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

4 August 2020

Action required

☐ **For noting**
☒ **For discussion**
☐ **For decision**

Note to the NPHET

A periodic 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 contract tracing.

Set out below is 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 NPHET considers a wide range of information when considering its public health advice to Government. The following criteria are considered 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. These criteria are not viewed in isolation, but rather within the larger situational context.

Criteria:

- Number of new cases per day
- Trend in deaths (by date of death)
- 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
- Clusters and cases in non-healthcare settings
- Number of cases in healthcare workers
- Median number of close contacts

The latest data regarding the progression of the disease

As at midnight on the 2nd of August 2020:

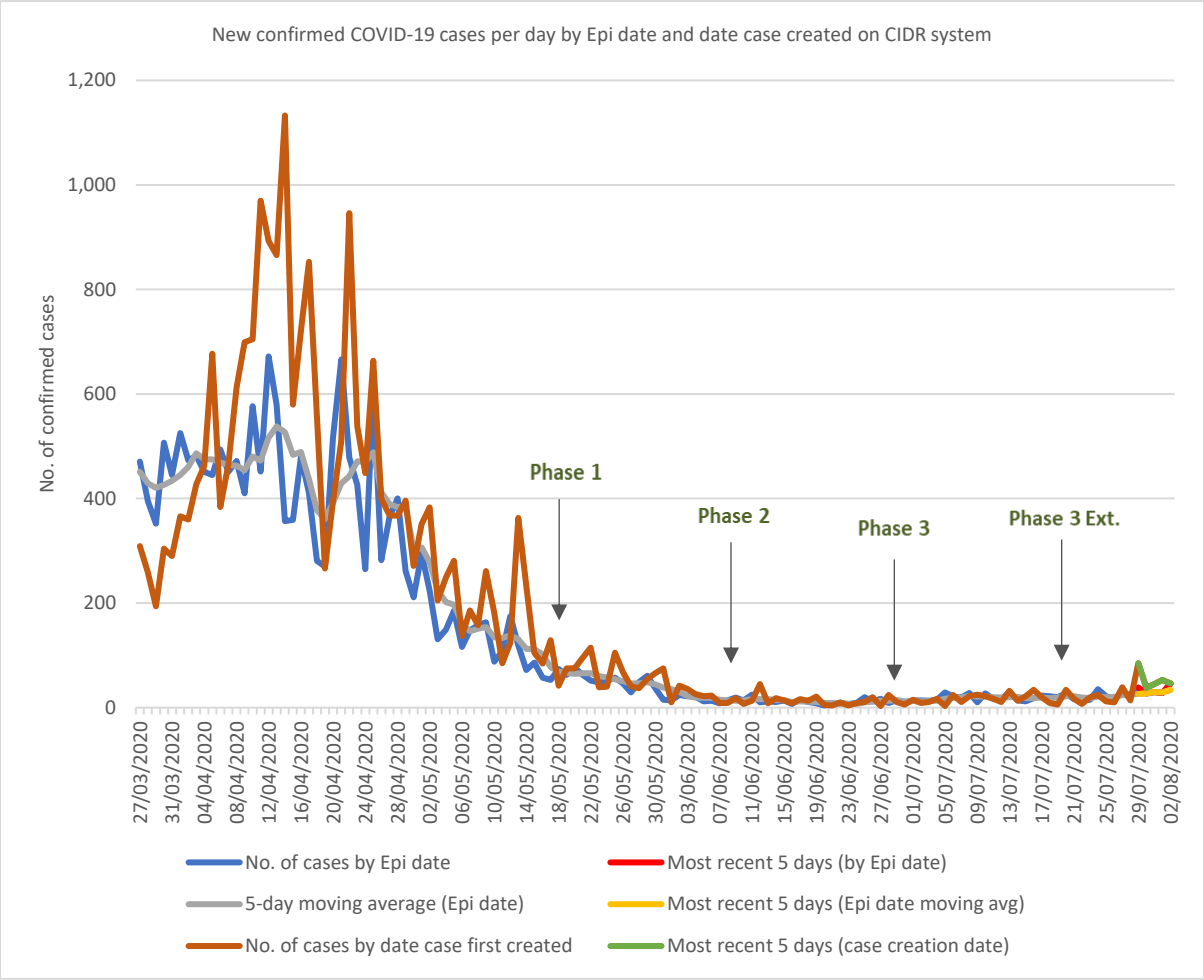
- there have been 26,208 patients with laboratory-confirmed cases of COVID-19.
- this equates to 533 people per 100,000 population having tested positive for COVID-19.
- the largest number of cases notified to the Department of Health by the HSE Health Protection Surveillance Centre (HPSC) on a single 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

As at midnight on the 2nd of August, the five-day moving average for confirmed cases newly reported to the Department of Health was 53.4 (based on date the cases were notified). This compares with a low of 6.4 on 24th June and a peak of 913.4 on 14th April. A new case is notified to the Department when it is confirmed they have COVID-19 and this date would be later than when the person first became ill.

When considering the progression of the disease, considering the date when cases first became ill is useful. The latest five-day moving average of new confirmed cases based on the epidemiological date (Epi date) [1] was 33.8 to midnight on 2nd August. It must be noted that time lags in data reporting mean that data for the most recent five days should be considered provisional and subject to change. The latest average of 33.8 cases compares with a peak in the five-day average during the observed period of 538 on 13th April.

[1] The epidemiological date (Epi date) is derived from epidemiological date, which is the earliest of onset date, date of diagnosis, laboratory specimen collection date, laboratory received date, laboratory reported date or event creation/notification date.



Source: HPSC, Daily CIDR Data Extract

Note: Time lags in data reporting mean that data for the most recent 5 days should be considered provisional and subject to change.

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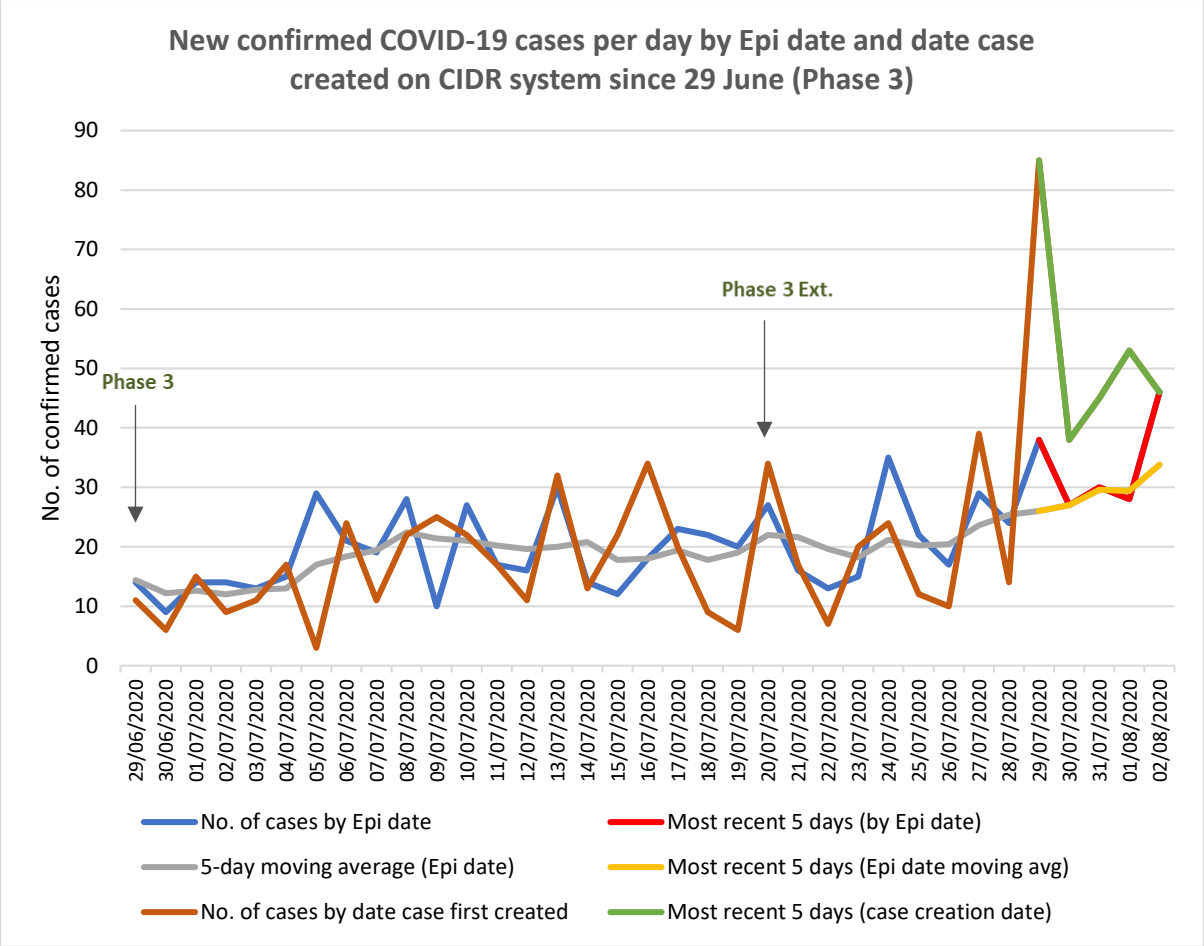

