

National Public Health Emergency Team

Sections 1 a to c of Department of Health Report to Government
under *Roadmap for Reopening Society & Business* Decision-making Framework

14 May 2020

Action required

- For noting
- For discussion
- For decision

DRAFT

Note to the NPHE

A weekly report is submitted to Government with information on a number of matters in relation to Covid-19 including data regarding the progression of the disease, the capacity and resilience of the health service in terms of hospital and ICU occupancy and the capacity of sampling, testing and contact tracing.

Set out below is this week's updated information on these measures which may assist in your deliberations on what measures could be modified in the next period.

A) Progression of the Disease

The NPHE considers the following criteria when evaluating the status of the progression of the disease. These criteria will be reviewed on an ongoing basis and will be subject to change as the measures in place are modified.

Criterion
Number of new cases per day
New cases per day, expressed as 5-day moving average,
Total confirmed COVID-19 cases in hospital
Trend in daily COVID-19 acute hospital admissions
Hospitalisations as a percentage of newly confirmed cases
Confirmed COVID-19 cases in ICU
Trend in daily ICU admissions of confirmed COVID-19 patients
ICU admissions as a percentage of hospitalised cases
Trend in new clusters in residential care facilities
New cases in residential care facilities
Trend in new cases per day associated with clusters in residential care facilities
Trend in deaths (by date of death)
Number of cases in healthcare workers
Median number of close contacts

The latest data regarding the progression of the disease

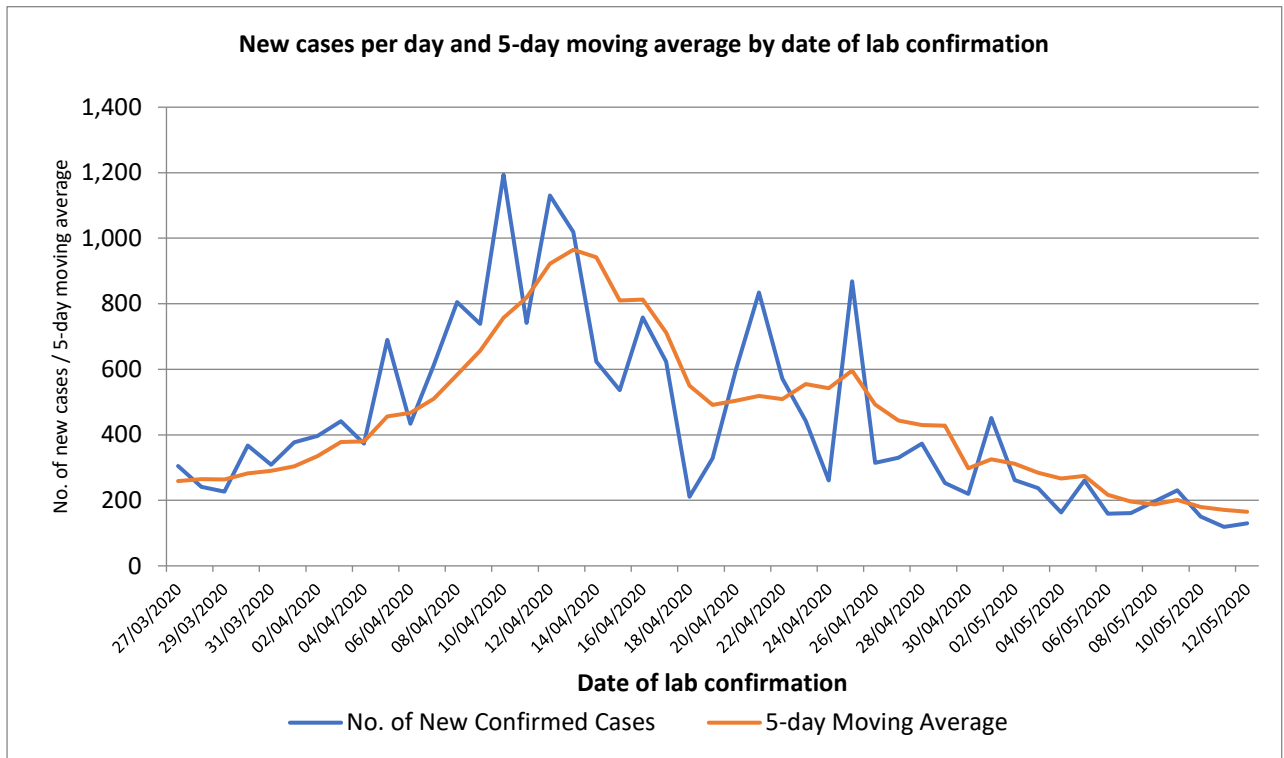
As at 11.00 am on 13th May 2020,

- there have been 23,402 patients with laboratory-confirmed cases of COVID-19.
- this equates to 475.5 people per 100,000 population having tested positive for COVID-19.
- the largest number of cases reported on a single day was on 23rd April (n=936). This represents a later date of a peak number of cases than is observed in many other European Member States.

Disease incidence

The number of new cases of COVID-19 reported to the Department of Health by the HPSC as lab confirmed on 12th May was 130. This compares with 305 new cases lab confirmed on the 27th March.

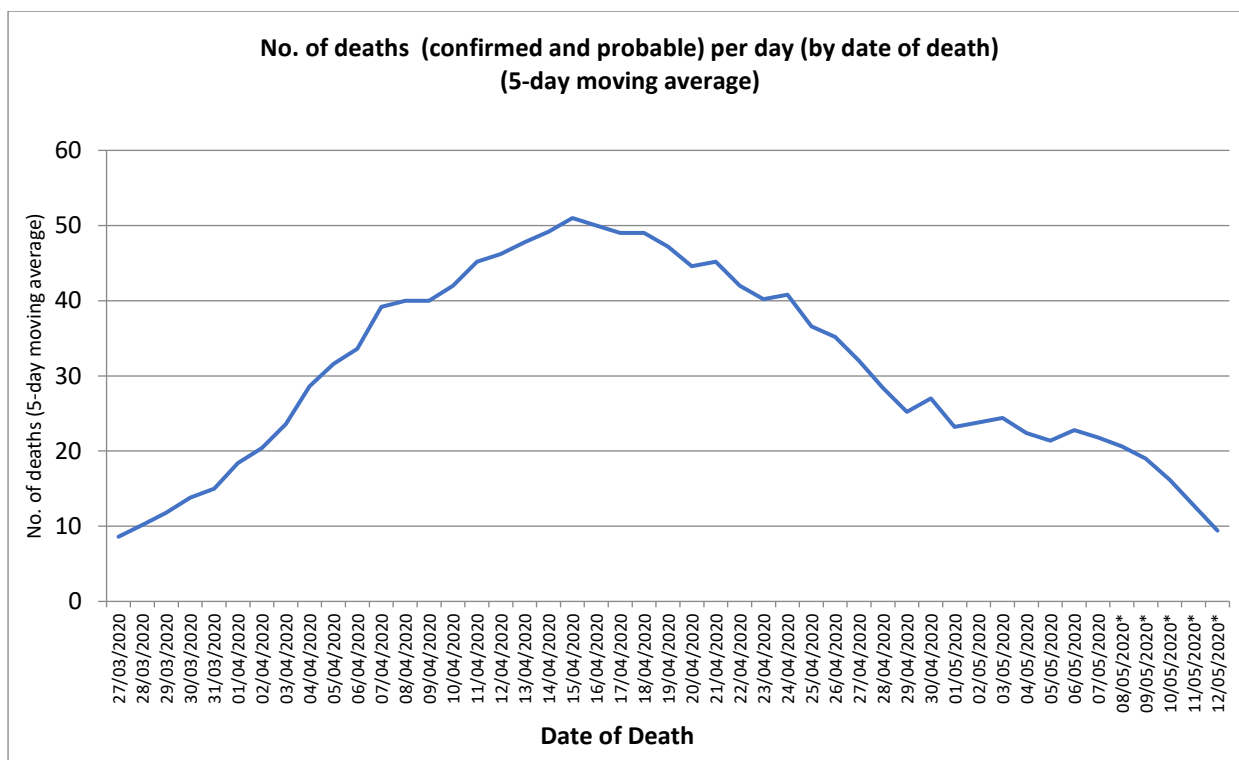
The five-day moving average of new cases to 12th May was 165. This is down from 965 on the 13th of April.



