
OUTCOMES OF VENTILATED GUILLAIN BARRE SYNDROME (GBS) PATIENTS AT VILA CENTRAL HOSPITAL INTENSIVE CARE UNIT (ICU)-AN EXPERIENCE FROM A TERTIARY HOSPITAL IN VANUATU.

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VANUATU 4TH HEALTH RESEARCH SYMPOSIUM

Port Vila, Vanuatu

12-13 October 2023



INTRODUCTION-GBS

- Guillain Barre Syndrome (GBS) is an acute autoimmune demyelinating polyneuropathy⁽¹⁾ often (2/3) preceded by an acute infection 2-4 weeks earlier.⁽²⁾
- It can lead to severe neuromuscular weakness requiring mechanical ventilation, prolonged hospital stay and sometimes death.
- US incidence of GBS is 1.2-3 per 100,000
- Hospitalization rates increase with age (1.5 to 8.6 per 100,000)
- Average time on a ventilator (without treatment) is 50 days².
- Mortality 2-12 percent ² even with ICU care.
- Treatment is Intravenous immunoglobulin (IVIg)



INTRODUCTION



- 2 ICU beds
- GBS rare but prolonged stay

OBJECTIVES

1. To describe the local epidemiology GBS
2. To describe the clinical characteristics of GBS patients ventilated at the VCH ICU
3. To determine factors that may affect patient outcomes.



METHODS

- Retrospective descriptive study of patients admitted at the VCH for GBS since 2012 to date (2023)
- Participants -all patients ever admitted/ventilated at the VCH ICU for GBS.
- Information collected from:
 - Ward registers-Children's ward, Medical ward & ICU (2010-2023)
 - Patient information system-Statistics office (search from 2012 to 2022)
 - Patient folders.
- Analysis on excel.



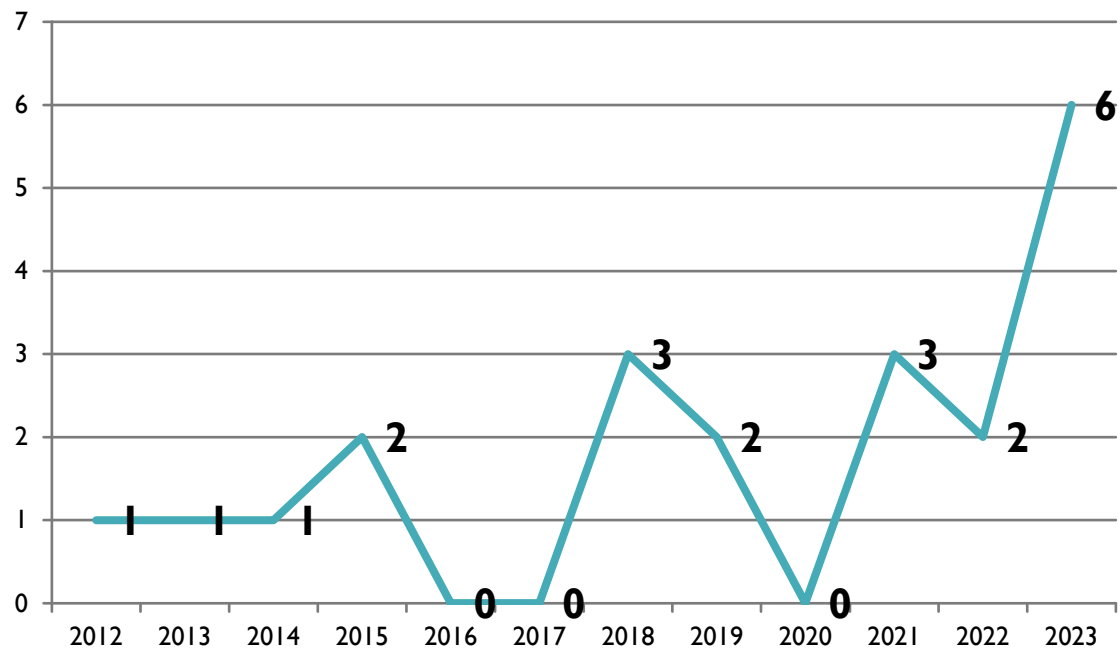
RESULTS-LOCAL EPIDEMIOLOGY

- A total of 21 cases identified.
- 12 females and 9 males
- 6 children
- 15 adults
- Youngest :4 years
- Oldest: 69 years