Source: HPSC, Daily CIDR Data Extract

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Cumulative 14-day incidence rate

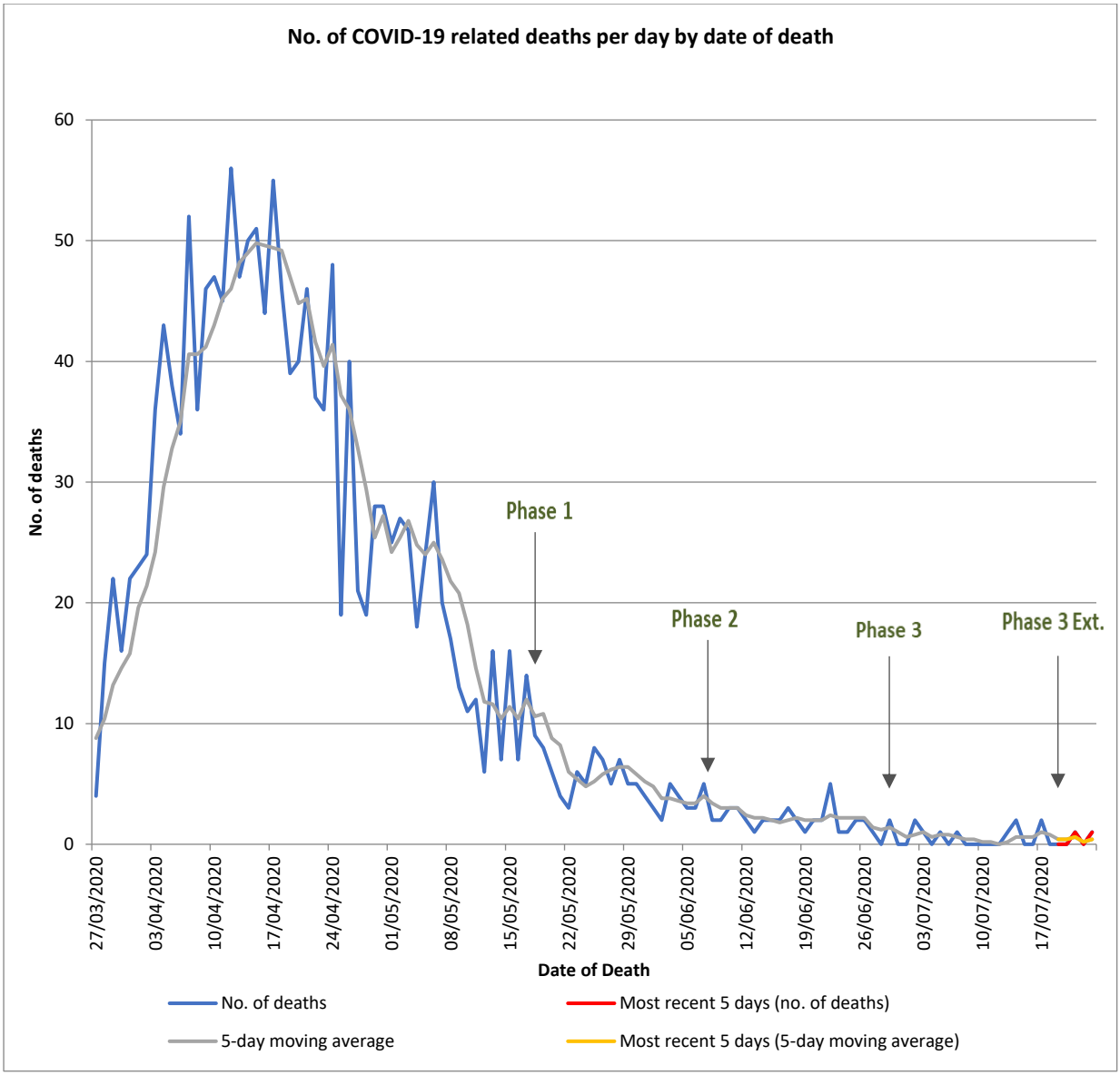
The rolling cumulative 14-day incidence rate of confirmed COVID-19 cases per 100,000 population (based on Epi date) has increased since the beginning of Phase 3. The rate was 2.46 on 30th June. On 20th July (the extension of Phase 3) this rate was 4.43 and by 30th July it had risen to 5.54.

Disease impact

The latest five-day moving average for daily deaths, based on date of death, was 0.4.[2]

As at midnight on the 2nd of August, the total number of COVID-19 related deaths (confirmed and probable cases) was to 1,763. The peak for new deaths recorded by date of death during the observed period was 56 on the 12th of April. The five-day moving average of daily deaths, by date of death, was 0.4 (to the 23th of July which is the most recent date of death). This is down from a peak of 50 on the 15th of April.

[2] The most recent death, by date of death, occurred on 23rd July.



Source: HPSC, Daily CIDR Data Extract

Note: This includes all COVID-19 related deaths, both lab confirmed and probable.

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 59 confirmed and probable COVID-19 deaths prior to 27/03/20 or with an unknown date of death and not shown in this chart.

Note: Time lags in data reporting mean that data for the most recent 5 days should be considered provisional and subject to change.

