Buruli ulcer: an update for GPs working in inner Melbourne

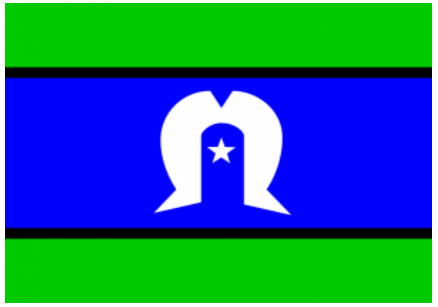
Thursday 19 October 2023

The content in this session is valid at date of presentation

Acknowledgement of Country

North Western Melbourne Primary Health Network would like to acknowledge the Traditional Custodians of the land on which our work takes place, The Wurundjeri Woi Wurrung People, The Boon Wurrung People and The Wathaurong People.

We pay respects to Elders past, present and emerging as well as pay respects to any Aboriginal and Torres Strait Islander people in the session with us today.



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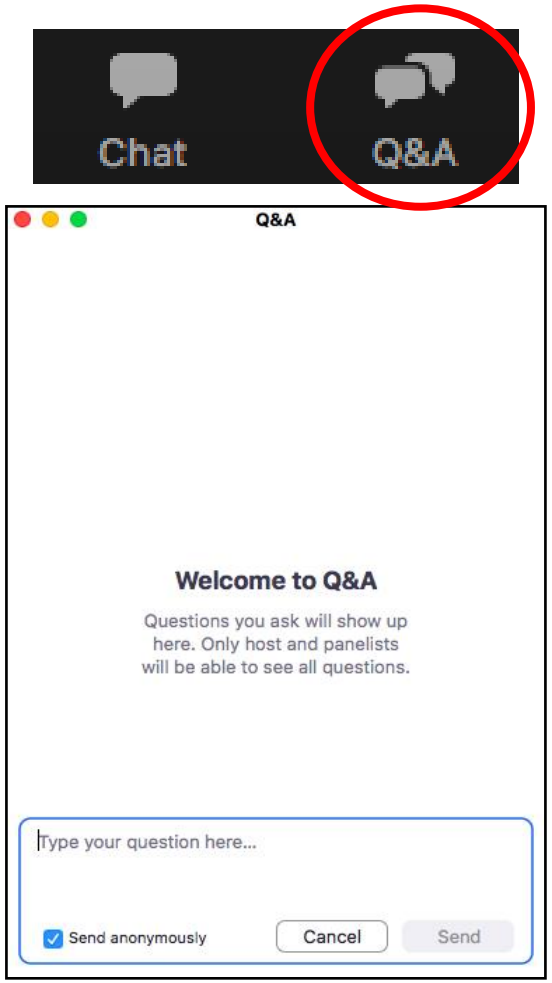
Questions will be asked anonymously to protect your privacy



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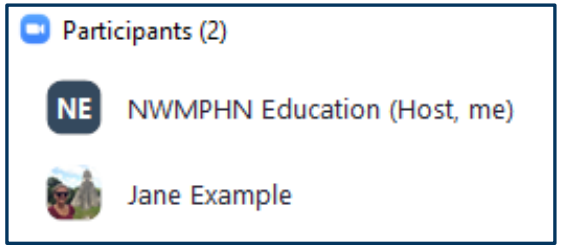

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Buruli Ulcer

AN UPDATE FOCUSING ON MELBOURNE'S INNER NORTHERN SUBURBS

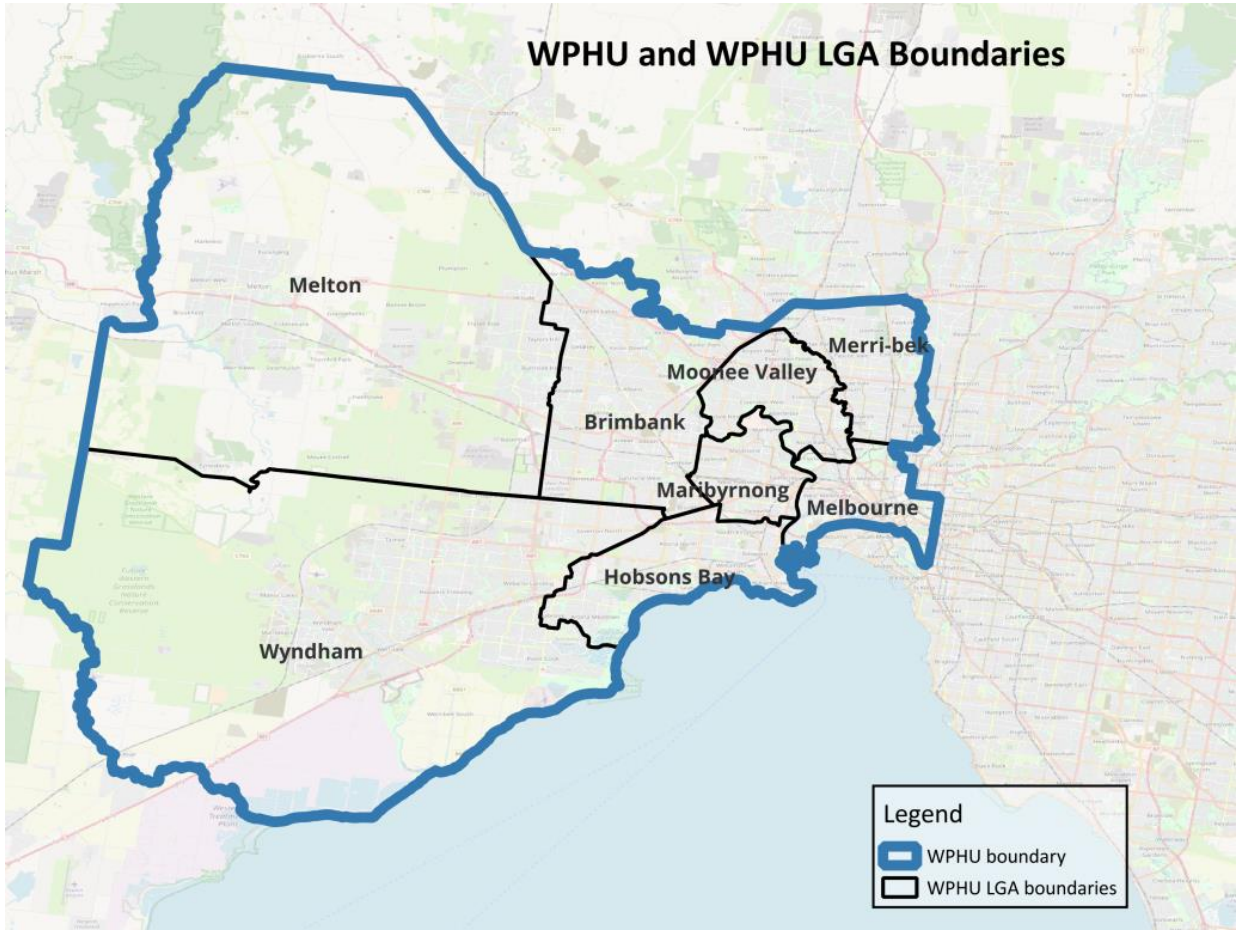
WESTERN Public Health Unit | Western Health

