OMICRON UPDATE 13/1/22

KAT TAYLOR, DIRECTOR POP HEALTH CENTRAL COAST

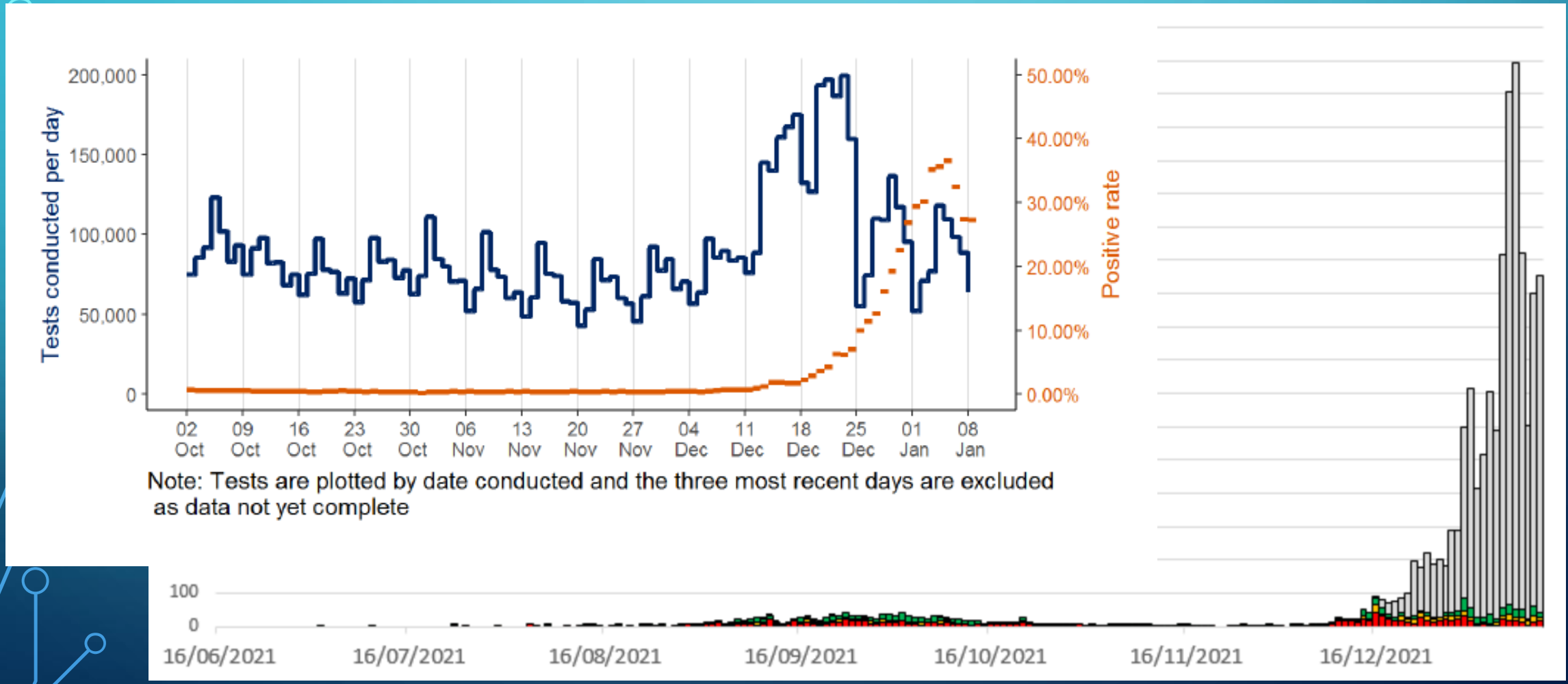
JOHN FERGUSON, INFECTIOUS DISEASES/INFECTION CONTROL, HNE LHD

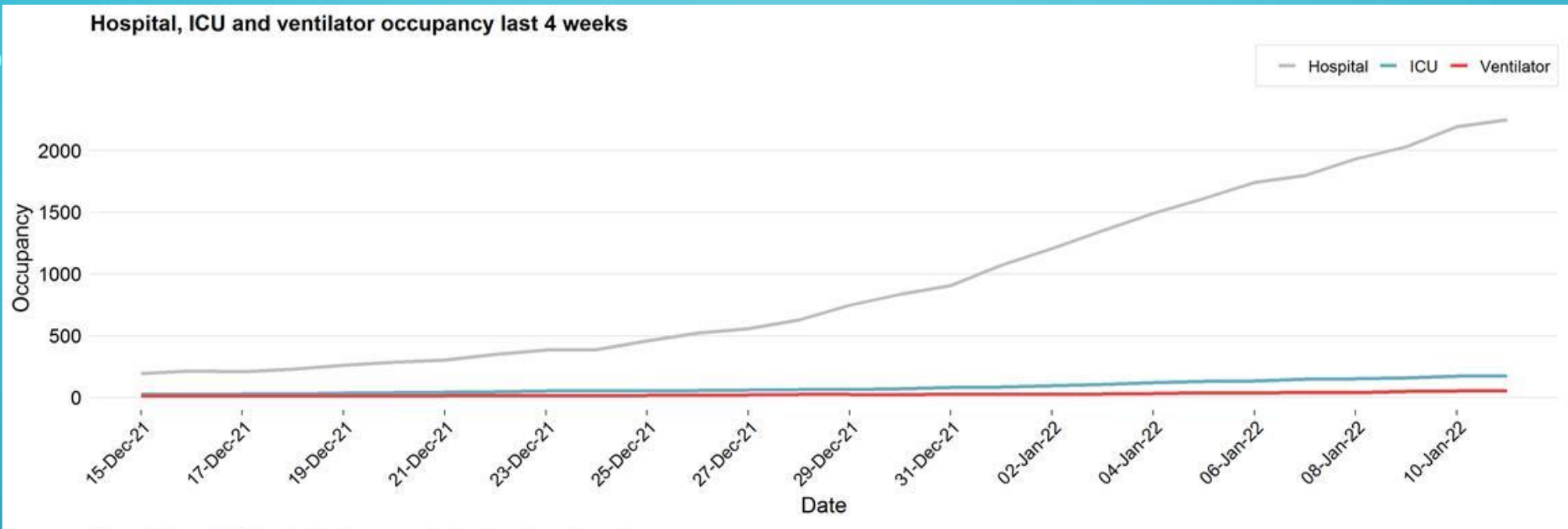
JOHN.FERGUSON@HEALTH.NSW.GOV.AU

OMICRON NSW TIMELINE

- 1 November – International borders opened with quarantine-free travel for vaccinated
- 25/11 – emerging reports worldwide of highly transmissible SARS-CoV-2 variant in S. Africa
- 26/11 – B.1.1.529 designated "Omicron" Variant of Concern by WHO
- 29/11 – first Omicron case notified in CCLHD resident (Botswana returnee on 25/11)
- 3/12 – "Party Boat" cluster – Cadman Cruises Darling Hbr
- 4/12 – multiple transmission events on the Coast – Gosford Racecourse, Terrigal Sirens (31 cases), Tuggerah Lakes Formal Crowne Plaza, Tuggerah Lakes graduation ceremony
- 8/12 – Super-spreading event The Argyle Hotel, Newcastle = 150+ cases
- 10/12 – Super-spreading event UoN Medical Student graduation ball, NEX Newcastle = 90+ cases/180 attendees…

CENTRAL COAST EPIDEMIC CURVE AND NSW TEST DATA





Hospitalisations for COVID-19 in NSW		New ward admissions		New ICU admissions	
		Count	As a % of new cases 7 days prior	Count	As a % of new cases 7 days prior
	10 Jan	458		27	
	7 days to 10 Jan	2,943	2.16%	203	0.15%
	7 days to 03 Jan	2,200	5.27%	129	0.31%

HNE LHD
11/12/21 – 12/2/22

Report of Hunter New England (HNE) COVID-19 admitted cases with calculated onset date of disease from 11 December 2021

Report date: 12 January 2022

COVID-19 cases admitted to HNE Health facilities, with a calculated COVID-19 **onset date of 11 December** or later were reviewed.

In total, **612** cases were extracted. Cases were extracted from the patient flow portal (PFP) and matched against the Notifiable Conditions Information Management System (NCIMS) for their COVID-19 status, the Enterprise Data Warehouse for Analysis Reporting and Decisions (EDWARD), the Australian Immunisation Register (AIR) for their vaccination information and the NSW COVID-19 Omicron dashboard.