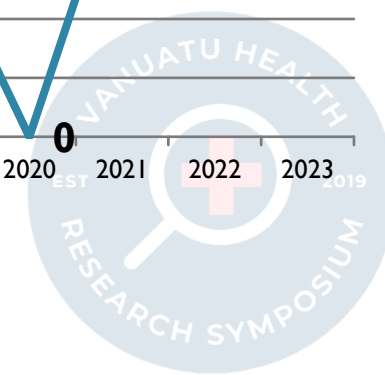
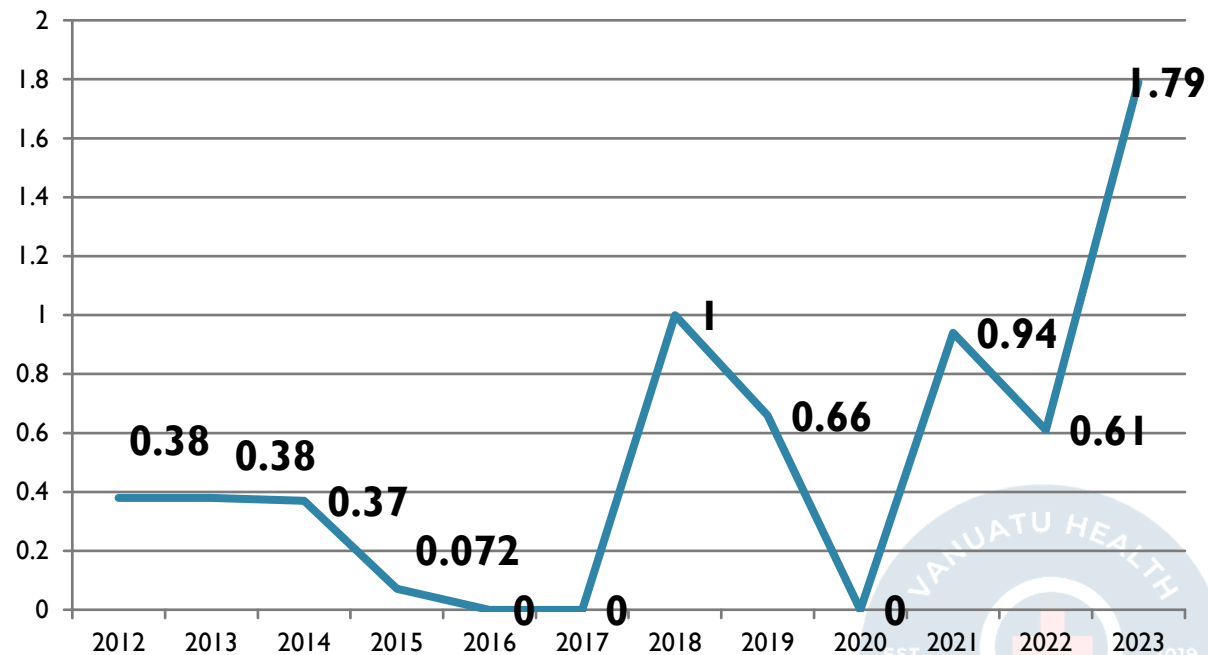