COVID-19 hospitalisations

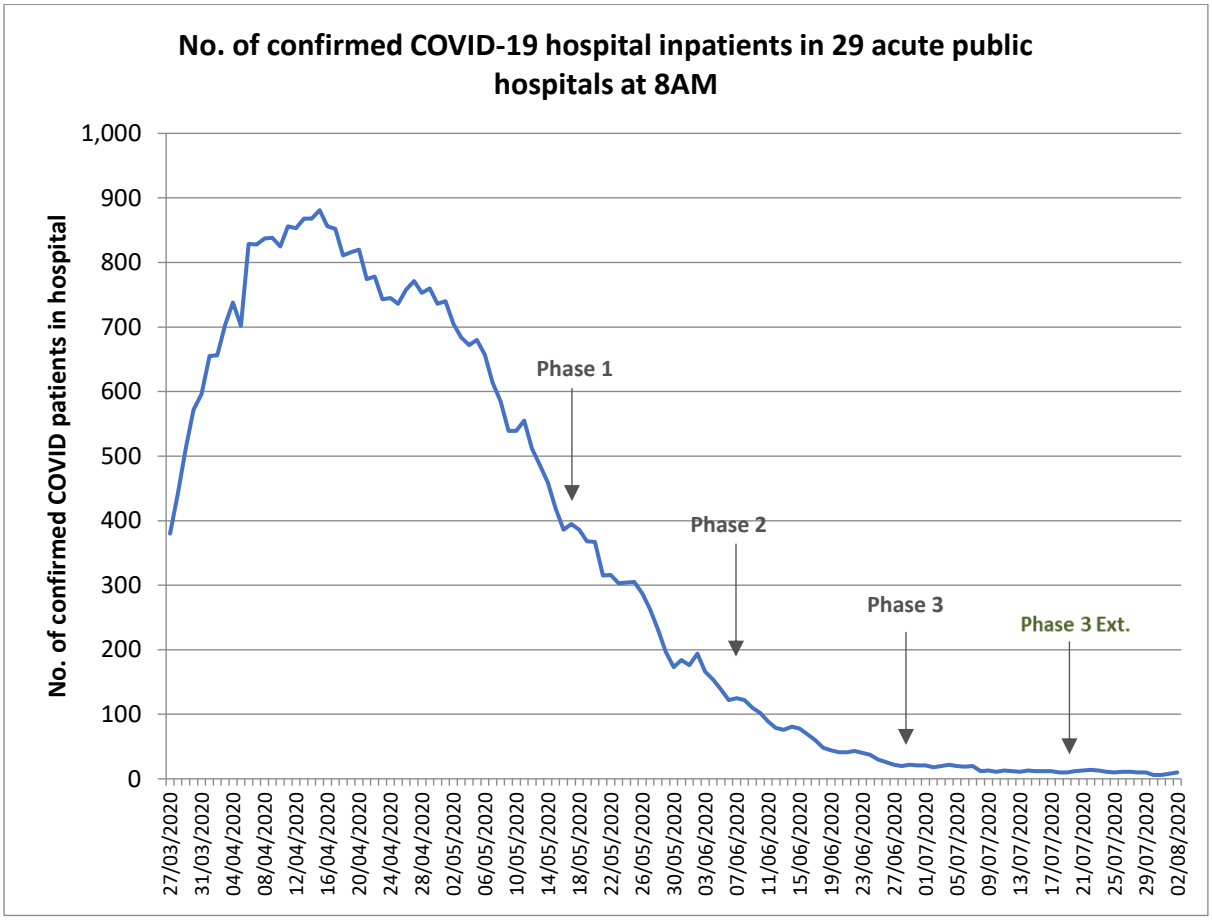
There were 10 confirmed and 126 suspected cases of COVID-19 in hospital on August 2nd. There were 5 confirmed and 3 suspected cases in intensive care, of whom 4 were ventilated (suspected and confirmed)**.** The five-day moving average for new admissions of confirmed cases to hospital was 0.8 on the 2nd of August. The five-day moving average of new admissions to ICU was 0.2. Based on the latest data available, approximately 13% of all confirmed cases to date have been hospitalised, with 46% of those aged under 65.

On 2nd of August, the five-day moving average of confirmed COVID-19 patients in ICU represented 53% of the average of confirmed COVID-19 patients currently in hospital. In total, 1.7% of all cases have being admitted to intensive care. Of those ever admitted to ICU, 63% are aged under 65. The

average length of stay in ICU is 16 days, with 75% of patients discharged to a ward after their stay in critical care with 8% being transferred to a High Dependency Unit or another ICU.

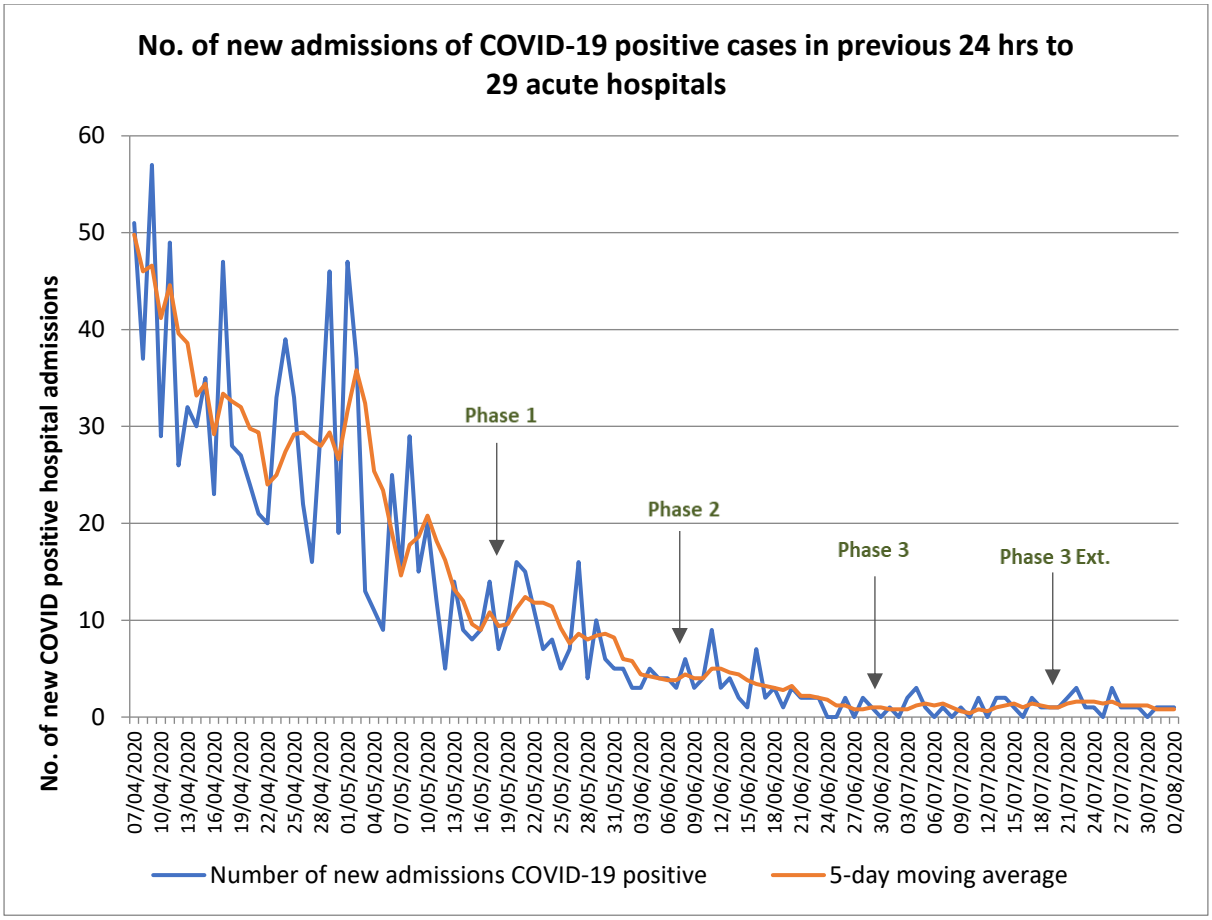
Trends in COVID-19 admissions to hospital

The number of confirmed COVID-19 hospital inpatients per day has been steadily declining in recent weeks. As at 2nd of August, there were 10 hospital inpatients with confirmed diagnosis of COVID-19. This is a 17% decline since 20th July (the extension of Phase 3) and a 55% decline since the start of Phase 3 (29th June).



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

The number of new admissions of COVID-19 positive patients to hospital has been trending downwards overall in recent weeks. As measured by a 5-day moving average, there was an average of 0.8 COVID-19 positive patients daily being admitted to our public hospitals over the 5 days ending 2nd of August.

