COVID-19 outbreaks in Australian residential aged care homes

# National snapshot

As at 8:00 am 31 October 2024, there are 898 active COVID-19 cases reported in 157 active outbreaks in residential aged care homes (RACHs) across Australia. There have been 78 new outbreaks, 12 new resident deaths and 918 combined new resident and staff cases reported since 24 October 2024.

**Table 1: Aged Care COVID-19 data as at 8.00am 31 October 2024[[1]](#footnote-2)**

| Category | Active*[[2]](#footnote-3)* | Change in active (7 days) | CumulativeTotal | Cumulative increase (7 days) |
| --- | --- | --- | --- | --- |
| **Outbreaks[[3]](#footnote-4)** | 157 | 22 | 23,387 | 78 |
| **RACHs affected**  | 157 | 22 | 2,898 | 0 |
| **Resident cases[[4]](#footnote-5)** | 668 | 31 | 227,281 | 640 |
| **Resident deaths** | N/A | N/A | 7,108 | 12 |
| **Staff cases** | 230 | -15 | 122,047 | 278 |

Residential aged care homes with active outbreaks are included in [Appendix](#_Appendix_1:_National).

Table 2: Overview of active outbreaks in Australia

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | ACT | NSW | NT | QLD | SA | TAS | VIC | WA | Total |
| Total RACHs with outbreaks | 2 | 41 | 0 | 29 | 18 | 5 | 49 | 13 | **157** |
| *Total number of active resident cases* | 9 | 128 | 0 | 107 | 80 | 30 | 261 | 53 | **668** |
| *Total number of active staff cases* | 1 | 42 | 0 | 50 | 25 | 10 | 81 | 21 | **230** |
| Total outbreaks opened in previous 7 days | 1 | 18 | 0 | 20 | 10 | 1 | 23 | 5 | **78** |
| Total outbreaks closed in previous 7 days | 0 | 17 | 0 | 6 | 6 | 1 | 27 | 1 | **58** |

**Figure 1: National outbreak trends in aged care**



 **Figure 2: Trends in aged care cases – December 2021 to present**



## Mortality

For the period of 1 July 2024 to 29 October 2024, COVID-19 is recorded as the cause of death in 1.7% of all deaths in permanent residents in aged care homes.

Since the beginning of the Omicron outbreak in mid-December[[5]](#footnote-6) 2021, there have been 172,394 deaths in residential aged care from all causes (report period from 15 December 2021 to 29 October 2024)[[6]](#footnote-7). COVID-19 deaths account for 3.6% of this figure.

There has been a decrease year on year for the rate of case fatality[[7]](#footnote-8), from a 33% case fatality rate in resident COVID-19 cases in 2020 to 3.3% in 2022 and 2.3% since
1 July 2024.

Over the course of the pandemic, all-cause excess mortality in residential aged care was below expected numbers in 2020, and within expected range in 2021. In the first half of 2022, all-cause excess mortality in residential aged care was above the expected range. Excess mortality for the second half of the 2022 is yet to be finalised.

**Figure 3: COVID-19 deaths in RACHs overlaid with community deaths**



## Workforce in active residential aged care outbreaks

As at 30 October 2024, surge workforce providers report a total of 199,080 shifts delivered in aged care services impacted by COVID-19. These shifts include roles for GPs, nurses, care workers, allied health workers, executive and ancillary staff. In the past week surge workforce providers have reported assisting 9 residential aged care homes and filled 218 shifts in aged care services.

Table 3: Workforce resources supplied to RACHs

| Workforce provider | Total shifts | Previous 7 days |
| --- | --- | --- |
| Aspen Medical8 | 32,463 | 131 |
| HealthX9 | 36,915 | 58 |
| Randstad10 | 958 | 29 |
| Previous contracted providers11 | 128,744 | N/A |
| **Total** | **199,080** | **218** |

8Aspen Medical shift data as at 30 October 2024, reported fortnightly.

9HealthX shift data as at 30 October 2024, reported weekly.

10Randstad shift data as at 30 October 2024, reported weekly.

11Previous contracted providers include RCSA, HealthCare Australia, Mable and Torrens.