Table 2: Included cases (n=**234**) for further analysis

Exclusion reason	Number	Percentage
COVID care	134	57.26%
Nosocomial infection	41	17.52%
Undefined	10	4.27%
Unrelated admission	49	20.94%
Total	234	100.00%

In summary, **234** cases in the included dataset were admitted to an HNE facility with an onset date of disease of 11 December or later.

Table 5: Hospital length of stay by age group, for cases where a discharge date is available

Age group	Number	Median days	Range
0-9	8	2	0 to 11
10-19	6	1	1 to 10
20-29	11	3	0 to 6
30-39	5	2	0 to 3
40-49	6	1	1 to 5
50-59	7	5	1 to 11
60-69	26	2	0 to 20
70-79	23	3	1 to 13
80-89	20	4	1 to 24
90+	3	9	3 to 14
Total	115		

Table 7: ICU admissions and reason for admission (related or unrelated to COVID-19), by COVID-19 variant

Variant	Number	Reason for admission – COVID-19 care	Reason for admission – unrelated
Confirmed Delta	1	0	1
Confirmed Omicron	15	10	5
Unknown	26	11	15
Total	42	21	21

HNELHD

COVID-19 Current Inpatients

Date = 13/01/2022 08:55

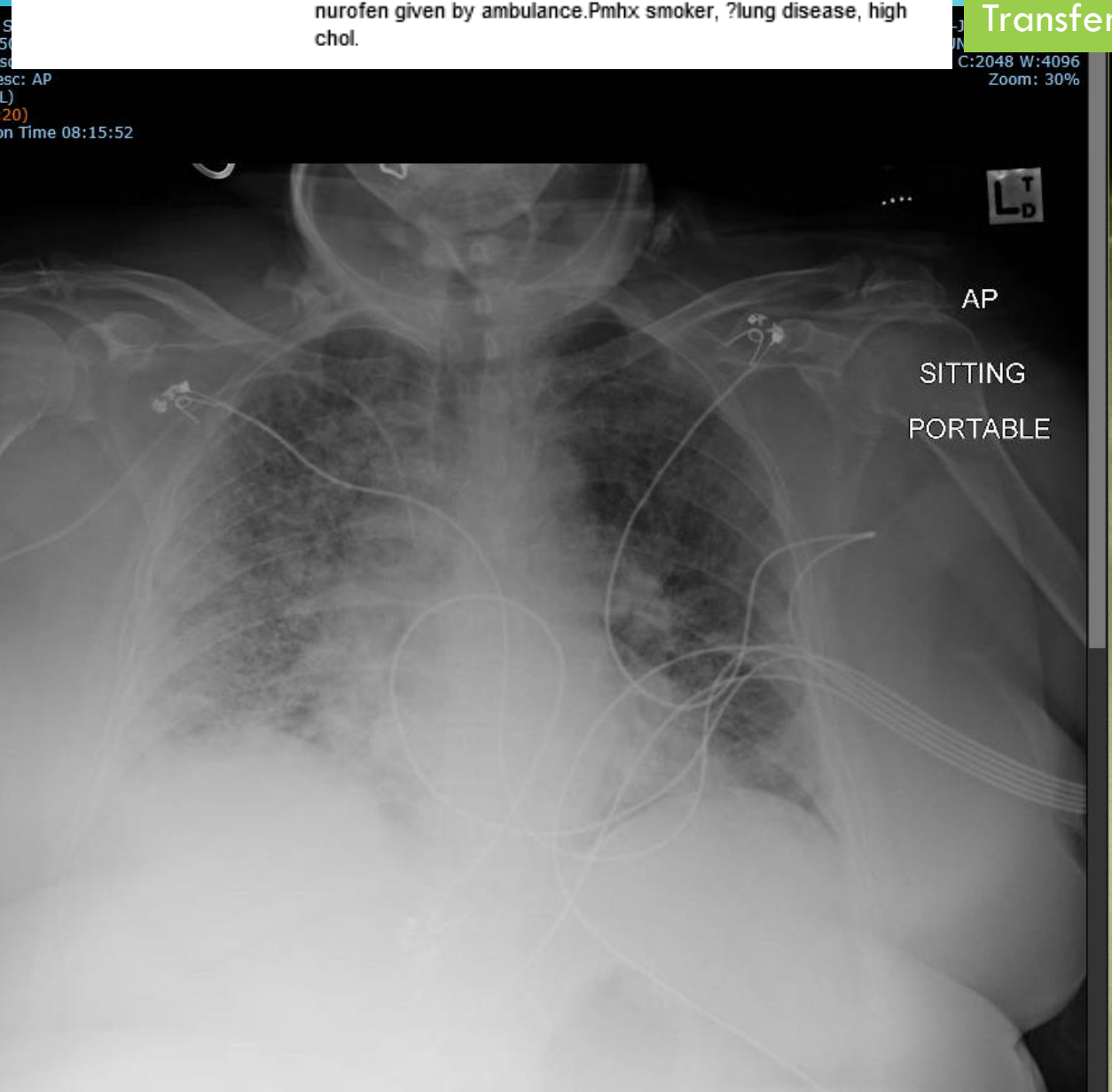
Hospital	Total Inpatients	Inpatients in ICU Wards
Armidale Hospital (J201)	3	0
Barraba RAC (J702)	5	0
Belmont Hospital (Q214)	1	0
Calvary Mater Newcastle (Q211)	10	0
Cessnock District Hospital (Q202)	2	0
HNE Mater Mental Health Service (Q102)	2	0
John Hunter Hospital (Q230)	32	7
Manning Hospital (J225)	16	4
Muswellbrook District Hospital (Q209)	1	0
Singleton District Hospital (Q217)	4	0
Tamworth Hospital (J216)	16	2
The Maitland Hospital (Q206)	12	0
Tomaree Community Hospital (Q225)	1	0
	105	**13**