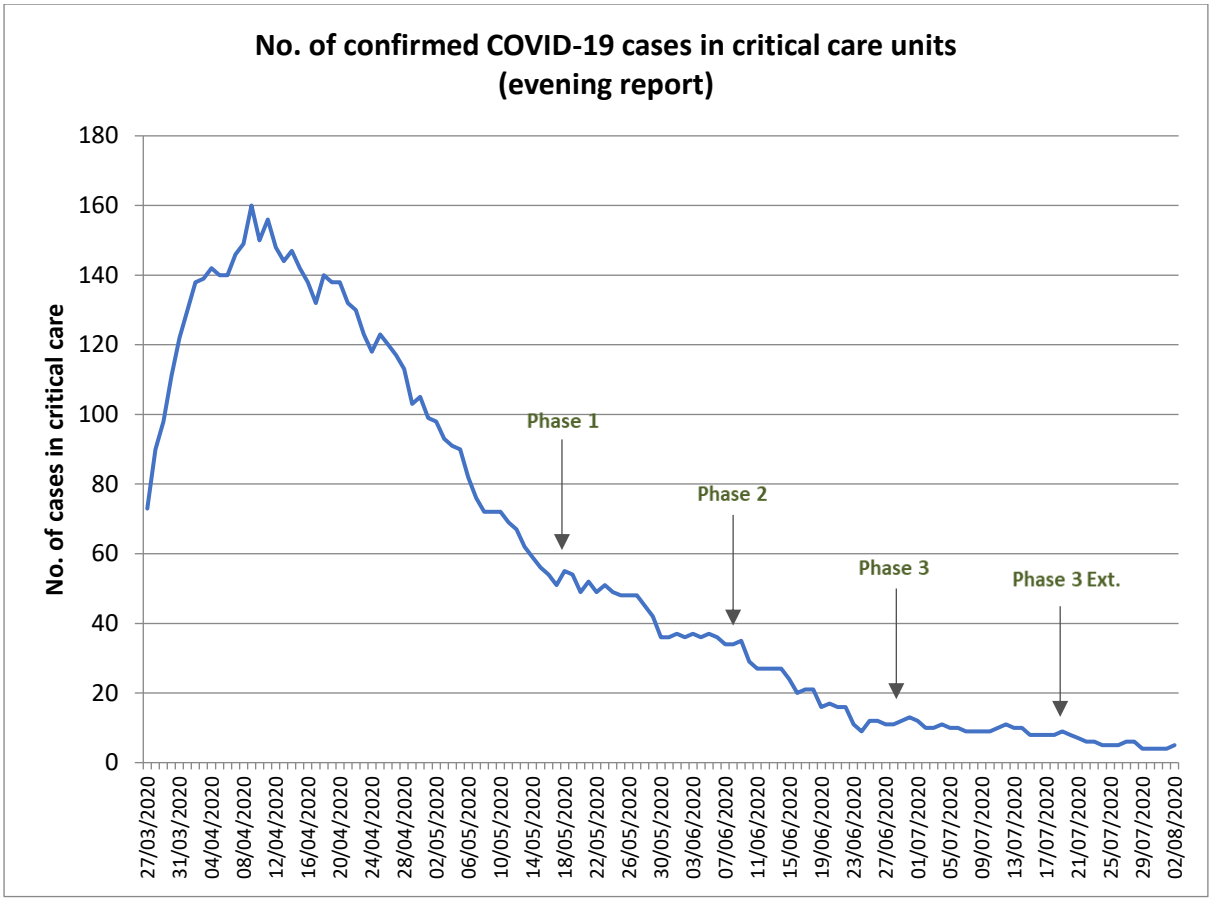


Source: HSE, SDU, extract from SBAR - 29 Hospitals

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

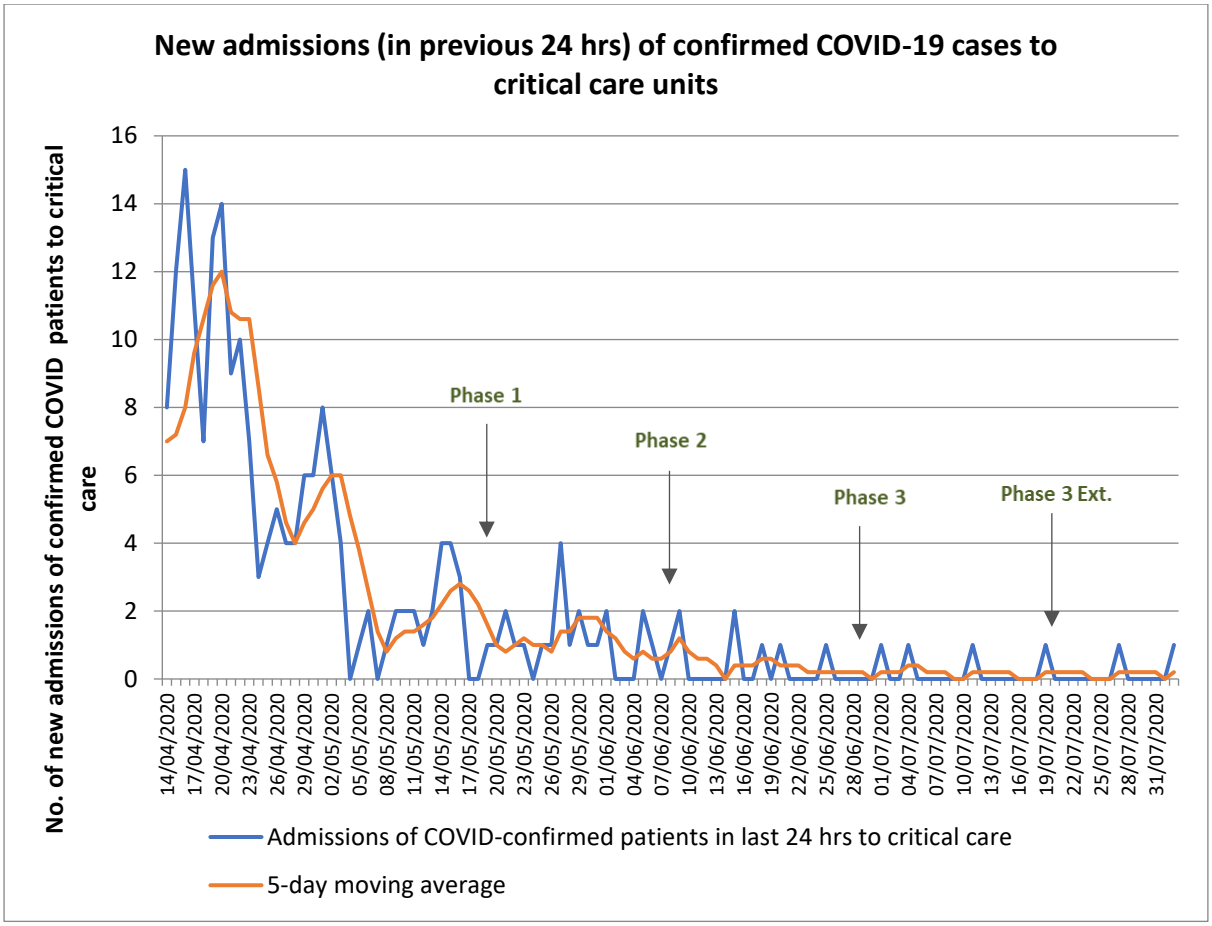
Trends in COVID-19 admissions to critical care

The charts set out in this section provide an overview of recent trends relating to key indicators on COVID-19 activity in critical care units. The number of confirmed COVID-19 cases in critical care units was 5 on 2nd of August. This represents a 38% decline since the extension of Phase 3 (on 20th July) and a 58% decline since the start of Phase 3 (29th June). It compares with a peak of 160 on the 9th of April.



