. Remember the hands, face, space guidance and let's make sure we minimise the risk of catching or passing on the infection.

I'd just like to finish by thanking the team who put this report together. Although it's my report, it is very much a team effort and I am immensely grateful to all those who have contributed.

I hope the report will give you a better understanding of the pandemic and its effects on Lincolnshire. It reflects the tremendous work that has gone on in the background by so many, and for which I am hugely thankful.

Derek Ward
Director of Public Health

1. Introduction

1.1 About Lincolnshire

1.1.1 Population

Lincolnshire is a largely rural county with a population 761,224 of (Source: ONS 2019 mid-year estimate), with a 49% male and 51% female breakdown. Lincolnshire has an ageing population with 23% of residents over the age of 65. Although the age distribution across the districts is proportionally similar, there are some noticeable differences as illustrated in Table 1.

Table 1: Population breakdown by age group
(Source: ONS 2019 mid-year estimate)

	0 – 19 (%)	20 – 64 (%)	65+ (%)
Lincolnshire	21	55	24
Boston	23	56	21
East Lindsey	19	51	30
Lincoln	24	61	15
North Kesteven	21	55	24
South Holland	21	54	25
South Kesteven	22	54	24
West Lindsey	21	54	25

1.1.2 Deprivation

The 2019 Index of Multiple Deprivation (IMD) shows overall deprivation, and ranks Lincolnshire 91th out of 151 upper-tier local authorities in England, where 1st is the most deprived. Levels of deprivation vary across the county, which has an influence on health and wellbeing needs.

The general pattern of deprivation across Lincolnshire is in line with the national trend, in so much that the urban centres and coastal strip areas show higher levels of deprivation than other parts of the county. The Lincolnshire coastline, particularly the towns of Skegness and Mablethorpe, are amongst the most deprived 10% of neighbourhoods in the country.

1.1.3 Healthy Life Expectancy

Healthy life expectancy is the average life in good health, that is to say without irreversible limitation of activity in daily life or incapacities. Latest figures for 2016-2018 show that healthy life expectancy at birth in Lincolnshire is 62.8 years for men and 62.5 years for women. Both are comparable to the national equivalents of 63.4 years for men and 63.9 years for women. Longer term trends for Lincolnshire reveal that healthy life expectancy has reduced, from 64.4 years for men in 2009-2011, and from 65.2 years for women in 2009-2011.

In Lincolnshire, the inequality gap in male healthy life expectancy at birth between 2009 and 2013 was 11.9 years, and the gap for female healthy life expectancy at birth was 10.9 years. (Source: Public Health England, Fingertips)

1.2. Coronavirus Disease

Coronavirus disease 2019 (COVID-19) is caused by SARS-CoV-2, a newly emerging coronavirus, that was first recognised in Wuhan, China, in December 2019. The disease can be easily transmitted person to person by close contact through respiratory droplets; by direct contact with infected persons; or by contact with contaminated objects and surfaces. The incubation period for COVID-19, which is the time between exposure to the virus (becoming infected) and showing symptoms, is, on average 5 to 6 days, but can take up to 14 days. The distinctive symptoms of coronavirus (COVID-19) are a high temperature, a new continuous cough and the loss or change to the sense of smell or taste.

The World Health Organisation (WHO) reports[1] most people with COVID-19 will develop only mild (40%) or moderate (40%) symptoms and will recover without requiring specialist treatment. Approximately 15% of people will develop severe disease which requires oxygen support, and 5% will develop critical disease with complications such as respiratory failure, acute respiratory distress syndrome (ARDS), sepsis and septic shock, and multi organ failure. Older age, smoking and underlying long term conditions such as diabetes, hypertension, cardiac disease, chronic lung disease and cancer, are significant risk factors.

[1] World Health Organisation. Clinical Management of COVID-19 Interim Guidance. May 2020 https://www.who.int/publications/i/item/clinical-management-of-covid-19

2. Impact of COVID-19 in Lincolnshire

2.1 Positive Cases

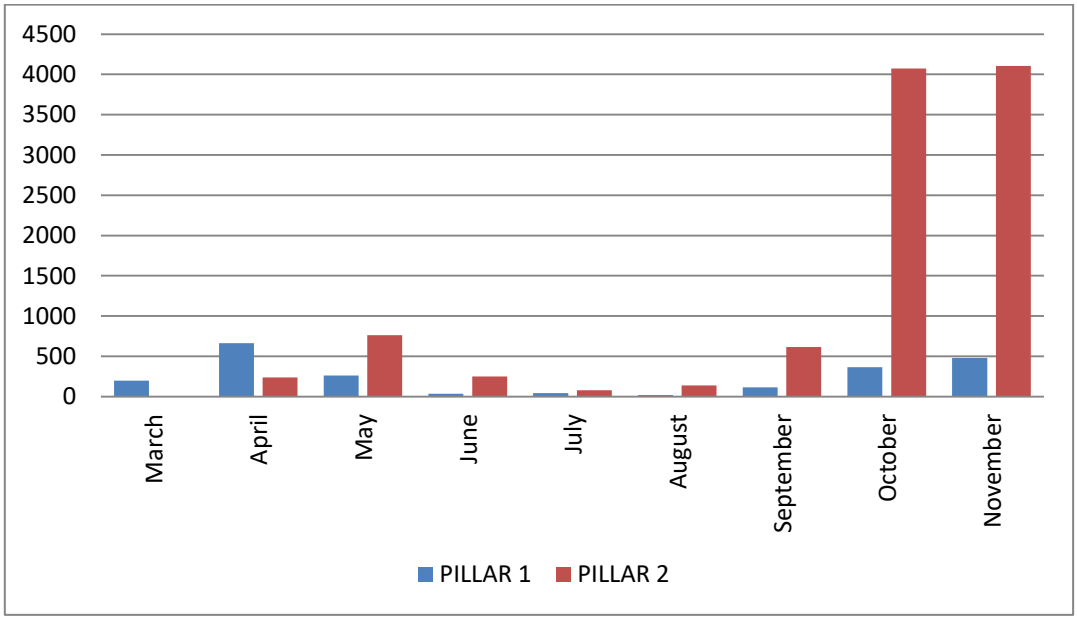
Chart 1 – Total Confirmed Positive Cases

Chart 1 shows the number of positive cases each day in Lincolnshire since March 2020. As of 16 November 2020, there have been 12,414 recorded cases. The first peak was seen in May, with the highest daily figure being 76. Over the summer period the rate of positive cases fell and remained relatively stable. From September, rates have started to rise again, with the current highest daily figure of 500 being recorded on 9 November 2020. It is important to note that the testing available in the first wave of the pandemic was far more limited than later in the year, so comparisons across the two waves are difficult.