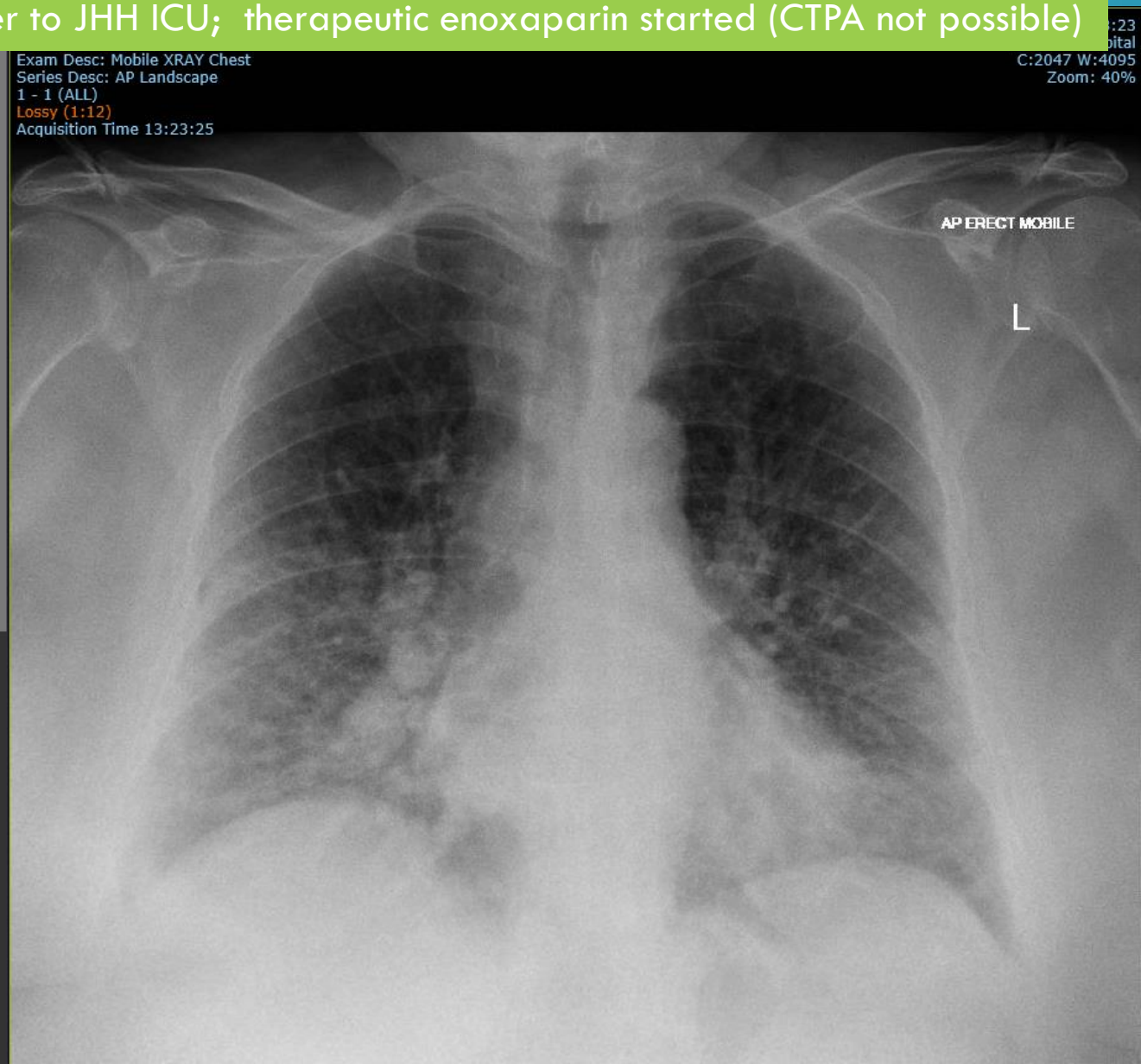
	Female	Male
Average age	64	71
Median age	69	75
Number	29	68