Outline

1. Background
2. Local epidemiology and transmission
3. Testing
4. Management of Buruli ulcers
5. Prevention

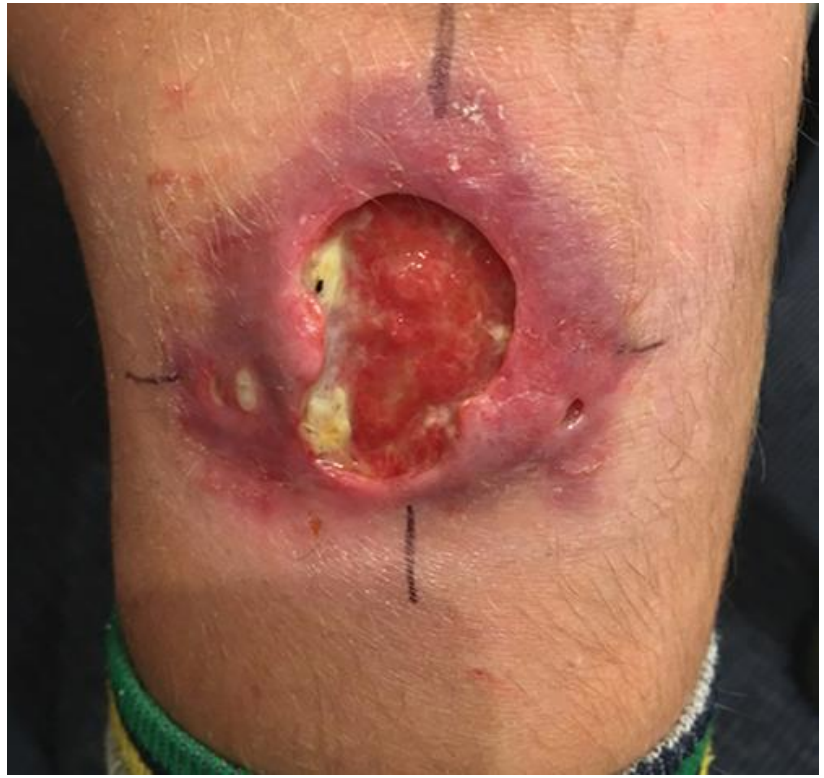
About Western Public Health Unit

- One of nine local public health units established in 2020 as a response to the COVID-19 pandemic
- Now responsible for broader public health actions including population health promotion, and management of most notifiable conditions
- Our catchment extends across central and western Melbourne, and covers 8 local government areas and approximately 1.3 million people