2.2 Testing (Pillar 1 & Pillar 2)

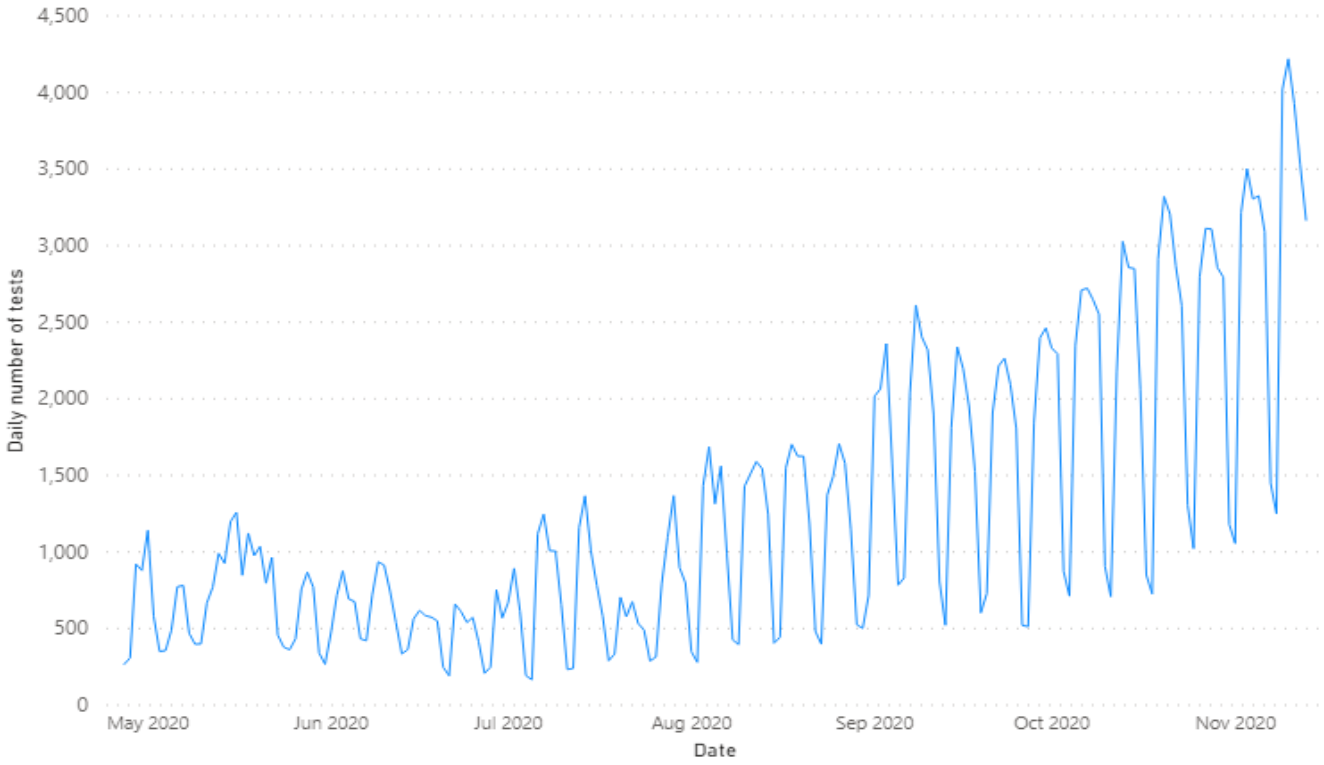
Testing for COVID-19 is organised in two ways, described as 'Pillars'. Pillar 1 testing (swabbing processed by PHE labs and NHS hospitals, for those with a clinical need and health and care workers) was the only source of testing to begin with when COVID-19 was first recorded in Lincolnshire with Pillar 2 testing (the national programme for the wider population) started to be recorded in May. As shown in Chart 2, positive cases identified from both forms of testing reduced over the summer months due to the low incidence rate. From May, Pillar 2 testing has resulted in finding most positive cases which has also been seen regionally and nationally.

Chart 2 – Pillar 1 v Pillar 2 Monthly Testing Figures (positive cases only)



In Lincolnshire there have been a total of 256,365 Pillar 2 tests undertaken as of 13 November 2020 (NHS Digital's secure dashboard). With regards to Pillar 2 testing the number undertaken in Lincolnshire during the COVID-19 pandemic is highlighted in Chart 3:

Chart 3 – Total Pillar 2 Tests

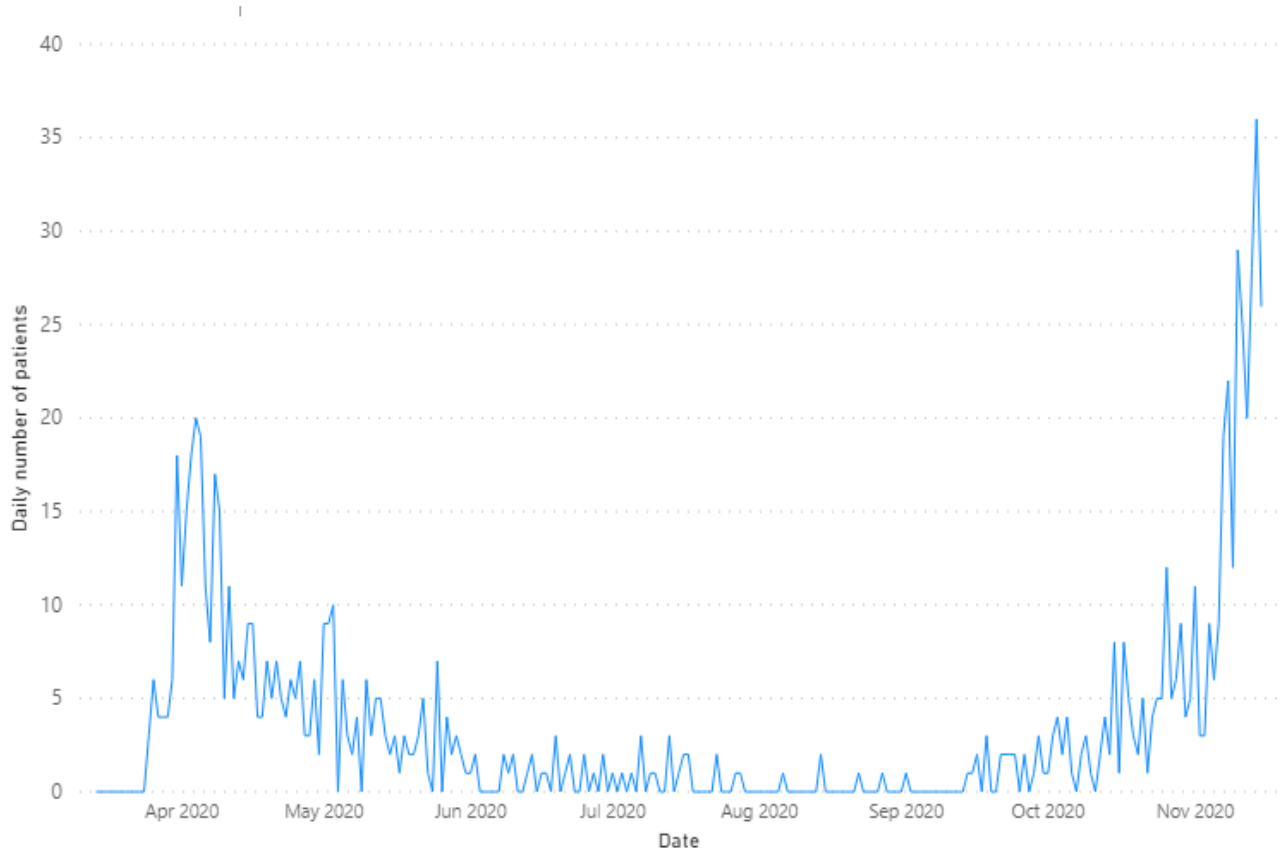


The number of Pillar 2 tests has continually risen across the year with the exception of June and July. The reason for the daily fluctuations in testing counts is due to a higher number of people accessing testing on weekdays compared to weekends.