## Oral antiviral treatments

Distribution of the oral anti-viral Lagevrio (Molnupiravir) commenced on 6 February 2022 to all RACHs with outbreak sites prioritised for delivery. The National Medical Stockpile has deployed 48,269 treatment courses of Lagevrio (Molnupiravir) to RACHs.

138,624 prescriptions for Lagevrio (Molnupiravir) have been issued to residents in RACHs, with a further 18,329 prescriptions for Paxlovid (nirmatrelvir + ritonavir) also issued since 28 February 2022 and up to 30 September 2024.­

*\*Note: Oral antiviral data is only being updated monthly.*

**Vaccination in RACHs**

On 29 February 2024, recommendations for 2024 COVID-19 vaccinations were released. Recommended doses for the program in 2024 are based on an individual's age and level of severe immunocompromise.

In 2024, those aged 75 years and over are recommended to get a COVID-19 vaccine dose every 6 months. Those aged over 65 years of age, and adults with severe immunocompromise are recommended to receive a COVID-19 vaccine dose every 12 months and are eligible to receive a COVID-19 vaccine dose every 6 months based on individual risk-benefit assessments. All other adults can receive a single dose this year.

Recommendations can be found on the Department of Health and Aged Care (department) website at:

<https://www.health.gov.au/our-work/covid-19-vaccines/getting-your-vaccination/booster-doses>.

People are encouraged to seek vaccination advice from their healthcare providers, specific to their circumstances.

People living in residential aged care are a high priority for the Government’s COVID-19 vaccination program.

Older age remains the biggest risk factor for severe COVID-19 disease. Vaccination offers added protection to help reduce the risk of severe illness or hospitalisation of aged care residents.

The department is working with both the aged care and primary care sectors to ensure residents have access to the COVID-19 vaccine. The department continues to target support for RACHs to arrange COVID-19 vaccinations with local primary care providers such as GPs, community pharmacists and Aboriginal Community Controlled Health Services.

As at 30 October 2024:

* 72.7% of aged care residents have received a booster dose in the last 12 months.
* For residents over the age of 75:
	+ 90,795 (54.7%) aged care residents received a booster dose in the last 6 months.
* 8,241 aged care residents have received a vaccination in the last 28 days (compared to 9,225 in the 28 days prior).

**Table 4: Aged care COVID-19 Booster Doses (data as at 30 October 2024)**

| Jurisdiction | 75+ with booster in last 6 months |
| --- | --- |
| Residents vaccinated | % of residents vaccinated |
| **National** | **90,795** | **54.7%** |
| NSW | 29,020 | 54.5% |
| VIC | 24,816 | 57.7% |
| QLD | 17,230 | 51.7% |
| WA | 8,565 | 55.1% |
| SA | 7,869 | 54.3% |
| TAS | 1,849 | 49.9% |
| ACT | 1,256 | 58.5% |
| NT | <200 | 50.5% |

*Data in this report is sourced from Australian Immunisation Register (AIR) data of residents in permanent residential aged care homes.*

*An updated data methodology was implemented on 17 October 2024. Aged Care AIR data as at 30 October 2024; Matched AIR data uses a snapshot of permanent residents in residential aged care homes as at 31 August 2024. The Residential Aged Care Home {RACH) Recipient ID to Medicare PIN linkage file was loaded into Health Enterprise Data Warehouse on
23 September 2024 which linked Medicare Consumer Directory data as at 11 October 2023 and RACH recipient data as at
31 May 2024.*

*Note: Booster doses in this report refer to any dose 2 or above administered to an individual.*

## Infection control and audit

The Aged Care Quality and Safety Commission (Commission) conducts site audits and assessment contacts (site and non-site) to monitor and assess residential aged care services against the Aged Care Quality Standards (see Table 5 below). This may include conducting infection control monitoring (ICM) spot checks.

An ICM spot check involves an on-site visit to residential aged care services, without an outbreak, to observe infection control practices, to ensure that staff, management, and visitors are adhering to safe personal protective equipment protocols and to safe infection control arrangements, as required under the Quality Standards.

As at 31 October 2024, the Commission had conducted 6,068 ICM spot checks to observe infection control practices and PPE protocols in RACHs.