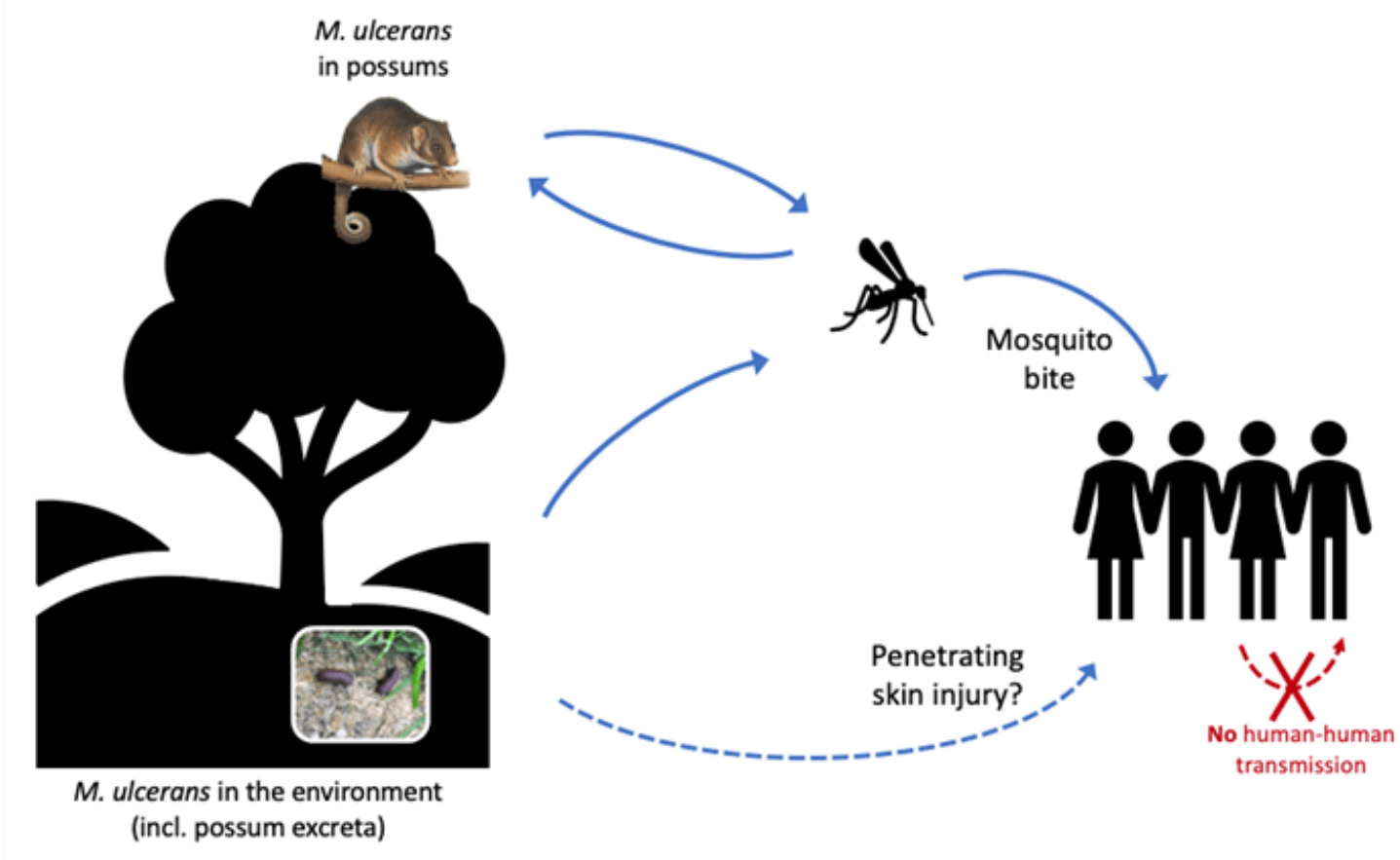
1. Background

- Buruli ulcer:
  - aka Bairnsdale ulcer, Daintree ulcer
- Necrotising skin soft tissue infection
- Caused by *Mycobacterium ulcerans*
- Very slow growing – median incubation period 4-5 months
- Can lead to significant tissue destruction



Source: O'Brien et al, MJA, 2018

Transmission



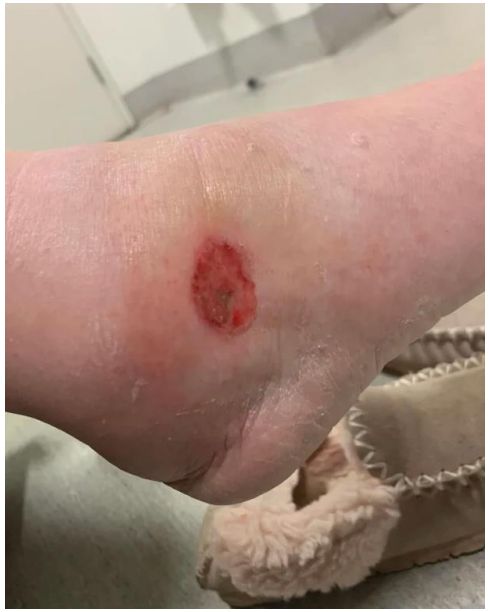
Clinical Features

- Most cases present as small papule that slowly ulcerates over weeks-to-months
- Can also present as cellulitis or oedema without an ulcer
- Systemic symptoms very rare

Consider in any person who presents with a lesion or cellulitis that does not improve with antibiotics