2.3 Hospital Admissions

When looking at hospital admissions the first wave of COVID-19 in Lincolnshire, the month of April saw the highest amount of hospital admissions/diagnosis for COVD-19. The highest daily figure saw 20 admissions/diagnosis in one day. Numbers dropped from May and continued to remain low during the summer before patient numbers began to rise from October. Since then the highest daily figure is 36 admissions/diagnosis in one day. This is illustrated in the Chart 4.

Chart 4 – United Lincolnshire Hospital Trust Patients Admitted or Diagnosed with COVID-19 Within Last 24 Hours



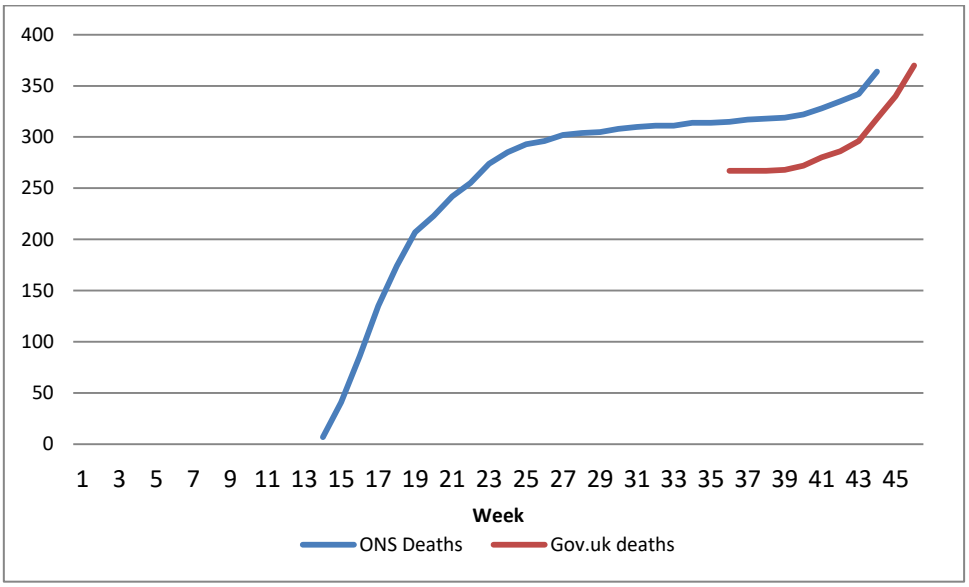
2.4 Deaths

Sadly, in some instances people do not recover from the illness caused by COVID-19. It is important we understand the number of deaths whilst recognising that each of these numbers represent an individual and family affected.

There have been two definitions of how deaths are recorded. ONS has continued to update COVID deaths each week with any mention of COVID on the death certificate whereas the national figures were altered and released as of 25 August 2020 to only include deaths with COVID diagnosed up to 28 days before death.

According to ONS as of 10 November 2020 Lincolnshire has seen 364 COVID deaths. The national figures released on https://coronavirus.data.gov.uk/deaths shows that Lincolnshire has had 370 deaths as of 13 November 2020. As illustrated in Chart 5.

Chart 5 – Weekly COVID-19 Deaths in Lincolnshire by Source

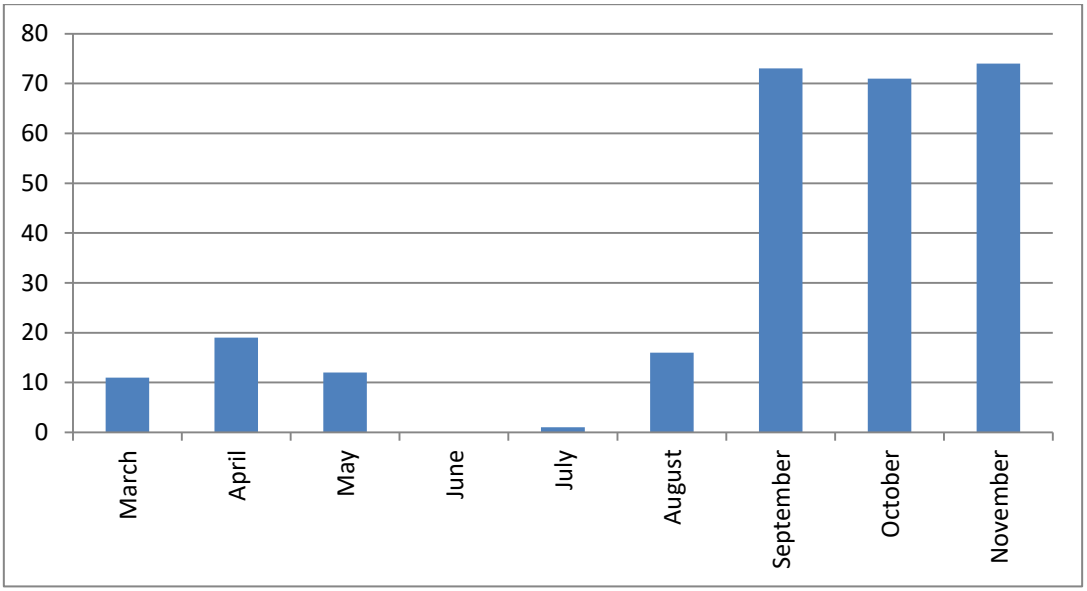


2.5 Care Homes

Across England, people living in long term care homes have been badly affected by the illness and the restrictions placed on them to limit family visiting. The care sector has been at the frontline, along with our hospitals, in responding to the pandemic.

An outbreak of an infectious disease is where two or more cases are reported in one place during a short time period. In some instances, these cases might not be linked to each other, but a response is needed to ensure onward spread is limited. There have been 277 Care Homes reporting an outbreak during the COVID-19 Pandemic in Lincolnshire as reported by the Health Protection Team (as of 16 November 2020). June and July saw very few outbreaks, with September and November having the most outbreaks in a month with 73 and 74 respectively, as illustrated in Chart 6.

Chart 6 – Care Home Outbreaks in Lincolnshire

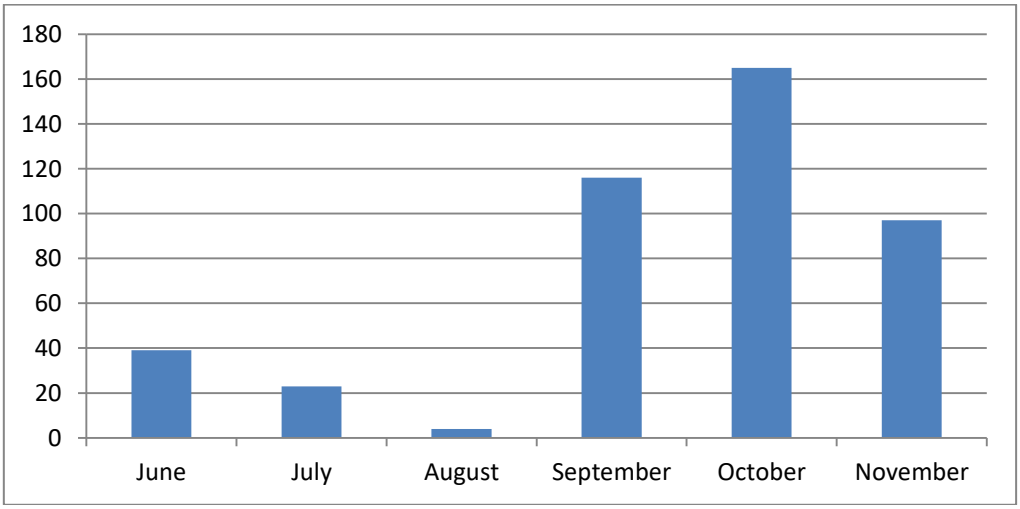


2.6 Schools and Education

Disruption to education is a long term risk to the health and wellbeing of children. Although schools closed during the first wave of the pandemic, apart for children of key workers, the plan is to prioritise them remaining open through the autumn and winter period.