Table 5: Total quality assessment and monitoring activities with residential services (including IPC), by type and month 1 March 2020 to 31 October 2024

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Regulatory Activities | 2019-20 (1 Mar - 30 Jun 2020) | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25(to 31 Oct 2024) | Total |
| ****Site visits**** | 318 | 3,452 | 1,732 | 3,814 | 2,840 | 836 | **12,992** |
| ****Non-site activities**** | 3,704 | 8,396 | 6,665 | 1,413 | 487 | 183 | **20,848** |
| Total activities | 4,022 | 11,848 | 8,397 | 5,227 | 3,327 | 1,019 | **33,840** |

# Appendix: National residential aged care homes (RACHs) with active outbreaks COVID-19

Please note, information reported in this table has been directly reported to the department by RACHs.
‘Total cases’ refers to all staff and resident cases associated with the active outbreak and may not reflect the count of currently active cases. Where numbers have been incorrectly reported, RACHs are able to correct these in the COVID-19 Support Portal through My Aged Care.
Where a RACH is reporting less than six resident or staff cases or less than six deaths, data has been suppressed to protect the privacy of affected individuals (note that “n/p” indicates data is not provided to protect privacy).
Data below for individual services is as at 31 October 2024.

| Service Name | State | Resident Deaths | Resident Cases | Staff Cases | Total Cases |
| --- | --- | --- | --- | --- | --- |
| Mountain View Aged Care Plus Centre | Australian Capital Territory | 0 | 6 | <6 | n/p |
| RFBI Holt Masonic Village | Australian Capital Territory | 0 | <6 | 0 | <6 |
| Anglicare Brian King Gardens | New South Wales | 0 | 6 | <6 | n/p |
| Anglicare Dorothy Boyt House | New South Wales | 0 | <6 | 0 | <6 |
| Anglicare Farrer Brown Court | New South Wales | 0 | <6 | 0 | <6 |
| Anglicare Warrina Residential Care | New South Wales | <6 | 7 | <6 | n/p |
| BaptistCare Caloola Centre | New South Wales | 0 | 19 | <6 | n/p |
| BaptistCare Orana Centre | New South Wales | 0 | 7 | 10 | 17 |
| Bolton Clarke Bayside (PKA - Bayside Residential Aged Care Facility) | New South Wales | 0 | <6 | 0 | <6 |
| Bolton Clarke Beechwood (PKA - Beechwood Aged Care) | New South Wales | 0 | <6 | <6 | <6 |
| Bolton Clarke Cabrini | New South Wales | 0 | 27 | 7 | 34 |
| Bolton Clarke Rosemore | New South Wales | 0 | <6 | 0 | <6 |
| Buckland | New South Wales | 0 | <6 | <6 | <6 |
| Bupa Waratah | New South Wales | 0 | <6 | 0 | <6 |
| Catholic Healthcare St Francis Aged Care | New South Wales | 0 | <6 | <6 | 7 |
| Cheltenham House Aged Care Facility | New South Wales | 0 | 8 | <6 | n/p |
| Denhams Beach Care Community | New South Wales | 0 | <6 | 0 | <6 |
| Dubbo Homestead Care Community | New South Wales | 0 | 6 | <6 | n/p |
| Durham Green Lodge Memory Care | New South Wales | 0 | <6 | 0 | <6 |
| Estia Health Bankstown | New South Wales | 0 | <6 | <6 | 6 |
| Gill Waminda Aged Care Plus Centre | New South Wales | 0 | 8 | <6 | n/p |
| Green Hills Residential Care Service | New South Wales | 0 | 8 | <6 | n/p |
| Heiden Park Lodge | New South Wales | 0 | <6 | 0 | <6 |
| John Edmondson VC Gardens | New South Wales | 0 | <6 | 0 | <6 |
