



Australian Government
Department of Health

COMMUNICABLE DISEASES INTELLIGENCE

2020 Volume 44
<https://doi.org/10.33321/cdi.2020.44.13>

2019-nCoV acute respiratory disease, Australia Epidemiology Report 1

Reporting week 26 January – 1 February 2020

2019-nCoV National Incident Room Surveillance Team

Communicable Diseases Intelligence

ISSN: 2209-6051 Online

This journal is indexed by Index Medicus and Medline.

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Communicable Diseases Intelligence (CDI) is a peer-reviewed scientific journal published by the Office of Health Protection, Department of Health. The journal aims to disseminate information on the epidemiology, surveillance, prevention and control of communicable diseases of relevance to Australia.

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Weekly epidemiological report

2019-nCoV acute respiratory disease, Australia Epidemiology Report 1

Reporting week 26 January – 1 February 2020

2019-nCoV National Incident Room Surveillance Team

Summary

This is the first epidemiological report of novel coronavirus (2019-nCoV) acute respiratory disease infections reported in Australia at 19:00 Australian Eastern Daylight Time [AEDT] 1 February 2020. It includes data on Australian cases notified during the week 26 January to 1 February 2020 and in the previous week (19 to 25 January 2020), the international situation and current information on the severity, transmission and spread of the 2019-nCoV infection.

Keywords: novel coronavirus (2019-nCoV); respiratory disease; case definition; epidemiology; Australia

The following epidemiological data are subject to change both domestically and internationally due to the rapidly evolving situation. Australian cases are still under active investigation. While every effort has been made to standardise the investigation of cases nationally, there may be some differences between jurisdictions.

In Australia:

- A total of twelve cases of 2019-nCoV infection were notified up until 1 February 2020;
- All twelve cases reported a travel history to China, and 92% (11/12) had a travel history to Wuhan, Hubei Province, China;
- The majority of cases (92%, 11/12) developed mild to moderate symptoms, with one case (8%, 1/12) admitted to intensive care;
- Zero deaths were reported; and
- Two days elapsed since the onset of illness in the latest confirmed case and the date of this report.

Internationally:

- Case numbers are increasing rapidly with 11,953 infections confirmed globally; and
- The majority of confirmed infections (11,821) were reported in China, as well as 259 deaths.

Domestic cases

There were twelve confirmed cases reported in Australia as at 19:00 AEDT 1 February 2020 (Table 1). Cases were reported in New South Wales (n = 4), Victoria (n = 4), Queensland (n = 2) and South Australia (n = 2). The first onset of signs and symptoms in a case occurred on 13 January 2020 (Figure 1). The majority of cases (92%, 11/12) had a travel history to Wuhan. The remaining case had direct contact with a confirmed case from Wuhan while travelling in China. All cases acquired their infection in China, which resulted in many close contacts requiring investigation. The median age of cases was 45 (range 21–66) years. The male-to-female ratio was 1.4:1. All cases (12/12) reported fever and/or chills and 83% (10/12) reported cough. Two cases were reported with pneumonia (Figure 2). Approximately 75% (9/12) of cases were hospitalised for clinical management and infection control, including one patient who was admitted to an Intensive Care Unit (ICU). The clinical course of infection was unavailable from these preliminary data. There were no deaths associated with the outbreak in Australia. The median time between onset of illness and collection of a specimen was 1 day (range 0–9 days).

International status report

As at 19:00 AEST 1 February 2020 the number of confirmed 2019-nCoV cases was 11,953 globally (Table 2). Mainland China reported the majority of cases (11,791) and all of the 259 deaths.¹

Background

The World Health Organization (WHO) declared the outbreak of 2019-nCoV a Public Health Emergency of International Concern (PHEIC) on 30 January 2020.² Cases were initially associated with exposure to a wet market – located in Wuhan, Hubei Province, China – indicating a possible zoonotic source. Sustained human-to-human transmission is now likely to be occurring in the majority of provinces outside of Hubei Province in China. Additionally, limited instances of human-to-human transmission were observed in a number of countries outside mainland China.^{3,4}

As of 1 February 2020, mainland China had reported 11,791 confirmed 2019-nCoV cases and 259 deaths.⁵

As of 1 February 2020, countries and Special Administrative Regions outside of mainland China reported 162 confirmed 2019-nCoV cases and zero deaths.

The current estimates on epidemiological parameters including severity, transmissibility and incubation period are uncertain. Estimates are likely to change as more information becomes available.

