Retrospective audit of inpatient mpox cases at Alfred Health.

Management and public health advice of people diagnosed with mpox requiring hospitalisation

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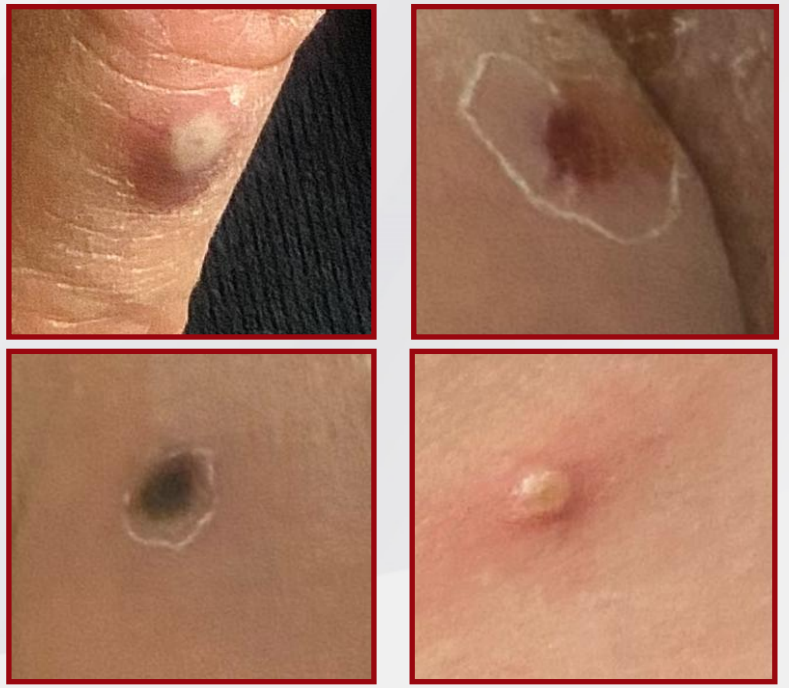
Conflicts of Interest

- Nothing to disclose

Mpox (formerly Monkeypox)

- DNA Virus in the Orthopoxvirus genus
- Vaccine available in Australia since August 2022 – smallpox vaccine (JYNNEOS ™)
- Zoonosis → Animal/rodent host, with occasional human-to-human transmission. Humans are accidental hosts
  - 2 clades. May 2022 Outbreak Clade IIb – human to human transmission
  - 2024 outbreak from DRC to other African countries and now cases in Europe Clade Ib (first Australian case May 2025)



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Patel A BMJ 2022, Thornhill JP NEJM 2022, Hammerschlag Eurosurveillance 2022
https://ausvaxsafety.org.au/