Source: HPSC, Daily CIDR Data Extract

Disease impact

The number of deaths newly reported to the Department by the HPSC at 11.00 on 13th May was 10, bringing the total number of COVID-19 related deaths (confirmed and probable cases) to 1,497. Excluding the most recent three days (to account for delays in reporting of deaths), the five-day moving average of daily deaths, by date of death, was 19 (to the 9th of May). This is down from a peak of 51 on the 15th of April.



Source: HPSC, Daily CIDR Data Extract

* Due to possible delays in notification of deaths, data for the most recent five days should be considered provisional.

Note: For consistency, this chart begins on 27/03/20, however the first COVID-19 related death occurred on 11/03/20. There were a total of 57 confirmed and probable COVID-19 deaths prior to 27/03/20 or with a unknown date of death and not shown in this chart.

COVID-19 hospitalisations

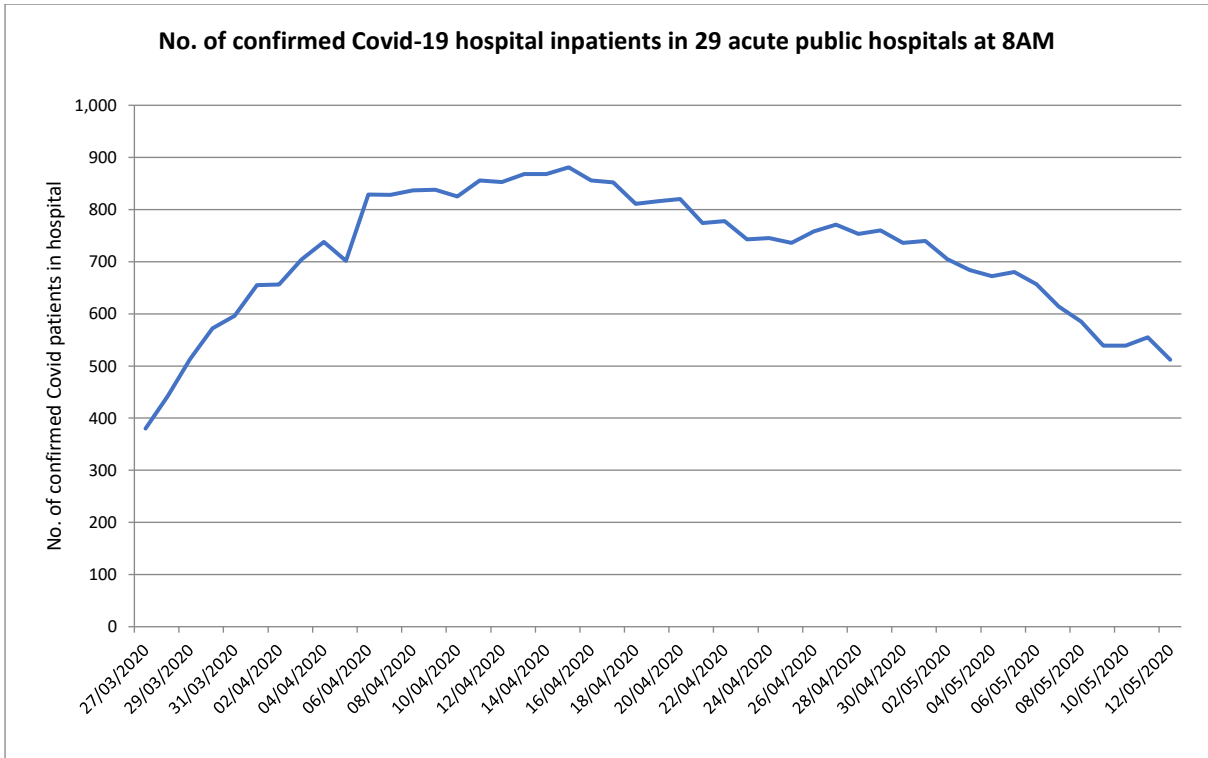
There were 512 confirmed and 412 suspected cases of COVID-19 in hospital as at 08.00 on 12th May, with 67 confirmed and 20 suspected cases in intensive care at 19.00 on 12th May, of whom 51 were ventilated. The five-day moving averages for new admissions of confirmed cases to hospital and to ICU were 16 and 2 cases respectively as of 12th May. For comparison, the number of confirmed cases of COVID-19 in intensive care on the 27th OF March was 68.

As of 12th May, the number of confirmed COVID-19 patients in ICU represents 12.9% of all confirmed COVID-19 patients currently in hospital (19% on 27th March). In critical units, there has been a steady decline over the recent weeks of COVID-19 positive patients in these units. On the 1st of May this number dropped below 100 for the first time since the 29th of March, and has continued to fall. As of the 12th May there were 67 such patients in critical care units.

Trends in COVID-19 admissions to hospital

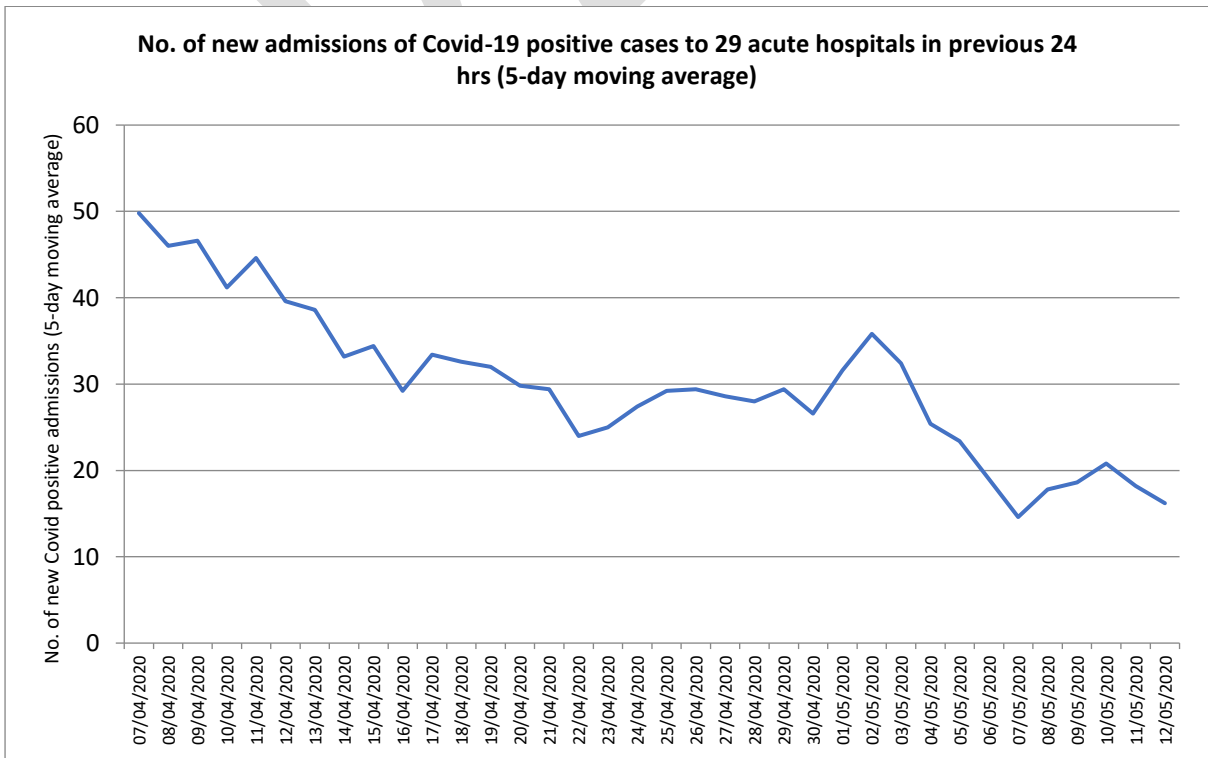
The charts set out below provide an overview of recent trends relating to a range of the key indicators that will be monitored as part of the assessment of capacity in the context of the decision-making framework.