Severity

Patients with 2019-nCoV infection present with a wide range of symptoms. Most seem to have

Table 1: Cumulative notified cases of confirmed 2019-nCoV by jurisdiction, Australia, 2020

Jurisdiction	This week (26 Jan to 1 Feb)	Last week (19 to 25 Jan)	Total cases (as of 1 Feb 2020)
	No. of cases	No. of cases	No. of cases
NSW	0	4	4
Vic	2	2	4
Qld	2	0	2
WA	0	0	0
SA	2	0	2
Tas	0	0	0
NT	0	0	0
ACT	0	0	0
Total cases	6	6	12

Figure 1: Confirmed cases of 2019-nCoV infection by date of illness onset, Australia 2020

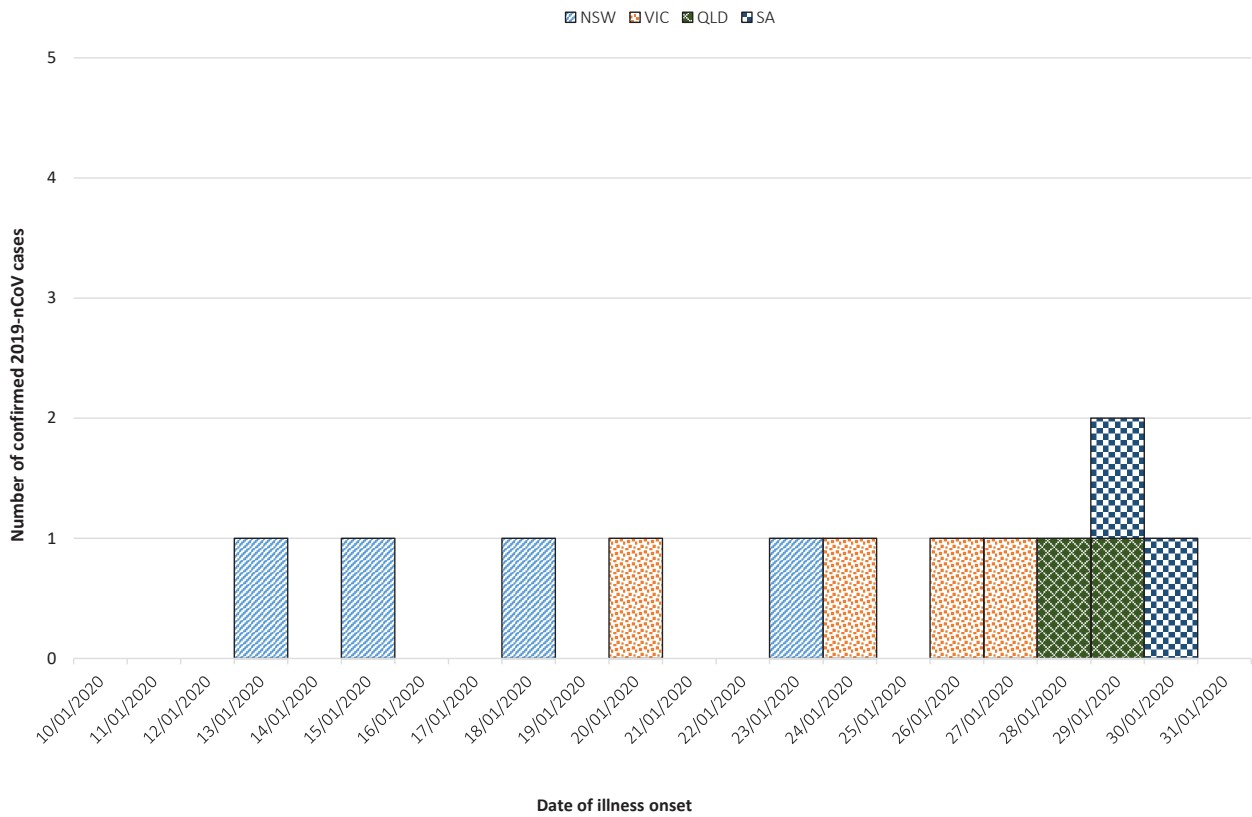


Figure 2: Signs and symptoms reported by 2019-nCoV cases in Australia, 2020 (n = 12)