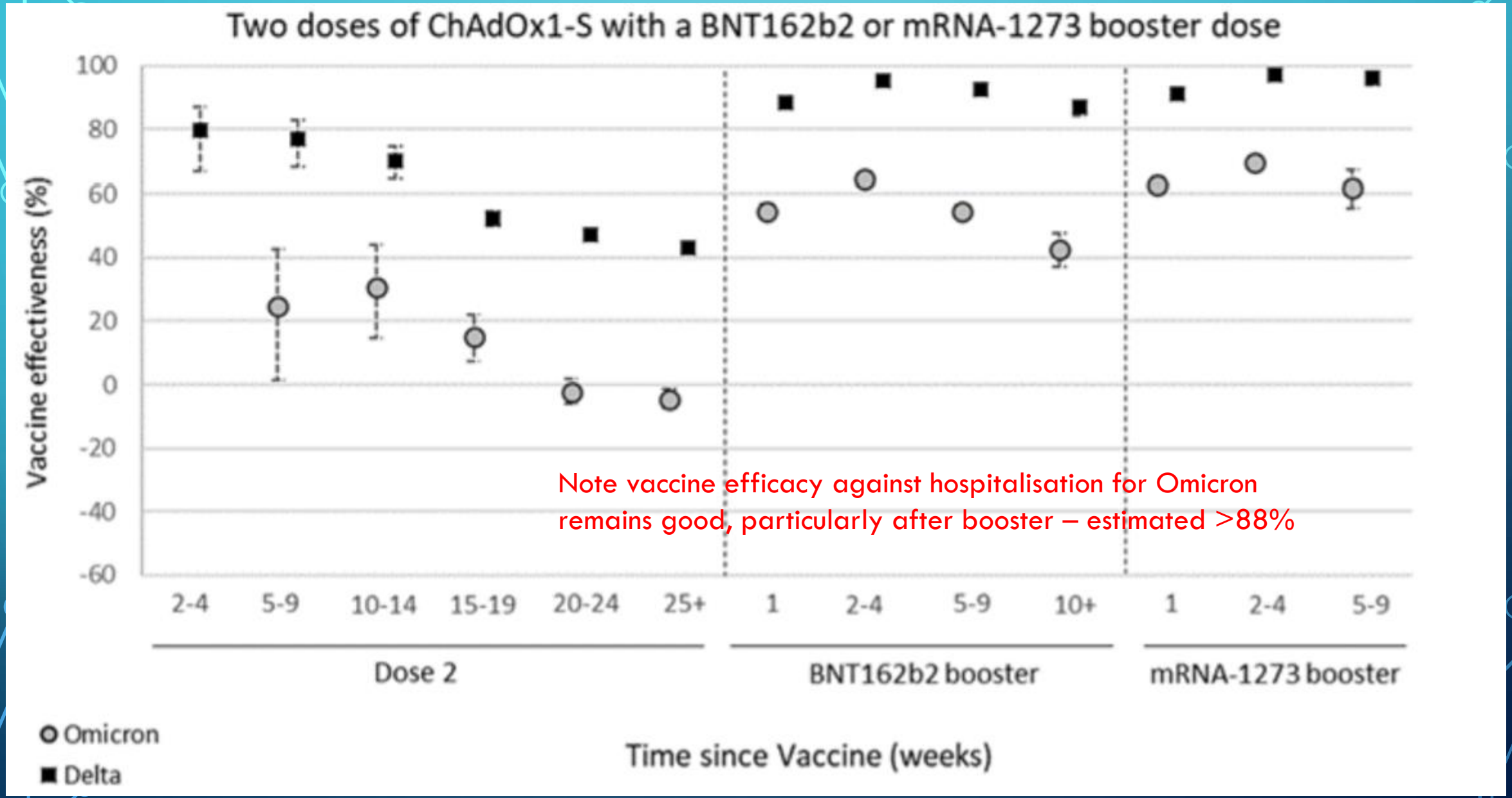
Vaccine status	Number	Time to COVID-19 onset from last vaccine dose – median (days)
0 doses registered in AIR	42	0
1 dose registered in AIR	4	63
2 doses registered in AIR	169	106
3 doses registered in AIR	11	14