The number of confirmed Covid-19 hospital inpatients per day has been steadily declining in recent weeks. As at 12th May there were 512 hospital inpatients with confirmed diagnosis of COVID-19. This is down from a peak of 881 on the 15th of April.



Source: HSE, SDU, extract from SBAR - 29 Hospitals

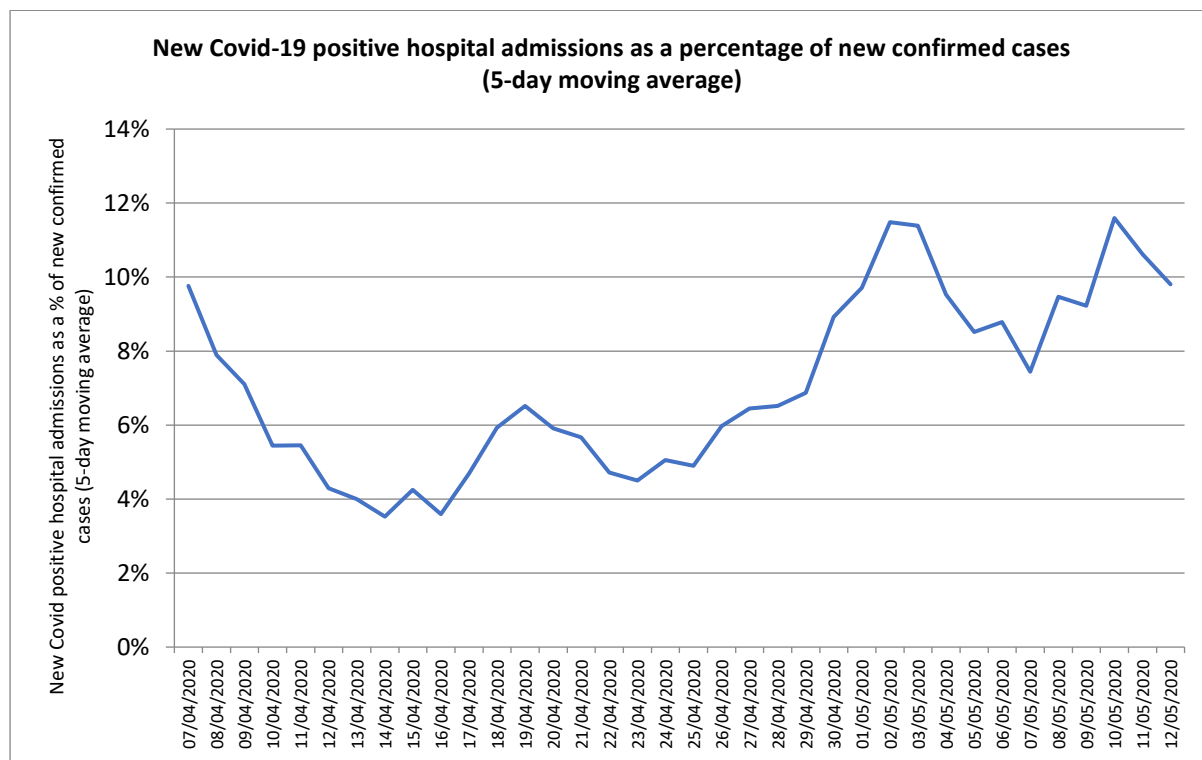
In a similar trend to that of hospital inpatients, the number of new admissions of COVID-19 positive patients to hospital has also been overall trending downward in recent weeks. As measured by a 5-day moving average, there was an average of 16 COVID-19 positive patients daily being admitted to our public hospitals on the 12th of May. This is down from the 5-day moving average of 50 seen on the 7th of April.



Source: HSE, SDU, extract from SBAR - 29 Hospitals

Note: This variable only began to be collected on 03/04/20. Therefore the earliest date that a 5-day moving average can be calculated is 07/04/20

Again using a measure of the average of the previous five days, just under 10% of new confirmed COVID-19 positive patients were also hospitalised as of the 12th of May. This is a rise from the 4% seen on the 16th April.



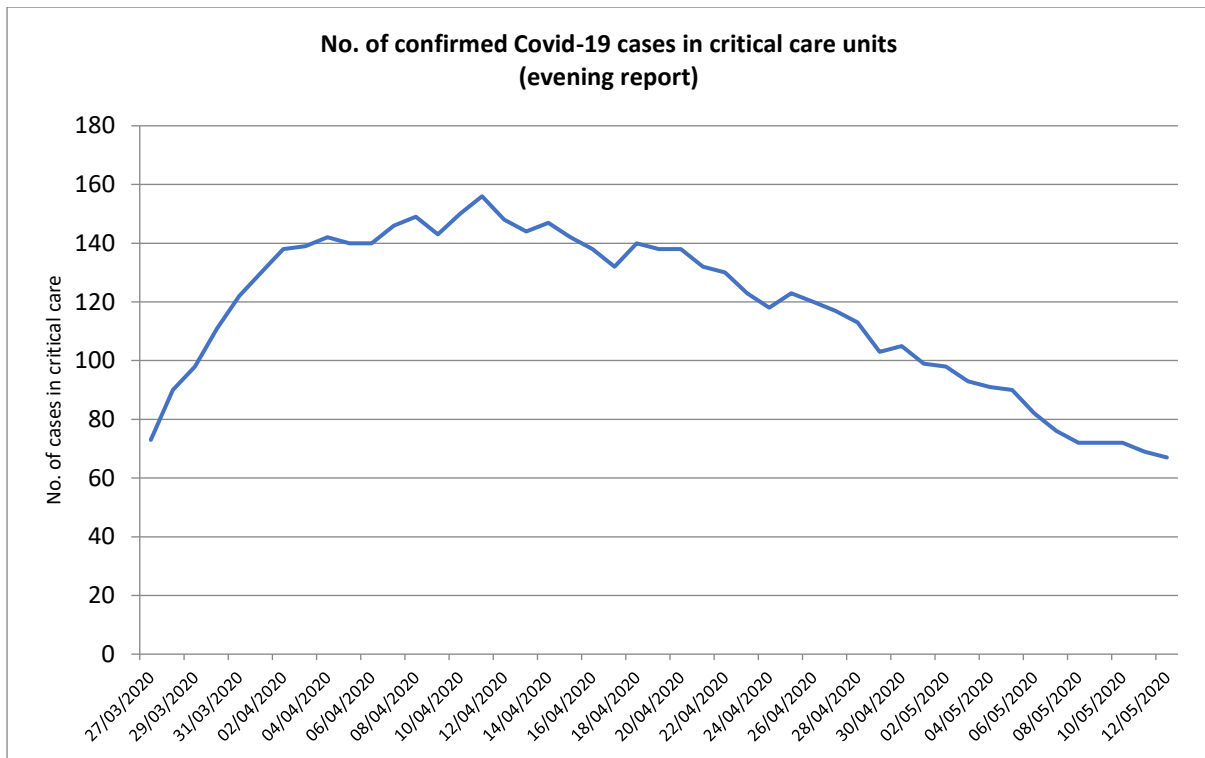
Source: HPSC, Daily CIDR Data Extract; and HSE, SDU, extract from SBAR - 29 Hospitals