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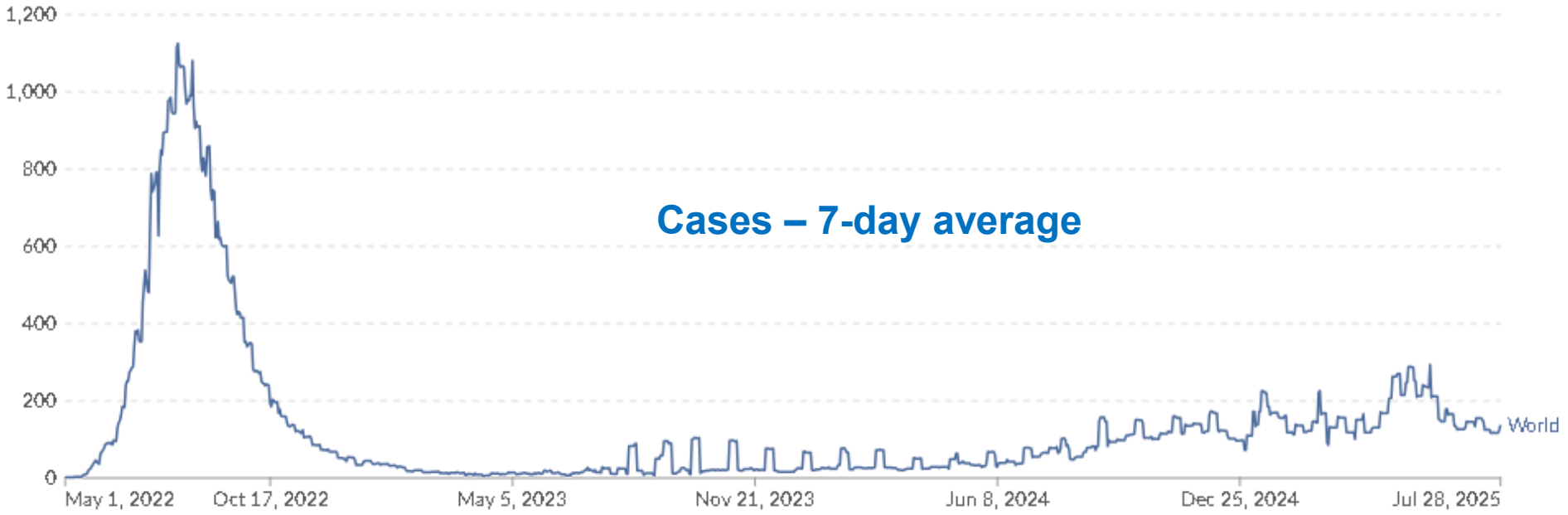
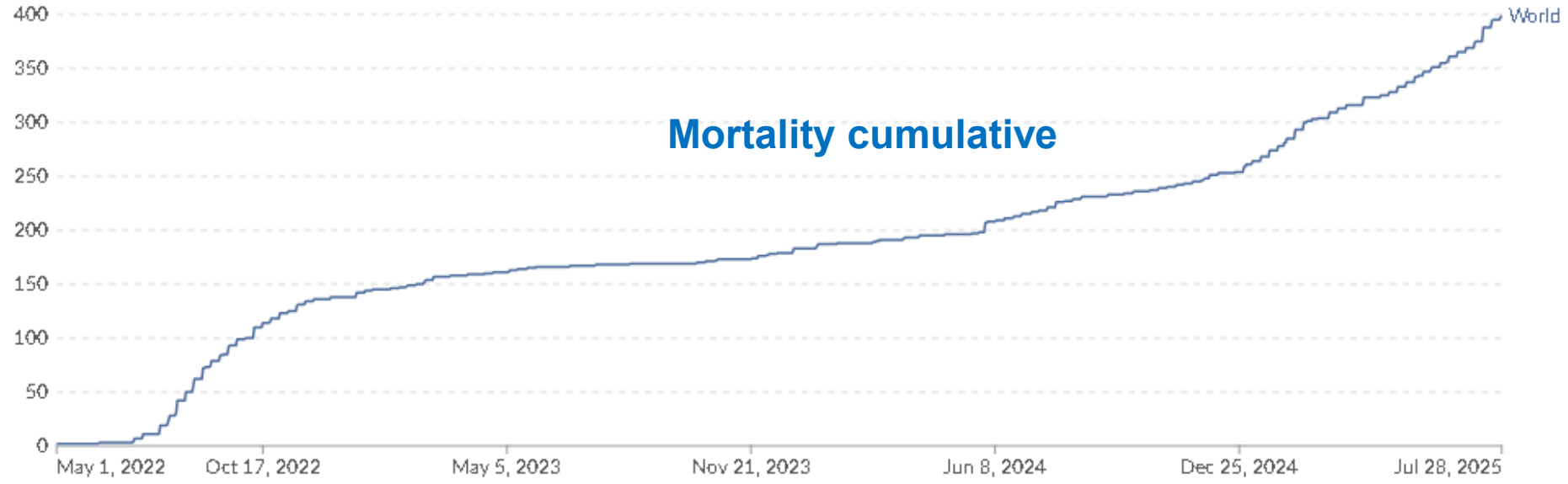




Since May 2022
- 155,160 cases globally
- 399 deaths

2022-2023 outbreak (Clade II) in countries where mpox not previously reported:
- 95,196 cases,115 deaths
  Demographics: 98% male, median age 36 years (IQR 30-43 years), gay, bisexual, and other MSM (95% of cases with data available)

Victorian Department of Health Public Health Database
- Public Health Event Surveillance System: 1/1/2022 – 31/12/2024

- 566 notifications
- 21% PWH
- 46% on PrEP

https://ourworldindata.org/mpox
archive.cdc.gov/#/details?url=https://www.cdc.gov/poxvirus/mpox/response/2022/world-map.html

Tecovirimat indications (Australian Human Mpox Treatment Guidelines 2024)