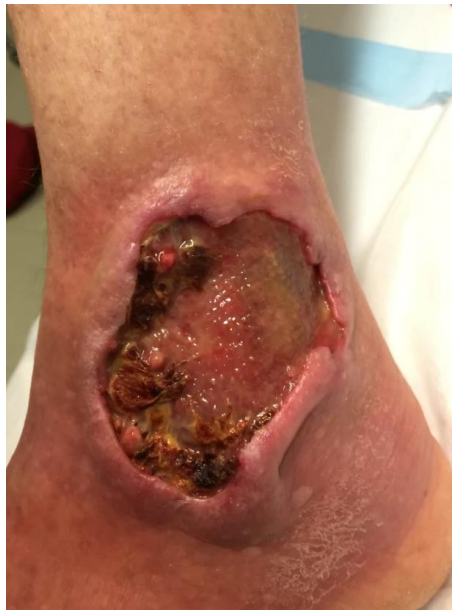
Examples

Early Buruli ulcer



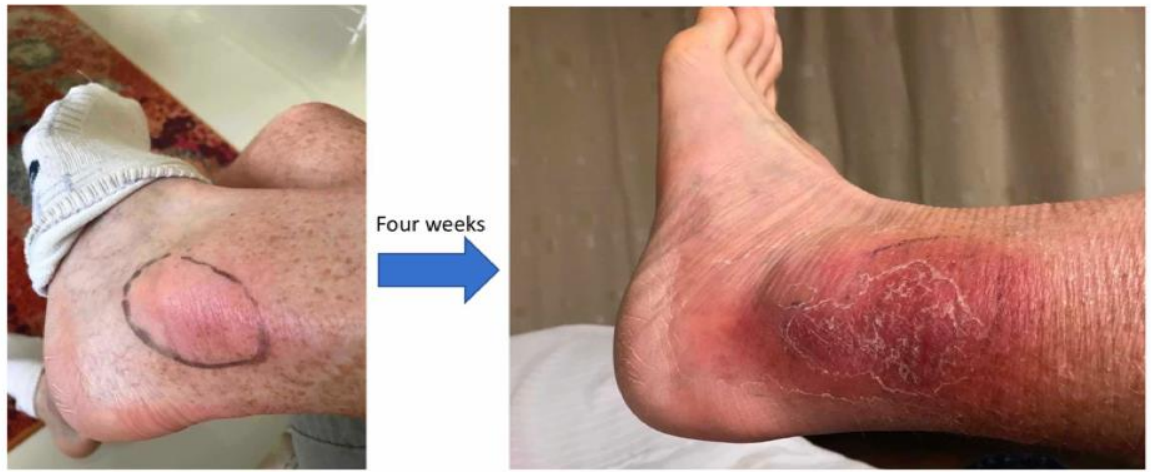
Source: The Age, 2023

Established ulcer



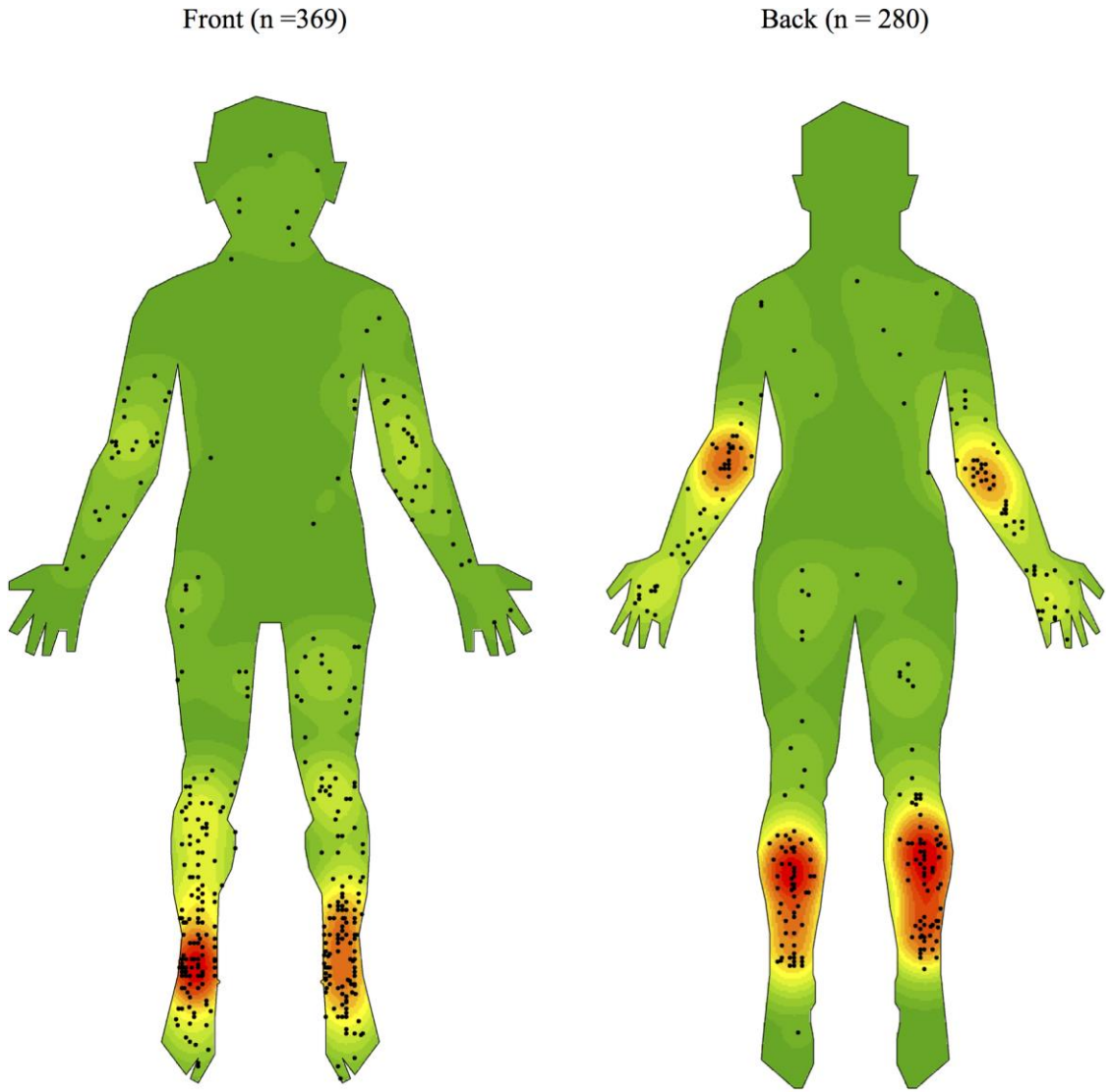
Source: The Age, 2016

Cellulitic presentation



Source: Prof Paul Johnson, available online: goo.gl/h3a0b4

Location on body



Yerramilli et al, PLOS Neglected Tropical Diseases, 2017

Risk Factors

Host	Environmental	Exposure
Diabetes mellitus	Possums on property	Outdoor work with soil contact
Prednisolone therapy	Use of bore water	
Receipt of BCG vaccination	Pond at property	

McNamara et al, EID, 2023

2. Local Epidemiology

In 2021, cases of Buruli ulcer acquired in inner northern Melbourne identified for the first time