Arrival Date/Time	11/01/2022 12:01
Departed Date/Time	11/01/2022 21:14
Presented With Details	BIBA, day 6 postive covid. Active cough, body aches, headache, decreased oral intake. SOB on exertion. Spo2 84% RA, 90% on 2 L via NP. RR 20, BP 115 systolic, HR 90, temp 38.5, panadol anmd nurofen given by ambulance.Pmhx smoker, ?lung disease, high chol.

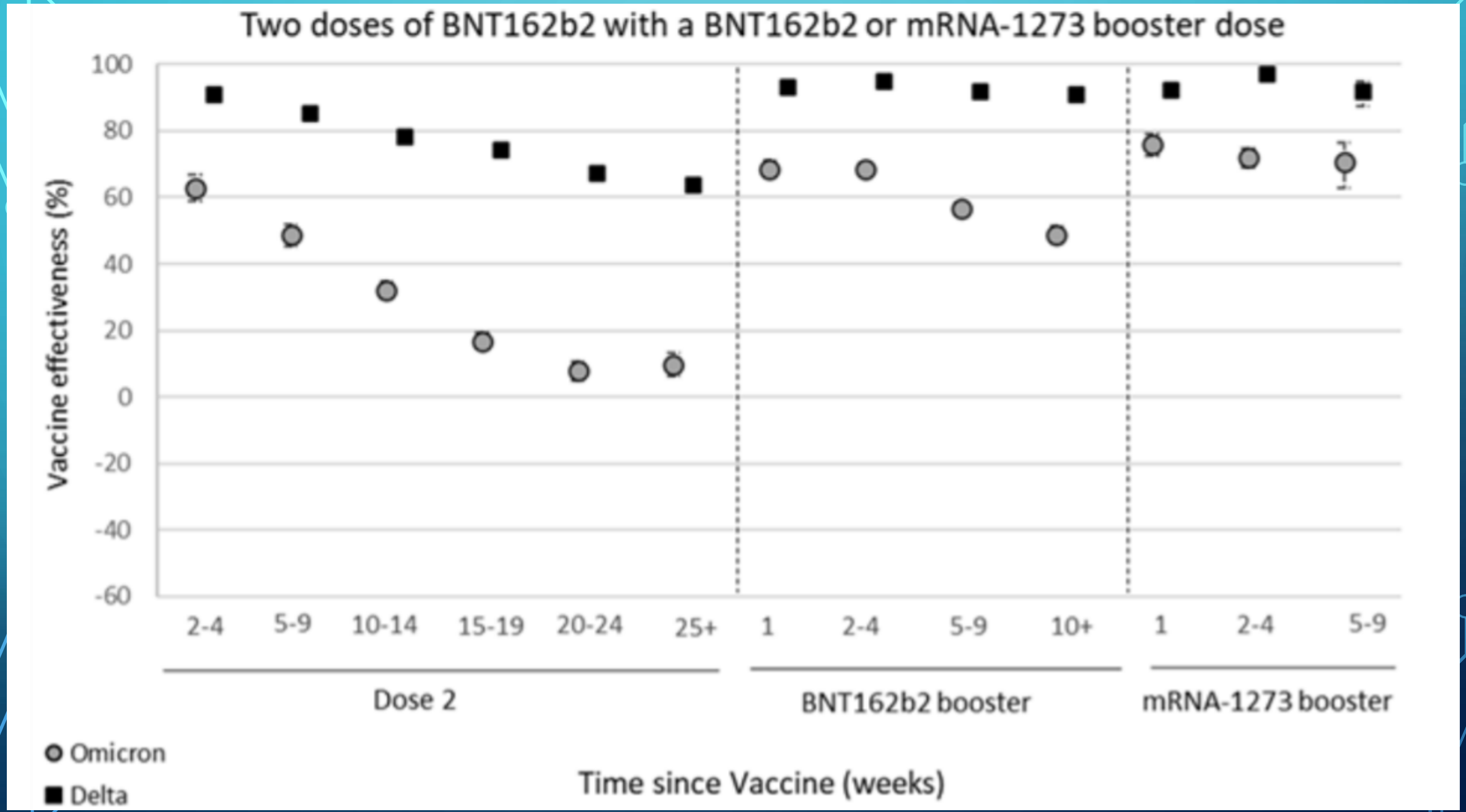
64 yrs , COPD (smoker), Obesity, AZ vaxxed x 2 (Sept 2021 last dose)
Receiving budesonide iv steroids, remdesevir, dexa and baricitinib
Multiple rapid responses with hypoxia (83%) on HFNP
Transfer to JHH ICU; therapeutic enoxaparin started (CTPA not possible)