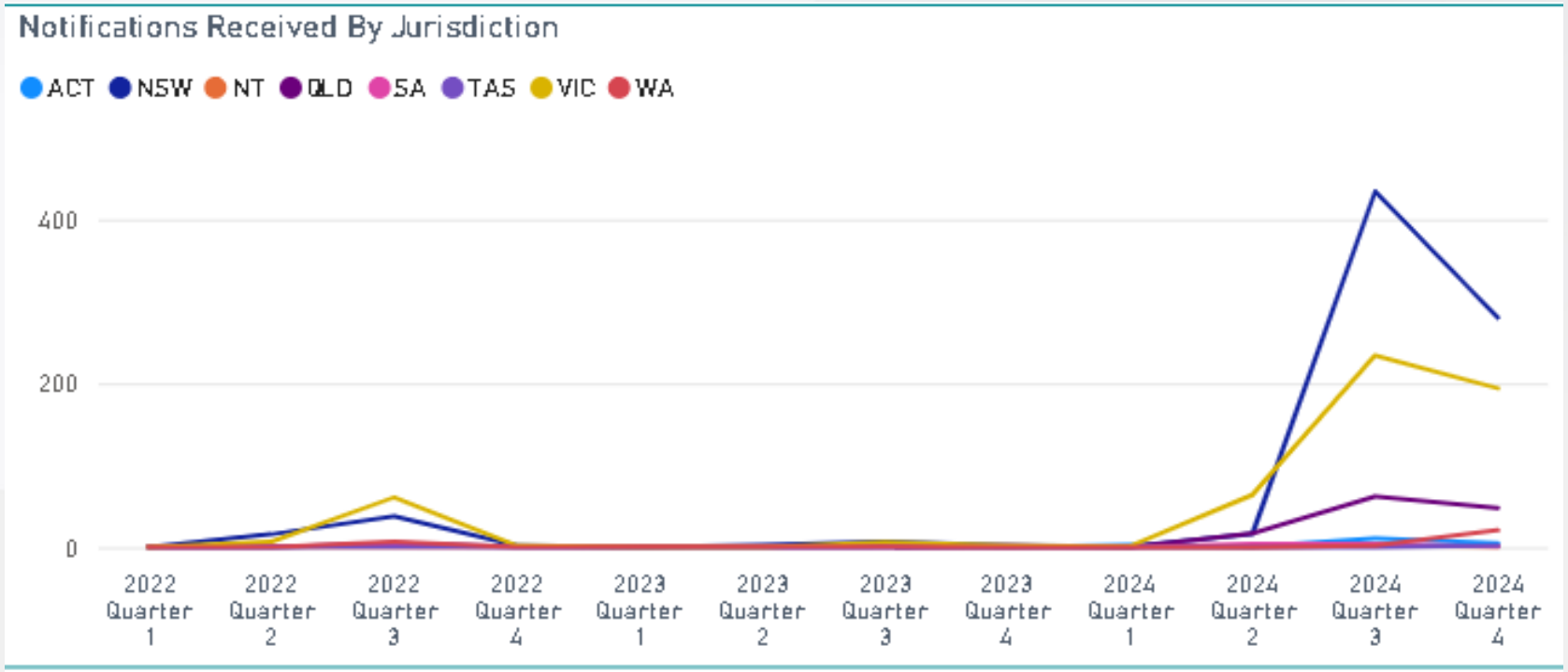
- Severe disease (e.g., haemorrhagic disease, confluent lesions, sepsis, encephalitis, or other conditions requiring hospitalisation).
- Those at high risk of severe disease
- Immunocompromised people
- Children
- Pregnant or breastfeeding
- Complications including secondary bacterial skin infection, severe gastroenteritis, bronchopneumonia, disease to eye, mouth, or other anatomical areas where mpox might constitute a special hazard

health.gov.au/sites/default/files/2024-11/monkeypox-treatment-guidelines.pdf

National Notifiable Diseases Surveillance System 2022 – 2024

Notifications Received By Jurisdiction

State	2022	2023	2024
ACT	3	1	20
NSW	56	12	731
NT	0	0	4
QLD	6	2	127
SA	2	0	9
TAS	0	0	2
VIC	70	8	493
WA	7	3	23
Total	**144**	**26**	**1,409**



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https://nindss.health.gov.au/pbi-dashboard/

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Changes in Public Health Advice