Note: Data on new Covid-19 positive admissions only began to be collected on 03/04/20. Therefore the earliest date that a 5-day moving average can be calculated is 07/04/20

Trends in COVID-19 admissions to critical care

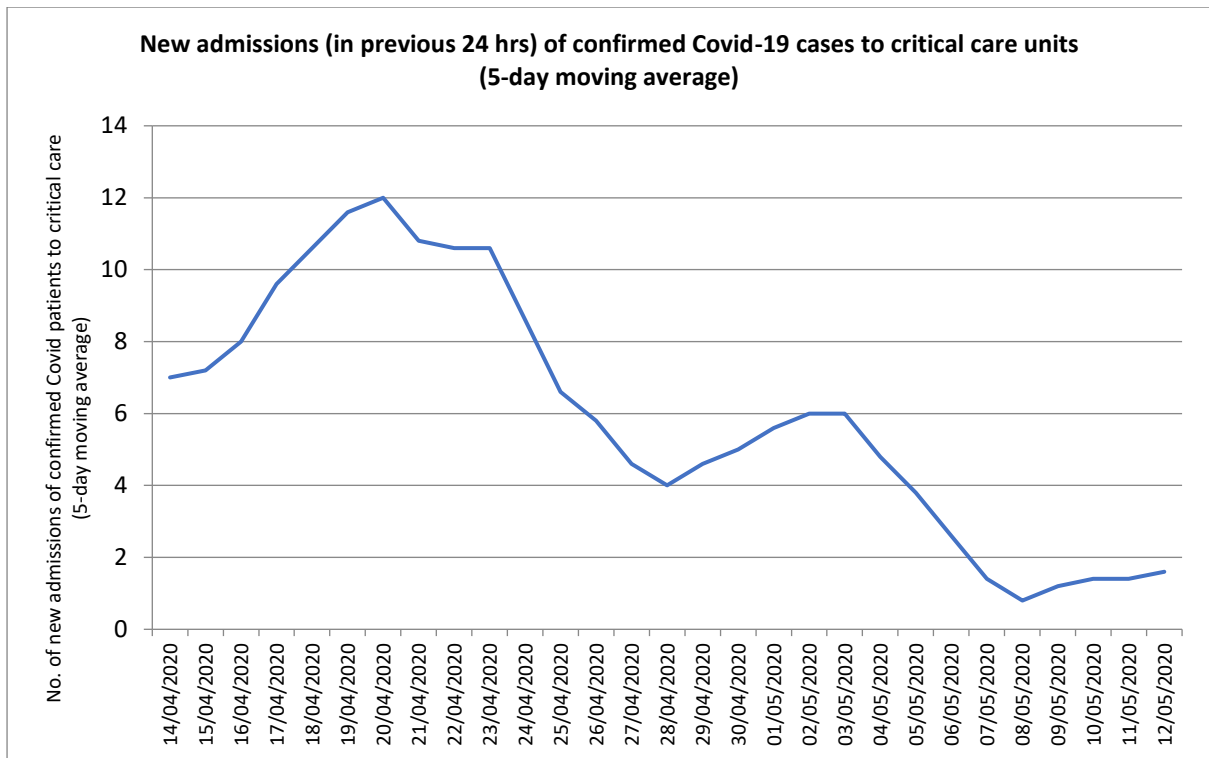
The charts set out below provide an overview of recent trends relating to key indicators on COVID-19 activity in critical care units that will be monitored as part of the assessment of capacity in the context of the decision-making framework.

Based on data available to 11.00 on 13th May, approximately 13% of all confirmed cases to date have been hospitalised, with 1.7% admitted to intensive care. In those who have been hospitalised and admitted to intensive care, 45% and 64% are aged less than 65 years, respectively.



Source: National Office of Clinical Audit, ICU Business Information System, 28 acute public hospitals and 5 private hospitals

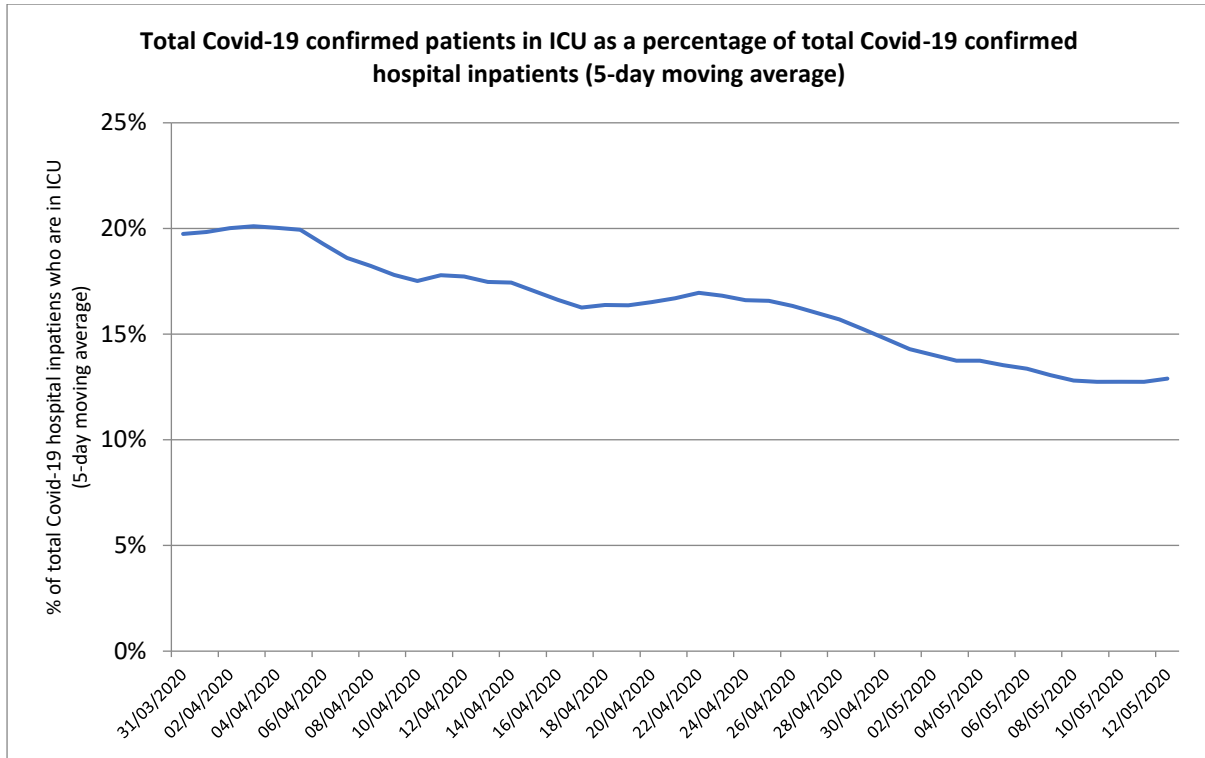
When considering the impact of new admissions of COVID-19 positive patients it is useful to keep in mind the relatively low numbers per day admitted to these units which can cause an appearance of larger increases/decreases. With this in mind, the 5-day moving average of new daily admissions to critical care units has fluctuated in recent weeks, however, on the 12th of May this stood at an average of 2 patients over the most recent 5-day period. Down from a peak of 12 on the 20th of April.