SARS-CoV-2 variants of concern and variants under investigation (publishing.service.gov.uk)


Two doses of BNT162b2 with a BNT162b2 or mRNA-1273 booster dose
Vaccine effectiveness (%)
100
80
60
40
20
0
-20
-40
-60
2-4
5-9
10-14
15-19
20-24
25+
1
2-4
5-9
10+
1
2-4
5-9
Dose 2
BNT162b2 booster
mRNA-1273 booster
Omicron
Delta
Time since Vaccine (weeks)

RATS: 16 CURRENT ENDORSED BRANDS (TGA)

- Sample- in general, must use the validated sample type
- COVID with symptoms - have high viral load generally – approved RATs perform well ; false negatives v unlikely; NOT strain dependent
- False positives – confirm with PCR – FP rate will be low given the current incidence of disea
- Indeterminate results – don't interpret as positive!
- Limited reasons for PCR confirmation –
    - Significant consistent COVID-19 symptoms and negative RAT
    - RAT pos inpatients who need to commence COVID-19 treatments

https://www.tga.gov.au/covid-19-rapid-antigen-self-tests-are-approved-australia

Lee et al 2021 Comparing the diagnostic accuracy of rapid antigen detection tests to real time polymerase chain reaction in the diagnosis of SARS-CoV-2 infection: A systematic review and meta-analysis

Table 2
Subgroup analysis for the pooled sensitivity of rapid antigen tests according to study design.

Variable	No. of studies	No. of patients	Sensitivity (95% CI)	*P* value
Viral load				
1. Ct ≤ 25	13	676	0.94 (0.84–0.98)	<0.001
Ct > 25	13	821	0.38 (0.29–0.48)	
2. Ct ≤ 30	12	873	0.84 (0.77–0.93)	<0.001
Ct > 30	12	447	0.30 (0.17–0.48)	
Presence of symptoms				
Symptomatic	15	1531	0.72 (0.57–0.83)	0.220
Asymptomatic	9	314	0.52 (0.36–0.67)	
Duration of symptoms				
≤5 days	5	234	0.87 (0.82–0.91)	0.003
>5 days	5	88	0.73 (0.62–0.82)	
Age groups				
Adult	3	299	0.86 (0.82–0.90)	<0.001
Child	3	83	0.52 (0.41–0.63)	

Ag, antigen; CI, confidence interval; Ct, cycle threshold.

Excellent sensitivity at:

- higher viral loads
- early in illness history
- presence of sx
- adults > children

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8444381/pdf/main.pdf

What does my **RAT** result mean?