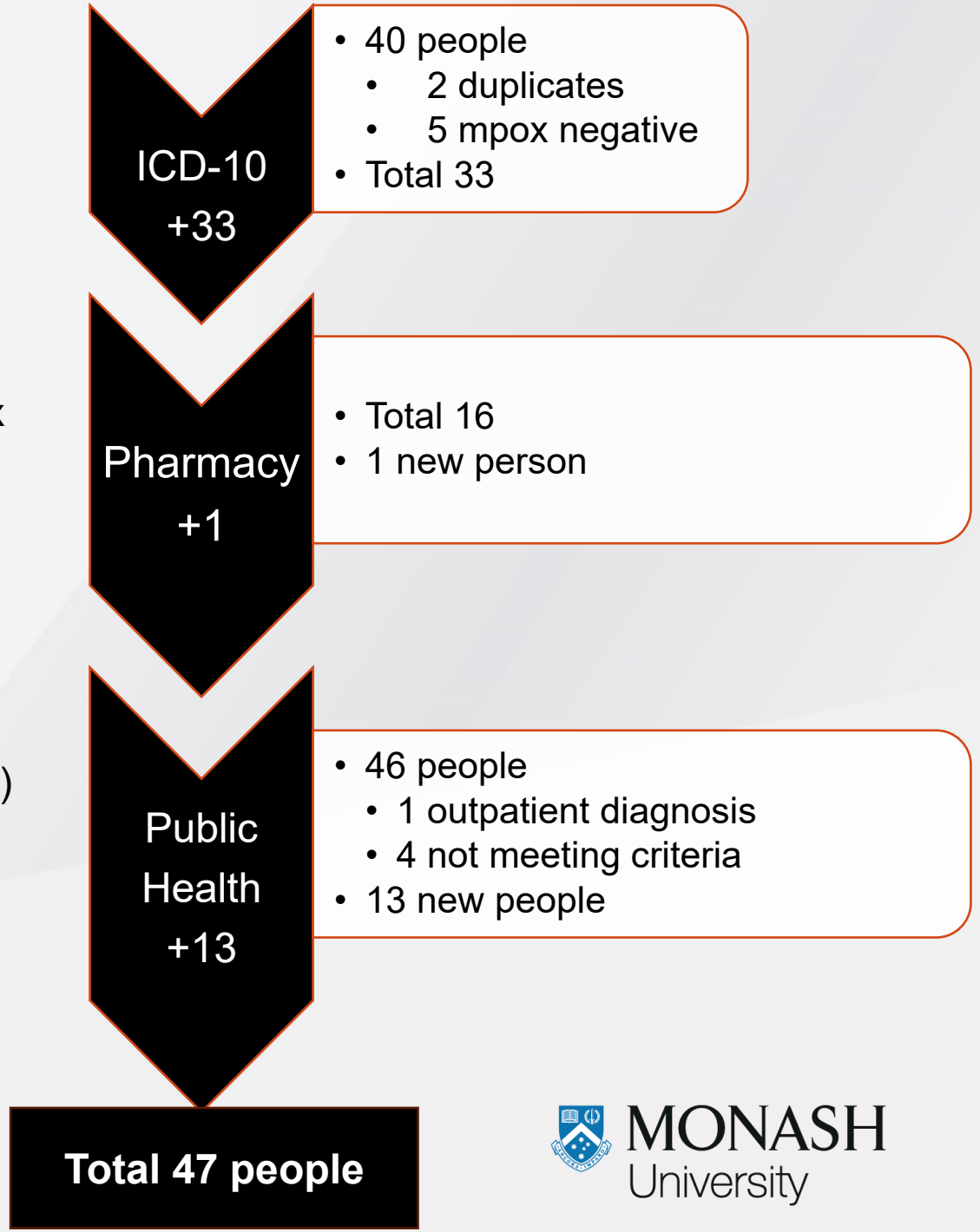
Date of Advice and of changes	Infectious period	Isolation duration dictated by	Isolation requirements	Lesion evolution stipulated	Masking/Covering lesions when with others	Sexual transmission
~16/12/2022	From first symptoms until lesions healed	Both lesions and symptoms resolved	Home except medical care or solo exercise	Crusted, scabs fallen off, re-epithelialisation	Both	Abstain until cleared.
~13/07/2023	As above	As above	Home except “essential, non-crowded activities” e.g. groceries, medical care, solo outdoor exercise	As above	Both	As above
~17/09/2024	4 days prior to first symptoms until lesions healed	As above	Avoid “high-risk settings” e.g. childcare, aged care	As above	Cover lesions. Surgical mask if oral lesions or pharyngitis.	As above
~11/11/2024	As above	As above	Work from home if possible. Otherwise, as above	As above	Cover lesions. Mask if oral lesions, pharyngitis, or respiratory symptoms	Abstain until cleared. Barrier 3/12 post clearance

Aims

- Hospital-based mpox care has not been previously described in Australia.
- We sought to describe clinical outcomes, smallpox vaccination, antiviral use, and public health advice for people with symptomatic mpox presenting to The Alfred hospital in Melbourne, Australia from 1/1/2022 to 31/12/2024.

Methods – Data sources 1/1/2022 – 31/12/2024

- Alfred Health EMR
  - Medical Records
    - ICD-10 code discharge code B04 – code for mpox
  - Pharmacy records
    - Retrieved all records on people dispensed Tecovirimat
- SEPHU
  - Victorian Department of Health Public Health Database
    - Public Health Event Surveillance System (PHESS)
    - All people with diagnosis of Mpox who attended Alfred Health
- Alfred HREC approval Project No: 110/25