Source: National Office of Clinical Audit, ICU Business Information System, 28 acute public hospitals and 5 private hospitals

Note: This variable only began to be collected on 10/04/20. Therefore the earliest date that a 5-day moving average can be calculated is 14/04/20

In contrast to the percentage of COVID-19 patients who are hospitalised, the proportion of those COVID-19 confirmed hospitalised patients who needed to be admitted to a critical care unit, as measured by a 5-day moving average, has been steadily falling in recent weeks from 20% on the 2nd of April to 13% on 12th May.

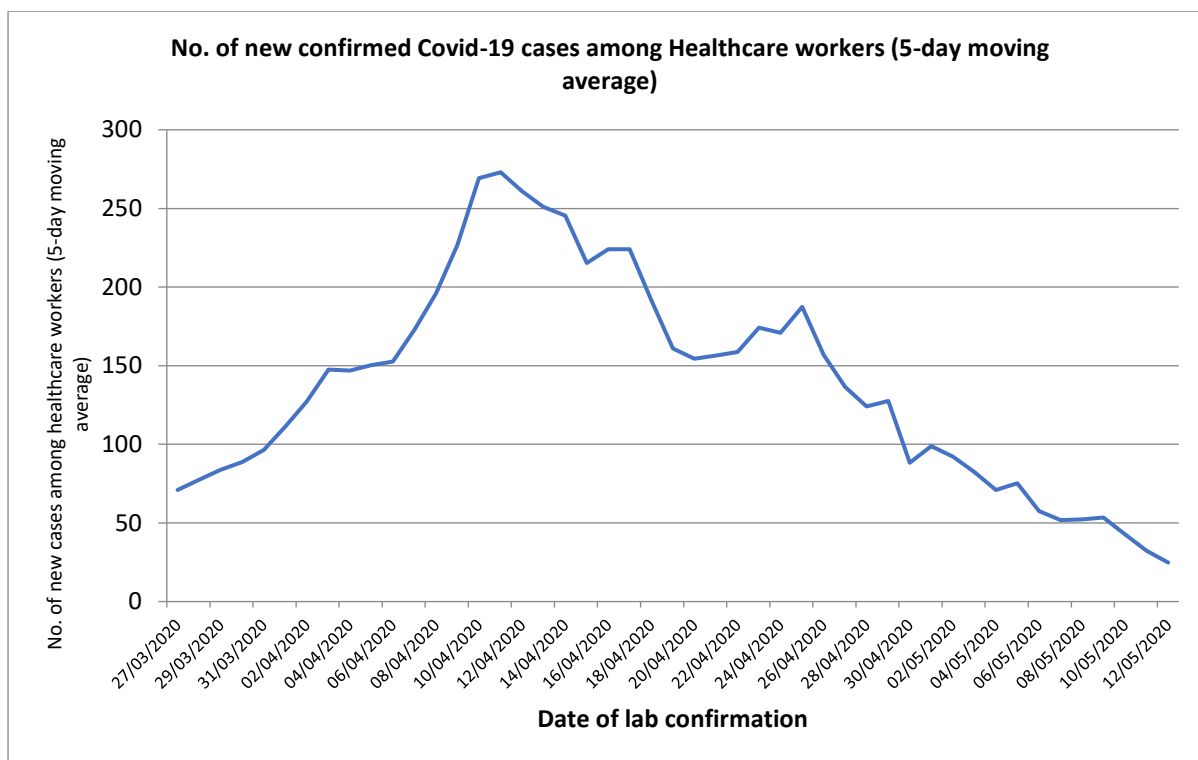


Source: National Office of Clinical Audit, ICU Business Information System, 28 acute public hospitals and 5 private hospitals; and HSE, SDU, extract from SBAR - 29 Hospitals

Note: As data from the NOCA ICU-BIS system began on 27/03/2020, the earliest date that a 7-day moving average can be calculated is 31/03/20

Healthcare workers

Based on data available at 11.00, Wednesday 13th May, 30.2% (n=7,056) of all confirmed cases to date have been in healthcare workers. The current number of new cases per day in healthcare workers, expressed as a five-day moving average, is 25. Approximately 0.6% of healthcare workers who have been diagnosed with COVID-19 have been admitted to intensive care and there have been 7 deaths amongst healthcare workers.



Source: HPSC, Daily CIDR Data Extract

Residential Care Facilities

There have been 428 clusters reported to date in Residential Care Facilities, of which 245 have been in nursing homes (as reported by HPSC on 12th May). These clusters have been associated with 5,923 and 4,624 laboratory confirmed cases of COVID-19, respectively.

Clusters in Other Settings

As of 9th May, the Health Protection Surveillance Centre (HPSC) have identified:

- Five COVID-19 outbreaks in prisons involving 18 cases (all laboratory confirmed), two of which were hospitalised cases and no deaths were reported.
- Three COVID-19 outbreaks involving the Roma community involving 21 cases, seven cases were hospitalised and four cases died.
- Five COVID-19 outbreaks involving the Irish Travelling community have been notified, involving 43 cases, two hospitalisations and no cases died.
- Eight¹ COVID-19 outbreaks were notified in residential facilities for the homeless involving a total of 15 cases, three cases were hospitalised and no cases died.
- Twelve COVID-19 outbreaks in Direct Provision Centres have been notified, involving 149 cases, 12 cases have been hospitalised and no cases have died.

Certain workplaces have also emerged as a concern regarding spread of COVID-19. As of 9th May, cases had been reported in 32 clusters. More up to date data is available for meat processing facilities. As of 13th May there have been 12 COVID-19 clusters in meat processing plants notified; these are associated with 571 laboratory confirmed cases with 12 cases hospitalised. A National Outbreak

¹ This includes one of the COVID-19 outbreaks involving the Roma community.

Control Team has been convened to coordinate the response to this issue. The next update for all such settings will be provided next Tuesday, with data to next Saturday night.