Test result	Symptoms	Exposure risk	Next steps
✓	✓	Known or unknown contact	You are a confirmed case, follow the advice for people testing positive for COVID-19
✓	✓ OR ✗	Known high risk or household contact	You are a confirmed case, follow the advice for people testing positive for COVID-19
✓	✗	No known contact	You may be a confirmed case. Take another RAT in 24 hours or have a PCR test
✗	✓	No known contact	Take another RAT in 24 hours. If negative, you are unlikely to be a case – just isolate until you feel well
✗	✓	Known high risk or household contact	Take another RAT in 24 hours. If negative, continue to isolate for 7 days and have a second RAT at day 6 after your last contact with the person with COVID-19
✗	✗	Known high risk or household contact	Continue to isolate for 7 days and have a second RAT at day 6 after your last contact with the person with COVID-19

RELEASE FROM ISOLATION

Release from isolation criteria for all confirmed cases who do not meet historical infection criteria

The following information details release from isolation criteria for confirmed cases

Cases can be released from isolation if they meet the appropriate criteria in any of points 1, 2 or 3 – whichever is applicable. Significantly immunocompromised cases will also need to meet additional criterion in point 4 in order to be released from isolation.

If a COVID-19 case is infected with an emerging variant of concern with unknown viral characteristics (e.g. Omicron), some jurisdictions may implement a more conservative approach to release from isolation criteria (See Appendix B).

1. *Confirmed cases who have remained asymptomatic*

Irrespective of vaccination status the case can be released from isolation if:

- at least 10 days have passed since the first respiratory specimen positive for SARS-CoV-2 by NAA was taken; and
- no symptoms have developed during this period.

In exceptional circumstances, some jurisdictions may support earlier release if:

- the case is fully vaccinated; and
- at least 7 days have passed since the first respiratory specimen positive for SARS-CoV-2 by NAA was taken; and
- no symptoms have developed; and
- NAA is negative at day 7 from specimen collection date.

2. *Confirmed cases with resolution of fever and acute respiratory symptoms*

Irrespective of vaccination status the case can be released from isolation if:

- at least 10 days have passed since symptom onset; and
- there has been resolution of fever and respiratory symptoms of the acute illness for the previous 72 hours[1].

In exceptional circumstances, some jurisdictions may support earlier release if:

- the case is fully vaccinated; and
- at least 7 days have passed since symptom onset; and
- there has been resolution of fever and respiratory symptoms of the acute illness for the previous 72 hours[1]; and
- NAA is negative at day 7 from specimen collection date.

3. *Confirmed cases without complete resolution of acute respiratory symptoms*

The case can be released from isolation if they meet **all** of the following criteria:

- at least 14 days have passed since the onset of symptoms;
- there has been resolution of fever for the previous 72 hours;
- there has been substantial improvement in respiratory symptoms of the acute illness [1]; and
- the case is not significantly immunocompromised[3]

OR

- USA 5 days
- UK and NSW community 7 days
- CDNA minimum 10 days

https://www1.health.gov.au/internet/main/publishing.nsf/Content/cdna-song-novel-coronavirus.htm (24Dec21 update)

Quarantine and testing requirements for close contacts

Fully vaccinated close contacts	Unvaccinated/partially vaccinated close contacts or unknown vaccination status
Quarantine requirements • At a minimum, fully vaccinated close contacts should quarantine for 7 days following the last possible contact with a confirmed COVID-19 case, during the case's infectious period. • Quarantine must occur for 7 days regardless of any negative test result.	**Quarantine requirements** • At a minimum, unvaccinated or partially vaccinated close contacts should quarantine for 14 days following the last possible contact with a confirmed COVID-19 case, during the case's infectious period. • Quarantine must occur for 14 days regardless of any negative test result.
Testing during quarantine • Testing of close contacts should occur: ○ If COVID-19 symptoms develop ○ On entry to quarantine ○ Before exit from quarantine - A test late in the quarantine period (e.g. after day 5-post exposure), should be conducted.	**Testing during quarantine** • Testing of close contacts should occur: ○ If COVID-19 symptoms develop ○ On entry to quarantine ○ Before exit from quarantine - A test late in the quarantine period (e.g. day 12-13), should be conducted.

NB: Up to 20% of omicron transmission takes > 7 days post exposure regardless of vaccination status

Pragmatic approach- return to work [at day 2] and daily RAT for 14 days

https://www1.health.gov.au/internet/main/publishing.nsf/Content/cdna-song-novel-coronavirus.htm (24Dec21 update)