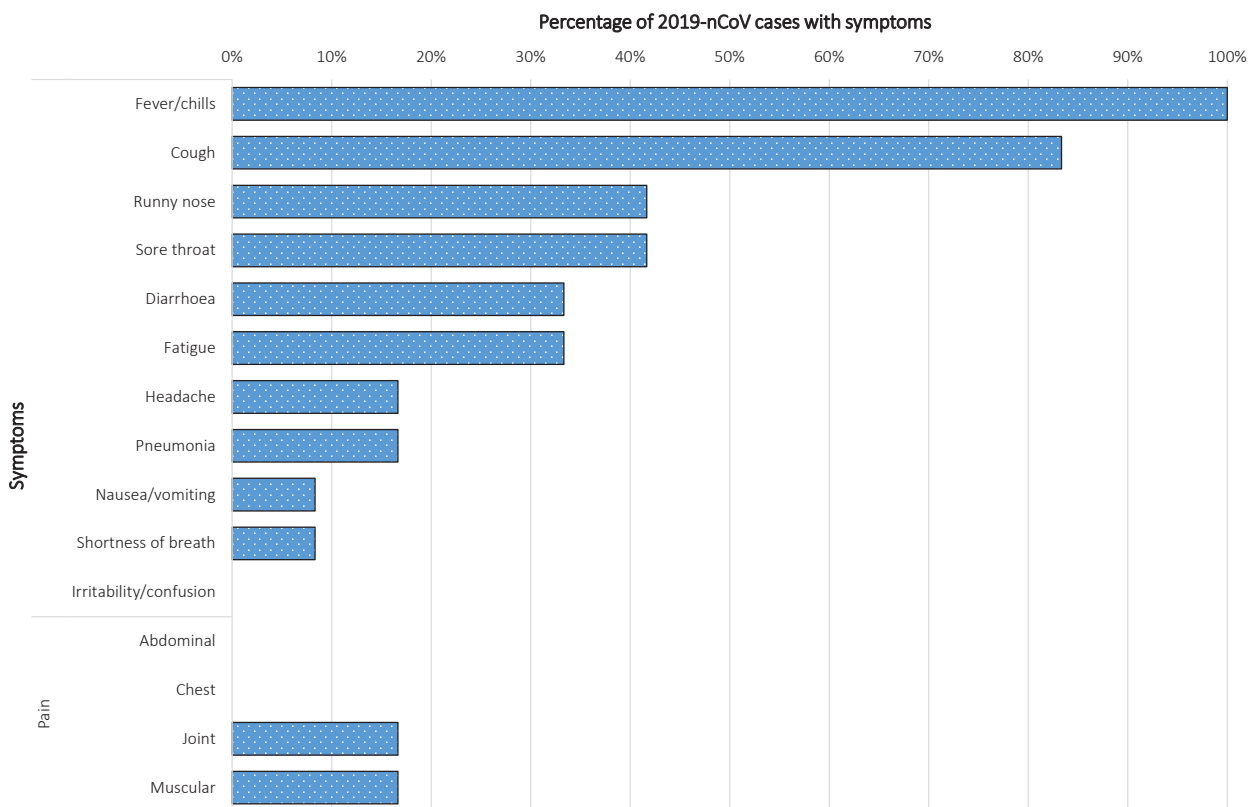


Table 2: Cumulative confirmed cases of 2019-nCoV globally, excluding Australia, 2019–2020

Country / Special Administrative Region	This reporting week (26 Jan to 1 Feb 2020)	Total cases (from Dec 2019) ¹
Cambodia	1	1
Canada	4	4
mainland China	10,504	11,791
Finland	1	1
France	3	6
Germany	7	7
Hong Kong	8	13
India	1	1
Italy	2	2
Japan	14	17
Macau	5	7
Malaysia	8	8
Nepal	0	1
Philippines	1	1
Republic of South Korea	10	12
Russian Federation	2	2
Singapore	13	16
Spain	1	1
Sri Lanka	1	1
Sweden	1	1
Taiwan	7	10
Thailand	15	19
United Arab Emirates	4	4
United Kingdom	2	2
United States of America	5	7
Vietnam	4	6

mild disease, and about 20% appear to progress to severe disease, including pneumonia, respiratory failure and in some cases death.⁶

Transmission

The exact nature of transmission is poorly understood. WHO report '*during previous outbreaks due to other coronavirus (Middle-East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS)), human-to-human transmission occurred through droplets, contact and fomites, suggesting that the transmission mode of the 2019-nCoV can be similar*'.⁷