In 2022 – inner Melbourne suburbs listed as an area of local transmission

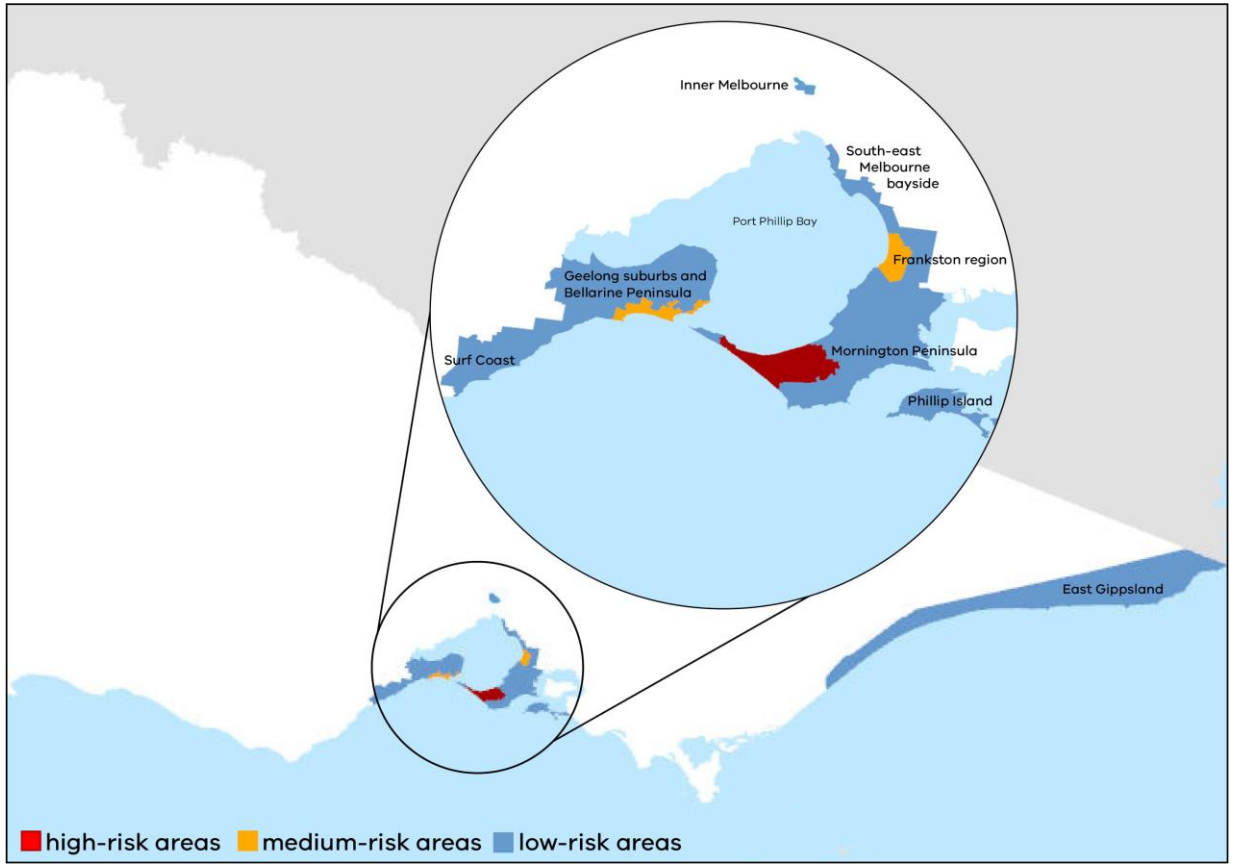
Essendon

Moonee Ponds

Brunswick West

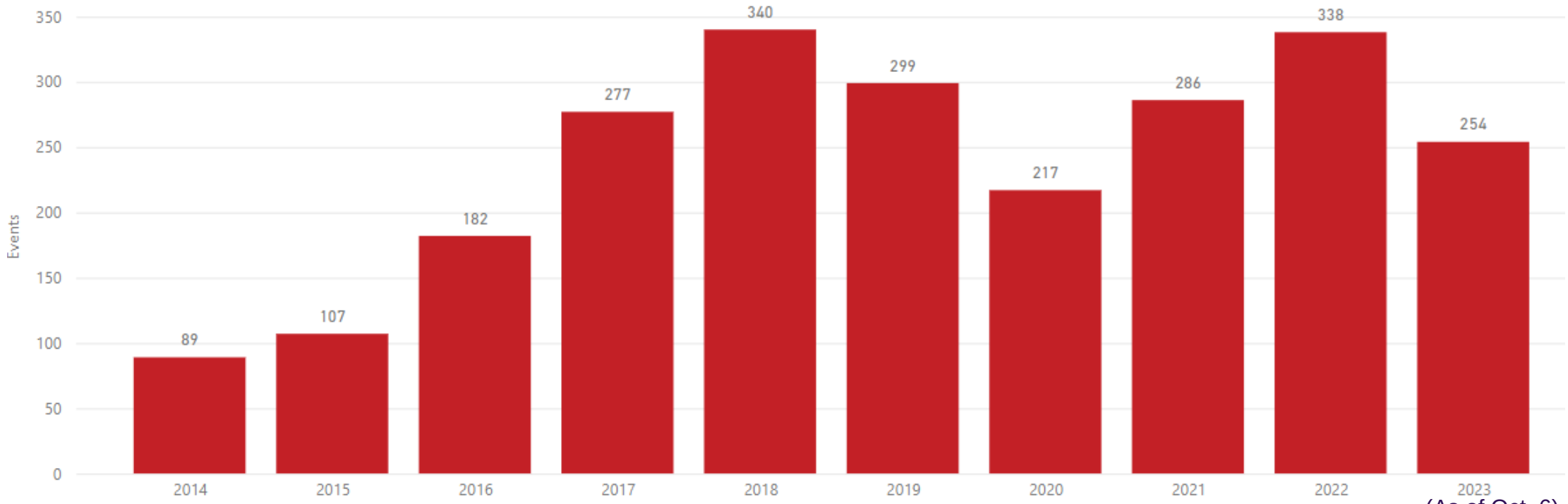