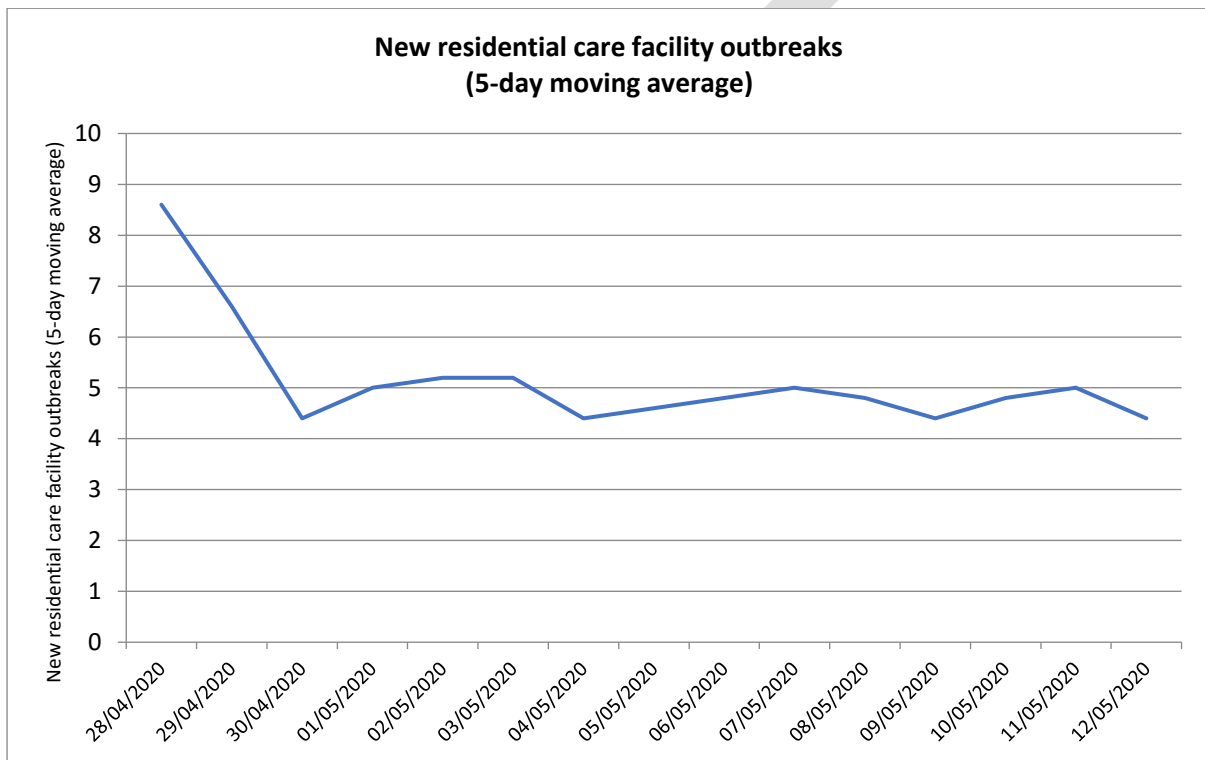
Influenza Like Illness Rate

The influenza like illness rate, as reported to the HPSC, increased from week of 20th April to week of 27th April from 18 to 21.9 cases per 100,000 population.

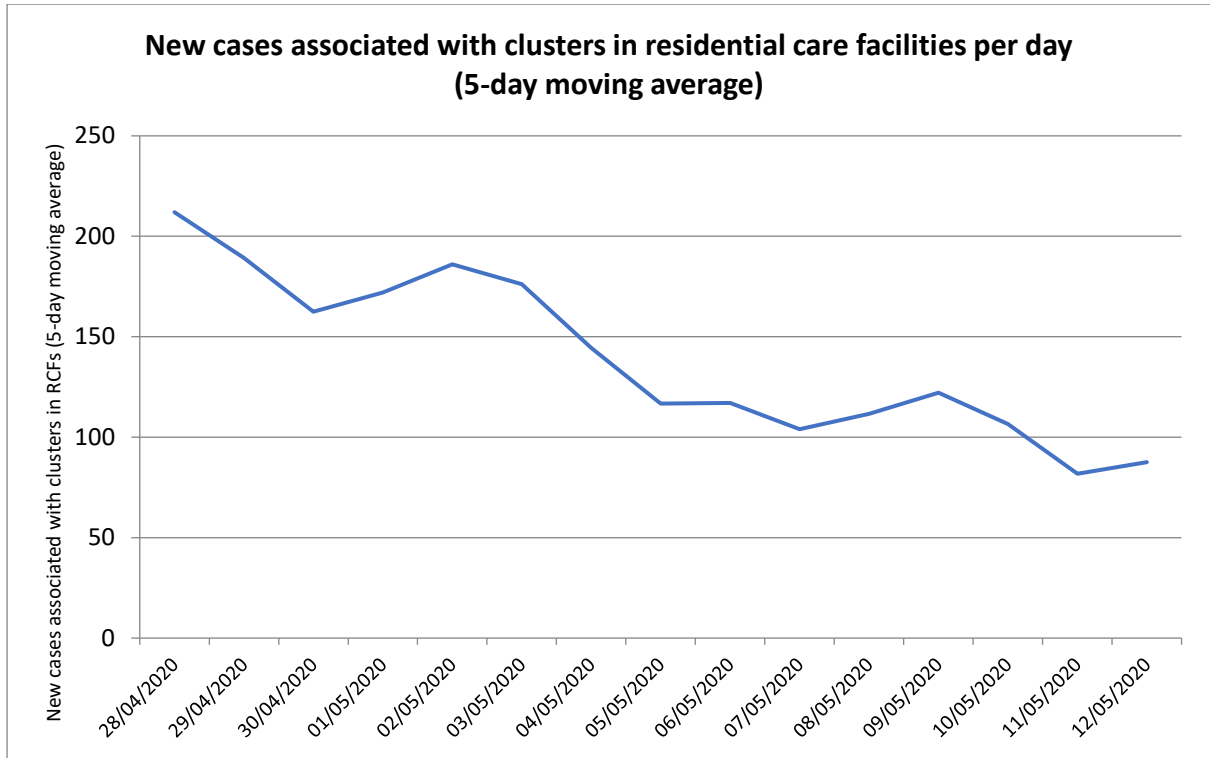
Modelling data

The effective reproduction number is currently estimated to be between 0.5 and 0.6.

Outbreaks in Residential Care Facilities



Source: HPSC Daily Outbreak Reports



Source: HPSC Daily Outbreak Reports

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B) Capacity and Resilience of the Health Service in Terms of Hospital and ICU Occupancy

Context

The initial focus for acute services in the response to COVID-19 was surge capacity, and the continuation of essential time-critical non-COVID care. The trajectory of the disease means there is now an opportunity for increasing provision of non-COVID care including more routine care. Key challenges to be managed will include capacity, infection control and mitigation of risk for patients and healthcare workers.

Hospital occupancy will need to remain at a level that allows for surge capacity to respond to increased demand for COVID care periodically, and the current recommendation is for 80-85%, as opposed to the near 100% occupancy levels prior to the pandemic.

Providing non-COVID elective care will require processes and protocols to mitigate risk for patients and healthcare workers. These will have operational implications including on patient flow and throughput. They are described in guidance on risk mitigation which has been developed under the auspices of the Expert Advisory Group and approved in principle by NPHET on 1 May.

The IEMAG subgroup on demand and capacity has developed a predictive model which offers the potential to predict general acute bed and critical care bed demand for different scenarios. Consideration is being given currently to how this can best support capacity planning over the coming weeks and months.

Utilisation of available beds has to be balanced between the needs of COVID-19 patients, emergency admissions and elective procedures and the management of delayed transfers of care.