There have been 444 reports of outbreak by 312 education settings during the COVID-19 Pandemic in Lincolnshire as reported by the Health Protection Team (as of 16 November 2020). The first outbreak was reported in June. As shown in Chart 7, October has by far seen the highest number of outbreaks, with 165, with a huge rise seen from September due to schools fully reopening in September.

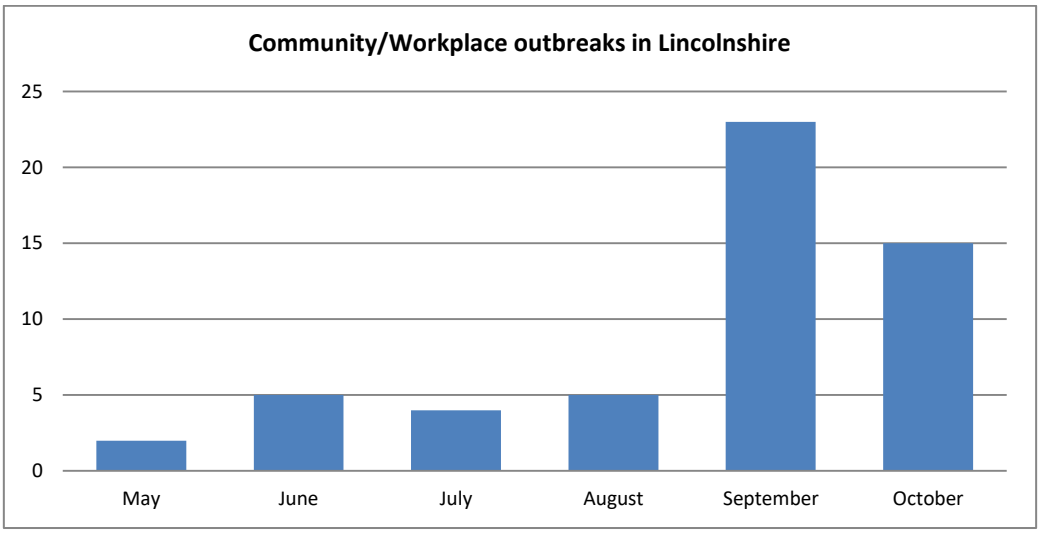
Chart 7 – School Outbreaks in Lincolnshire



2.7 Community/Workplace settings

There have been 105 community/workplaces reporting an outbreak during the COVID-19 Pandemic in Lincolnshire managed by PHE (as of 16 November 2020). October recorded the most outbreaks with 28 as shown in Chart 8.

Chart 8 – Community/Workplace Outbreaks in Lincolnshire

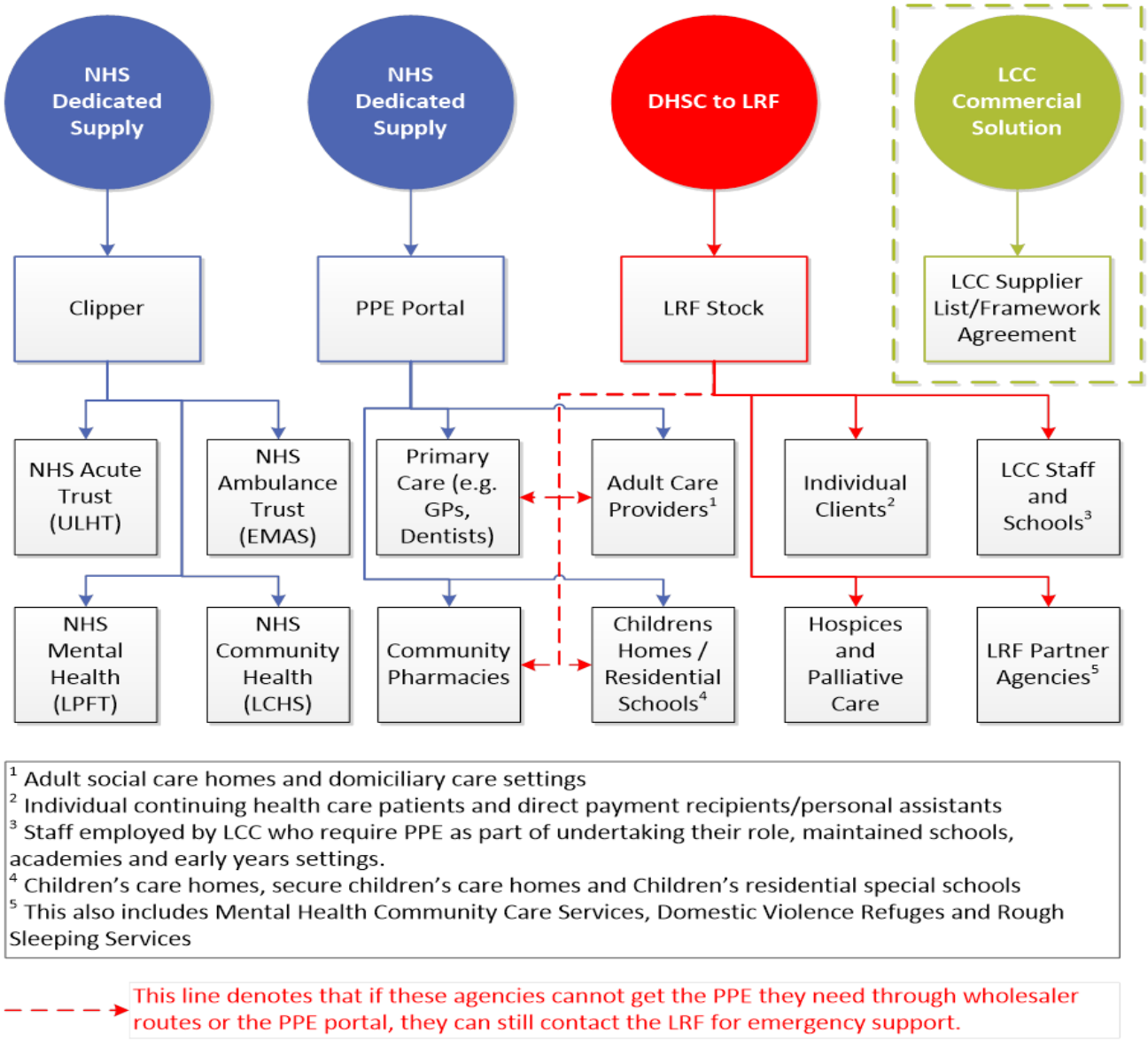


2.8 Personal Protective Equipment (PPE)

As COVID-19 is spread through droplets and close contact it is essential that those roles which require this type of contact use the right personal protective equipment as described in government guidance. Since early April 2020 the Department of Health and Social Care has regularly delivered PPE to the Lincolnshire Resilience Forum (LRF). The purpose of this has been to support health and care agencies with emergency need for PPE as a result of issues with their normal supply chain. This stock has been provided free of charge and issued based on the clear clinical need for staff to wear PPE to deliver their services. Given the resilience of the national supply chain (largely due to 70% of PPE now being produced by UK manufacturing firms), Government continues to issue PPE to the LRF both for day to day requirements in social work, education and child care settings as well as to continue to support local emergency need, e.g. due to local outbreaks.