RESULTS-ANNUAL NUMBERS

Hospitalizations per annum, VCH



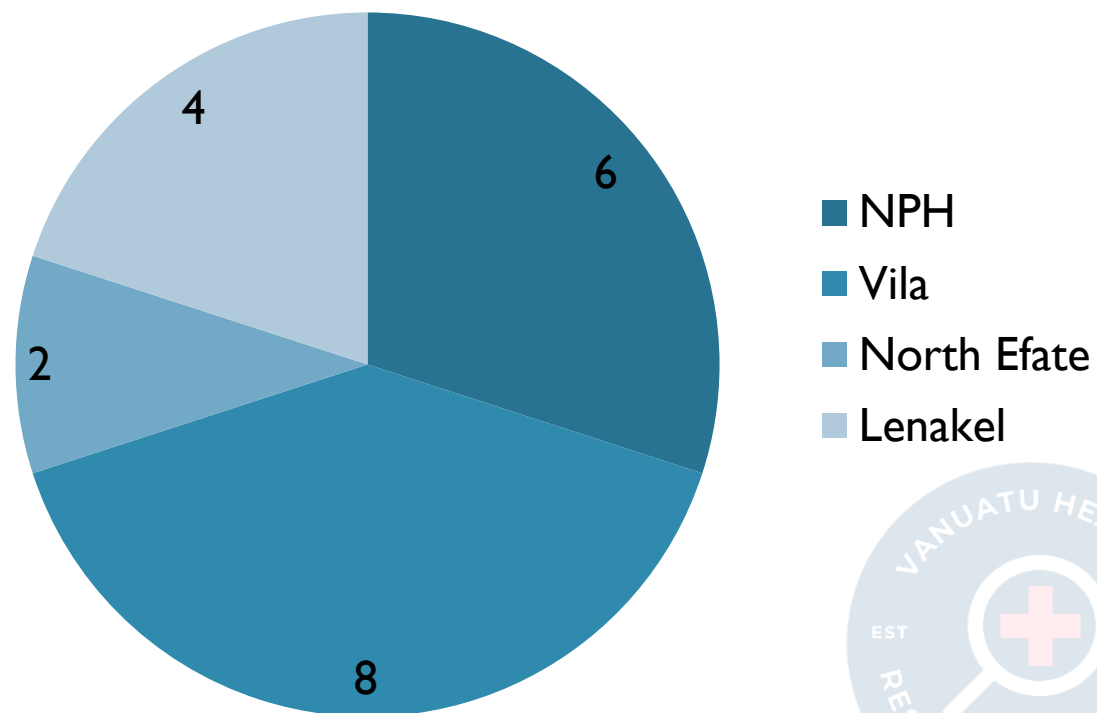
Annual hospitalization rates (per 100,000)



RESULTS: CENTER OF REFERRAL

(n=20)

- 8 Port Vila
- 6 from NPH, Santo
- 2 North Efate
- 4 from Lenakel



RESULTS-CLINICAL FEATURES

- 8/14 (57%) had preceding infection
- 7/8-flu-like illness and diarrhea
- Time from preceding illness to GBS onset: 3-21 days
- Duration of GBS symptoms prior to hospitalization: 6 days (n=15)
 - Range 1-21 days
- Average time from admission to mechanical ventilation was 2 days
- Time to death for patients with respiratory failure not on mechanical ventilator-1.3 days (n=3)