Acute Hospital Bed Capacity

The Table overleaf shows the Acute Hospital Bed Capacity from the 5th to the 11th of May. Available beds is the total bed complement less the number of occupied beds, beds not available when they are temporarily closed for reasons such as infection control, maintenance/refurbishment or staffing shortages and beds occupied by delayed transfers of care cases.

Over the seven days, the number of beds available has decreased from 1,231 to 1,181 (-50) while the number of beds closed or blocked decreased by 130 and the number occupied by Delayed Transfers of Care (DTC) cases increased by 67. DTCs have increased from 213 on 6th April to 383 on 11th May (+170). There were 5,736 emergency admissions through Emergency Departments in the period 5th - 11th May.

Private Hospital Capacity

The additional Private Hospital capacity provides 1,696 inpatient beds, 569 day beds, 47 ICU and 54 HDU beds as well as 194 ventilators and 9 laboratory services on sites. (It was originally estimated that

there were 1,900 and 600 inpatient and day beds respectively in the Private Hospitals. However, following an audit by EY the above numbers have been confirmed).

Data on available vacant beds is not yet obtainable on a daily basis for the Private Hospitals, however the HSE and NTPF are working to roll out a Patient Administration Management System to track patients in Private Hospitals. In the interim the HSE is manually collecting figures which indicate that the private hospitals have treated over 2,600 inpatients, approximately 12,000 day cases, seen over 5,600 OPD appointments and conducted nearly 11,000 diagnostic procedures, since the arrangement was put in place. Bed utilisation in the major Private Hospitals, as reported on 6th May ranged from 34% to 82%. These facilities offer a significant opportunity for delivery of non-COVID care in designated non-COVID environments, in line with recommendations previously approved by NPHE.

Available Capacity:

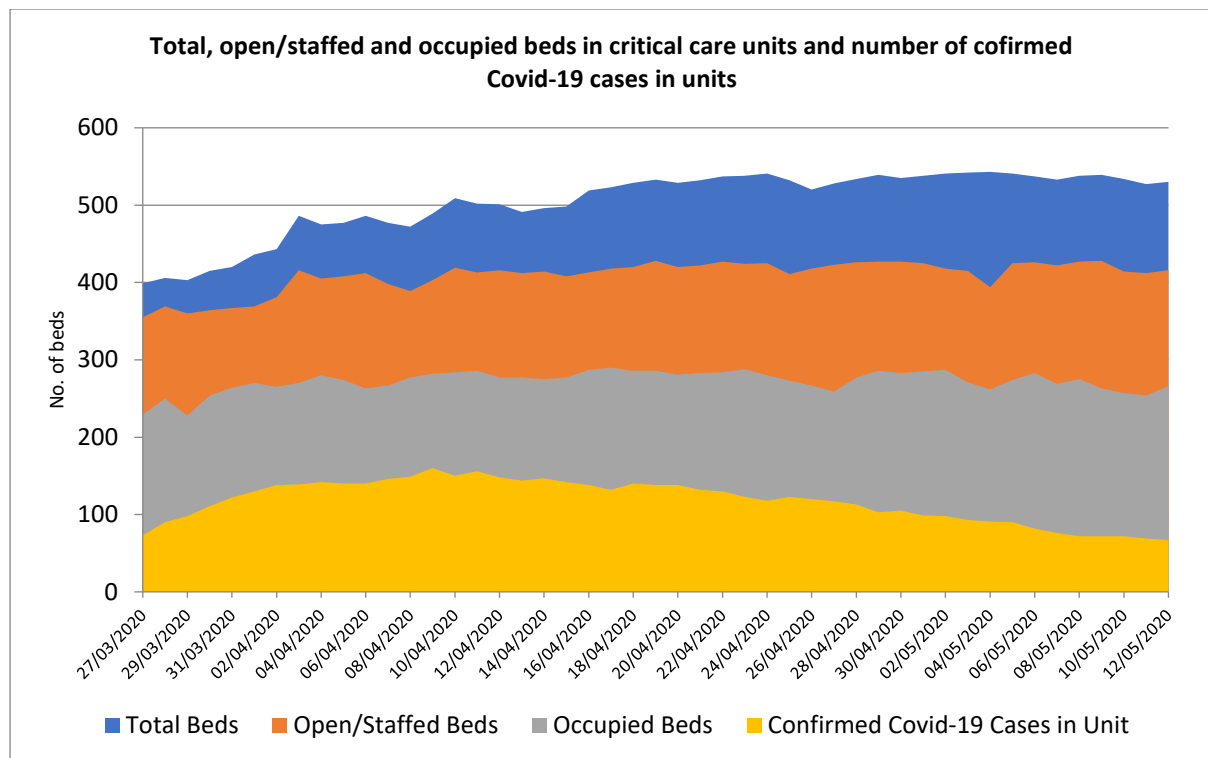
	5/5/20	6/5/20	7/5/20	8/5/20	9/5/20	10/5/20	11/5/20	Source
Available / Vacant beds								
Vacant Beds - Public	1,231	1,285	1,085	1,118	1,242	1,154	1,181	SDU COVID-19 daily 8pm report
Vacant Beds - Private²	660	660	660	660	660	660	660	HSE
Available ICU beds - Public	121	126	134	129	139	130	133	SDU COVID-19 daily 8pm report
Available ICU beds - Private³	24	18	20	17	22	26	22	SDU COVID-19 daily 8pm report
Total Available ICU beds	145	144	154	146	161	156	155	
Total Available beds	2,630	2,683	2,493	1,264	1,403	1,310	1,336	
Daily closed / blocked beds / DTOCs								
Closed beds	306	326	345	349	1	12	241	SDU Morning report
Blocked beds	300	227	287	314	246	270	235	SDU Morning report
Total closed/ blocked beds	606	553	632	663	247	282	476	
Delayed Transfers of Care	316	329	359	359	354	356	383	
ED Metrics								
ED Attendances	3,424	3,163	3,147	3,262	2,313	2,138	3,321	PET
ED Admissions	956	844	861	843	618	592	770	PET

² Estimated based on 66% availability – usage is increasing daily

³ Data is provided for five private hospitals

Total Critical Care Capacity

Total bed capacity in critical care units in 28 public acute hospitals and five private hospitals is shown below. There is a steady decline in the number beds needed to be occupied by COVID-19 confirmed patients since mid April. This is in contrast to non-COVID-19 confirmed patients whose numbers in critical care have been steadily growing over the last number of weeks.



Source: National Office of Clinical Audit, ICU Business Information System, 28 acute public hospitals and 5 private hospitals

C) Capacity of the Programme of Sampling, Testing and Contact Tracing

Overview

Ireland has adopted a robust process of testing, isolation and contact tracing as a key strategy for containing and slowing the spread of COVID-19, as advocated by WHO, ECDC and many countries to “break the chain of transmission”.

Sufficient testing capacity will be critical to inform any future public health decisions about (1) the timing of the relaxation of current social distancing measures (2) monitoring the impact of any such decision and (3) responding to any cases detected.

The HSE has been working intensively over the last two months to develop the infrastructure, processes and capacity to ensure we have a system of real-time testing, isolation and tracing, all underpinned by robust information systems.

Huge progress has been made to get us to the current point. There is now capacity across the full testing and tracing pathway for 12,500 tests per day. Turnaround times have improved significantly. In the community, the median turnaround time for referral to contact tracing completed is now 5 days. It is 3 days in hospitals.