| Lansdowne Gardens on Wycombe | New South Wales | 0 | <6 | 0 | <6 |
| Mark Moran at Warrawee | New South Wales | 0 | <6 | 0 | <6 |
| Mary Mackillop Hostel Carrington Retirement Village | New South Wales | 0 | 18 | 9 | 27 |
| Mary Potter Nursing Home | New South Wales | 0 | 15 | <6 | n/p |
| Naroo Frail Aged Hostel | New South Wales | 0 | 15 | 13 | 28 |
| Pathways Sailors Bay | New South Wales | 0 | 6 | 0 | 6 |
| Patrick Bugden VC Gardens | New South Wales | 0 | <6 | <6 | <6 |
| Regis Hurstville | New South Wales | 0 | 13 | <6 | n/p |
| Remembrance Village | New South Wales | 0 | 26 | <6 | n/p |
| Russian Relief Association of St Sergius of Radonezh | New South Wales | 0 | <6 | <6 | <6 |
| St Vincent's Care Services Auburn | New South Wales | 0 | <6 | <6 | 6 |
| St Vincent's Care Services Bronte | New South Wales | 0 | <6 | 0 | <6 |
| St Vincent's Care Services Edgecliff | New South Wales | <6 | 19 | 6 | 25 |
| The Manor Fairfield East | New South Wales | 0 | <6 | 0 | <6 |
| Toongabbie Terrace Care Community | New South Wales | 0 | <6 | <6 | <6 |
| Uniting Northaven Turramurra | New South Wales | 0 | <6 | 0 | <6 |
| Uniting St Columba's Lane Cove | New South Wales | <6 | <6 | <6 | 7 |
| William Beech Gardens - Bushmaster | New South Wales | 0 | 10 | <6 | n/p |
| Woollahra Montefiore Home | New South Wales | 0 | <6 | 0 | <6 |
| Arcare Helensvale St James | Queensland | 0 | <6 | 0 | <6 |
| Arcare Parkwood | Queensland | 0 | <6 | 0 | <6 |
| Arcare Slacks Creek | Queensland | 0 | 8 | <6 | n/p |
| Blue Care Arundel Woodlands Lodge Aged Care Facility | Queensland | 0 | <6 | 0 | <6 |
| Blue Care Bundaberg Riverlea Aged Care Facility | Queensland | 0 | <6 | 0 | <6 |
| Blue Care Warana Beachwood Aged Care Facility | Queensland | 0 | <6 | 0 | <6 |
| Bolton Clarke Cunningham Villas | Queensland | 0 | <6 | <6 | <6 |
| Bolton Clarke Fairview | Queensland | 0 | <6 | 0 | <6 |
| Bolton Clarke Farnorha | Queensland | 0 | <6 | <6 | <6 |
| Bolton Clarke Inverpine | Queensland | 0 | <6 | 0 | <6 |
| Bolton Clarke The Terraces | Queensland | 0 | <6 | 0 | <6 |
| Churches of Christ Crows Nest Aged Care Service | Queensland | 0 | <6 | <6 | <6 |
| Cooinda House | Queensland | 0 | <6 | <6 | <6 |
| Lutheran Services - Trinder Park | Queensland | 0 | <6 | <6 | 6 |
| NewDirection Care at Bellmere | Queensland | 0 | <6 | 6 | n/p |
| North Lakes Terrace Care Community | Queensland | 0 | <6 | <6 | 6 |
| Ozcare Bakhita Villa Aged Care Facility | Queensland | 0 | 6 | <6 | n/p |
| Ozcare Villa Vincent | Queensland | <6 | 6 | <6 | n/p |
| Palm Lake Care Bargara | Queensland | 0 | <6 | 0 | <6 |
| PM Aged Care | Queensland | 0 | 12 | 7 | 19 |
| Regis Ayr | Queensland | <6 | 12 | 11 | 23 |
| Regis Camp Hill | Queensland | 0 | <6 | <6 | <6 |
| Regis Kuluin | Queensland | 0 | 13 | 8 | 21 |
| Regis Maroochydore | Queensland | 0 | <6 | 0 | <6 |
| Southern Cross Care Holland Park - Duhig Village | Queensland | 0 | <6 | <6 | 7 |
| Springwood Terrace Care Community | Queensland | 0 | 9 | <6 | n/p |
| St Paul de Chartres Residential Aged Care | Queensland | 0 | 6 | 8 | 14 |
| TriCare Pt Vernon Aged Care Residence | Queensland | 0 | 7 | <6 | n/p |
| Villa Maria Centre | Queensland | 0 | <6 | <6 | <6 |
| ACH Group Residential Care - ViTA | South Australia | 0 | <6 | <6 | <6 |