There remains in place a variety of routes for organisations to access PPE as part of the new resilient supply chains and these are shown in Figure 1:

Figure 1; PPE Supply and Distribution Arrangements (September 2020)



To date the LRF has received in excess of 3 million items of PPE to support the emergency response. The LRF continues to manage its stocks in a prudent way to ensure it is able to continue to support partner agencies in the most urgent need for PPE due to a breakdown in their normal supply chain alongside provision of PPE to social work teams, etc. As a result of this the LRF still holds a stockpile of 2 million items of PPE in order to support the health and care system through the winter, local outbreaks of COVID-19 and the second wave of wider community-based infection. Table 6 shows the PPE distributed by the LRF in Lincolnshire thus far.

Table 6: LRF PPE volumes and usage – April 2020 to October 2020

PPE Item	Current Volumes	Volume Used	Daily Usage
Gloves	949,690	-491,610	-2,574
Face Masks	724,170	-239,422	-1,254
Eye Protection (Goggles, glasses and visors)	54,923	-98,692	-517
Aprons	249,600	-168,600	-883
Gowns	1,110	-4,700	-25
Coveralls	18,752	-570	-3
Alcohol Hand Sanitiser	7,006	-1,626	-9

Clinical Waste Bags	24,200	-1,850	-10
Body Bags	1,104	-504	-3
TOTAL	**2,030,555**	**-1,007,574**	**-5,275**

2.9 How Lincolnshire compares to the rest of the East Midlands and England

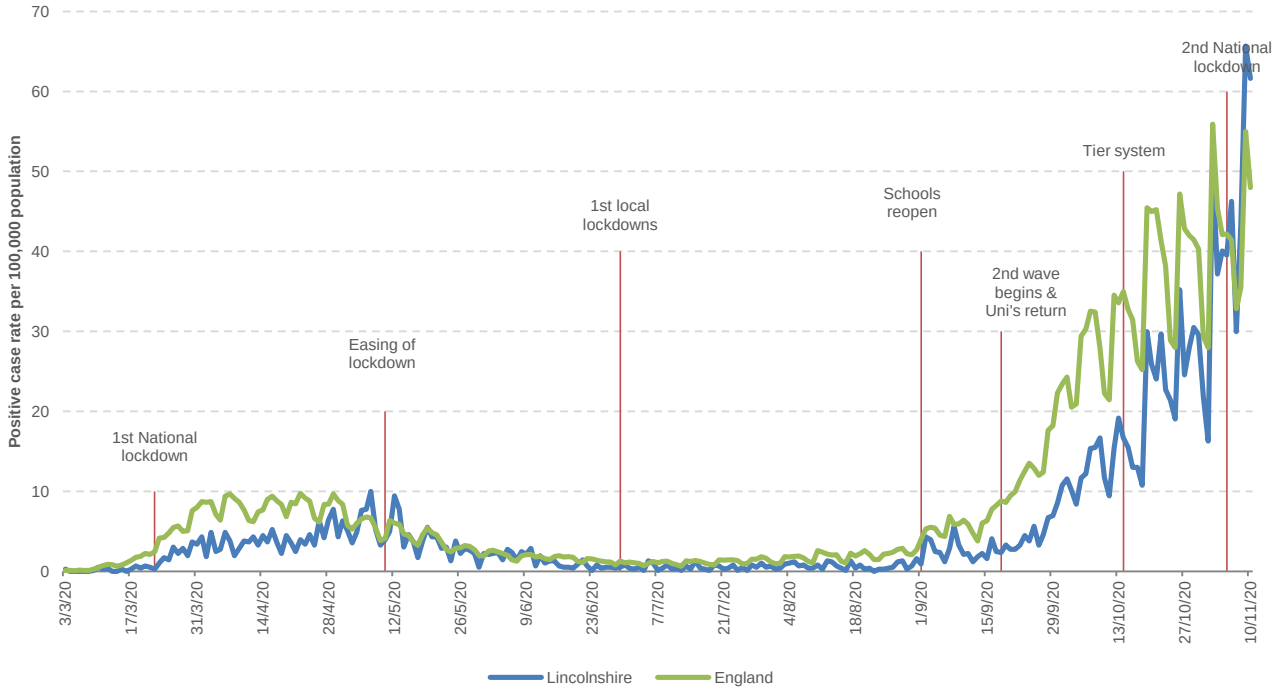
We need to be able to understand how we compare to other areas in the region and country. One measure that is frequently used and helps comparison is the rate of cases per 100,000 people over a 7 day period. We also have the rate of people over 60 years reported in a similar way as this helps comparison and tracking the pattern of the pandemic.

As of the 16 November 2020 there have been a total of 12,414 confirmed Covid-19 cases across Lincolnshire. There have been 116,548 in the East Midlands and 1,174,293 nationally. The first case was recorded on 30 January 2020 in England, 21 February 2020 in the East Midlands and on 3 March 2020 in Lincolnshire.

The rate of new cases in Lincolnshire has largely mirrored that of the national picture albeit with a one to two-week lag. Lincolnshire reached its first peak in cases during the weeks towards the end of April through to the start of May; reaching the highest daily confirmed cases of 76. As seen nationally, data quality issues were present at the beginning of the outbreak, however improvements have been continuously made over time which now makes it easier to inform local and national pictures with more confidence

On 10 May 2020 a conditional re-opening was introduced in the county. Again, Lincolnshire reflected the slowdown in daily confirmed cases seen elsewhere in the country between June through to the start of September, which coincided with a wider re-opening nationally on 4th July 2020. It was from this point onwards that the number of confirmed Covid-19 cases began to rise again which appeared to coincide with national easing of lockdown measures and schools reopening. Although daily cases have exceeded those of the first peak seen in April/May it should be noted that mass testing was introduced locally at the end of May; therefore making it much easier for the general public to access a test and resulting to a greater number of cases being identified. The dates are illustrated, along with the daily case rates (per 100,000 people) in Lincolnshire with a national comparison in Chart 9.

Chart 9 – Daily cases per 100,000 population in Lincolnshire and England


Positive case rate per 100,000 population
70
60
50
40
30
20
10
0
1st National lockdown
Easing of lockdown
1st local lockdowns
Schools reopen
2nd wave begins & Uni's return
Tier system
2nd National lockdown
3/3/20
17/3/20
31/3/20
14/4/20
28/4/20
12/5/20
26/5/20
9/6/20
23/6/20
7/7/20
21/7/20
4/8/20
18/8/20
1/9/20
15/9/20
29/9/20
13/10/20
27/10/20
10/11/20
Lincolnshire
England

3. Multi Agency Response to COVID-19 in Lincolnshire

3.1 Lincolnshire Resilience Forum (LRF)

The multi-agency Strategic Coordination Group (SCG), under the LRF was stood up in late January, and had its first precautionary meeting on 31st January 2020. This helped to provide leadership and co-ordination among all the partner organisations in providing a system-wide response to combatting the local infection. It helped to organise local testing centres, including mobile testing centres, support the most vulnerable during shielding, provide logistical support, assist with communications to the public, steer environment health and district activities, and provide an overall system response to local COVID-19 outbreaks. The SCG declared an emergency on 19th March 2020 and the county went into lockdown along with the rest of the UK on 24th March 2020. The restrictions helped in markedly reducing transmission of the disease. To support the emergency the LRF established several key support cells which had clear remits within the response. These cells included; a Community and Volunteer Cell which focussed on supporting those most vulnerable within the county, a Health and Care cell which had oversight of the health and care system as a whole, a Warn and Inform cell which assisted in supplying the public with key messages, and several others.