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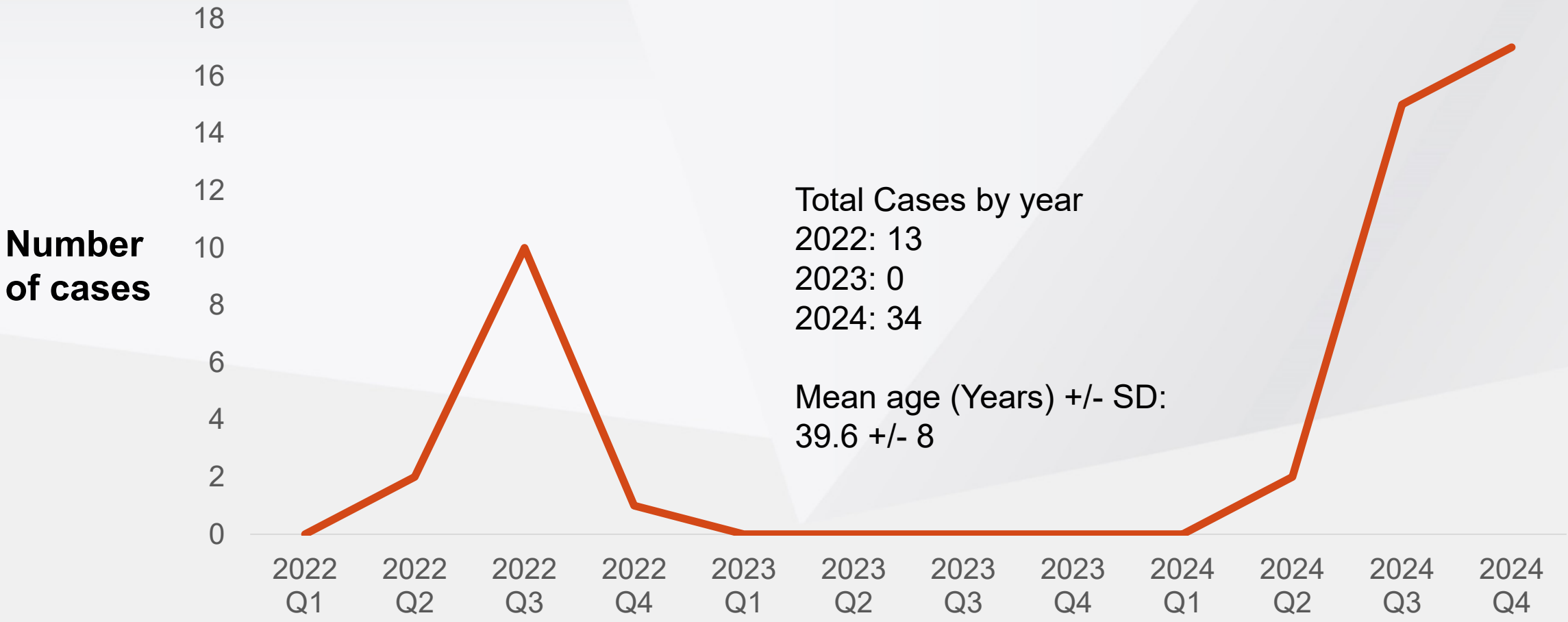
Methods

- Extracted data on:
  - Demographics - Gender, Age, Risk Category,
  - Clinical manifestations, HIV status, Vaccination status, Tecovirimat use and indication, Care characteristics (Emergency only versus ward inpatient)
- Descriptive Analysis

Managed at Alfred with mpox



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Baseline Demographics

Characteristics	*N (%)*
Gender	
Cisgender man	46 (98.9)
Non-binary	1 (1.1)
MSM	44 (95.7)
Not documented	2 (4.2)
Neither Aboriginal nor Torres Strait Islander	46
Both Aboriginal and Torres Strait Islander	1
Overseas travel prior month	
2022 (n=13)	7 (53.8)
2024 (n= 34)	0
Casual sexual partner(s) prior month	42 (89.4)
Sexual history unclear	5
Cohabit with partner with mpox	2
Non sexual contact with lesion	2
Injects drugs	10

Characteristics	*N (%)*
People living with HIV	24 (51.1) [a]
Established diagnosis	21
New diagnosis	3
Receiving antiretroviral therapy (ART)	21 (87.5) [b]
Not receiving ART	3 (12.5)
New diagnosis	2
Non-adherent	1
People without HIV	23
Documented PrEP use	13 (56.5)
Daily	8
On demand	2
Regimen not documented	3

NOTES: a) at time of discharge; b) 20 receiving ART at time of admission due to established diagnosis, 1 receiving ART after new diagnosis at time of Mpox diagnosis.