The focus is now on delivering the additional capacity to get to 15,000 tests per day and a turnaround time of, on average, 1-3 days from referral to tracing. Process improvements will continue into next week, with a particular focus on reducing turnaround times across the full testing/tracing pathway.

Capacity and Turnaround Time Targets

Date	Monday, 27 April	Tuesday, 5 May	Monday, 18 May
End to End Capacity	10,000 tests a day	12,000 tests a day	15,000 tests a day
Swab to Result	3 days on average	2 – 3 days on average	Average 1 – 2 days
End to End Turnaround Time (referral to results)	15%: 1 – 2 days	15%: 1 – 2 days	20%: 1 – 2 days
	70%: ≤ 5 days	70%: ≤ 5 days	70%: 1 – 3 days
	15%: > 5 days	15%: > 5 days	10%: 4.5 days

Testing & Contact Tracing – Key metrics for the 5th – 11th May

Referrals and Swabbing

There is capacity in place for 12,500 per day across hospitals, community testing centers and the National Ambulance Service. 35,700 samples were taken in the last week. In the vast majority of

community referrals, patients are now receiving same-day or next-day appointments – average time over the past week was 0.6 days. This has improved significantly from a peak of 6 days in mid-March.

Laboratory Testing

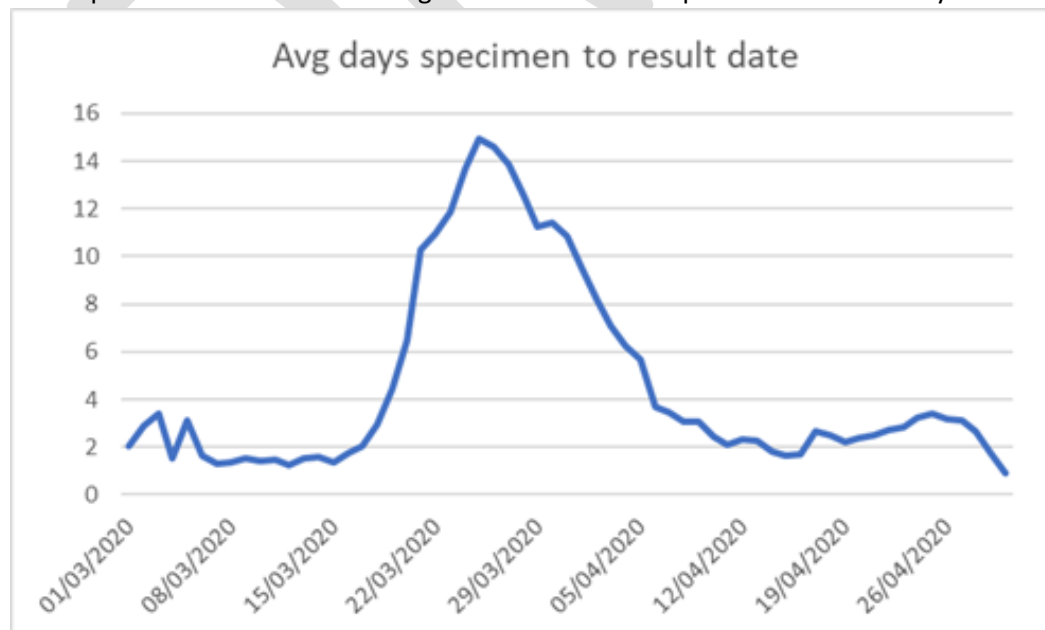
Significant progress has been made in securing sustainable laboratory capacity. Capacity now stands at 15,000. Nearly 44,000 laboratory tests were completed in the last week and the positivity rate fell to 3.3%.

No. of Lab Tests Completed

● No. of Negative Tests ● No. of Positive Tests Total Capacity

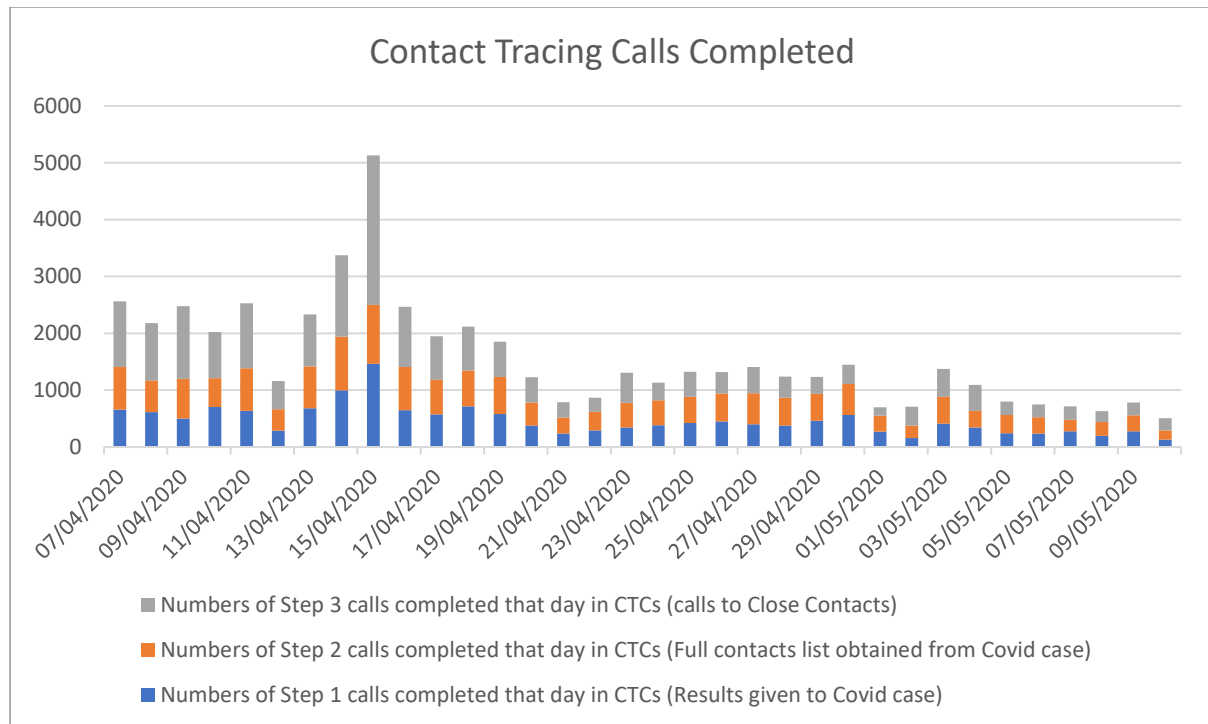


The average turnaround time from sampling (swab taken) to receiving results for loading to the IT system to commence contact tracing is 3.3 days in the community and 0.8 days in hospitals. This has fallen from a peak of over 14 days at end March related to delays in laboratory processing and the development of the known backlog in cases which were processed in Germany.



Contact Tracing / Surveillance

Over 5,100 calls were made across Calls 1, 2 and 3 to communicate positive results and trace close contacts in the past week by the Contact Tracing Centres set up for routine cases. The median turnaround time for contacting individuals to inform them of a positive result is 18 hours for routine cases. Negative results are communicated by text.



These numbers do not include the extensive work completed by public health, occupational health and environmental health in contacting more complex cases such as healthcare workers and those in congregated settings with their results. The mean and medium number of close contacts has remained very stable in recent weeks, with both generally between 2 and 3. The number of Calls 1, 2, and 3 are outlined below and mirror the trend in number of confirmed cases over the period.