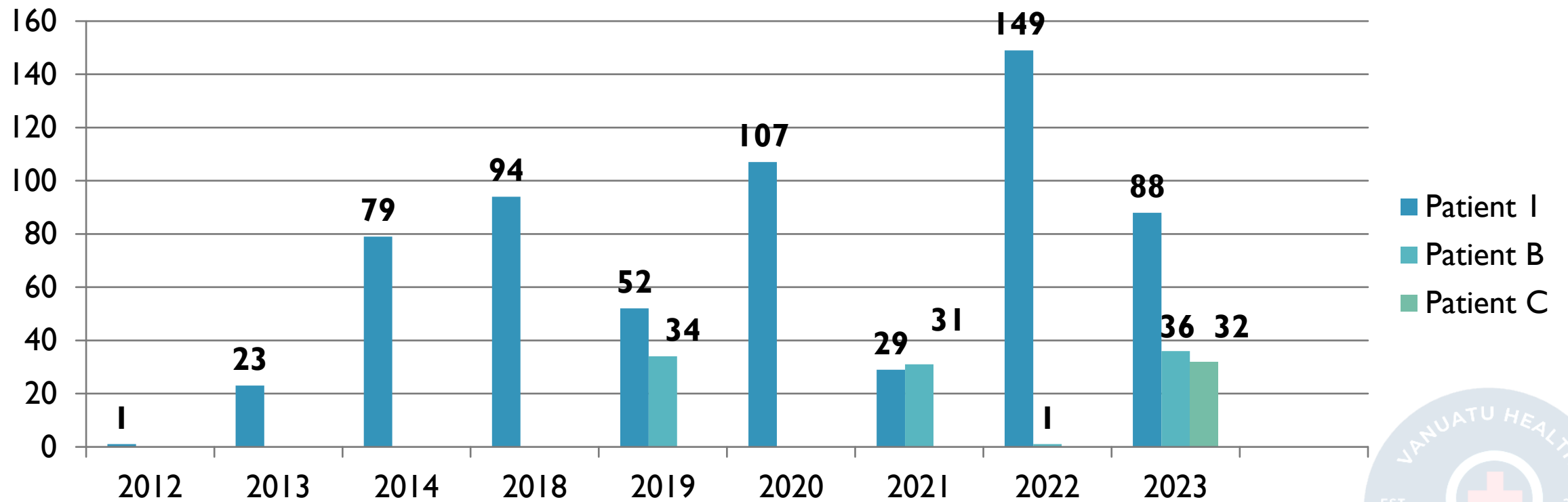


RESULTS-LENGTH OF STAY BREAKDOWN

- Average length of stay for:
 - For all patients: 65 days (n=21)
 - Ventilated patients-115 days (n=11)
 - For non-ventilated patients-10 days
- Average time on a ventilator: 44 days (n=10)
- Average LOS in ICU-58 days (n=13)
- LOS in ward post ICU: 45 days
- Total LOS (Ventilated patients) :
 - IVIG recipients -114.8 days
 - No IVIG-114.8 days
- Time on MV for:
 - IVIG recipients-48 days
 - No IVIG-41 days



RESULTS-ICU GBS BED OCCUPANCY



RESULTS-INTERVENTIONS

- 14 patients (66.6%) required mechanical ventilation (respiratory failure, worsening neurology)
- 11 ventilated (1 child, 10 adults)
- 11 had tracheostomy
- 4 ventilated patients received IVIg
- Shortest ventilation-2 days
- Longest ventilation-136 days
- Average time tracheostomy in situ-80 days (n=9)
- Average duration tracheostomy in-situ post MV-37 days



RESULTS-OUTCOMES

- 17 improved and discharged home
- 4 died in hospital
 - 1 ventilated-69 years old
 - 3 unventilated (respiratory failure 12, 60 and 66 years old)
- In hospital mortality
 - All cases: 19%
 - Unventilated cases: 30%
 - Ventilated cases only: 9%
 - International mortality :2-12 %



DISCUSSION

- Annual hospitalization rates low. Peak in 2023.
- Majority (66%) of hospitalized GBS patients require MV.
- Need for mechanical ventilation higher in adults- 80% Vs 33 % in children.
- Rapid progression to respiratory failure (time to death/MV)
- No benefits conferred by IVIg.
- Predictors of mortality:old age, unventilated patients with respiratory failure.
- Very good outcome for ventilated patients at our ICU.
- Prolonged ICU stay for GBS deprives potential ICU candidates of a bed and ventilator.



RECOMMENDATIONS / IMPLICATIONS

- All young patients with severe GBS should be offered mechanical ventilation.
- Timely recognition and referral vital in saving lives.
- Need to expand ICU services.
- Need for a dedicated step down/ rehabilitation unit.
- Need to investigate cause for rising GBS cases
- IVIg presently not priority for GBS management in Vanuatu.