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Mpox vaccination (JYNNEOS™)

Characteristics (n=47)	Any vaccine (n=11) N (%)	Unvaccinated (n=36) N (%)
Any vaccination	11 (23.4)	-
Single dose (Post-exposure prevention)	2	-
Single dose	4	-
Two doses	5 (11.9)	-
PWHIV	7 (63.6)	17 (47.2)
• **CD4 <200 cells/mm3**	1	2
Iatrogenic immunocompromise	0	1
Tecovirimat use	6 (54.5)	14 (38.9)
Age (Years. Median [IQR])	37 (34-42)	39 (35-45)
CD4+ (cells/mm3. Median [IQR])	534 (238-829)	497 (300-809)
Days from vaccine to diagnosis (Median [IQR])	540 (12 – 718)	N/A

Clinical Manifestations

Signs/Symptoms (n=47)	*N (%)*
Subjective fevers	28 (60)
Rectal pain	23 (49)
“Severe” pain or opioid analgesia	22 (46.8)
Per rectum bleeding	14 (29.8)
Pharyngitis	13 (27.7)
Mucocutaneous lesions	45 (95.7)[a]
Facial	22
Oral cavity	12
Penile / Scrotum	14
Perianal	19
Buttocks	12
Groin	11
Trunk	28
Upper limb	25
Lymphadenopathy	20 (42.6)
Cervical	10
Inguinal	10
Complications	
Cellulitis	9 (19.1)
Abscess	2
Group A strep bacteraemia	1
Urological emergency	1

NOTES: a) One person had rectal bleeding without visible lesions, one person had pharyngitis without visible lesions; b) Penile alone = 7, scrotal alone = 1, both = 6.

Clinical service where PCR performed (n=47)	*N (%)*
Alfred (symptoms arose pre-admission)	23 (48.9)
Alfred (symptoms arose during admission)	1[a]
External	21 (44.7)
Melbourne Sexual Health Centre (MSHC)	14
GP	3
External hospital	2
Undocumented	1
Overseas	1
Dx externally post ED review	
MSHC	1
Prahran Market Clinic	1

NOTES: a) One person developed symptomatic mpox while admitted for unrelated reasons.

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Hospital disposition and antivirals

Disposition	*N (%)*
Discharged from ED	16 (34)
Awaiting Mpox PCR	11
Known diagnosis	3[a]
Subsequent diagnosis post ED visit	2[b]
Admitted to Ward	31 (66)
Duration of ward admission (Days. Median [IQR])	4 (2-5)

NOTES: a) Presented due to worsening symptoms, dispensed tecovirimat.
b) One person discharged themselves from ED prior to PCR being procured, the other was diagnosed with pharyngitis and had a swab at MSHC the next day

Tecovirimat Use (n=47)	*N (%)*
Received Tecovirimat	20 (42.6)
Dispensed in ED – outpatient course	3 (15)
Dispensed as inpatient	17 (85)
Indication	
Proctitis (pain and/or bleeding)	14 (70)
Pain and bleeding	8
Rectal pain alone	4
Rectal pain, on TNF- alpha inhibitor	1
Rectal pain and pharyngitis	1
Pain (unspecified)	2
Pharyngitis alone	1
Sepsis	1
Cellulitis	1
External acoustic meatus lesion	1

Antivirals

	Received tecovirimat N (%) n = 20	No tecovirimat N (%) n = 27
Age (Median + [IQR])	39 (34.3-42.8)	38 (35-45)
PWHIV (n=24)	13 (65)	11(40.7)
CD4+ (cells/mm3. Median + [IQR])	534 (218-940)	497 (332-765)
CD4+ < 200 cells/mm3	2	1
CD4+ not documented[a]	2	4
Iatrogenic immunosuppression	1	0
Received mpox vaccine	6 (30)	5 (18.5)
1 dose (post exposure prophylaxis)	1	1
1 dose	2	2
2 doses	3	2

NOTES: a) CD4 count not documented from same hospital encounter

Clearance advice

From inpatient treating team	*N (%)*
Any Documented	37 (78.7)
Isolation duration dictated by	
Lesion resolution	12
Mentioned but stipulations unclear	8
Until mpox PCR becomes available	6
Clearance by LPHU	5
Outpatient review	4
Lesion resolution or 21 days (whichever earlier)	1
Symptom resolution (proctitis)	1

Description of lesion resolution to determine end of isolation (n=17)	*N (%)*
Crusted	4
Healed	3
Crusted and dried	2
Crusted, scabs fallen off	2
Scabbed and healed	2
Scabs fallen off, re-epithelialisation	3
Exposed lesions crusted, scabs fallen off, re-epithelialisation	1
Non exposed lesions crusted and dried	

Public Health unit (n=47)	*N (%)*
Documented clearance	29 (61.7)
Lost to follow up	15 (31.9)
Unclear	3

Other inpatient public health advice

Other advice given	N (%)
Masking/Covering lesions when with others	8
Mask only	4
Cover lesions only	2
Both	1
Mask (N95) and cover	1
Sexual abstinence	10
Unclear timeline	5
Abstain until lesion free. Barrier 3/12	2
Barrier 3/12	1
Abstain 8/52 and no new lesions for 48/24	1
Abstain 7/52	1
Sharing fomites (Cutlery, linen etc.)	6
Transmission to animals	1

Discussion

- First description of inpatient mpox care in Australia and indications for tecovirimat use
- Low levels of vaccination in admitted people
  - Only 5 of 47 (11%) people had recommended 2-dose mpox vaccination
- Risk factors, demographics consistent with epidemic
- Indications for Tecovirimat use most commonly related to Proctitis. Loosely covered under current guidelines
  - New efficacy data available (STOMP, PALM007)
- Variable documentation on guidance for isolation and complexity of following up individuals in the outpatient setting (clinical teams, and the PHU)
- Limitations: Retrospective. Incomplete and inconsistent documentation. Single institution. Small sample size

Summary

- Hospital care is an important component of mpox management.
- Accurate guidance for hospital-based clinicians on management, particularly antiviral use, and public health advice is necessary to optimise outcomes.
- Improved communication between inpatient and public health teams may result in more concordant public health advice between clinicians.