| Amber Aged Care | South Australia | 0 | 8 | 0 | 8 |
| AnglicareSA Elizabeth - Dutton Court | South Australia | 0 | <6 | 0 | <6 |
| Barunga Village Incorporated | South Australia | 0 | <6 | <6 | <6 |
| Bethsalem Care | South Australia | 0 | 34 | 21 | 55 |
| Boandik Kessal | South Australia | 0 | <6 | 0 | <6 |
| Estia Health Kadina | South Australia | 0 | <6 | <6 | <6 |
| Kalyra Belair Aged Care | South Australia | 0 | <6 | 6 | n/p |
| McCracken Views Residential Care | South Australia | 0 | <6 | 0 | <6 |
| Resthaven Mitcham | South Australia | 0 | 36 | <6 | n/p |
| Resthaven Westbourne Park | South Australia | 0 | <6 | <6 | 6 |
| Riverview Lutheran Rest Home | South Australia | 0 | <6 | <6 | 7 |
| Sheoak Lodge | South Australia | 0 | 11 | 6 | 17 |
| The House of Saint Hilarion | South Australia | 0 | <6 | 0 | <6 |
| The Philip Kennedy Centre Residential Care | South Australia | 0 | 7 | <6 | n/p |
| The Pines Lodge Residential Care | South Australia | 0 | 9 | <6 | n/p |
| Villa St Hilarion-Fulham | South Australia | 0 | <6 | 0 | <6 |
| West Beach Residential Care | South Australia | 0 | <6 | 0 | <6 |
| Bishop Davies Court | Tasmania | <6 | 14 | <6 | n/p |
| Regis Tasmania - Eastern Shore | Tasmania | 0 | 12 | <6 | n/p |
| Rivulet | Tasmania | 0 | 9 | <6 | n/p |
| Tyler Village | Tasmania | 0 | 7 | <6 | n/p |
| Uniting AgeWell Ningana | Tasmania | 0 | 8 | <6 | n/p |
| Alan David Lodge | Victoria | 0 | 14 | <6 | n/p |
| Baptcare - Hedley Sutton Community | Victoria | <6 | 9 | 0 | 9 |
| Belmont Grange | Victoria | 0 | <6 | 0 | <6 |
| BlueCross Livingstone Gardens | Victoria | 0 | <6 | 0 | <6 |
| BlueCross Westgarth | Victoria | 0 | 7 | <6 | n/p |
| Bolga Court Hostel | Victoria | 0 | <6 | 8 | n/p |
| Bolton Clarke Claremont Terrace | Victoria | 0 | <6 | 0 | <6 |
| Bupa Berwick | Victoria | 0 | 8 | <6 | n/p |
| Bupa Caulfield | Victoria | 0 | 29 | 21 | 50 |
| Bupa Clayton | Victoria | <6 | 22 | <6 | n/p |
| Bupa Croydon | Victoria | 0 | 27 | 0 | 27 |
| Calvary Elanora | Victoria | 0 | <6 | 0 | <6 |
| Calvary Roccoco | Victoria | 0 | <6 | 0 | <6 |
| Calvary St Judes | Victoria | 0 | 10 | <6 | n/p |
| Calvary Vonlea Manor | Victoria | 0 | 18 | <6 | n/p |
| Carrum Downs Aged Care | Victoria | 0 | 11 | <6 | n/p |
| CCSSCI - On Luck Chinese Nursing Home | Victoria | 0 | 18 | <6 | n/p |
| Coppin Centre | Victoria | 0 | <6 | 0 | <6 |
| Coptic Hostel | Victoria | <6 | 18 | <6 | n/p |
| Corangamarah | Victoria | 0 | 17 | 7 | 24 |
| Craigcare Berwick | Victoria | 0 | <6 | <6 | 6 |
| Diamond Creek Care Community | Victoria | 0 | 0 | <6 | <6 |
| Epping Meadows Care Community | Victoria | 0 | 23 | 18 | 41 |
| Estia Health Leopold | Victoria | 0 | 16 | <6 | n/p |
| Estia Health Wodonga | Victoria | 0 | <6 | <6 | <6 |
| Estia Health Yarra Valley | Victoria | 0 | 19 | <6 | n/p |
| Grand Cedar | Victoria | 0 | <6 | 0 | <6 |
| Hepburn House | Victoria | <6 | 16 | 11 | 27 |
| Lakes Entrance Care Community | Victoria | 0 | <6 | 0 | <6 |
| Lyndoch Hostel | Victoria | 0 | 13 | <6 | n/p |
| mecwacare Gregory Lodge, Flemington | Victoria | 0 | <6 | <6 | <6 |
| mecwacare Susan Barton House | Victoria | 0 | 27 | <6 | n/p |
| Mercy Place Montrose | Victoria | 0 | <6 | 7 | n/p |