Pascoe Vale South

Strathmore



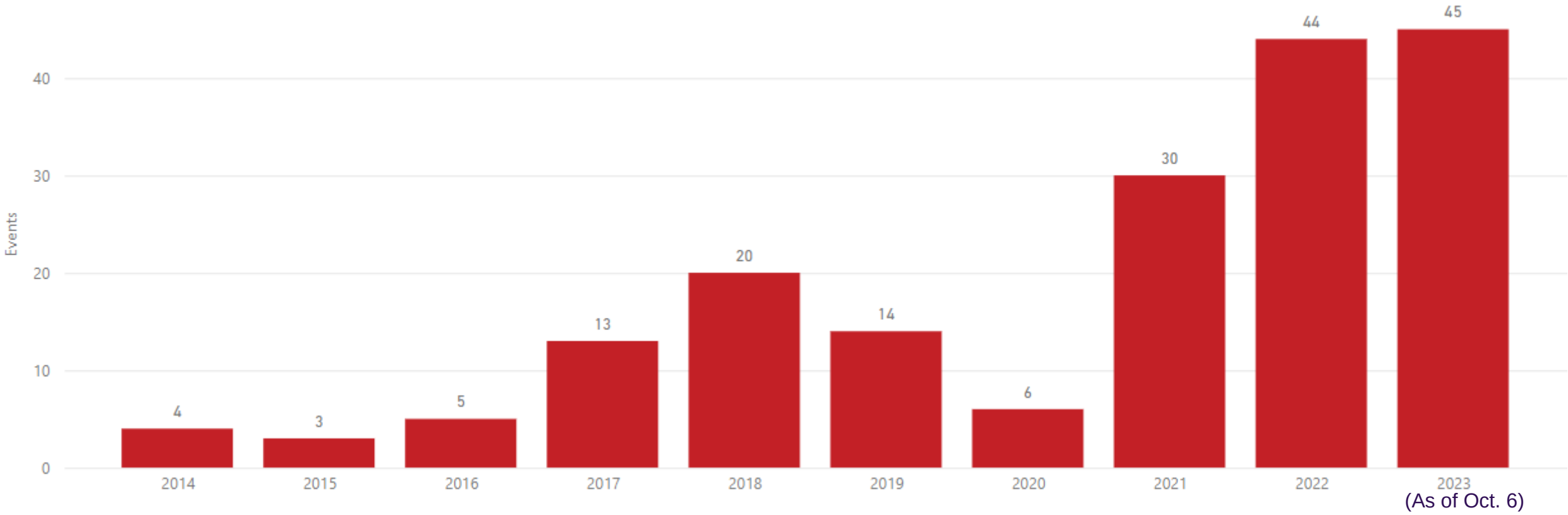
Source: Better Health Channel

Victorian Case Numbers



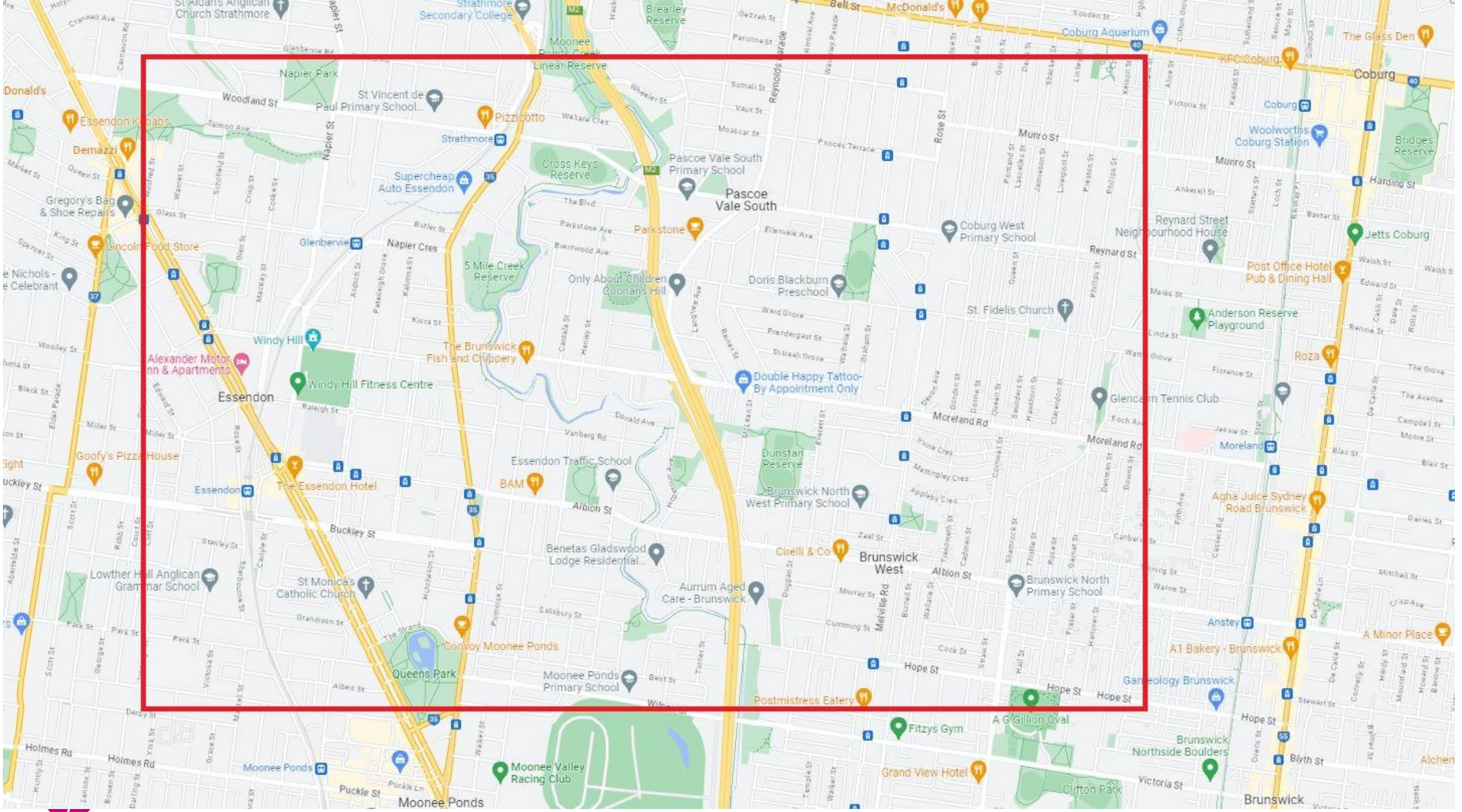
(As of Oct. 6)