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Additional slides

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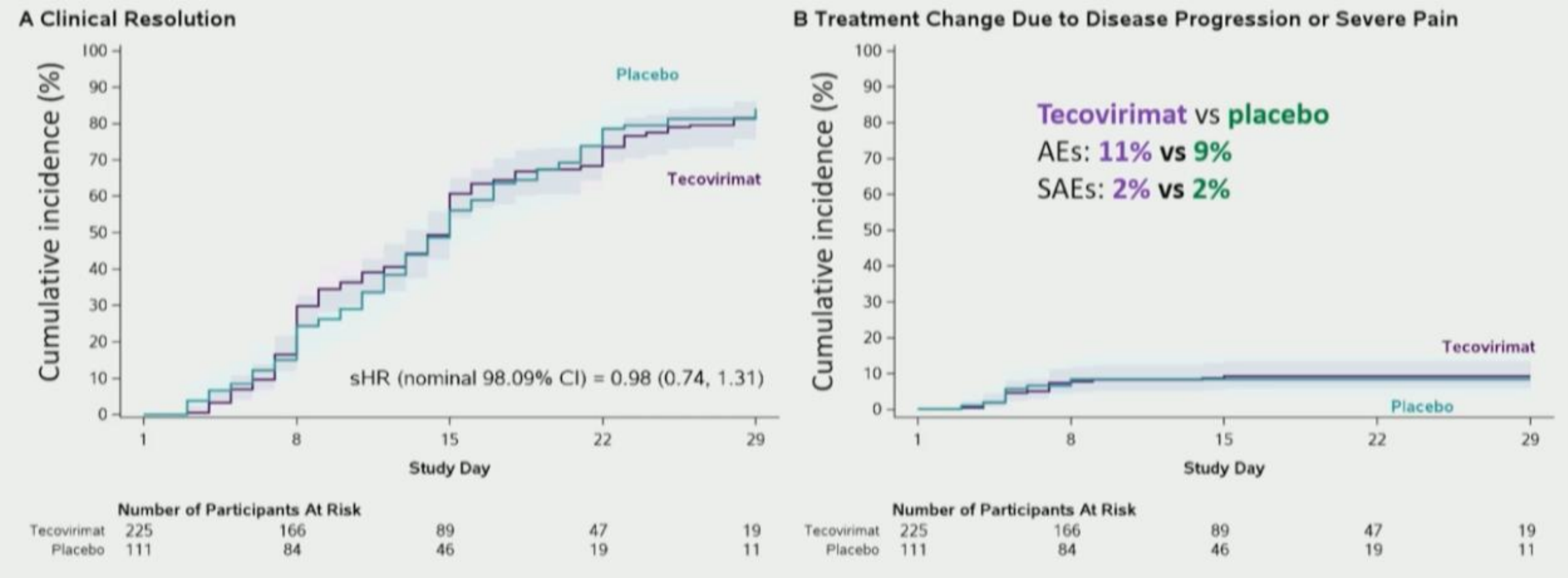
STOMP: Tecovirimat for Clade II Mpox Wilkin CROI 2025