| Mercy Place Parkville | Victoria | 6 | 36 | 18 | 54 |
| MiCare Avondrust Lodge | Victoria | 0 | 21 | <6 | n/p |
| MiCare Margriet Manor | Victoria | 0 | 6 | <6 | n/p |
| Mount View Aged Care Facility | Victoria | 0 | 6 | <6 | n/p |
| Murrenda Residential Aged Care Home | Victoria | 0 | <6 | <6 | 6 |
| Park Lane Croydon | Victoria | 0 | <6 | <6 | 9 |
| Peninsula Grange Aged Care | Victoria | 0 | 7 | <6 | n/p |
| Point Cook Manor | Victoria | 0 | 8 | 0 | 8 |
| Regis Cranbourne | Victoria | 0 | <6 | 0 | <6 |
| Regis East Malvern | Victoria | 0 | <6 | 0 | <6 |
| Stretton Park Hostel | Victoria | 0 | <6 | <6 | <6 |
| TriCare Williams Landing Aged Care Residence | Victoria | 0 | 10 | <6 | n/p |
| Twin Parks Aged Care Centre | Victoria | 0 | 15 | <6 | n/p |
| Vasey RSL Care Frankston South | Victoria | 0 | <6 | 0 | <6 |
| Weary Dunlop Retirement Village | Victoria | <6 | 16 | <6 | n/p |
| Westmont Homestead | Victoria | 0 | 12 | <6 | n/p |
| Aegis Ellenvale | Western Australia | 0 | <6 | 0 | <6 |
| Aegis Shoalwater | Western Australia | <6 | 12 | 11 | 23 |
| Baptistcare Gracehaven | Western Australia | 0 | <6 | 0 | <6 |
| Brightwater Oxford Gardens | Western Australia | 0 | 8 | <6 | n/p |
| Esperance Aged Care Facility | Western Australia | 0 | 26 | 33 | 59 |
| Jeremiah Donovan House | Western Australia | 0 | 12 | <6 | n/p |
| Juniper Hayloft | Western Australia | 0 | <6 | <6 | <6 |
| Juniper Trinity | Western Australia | 0 | <6 | <6 | <6 |
| MercyCare Wembley Catherine McAuley | Western Australia | 0 | <6 | 0 | <6 |
| Michael Lee Centre | Western Australia | <6 | 11 | <6 | n/p |
| Murdoch Gardens Care Community | Western Australia | 0 | <6 | <6 | 6 |
| Rosewood Care West Perth | Western Australia | 0 | <6 | 0 | <6 |
| SwanCare Ningana | Western Australia | 0 | 12 | 6 | 18 |

1. Outbreak opening and closure includes changes in the status of exposure sites to outbreaks (and vice versa), which are applied retrospectively to facility records. New case information can also change the status of a recovered site back to an active outbreak site. As a result, changes in active outbreak status may not align with day-on-day variations to active totals. These adjustments will also affect the number of cases in staff and residents reported each week. [↑](#footnote-ref-2)
2. Active residents and staff cases are the total currently positive cases in active outbreaks. [↑](#footnote-ref-3)
3. An outbreak is considered to be active pending advice from the relevant Public Health Unit. An outbreak is defined as at least 1 (one) positive case in a resident or 2+ cases in staff. [↑](#footnote-ref-4)
4. [↑](#footnote-ref-5)
5. The Omicron outbreak start date has been redefined from late November 2021 to mid-December 2021. Changes have been made to align reporting with the start date of Omicron published in the department’s external facing Epidemiology report. [↑](#footnote-ref-6)
6. The department is now accessing aged care deaths data from the SIEBEL dataset. Figures are live and subject to change. Source: Department of Health and Aged Care unpublished data / SIEBEL dataset. [↑](#footnote-ref-7)
7. Case fatality calculated as total reported resident COVID-19 deaths divided by total resident COVID-19 cases. [↑](#footnote-ref-8)