The Community and Volunteer Cell (CVC) of the Lincolnshire LRF has been operational since late March 2020. The cell continues to serve its role as a vital interface between the LRF, district councils, community and volunteer groups and the wider offer formulated by the Wellbeing Service, provided by Wellbeing Lincs, within the county. At the commencement of the pandemic, the core aim of the cell was to evaluate the community impact from the COVID-19 incident, including self-isolation and shielding, and coordinate and organise voluntary organisations, spontaneous volunteers and community assets and support. There is a plan in place to support them, which will be updated as new guidance become available.

As the epidemic began to reduce over the summer months the LRF formally stood down its emergency response, and the majority of organisations continued their work in supporting the epidemic as they normally would. However when cases began to rise again as the government lifted the lockdown restrictions and community interaction increased the LRF returned to its emergency response on the 28 September. The strength of this multi-agency response is one of the main driving forces in continuing to respond in a proactive and coordinated manner to the rising cases across Lincolnshire.

3.2 Legal and Regulatory Context

The Director of Public Health (DPH) retains primary responsibility for the health of their communities. This includes being assured that the arrangements to protect the health of the communities, which they serve, are robust and are implemented.

The existing legal responsibilities and powers for managing outbreaks of communicable disease, which present a risk to the health of the public, requiring urgent investigation and management sits:

- with Public Health England (PHE) under the National Health Service Act 2006 as amended by the Health and Social Care Act 2012;
- with the DPH under the National Health Service Act 2006 as amended by the Health and Social Care Act 2012;

- with the District Councils under the Public Health (Control of Disease) Act 1984 and Regulations made under it;
- with Magistrates' Courts under the Public Health (Control of Disease) Act 1984 and Regulations made under it;
- with NHS CCG to collaborate with DPH and PHE to take local action (e.g. testing and treating) to assist the management of outbreaks under the Health and Social Care Act 2012;
- with other responders specific responsibilities to respond to major incidents as part of the Civil Contingencies Act 2004, and;
- in the context of COVID-19, with the Secretary of State for Health and Social Care as part of the Coronavirus Act 2020.
- With Lincolnshire County Council under the Health Protection (Coronavirus, Restrictions) (England) (No 3) Regulations 2020.

This underpinning context gives local authorities (Public Health and Environmental Health) and PHE the primary responsibility for the delivery and management of outbreaks of infectious diseases.

On 14 July 2020, the wearing of face coverings became mandatory in all public indoor settings in England, the exception of work places and venues that serve food. This measure is in addition to government advice to:

- wash your hands;
- follow social distancing rules;
- work from home where you can effectively do so;

On 12 October 2020, the government introduced Covid Alert Levels in England as a way of controlling the spread of infection by imposing localised restrictions based on a three tier approach. The alert levels have been set at medium, high and very high.

In response to a sharp rise in Covid-19 case numbers across the whole of the UK and Europe, the government announced new national restrictions in England from 5 November 2020 until 2 December 2020. The measures are aimed at fighting the spread of the virus, protecting the NHS and saving lives. The restriction measures:

- Require people to stay at home, except for specific purposes.
- Prevents gathering with people from different households, except for specific purposes.
- Closes certain businesses and venues.

From 5 November, the national restrictions replace the local restrictions under the Covid Alert Levels. The new restrictions will apply nationally across England for four weeks. At the end of the period, the government is anticipating a return to localised Covid Alert Levels based on the latest data.

3.3 Local Outbreak Management Response

National guidance stresses the key role of local government in identifying and managing infections. The Contain Framework, issued by the government in July 2020, gives clear responsibility to upper tier local authorities to develop leadership and oversight to local plans and measures to contain the further spread of infection. In line with government requirements, Lincolnshire County Council published a local COVID-19 Outbreak Management Plan on 1 July 2020. The plan sets out the local outbreak management system.

Lincolnshire is unusual in the East Midlands in that it has its own well-established Health Protection Team (HPT). This is a small team within Public Health, which works closely with Lincolnshire CCG HPT, Public Health England East Midlands (PHEEM) and Environmental Health Officers (EHOs) in the district councils.

The primary objective in the management of an outbreak is to protect public health by identifying the source of an outbreak and implementing necessary control measures to prevent further spread or recurrence of the infection. This should be underpinned by a risk assessment, with regular re-assessment of the risk.

Since the beginning of the pandemic in late January, preventative public health messages have been widely pursued across our LRF partnership. These have sought to clarify and amplify national messages, ensure consistency across partners and build an early 'trusted voice' in local media. The public health messages include the following:

- Frequent hand washing and use of hand gels;
- Staying at home;
- Social distancing;
- Shielding of extremely vulnerable and other vulnerable people;
- Appropriate use of personal protective equipment (PPE).

Other preventative measures, which have been used to reduce transmission of the disease, are:

- early identification and appropriate management of outbreaks;
- early diagnosis and isolation of suspected and confirmed cases of Covid-19.

All districts have been carrying out functions to provide on the ground advice, guidance and support to businesses which can operate under the current restrictions. They have also been carrying out direct enforcement duties to follow up on complaints and, where necessary, will prevent premises from operating to prevent further spread of the disease.

The Outbreak Management Plan identifies high risk settings in the county in order to provide these settings with targeted advice to enable them to take steps to prevent infection and respond in the case of positive cases. This advice has been captured in a series of action cards, one for each of the high risk settings within Lincolnshire. These actions cards help in guiding the responses of individuals within the setting itself and the various professionals who may be called in to co-ordinate or take part in an outbreak response.

In accordance with good health protection practice the main emphasis of the response is to give advice and guidance to settings, thereby assisting them to help contain the outbreak. The aim is therefore to work through persuasion and co-operation in getting agreement to take voluntary actions necessary to prevent further spread of the infection. Where this is not possible and it is considered necessary to enforce the taking of necessary action, the Local Outbreak Engagement Board (LOEB) will consider recommending to one or more of the local agencies that they use any of the legal powers available to them to ensure action is taken. This will include the giving of Directions under the Health Protection (Coronavirus, Restrictions) (England) (No 3) Regulations 2020 and the making of applications to the Magistrates' Courts on an urgent basis to obtain necessary orders where appropriate.

3.4 Governance

3.4.1 Local Outbreak Engagement Board

The Lincolnshire Outbreak Engagement Board (LOEB) for Lincolnshire provides political ownership and governance for the local outbreak management response and to ensure consistent messaging with Lincolnshire's population by overseeing public facing engagement and communication. The LOEB discharges its responsibilities by means of recommendations to appropriate governance boards and relevant partner organisations. It provides progress reports and updates, as required, to the meeting of the Lincolnshire Council Leaders, including District Council leaders, Chief Executives and Police and Crime Commissioner. The LOEB is chaired by the Leader of LCC. Other members of the Board include District Councils Leaders, the Police and Crime Commissioner, NHS representatives from CCG and NHS providers, Healthwatch Lincolnshire and Greater Lincolnshire Local Enterprise Partnership

3.4.2 Covid-19 Health Protection Board

A Covid-19 Health Protection Board (HPB) for Lincolnshire is made up of senior officers from all relevant partner organisations and is chaired by the DPH. The Covid-19 HPB acts as the advisory board for the LOEB.