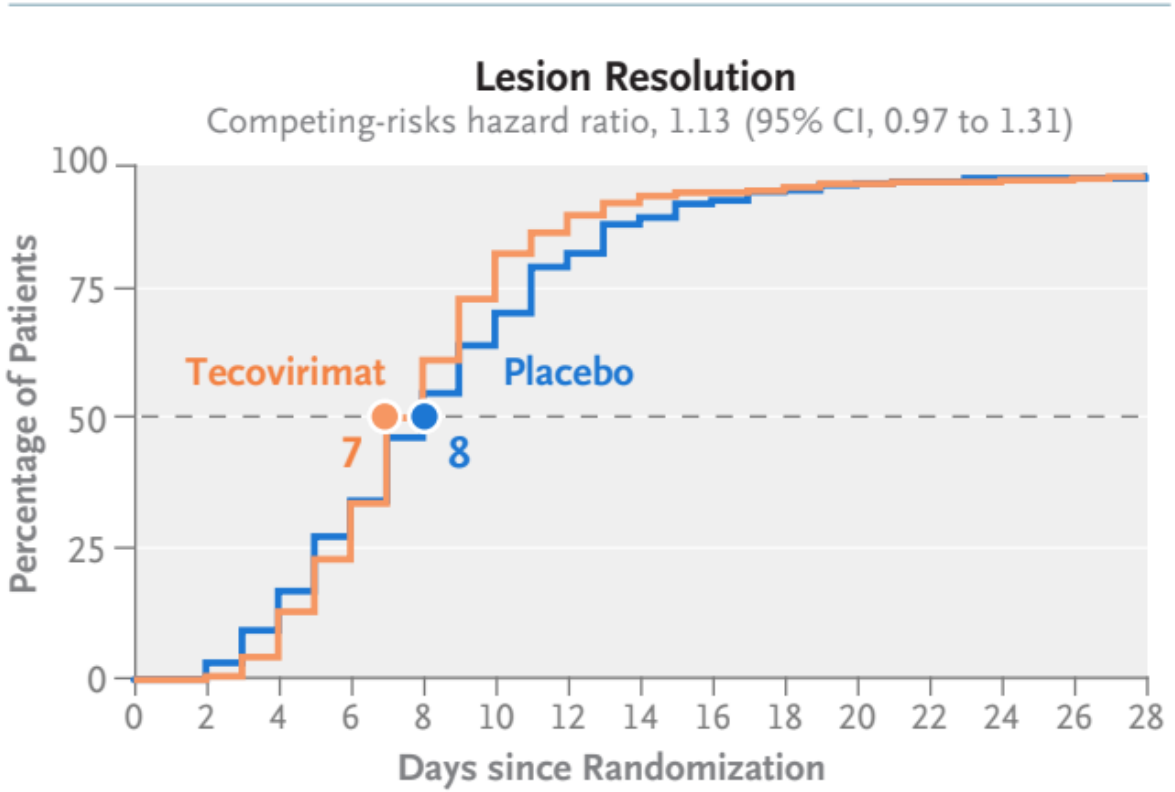
Placebo controlled RCT for 14 days Tecovirimat or placebo in symptomatic mpox
Participants allowed open label tecovirimat for disease progression or severe pain at Day 5
Primary: Time to clinical Resolution
Stopped early by DSMB due to futility

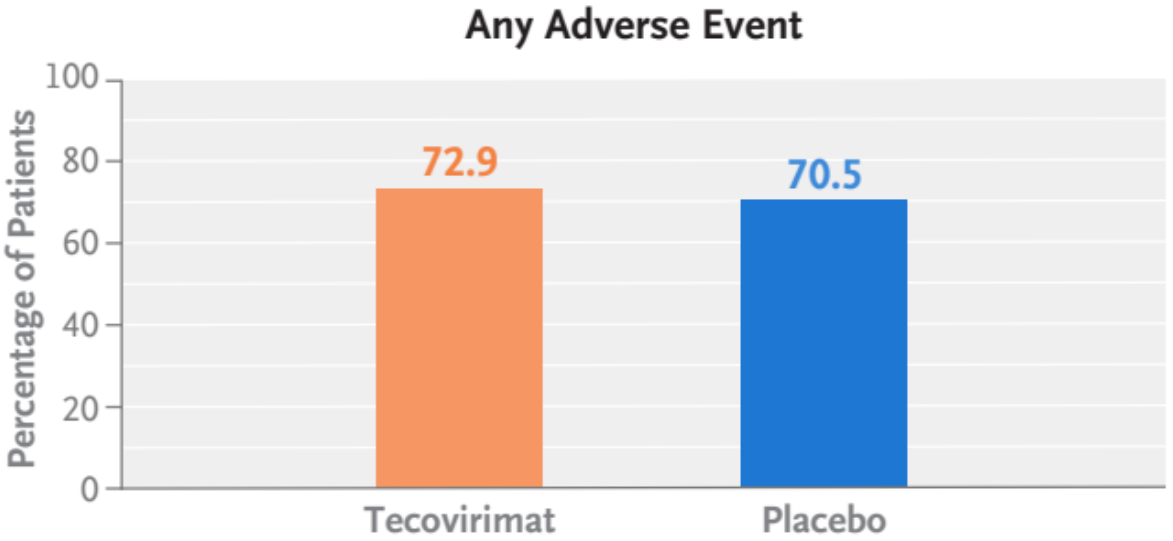


https://www.nih.gov/news-events/news-releases/nih-study-finds-tecovirimat-was-safe-did-not-improve-mpox-resolution-or-pain

PALM007 Trial

- N=597. DRC – Clade 1 mpox.
- 1:1 Tecovirimat vs placebo
- No difference in time to lesion resolution, viral shedding, severe disease





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PALM007 Group, N Engl J Med 2025;392:1484-1496