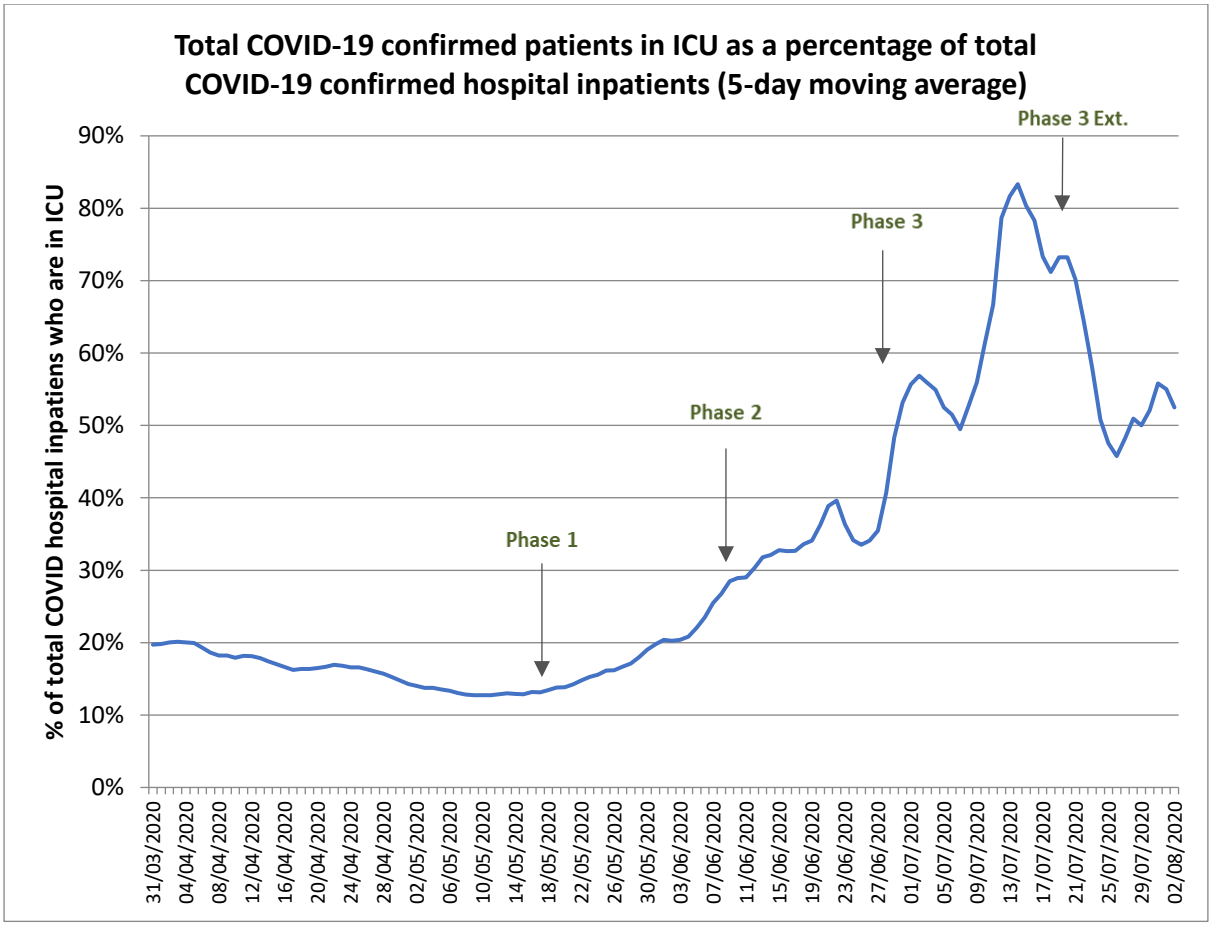
Source: National Office of Clinical Audit, ICU Bed Information System, 28 acute public hospitals and 5 private hospitals

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. The 5-day moving average of new daily admissions to critical care units is 0.2 to 2nd of August. This is down from a peak of 12 on the 20th of April.



Source: National Office of Clinical Audit, ICU Bed 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

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, was trending downwards from 20% on the 2nd of April to approximately 13% in mid-May. However, in recent weeks there has been a fluctuation in the rate which was 53% on 2nd August. Again, caution should be taken when interpreting this statistic as the number of confirmed COVID-19 cases both in hospital and in critical care was extremely low during this time period. The length of stay for those patients who require critical care is generally longer than for those who require general hospitalisation which also impacts upon these figures.

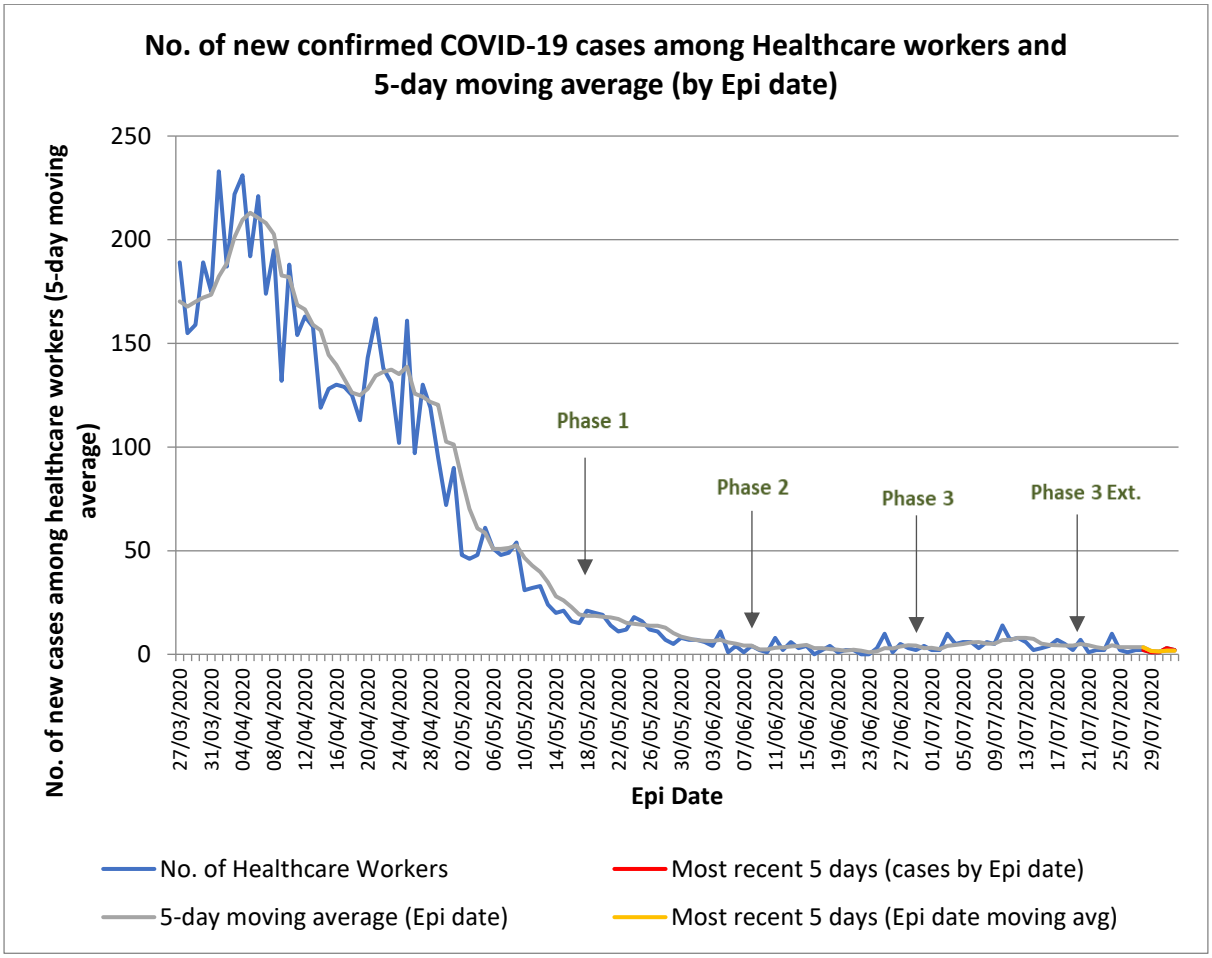


Source: National Office of Clinical Audit, ICU Bed Information System, 28 acute public hospitals and 5 private hospitals; and HSE, SDU, extract from SBAR - 29 Hospitals

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 midnight 2nd of August 32% (n=8,438) of all confirmed cases to date has been among healthcare workers. The number of confirmed cases (by Epi date) among healthcare workers as measured by the 5-day moving average peaked at 213 on the 5th April. This has been declining since the end of April to now stand at 1.8. Approximately 0.6% of healthcare workers who have been diagnosed with COVID-19 have been admitted to intensive care and there have been 8 deaths amongst healthcare workers.