3.4.3 Outbreak Management & Contact Tracing Sub Cell

A Covid-19 outbreak management and contact tracing sub-cell has been set up under Lincolnshire LRF System Coordination Cell (SCC) to oversee the implementation of outbreak management plan; to develop setting-specific action plans and to develop the work plan and risk register. It is chaired by the Public Health lead for outbreak management and contact tracing, and its members are senior officers from relevant public sector organisations. It reports to the SCC Cell of the LRF and to the Covid-19 HPB.

4. Future Planning and Response

As the country sees a rise in the number of COVID-19 cases, Lincolnshire is also seeing a similar pattern. In early October we saw an increase in the number of cases detected each day across the western corridor of the county, primarily across the city of Lincoln, Gainsborough, and in the Kesteven areas. These increases have now also developed across the rest of Lincolnshire, with the current rate of positive cases (as of 16 November 2020) across the county now standing at 279.2 per 100,000 population (7-day average). The current rates per 100,000 population (7-day average) for each district (as of 16 November 2020) are:

- Boston – 383.4
- East Lindsey – 443.8
- City of Lincoln – 344.4
- North Kesteven – 249.8
- South Holland – 156.8
- South Kesteven – 167.1
- West Lindsey – 215.3

As the COVID-19 trend within Lincolnshire continues to rise several key pieces of work continue to be developed, as described below.

4.1 System Co-ordination Centre (SCC) Cell

As the Public Health response continued to develop and increase during September, a system co-ordination centre was developed as part of the LRF cell structure. The SCC has an operational level oversight of the response. This includes directing both the Council's and the LRF's responses to the rising case numbers, and liaising and coordinating with key stakeholders such as; the health protection team, district councils, PHE, communications, and the third sector, to ensure a system response is delivered accordingly. The SCC will ensure that as the pressure on the system increases into winter that resources from the Public Health division are diverted to the COVID-19 response as and where necessary.

4.2 Contact Tracing

The NHS Test and Trace system was launched in June 2020 and continues to have a positive affect across the county, achieving over an 80% success rate of following up positive cases. However with the likely increase in demand on this system in the coming weeks and months the Lincolnshire Public Health team, led by the SCC, have now begun to develop a local model to support the national NHS system. The local model will allow the Council to follow up cases that the national model is unable to track within 24 hours, and offer support and guidance with a local flavour where needed. This will allow the response to follow up outbreaks more proactively and provide advice and guidance in a more timely manner.

4.3 Testing Sites

To support the regional testing site at the Lincolnshire Showground, and in addition to the Pillar 1 testing programme, the Department for Health and Social care continue to offer testing provision through local testing sites. Lincolnshire currently has a local testing site which will remain in situ as a minimum for the following 6 months at the University of Lincoln,

supporting access to COVID-19 testing where individuals from both the University and the local communities have symptoms and require a test. As of the 25 October approval for local testing sites in Grantham and Gainsborough has been received. Additional proposals for a site in Boston and one along the coast continue to be drawn up by the SCC and the appropriate district council.

The mobile testing units will continue to provide additional testing capacity across the county on a rotational basis, covering Skegness, Spalding, Grantham, and Boston. These test sites are currently testing on average approximately 14,000 people per week across Lincolnshire.

4.4 COVID-19 Vaccine

Advances within Lincolnshire nationally and globally continue to look positive in the development of a COVID-19 vaccine. Whilst there is no confirmed vaccine for the UK yet, all the signs remain positive that there may be a vaccine very late in 2020 or early 2021. Prioritisation of the vaccine has yet to be confirmed but it is looking very likely that this will be aimed at those most susceptible to the virus and key workers who support those with COVID-19. Lincolnshire is developing plans for a mass roll out of the vaccine to the wider population in the middle part of 2021.

4.5 NHS Services

From August 2020, the NHS issued guidance[2] asking local NHS systems to develop a detailed response on how NHS services would be restored. NHS Lincolnshire presented a report to the Lincolnshire Health and Wellbeing Board on 29 September 2020 on the arrangements being put in place for the county. Restoring NHS services as fully and as quickly as possible is a huge challenge to the NHS. There is a strong recognition that joint partnership working across local government, care homes, the voluntary sector, NHS and other partners will be essential. The restoration of services is being done against the backdrop of:

- continuing to manage the ongoing COVID-19 pandemic situation with partners
- anticipated increase in demand due to additional winter pressures
- EU exit arrangements which individually and collectively may present service capacity and supply chain challenges.

Emphasis for the Lincolnshire Health and Care system is:

- Delivering the enhanced flu vaccination campaign
- Ensuring arrangements are in place to deliver a COVID vaccination, when available
- Managing urgent and emergency care services
- Elective care recovery
- Cancer care recovery
- Restoration of all diagnostic services, and
- Primary care services being fully available.

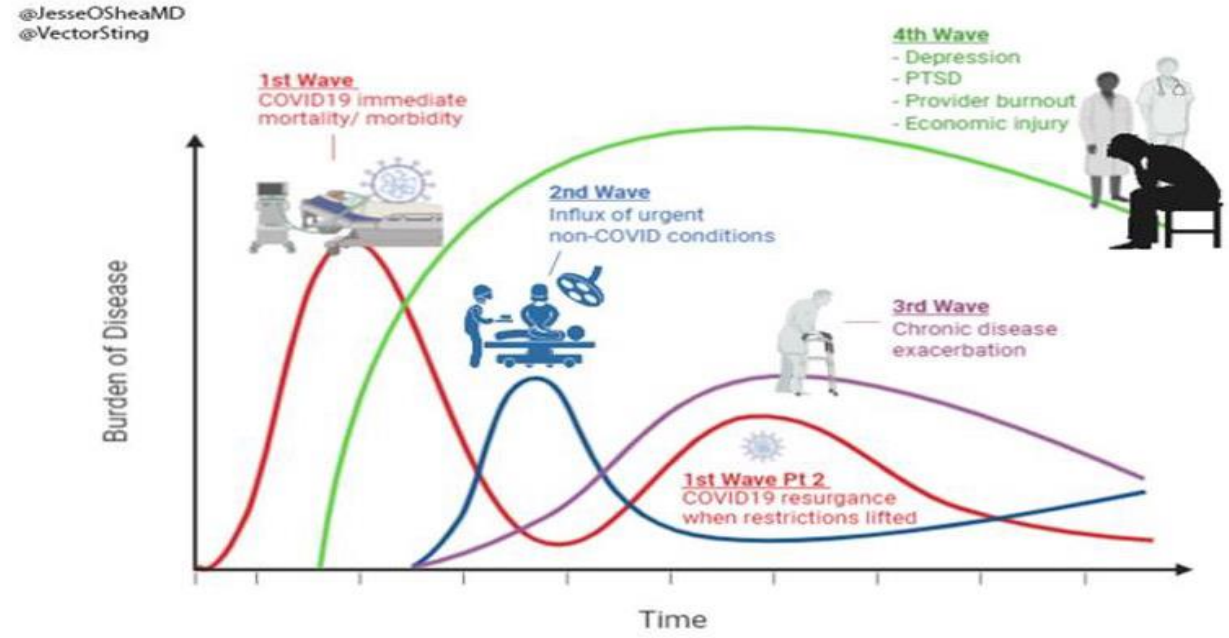
[2] NHSEI. Implementing phase 3 of the NHS response to the COVID-19 pandemic. Aug 2020
https://www.england.nhs.uk/publication/implementing-phase-3-of-the-nhs-response-to-the-covid-19-pandemic/