Merri-bek LGA & Moonee Valley LGA* Case Numbers

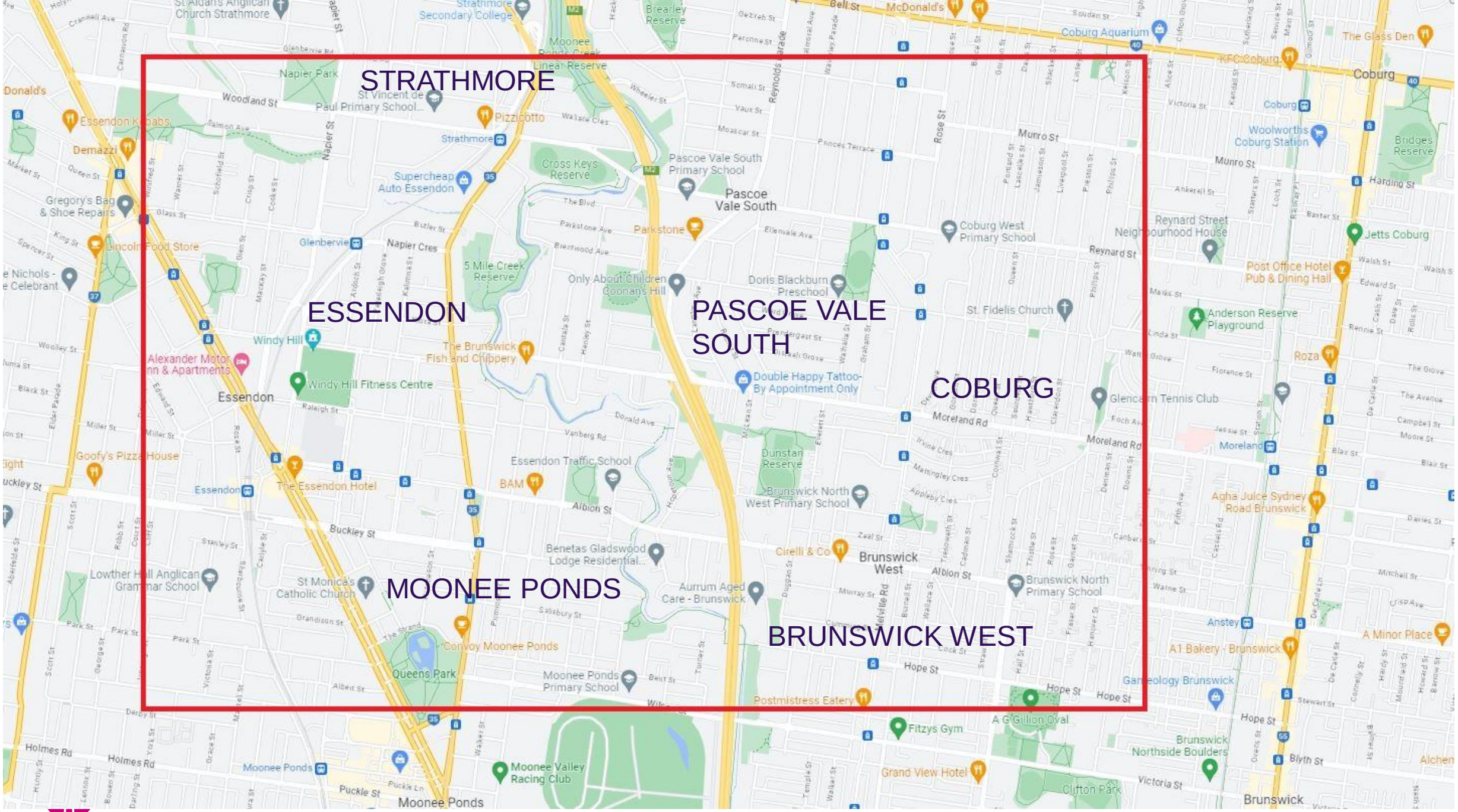


(As of Oct. 6)