Source: HPSC, Daily CIDR Data Extract

Note: Time lags in data reporting mean that data for the most recent 5 days should be considered provisional and subject to change.

Outbreaks/Clusters

Up to Week 31 (week ending 1st of August), there had been a total of 2,319 outbreaks/clusters of COVID-19 notified. Of these, 2,131 had been closed and 188 were still open. Further detail on outbreaks in residential care facilities and among vulnerable groups can be found in Section D.

Influenza Like Illness Rate

The sentinel GP Influenza-like illness (ILI) consultation rate remained stable during week 30 (week ending 26th of July) 2020 at 6.0 per 100,000 compared to an updated rate of 6.3 per 100,000 in week 29 2020. The ILI rate has now been below baseline (18.07 per 100,000) for twelve weeks and will be closely monitored in the coming weeks. The ILI rate peaked during week 12 with a rate of 187.6 per 100,000 this was reflective of the current COVID-19 pandemic rather than influenza.

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.

Overview of current Acute Hospital Bed Capacity – Public Hospitals

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. The table below reflects the Acute Hospital capacity situation of the HSE in the context of the current COVID-19 Pandemic response. This excludes Critical Care Capacity.

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. Between 13th and 31st of July the number of beds available in public hospital has decreased from 509 to 436. This is a further reduction from the 1,163 beds available on the 14th of May

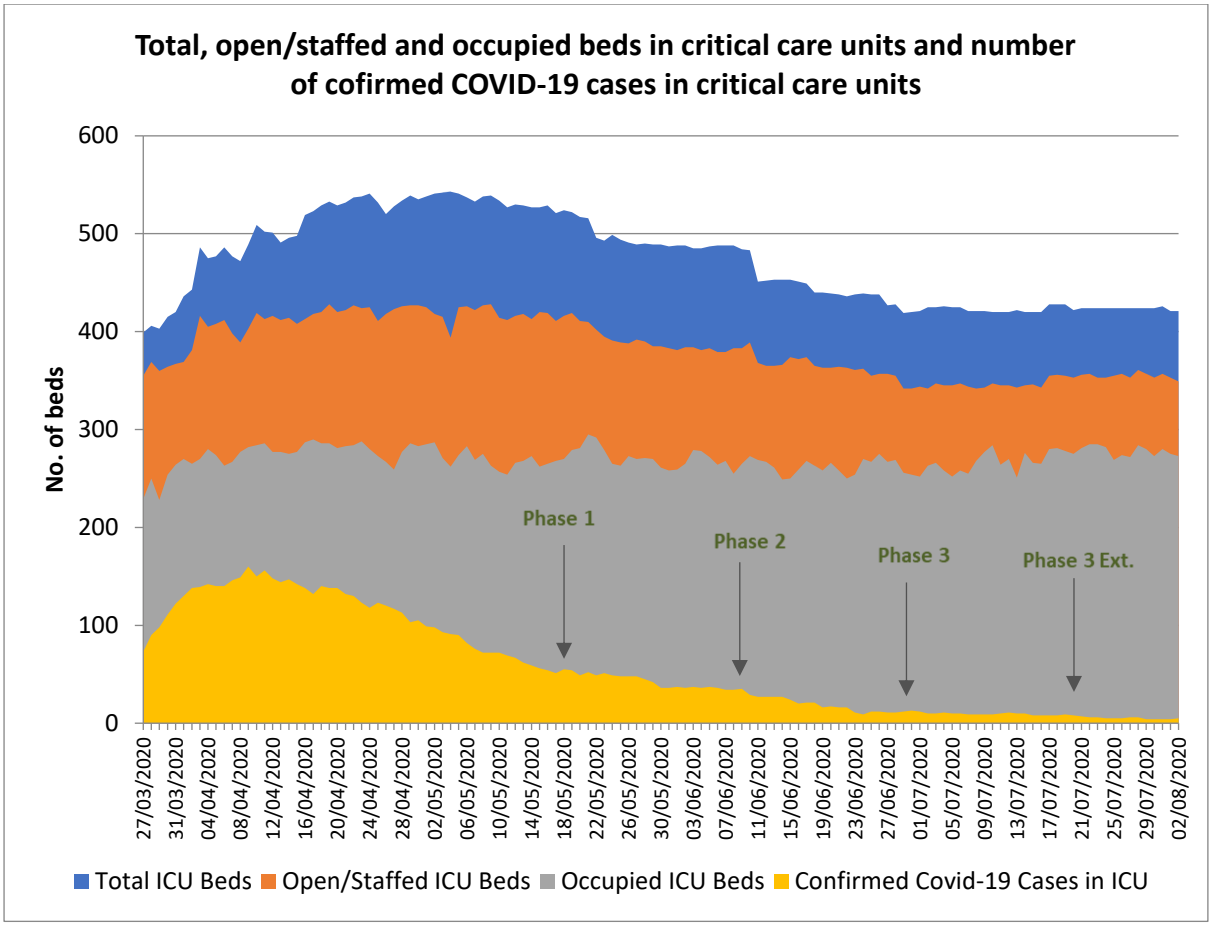
	7 May	14 May	24 May	28 May	22 June	13 July	31 July
Public Hospitals	**Beds**						
Total In-patient beds	11,597	11,597	11,597	11,597	11,597	11,597	11,597
Minus beds closed for infection control	*-287*	*-172*	*-127*	*-138*	*-126*	*-105*	*-118*
Minus beds closed	*-345*	*-244*	*-175*	*-280*	*-152*	*-153*	*-112*
Subtotal available beds	11,275	11,491	11,605	11,489	11,319	11,339	11,367
Day Case Beds for Surge			*+1,633*	*+1,633*	*+1,633*	*+1,633*	*+1,633*
Additional Surge Acute Beds			*+485*	*+485*			
Total Surge Capacity		+2,118	+2,118	+2,118	+1,633	+1,633	+1,633
Total Overall Available Capacity		14,025	14,025	13,607	12,952	12,972	13,000
Of which = beds occupied	*10,190*	*12,446*	*12,829*	*12,854*	*12,213*	*12,463*	*12,564*
In-patient beds currently vacant and available (current capacity)	**1,085**	**1,163**	**894**	**753**	**739**	**509**	**436**

Source: Special Delivery Unit, HSE

* The Department was advised by the HSE prior to the Phase 2 Status Report (25 June) that due to an error, the figure for total in-patient beds was incorrect. Data for in-patient beds, available beds/capacity and vacant beds for previous periods was corrected in the Phase 2 and all subsequent Status Reports.