5. Longer Term Health and Wellbeing Implications of COVID-19

The COVID-19 pandemic continues to have a big impact on everyone's life. Restrictions on social interaction; local lockdown measures; loss of jobs and employment opportunities; and financial hardship are set to be in place for some time. COVID has exposed a number of inequalities in our society and the burden of the disease has not been felt evenly across our communities. The virus has had a disproportional impact on certain sections of the population, including those living in the most deprived neighbourhoods, people from Black, Asian and minority ethnic communities, older people, men and those who are obese or have a long term condition. A review by PHE[3] found that COVID-19 has replicated existing health inequalities and in some cases, increased them. This is supported by a survey undertaken by the NHS Confederation[4] which finds that the pandemic has exacerbated inequalities, disproportionately affected particular groups and exposed disparities in our communities.

The full impact of the disease is yet to be fully felt. The resilience of individuals, households and communities will influence their capacity and ability to recover as well as the length of time this will take. Figure 2 represents the impacts of the pandemic as a series of waves. The first wave is the immediate health impact of responding to the spread of the virus and the increase in deaths and long-term health conditions. The second and third wave is urgent non-COVID conditions and patients with exacerbated chronic disease, arising from the disruption of health and care services. The final wave is the wider burden on the health of individuals resulting from the COVID-19 restrictions and control measures. The lasting impact of COVID-19 will be increasing levels of depression, anxiety, isolation and loneliness coupled with poor economic and employment prospects.[5]

Figure 2: Expected COVID-19 burden of disease over time



(credited to Tseng, Victor [@VectorSting])

[3] Public Health England. Disparities in the risk and outcomes of COVID-19. August 2020 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908434/Disparities_in_the_risk_and_outcomes_of_COVID_August_2020_update.pdf

[4] NHS Confederation. Health Inequalities – Time to Act. September 2020 https://www.nhsconfed.org/resources/2020/09/health-inequalities-time-to-act

[5] Health & Equity in Recovery Plans Working Group under the remit of the Champs Intelligence & Evidence Service. Direct and indirect impacts of COVID-19 on health and wellbeing. July 2020 https://www.ljmu.ac.uk/~/media/phi-reports/2020-07-direct-and-indirect-impacts-of-covid19-on-health-and-wellbeing.pdf

In England and Wales, the majority of deaths involving COVID-19 have been among people aged 65 years and over (Source: ONS). Across all age groups, males had a significantly higher rate of death due to COVID-19 than females; the age standardised mortality rate (ASMR) for males in England was 250.2 deaths per 100,000 males compared with 178.5 per 100,000 females (Source: ONS). Provisional analysis by the ONS also shows the mortality rate for deaths was highest among males of Black ethnic background at 255.7 deaths per 100,000 population and lowest among males of White ethnic background at 87.0 deaths per 100,000 (Source; ONS). The pattern for females is similar, with the highest rates among those of Black ethnic background (119.8) and lowest among those of White ethnic background (52.0).

Of the deaths that occurred between March and May 2020, 91% had at least one pre-existing condition, while 9% had none. The most common pre-existing conditions were dementia and Alzheimer disease; heart disease; diabetes and respiratory conditions. (Source: ONS). In England, the age standardised mortality rate for deaths involving COVID-19 in the most deprived areas was 3.1 deaths per 100,000 population; this is more than double the mortality rate in the least deprived areas (1.4 deaths per 100,000 population) (Source: ONS).

The redeployment of resources and staff during the first wave caused significant disruption to health and care services. The suspension of routine clinical care resulted in limited care for people with long term or chronic conditions and an increase in undiagnosed conditions. The impact of this is likely to be a surge in post COVID-19 morbidity. Estimates suggest the overall waiting list for treatment in England could increase from 4.2m (pre COVID-19) to over 10m by the end of 2020/21.[6]

Many of the wider determinants of health; such as housing, employment, debt and personal relationships have an impact on an individual's overall wellbeing and their ability to deal with increasing levels of uncertainty. Analysis of mental health services suggests that during the peak of COVID-19 there was a 30 – 40% drop in mental health referrals[7]. Anecdotal evidence from providers suggests referrals to mental health services are now rapidly increasing and are likely to exceed pre COVID levels. Services are expecting to see:

- increasing demand from people who would have been referred to services if it were not for the pandemic;
- people needing more support due to the deterioration of their mental health during the pandemic;
- new demands from people needing support due to wider impacts such as self-isolation, increases in substance misuse and domestic abuse;
- a rise in the number of health and care workers needing support due to increasing levels of stress and staff burnout.

Shielding measures, in place for the most clinically extremely vulnerable during the first surge of infection between April to July, has caused the levels of loneliness and social isolation, and mental health issues to rise. Social distancing measures reduced the opportunity for people to socialise, connect with families, neighbours, or friends, and take part in physical activity, which we know are all conducive to good overall health. The Local Government Association[8]

[6] Academy of Medical Sciences. Preparing for a challenging winter 2020/21. July 2020 https://acmedsci.ac.uk/file-download/51353957

[7] NHS Confederation. Mental Health Services and COVID-19 – preparing for the rising tide. Aug 2020 https://www.nhsconfed.org/resources/2020/08/mental-health-services-and-covid19-preparing-for-the-rising-tide

[8] LGA. Loneliness, social isolation and COVID-19 – Practical advice. May 2020. https://www.local.gov.uk/loneliness-social-isolation-and-covid-19-practical-advice

highlight loneliness and social isolation as a serious public health concern, referring to the fact that it leads to higher rates of premature mortality comparable to those associated with smoking and alcohol consumption. In Lincolnshire there has been a strong partnership response across local government with the voluntary and community sector to support vulnerable people.

6. Conclusion

We have written this report in the middle of a global pandemic and it is likely that we will continue to face a number of challenges over the coming months before life can return to some form of normality. The figures, policy and guidance referenced in this report reflect the situation at the time of writing and we recognise that this information will be out of date by the time it is published. But it is important that we capture the current position and let the people of Lincolnshire know how partners are responding to the crisis. We have and will continue to communicate messages through TV, radio, newspaper interviews and through the county council's social media channels. For the most up to date data described in this report please look at the government website - https://coronavirus.data.gov.uk/

We are continuing to deliver a multi-agency response in Lincolnshire. Working in partnership with our districts, NHS services, police and the voluntary and community sector has proven to be a particular strength in managing outbreaks. We are all focussed on keeping the people of Lincolnshire safe. We don't yet know what the medium and long terms impacts of Covid-19 will be on the county, but this is something we will be working on as we start to come out of the pandemic. Along with our partners, we will be doing everything we can to minimise the impact on the people of Lincolnshire.

We all have a role to play in helping to prevent the spread of the disease. Please look after yourselves, your loved ones and each other. And please remember:

Hand, Face, Space

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