Sustained human-to-human transmission is likely to be now occurring in the majority of provinces in mainland China. The basic reproductive number, R_0 , indicates how contagious an infectious disease is and is defined as the average expected number of secondary cases produced by a single infection in a completely susceptible population. Chinese authorities reported a preliminary R_0 of 1.4–2.5 on 23 January 2020 to the WHO International Health Regulations (2005) Emergency Committee.⁸ On 31 January 2020, Thailand reported its first instance of close community human-to-human transmission (not within a household setting).⁹ Other instances were reported in Japan, Germany and Vietnam.⁴

Incubation period

Current estimates of the incubation period of 2019-nCoV from the WHO range from 2 to 10 days, with these estimates to be refined as more data become available.⁷ A recently-published article characterising the first 425 cases in Wuhan, Hubei Province China estimated the mean incubation period to be 5.2 days (95% confidence interval, 4.1–7.0).¹⁰

Recommendations for control

The WHO recommends the general public reduce their exposure and transmission to 2019-nCoV by:

- Frequently cleaning hands by using alcohol-based hand rub or soap and water;

- When coughing and sneezing cover mouth and nose with flexed elbow or tissue – throw tissue away immediately and wash hands;
- Avoid close contact with anyone who has fever and cough;
- If you have a fever, cough and difficulty breathing seek medical care early and share previous travel history with your health care provider.

Treatment

Currently there is no specific medication recommended for 2019-nCoV. Antibiotics are not effective against viruses. Some antiviral medications have shown promise in treating MERS and are now being tested for their effectiveness against 2019-nCoV.¹¹ Experimental vaccines are also in development. Clinical care of suspected patients with 2019-nCoV should focus on early recognition, immediate isolation, implementation of appropriate infection prevention and control measures and provision of optimised supportive care.⁶

Methods

Data for this report were current as at 19:00 hours AEDT, 1 February 2020.

This report outlines what is known epidemiologically on 2019-nCoV in Australia and from publicly available data from WHO Situation Reports, other countries' official updates and the scientific literature. Data on domestic cases in this report were collected from National Notifiable Diseases Surveillance System (NNDSS) and state and territory case investigation reports. The Communicable Diseases Network Australia (CDNA) developed the case definition for suspected and confirmed cases, which was modified at different time points in the epidemic (23 January and 27 January 2020) (Table 3). CDNA developed national guidance on investigating suspected and confirmed cases of 2019-nCoV. Based on this guidance, state and territory health department investigators con-

ducted interviews of suspected cases to collect core and enhanced data for inclusion in NNDSS. Data were analysed using Stata to describe the epidemiology of infections in Australia and the progress of the epidemic.

Data for the international reports of 2019-nCoV case numbers by country were compiled from a range of sources. Case definitions for these case counts varied considerably making comparisons difficult. Rapid reviews of the current state of knowledge on 2019-nCoV were conducted from the literature using PubMed.

Acknowledgements

This report represents surveillance data reported through CDNA as part of the nationally coordinated response to 2019-nCoV. We thank public health staff from incident emergency operations centres in state & territory health departments,

and the Australian Government Department of Health; along with state and territory public health laboratories.

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Table 3: Australian 2019-nCoV case definition as of 1 February 2020¹²

Date of development	Suspected Cases	Confirmed Cases
27 January 2020	<p>As the full clinical spectrum of illness is not known, clinical and public health judgement should also be used to determine the need for testing in patients who do not meet the clinical criteria below. If the patient satisfies epidemiological and clinical criteria, they are classified as a suspect case.</p> <p>Epidemiological criteria</p> <ul style="list-style-type: none"> • Travel to Hubei Province, China in the 14 days before the onset of illness.^a <p>OR</p> <ul style="list-style-type: none"> • Travel to agreed areas of human-to-human transmission, or a declared outbreak, within 14 days before onset of illness. <p>OR</p> <ul style="list-style-type: none"> • Close contact in 14 days before illness onset with a case of 2019-nCoV. <p>Clinical criteria</p> <ul style="list-style-type: none"> • Fever or history of fever (≥ 38 °C) and acute respiratory infection (sudden onset of respiratory infection with at least one of: shortness of breath, cough or sore throat). <p>OR</p> <ul style="list-style-type: none"> • Severe acute respiratory infection requiring admission to hospital with clinical or radiological evidence of pneumonia or acute respiratory distress syndrome (i.e. even if no evidence of fever). 	<p>A person who tests positive to a specific 2019-nCoV PCR test (when available) or has the virus identified by electron microscopy or viral culture, at a reference laboratory.</p>

^a The previous case definition developed on 23 January 2020 required that suspected cases had travelled to the city of Wuhan.

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