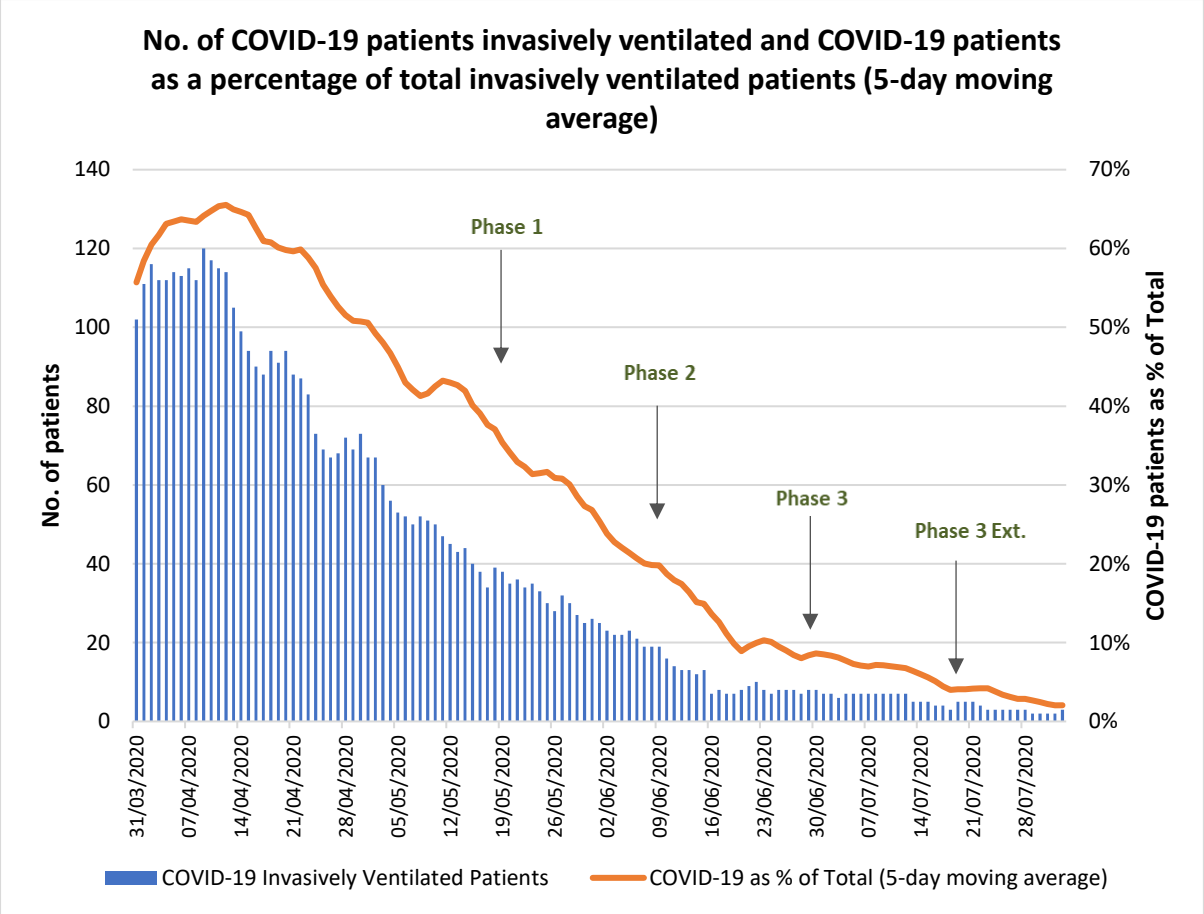
Total Critical Care Capacity

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 Bed Information System, 28 acute public hospitals and 5 private hospitals Note: The decline in Total ICU Beds is influenced by the fact that, as the number of COVID patients has declined, some 'Off Unit' critical care bed capacity (beds not located in critical care units but identified as additional critical care beds for COVID-19) are no longer being reported as critical care beds.

With regard to the number of COVID-19 patients invasively ventilated, this has been steadily declining since a peak of 120 on the 9th of March reaching 3 on the 2nd of August. When expressed as COVID-19 invasively ventilated patients as a percentage rate of all invasively ventilated patients (using a 5-day moving average), the rate of such patients with COVID-19 has been steadily falling from 66% on the 12th of April to 2% on the 2nd of August.



Source: National Office of Clinical Audit, ICU Bed Information System.

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

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 further relaxation of current social distancing measures (2) monitoring the impact of any such decision and (3) responding to changes in the numbers of cases detected and related close contact numbers.

The HSE has worked intensively 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.

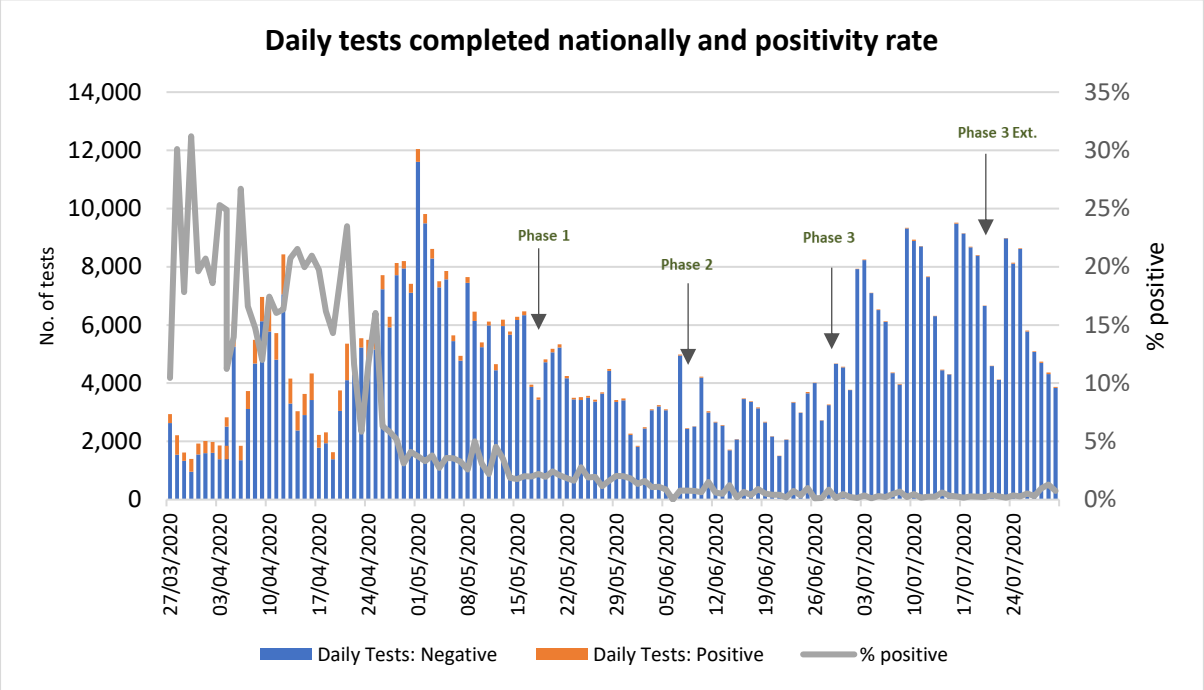
There is now capacity across the full testing and tracing pathway for the agreed target of 15,000 tests per day. Turnaround times have also improved significantly. The HSE had set a target end-to-end turnaround time from referral to completion of contact tracing of 3 days or less for 90% of cases and this target is now being met. Over the seven days 21st to 27th July, the median end-to-end turnaround time for community and hospital tests combined, from referral to the completion of contact tracing, was approximately 2 days.

The HSE is continuing to work to improve turnaround times and consistency across the full testing and contract tracing pathway through further process improvements and automation where possible.