*Cases with a home address in Merri-bek or Moonee Valley



>90% of 2023 cases from Moonee Valley and Merri-Bek live in this square



>90% of 2023 cases from Moonee Valley and Merri-Bek live in this square

3. Testing

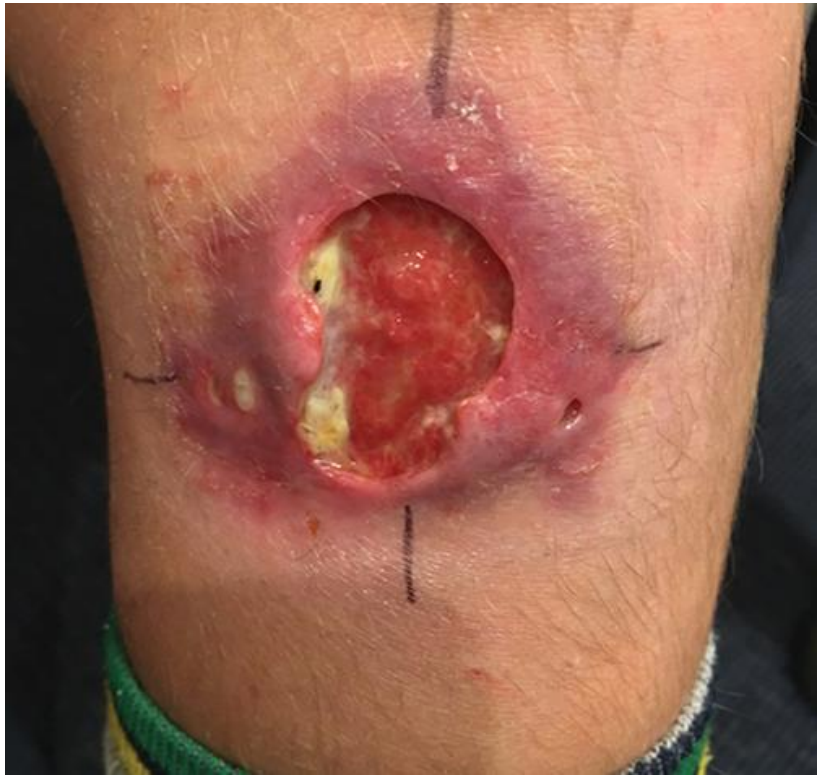
Mycobacterium ulcerans will **not** grow on a standard MCS

Mycobacterium ulcerans PCR

- Use a dedicated dry swab
- Swab the edge of the lesion; ensure you can see biological material on the swab

Mycobacterial culture

- Sometimes performed to assess for antibiotic failure
- takes 8-12 weeks



Source: O'Brien et al, MJA, 2018

If there is no ulcer, *Mycobacterium ulcerans* PCR can be performed on a skin biopsy sample

4. Management

Management should usually be undertaken in collaboration with an ID physician

Antibiotic management is 8 weeks of:

- Rifampicin (10mg/kg per day up to 600mg)
- PLUS any one of:
  - Clarithromycin (7.5mg/kg up to 500mg per dose, twice daily), OR
  - Moxifloxacin 400mg daily, OR
  - Ciprofloxacin 500mg twice daily

Surgery:

- No longer part of routine management
- May need consideration in some specific circumstances:
  1. Debridement of extensive necrotic tissue
  2. Excision of a lesion where antibiotic therapy is not possible
  3. To repair large defects/hasten wound closure as an adjunct to antibiotic therapy

Paradoxical Reactions

Occur in approximately 20% of cases

Presents as deterioration in the lesion

- Increasing pain
- Induration
- Discharge

Management

- Exclude antibiotic failure or adherence issues
- Consider adding oral prednisolone

Management Tips

1. The ulcer will generally still be present at the end of the antibiotic course

2. Crucial to warn patients about the risk of paradoxical reactions prior to starting therapy

3. Be aware of drug interactions, particularly with rifampicin

5. Prevention

Prevention strategies aimed at mosquito bite avoidance

Reduce mosquito breeding sites such as pooled water
Wear protective clothing
Regular use of insect repellent
Wash cuts, scratches or bites and apply antiseptic

Buruli Ulcer

See also Notifiable Conditions in Victoria.

Clinical editor's note

There is an active Health Advisory for Buruli ulcer as the disease is spreading geographically across Victoria, including metropolitan Melbourne, and is no longer restricted to specific coastal locations. When recognised early, diagnostic testing is straightforward. If guidelines are followed, prompt treatment can significantly reduce skin loss and tissue damage, as well as lead to more simplified treatment.

For further information see Health Advisory: Buruli Ulcer is Spreading.

Background

About Buruli ulcer

Assessment

Practice point

Early diagnosis is crucial

Early diagnosis is critical to prevent skin and tissue loss. Consider the diagnosis for patients with a persistent ulcer, nodule, papule, or oedema and cellulitis, especially on exposed parts of the body.

1. History – Ask about:
   - persistent (non-healing) ulcer, nodule, papule, or oedema and cellulitis on exposed parts of the body, especially around the elbow, wrist or ankle
   - exposure in an endemic area.
2. Examination – look for typical signs of Buruli ulcer.
3. Arrange investigations.

Key Points

1. Buruli ulcer is now established in inner Melbourne
2. Consider Buruli ulcer in any person with a chronic unexplained ulcer, nodule or cellulitis
3. Diagnose with *Mycobacterium ulcerans* PCR on a dry swab
4. Management should be completed in conjunction with an ID physician, but antibiotic therapy is the mainstay of treatment
5. Prevention of Buruli ulcer is generally via the avoidance of mosquito bites in affected areas

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Session Conclusion

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https://nwmphn.org.au/resources-events/events/

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