Testing & Contact Tracing Activity

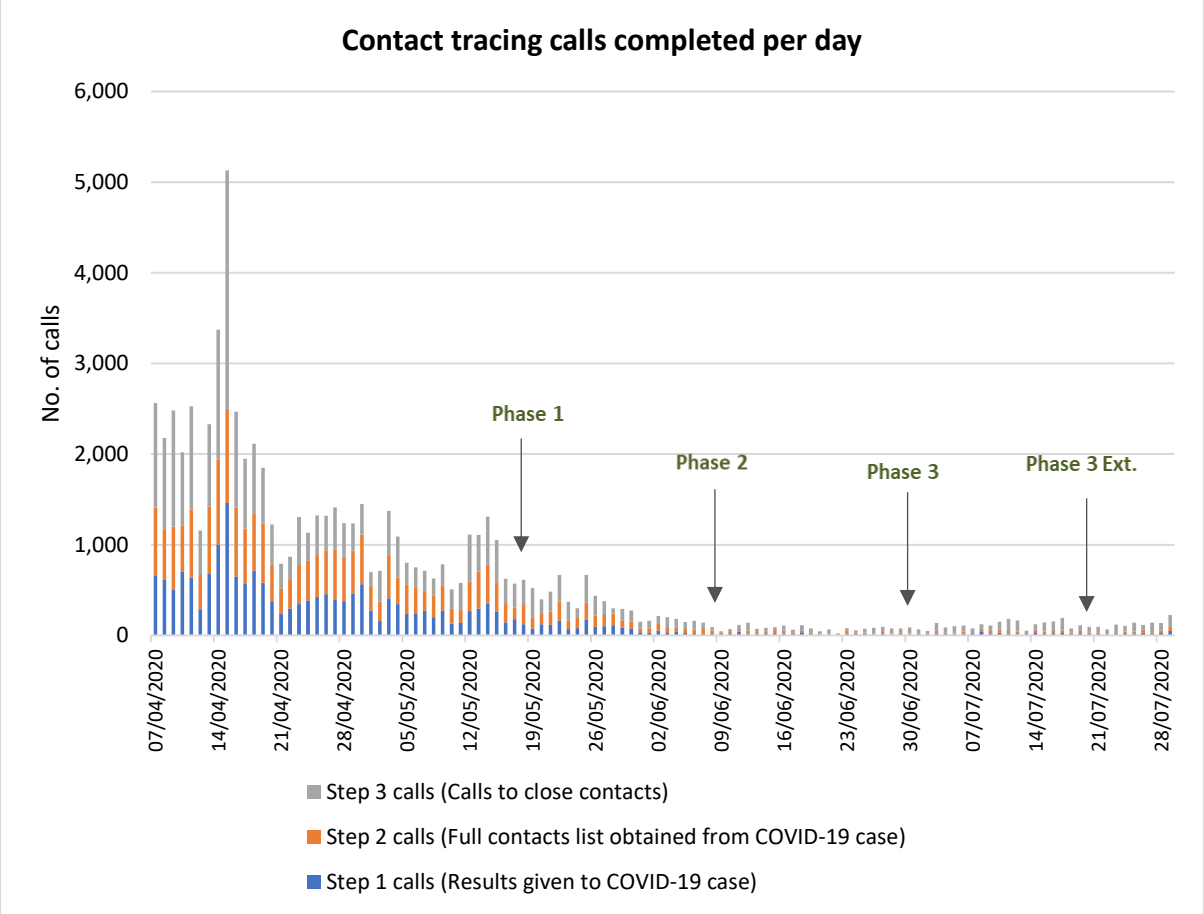
Testing activity levels and positivity rates are influenced by a range of factors: prevalence of the virus, testing strategy and case definition and testing capacity. Activity levels have fluctuated since testing commenced. There was a peak of over 8,000 tests processed a day in mid-April as a result of the utilisation of a German laboratory to process a build-up of samples, with a further peak at the start of May reaching 12,000 on one day reflecting the roll-out of a one-off mass testing programme across Long Term Residential Care facilities. Activity levels gradually decreased during May and June in line with decreasing prevalence but have increased again in recent weeks as a result of a serial weekly testing programme in nursing homes. Over the week of the 23rd to 29th July, over 45,000 tests were completed. On almost half the days in July (to 29th), 8,000 tests were completed.

There has also been considerable fluctuation in the positivity rate. For the month of April, the rate was generally between 15% - 30% reflecting a relatively narrow case definition at the time. NPHET made a number of changes to the case definition in late April and early May which resulted in effectively a lower threshold for testing referrals. The daily positivity rate has fallen from 1.4% at the start of June to 0.5% for the month of July (to 29th). In total, for all tests completed to date, 4.6% have been positive.



Source: Daily testing reports from HPSC

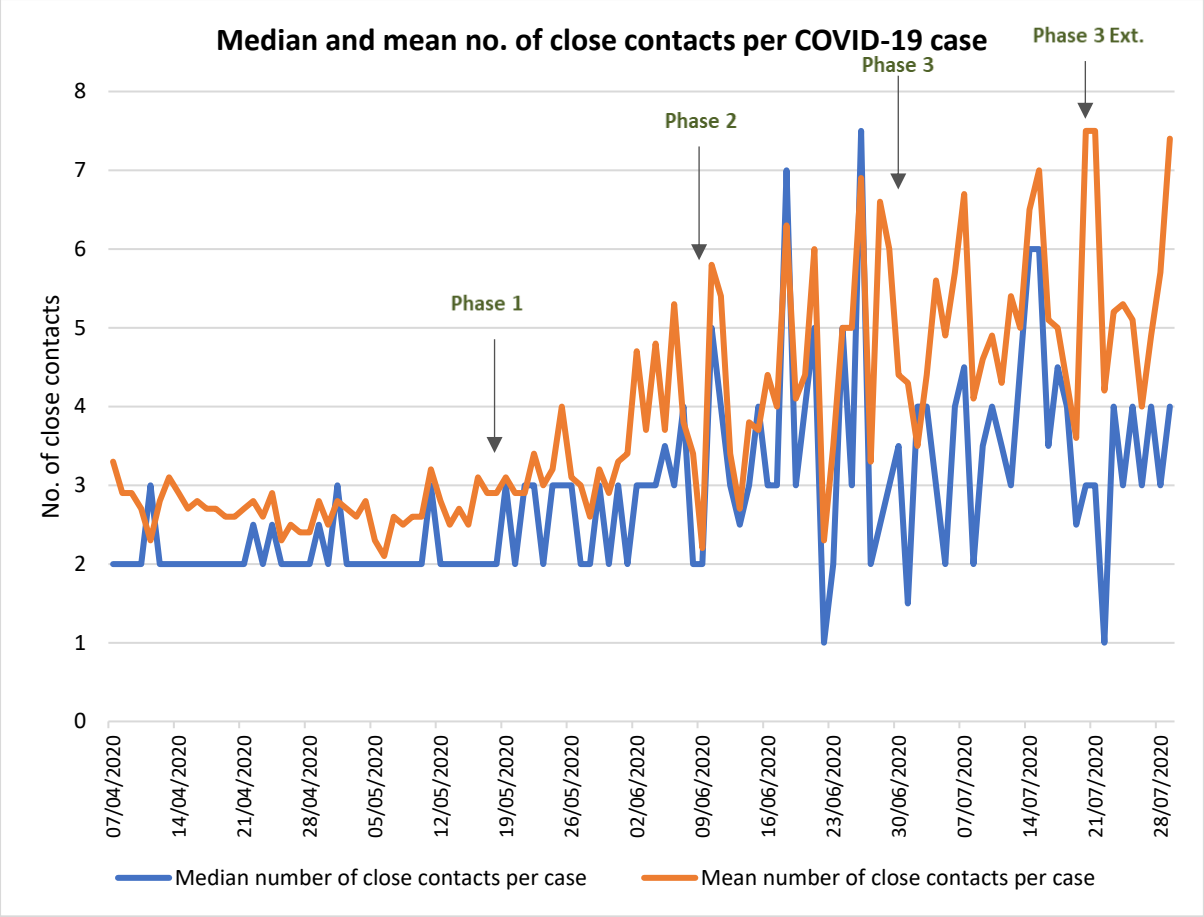
Contact tracing activity levels are influenced by the number of positive cases and the number of close contacts that each individual case has. The process involves three steps: an initial call to the person that was tested to confirm the result, a follow-up call to that person to gather information on their close contacts, and finally calls to all close contacts identified. As with testing activity levels, contact tracing activity has fluctuated since March. Over the week (23rd to 29th July), almost 1,000 calls were made across Calls 1, 2 and 3 by the Contact Tracing Centre (CTC) to communicate positive results and trace close contacts. Since July 14th the National CTC is operating on an 8am – 8pm basis, 7 days a week.



Source: HSE Daily COVID-19 Situational Report

Number of close contacts

The median number of close contacts remained stable between 2 and 3 close contacts per person throughout April and into mid-May. However, as can be seen below the median number of close contacts, while fluctuating, has exhibited an increasing trend since the beginning of Phase 1 [median contacts varying between 1 and 6 during the month of July (up to 29th) . Over the seven days 21st to 29th July, the average number of close contacts per case was 5.4 and the median number of close contacts per case is 4. This increase is to be expected as restrictions are eased and individuals become increasingly mobile.



Source: HSE Daily COVID-19 Situational Report