ACKNOWLEDGEMENTS

- ICU staff
- Anesthetist team
- Medical ward staff
- Families of GBS patients

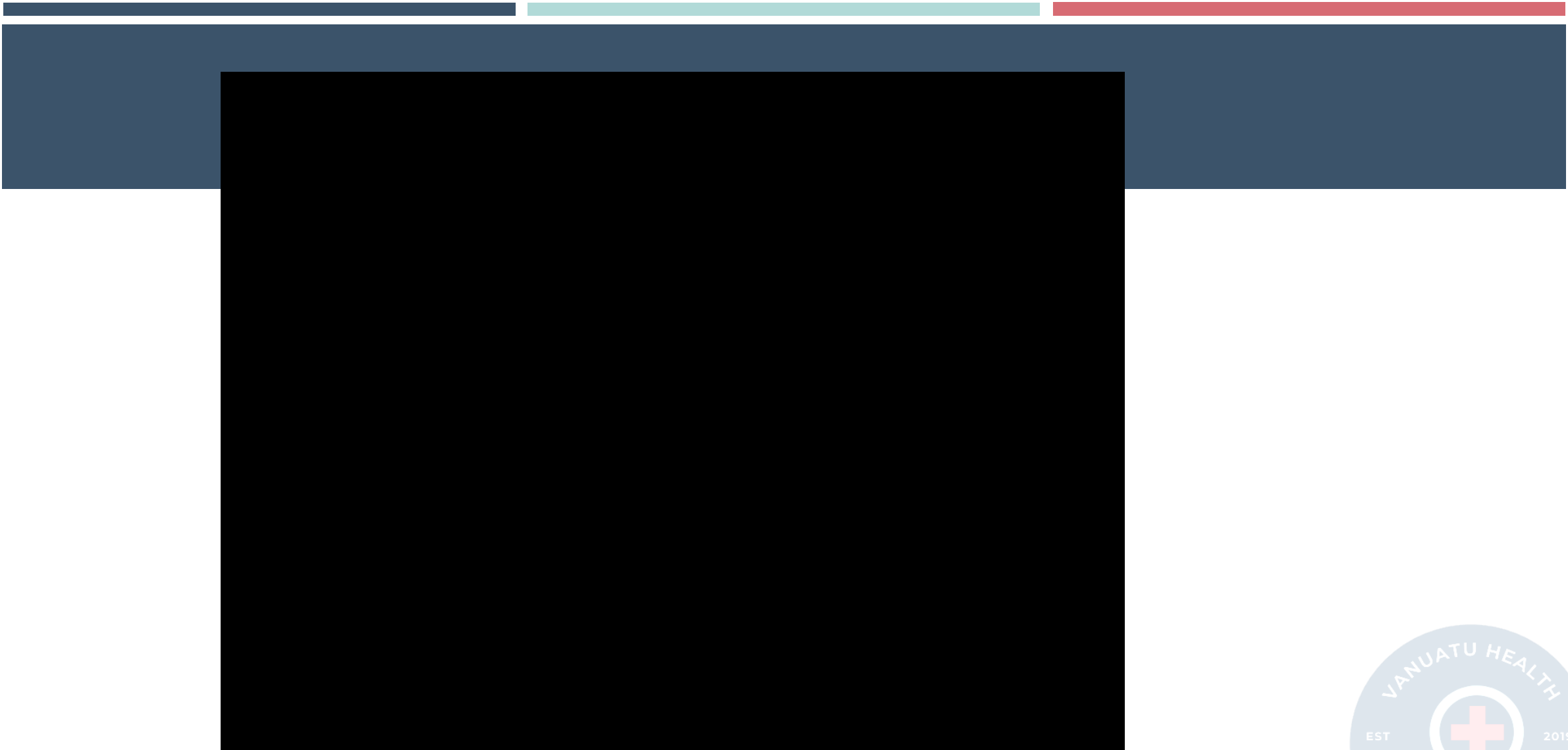


THANK YOU



THANK YOU





REFERENCES

1. Sambor Grygorczuk¹, Joanna Zajkowska, Maciej Kondrusik, Sławomir Pancewicz, Teresa Hermanowska-Szpakowicz **Guillain-Barré Syndrome and its association with infectious factors**, Neurol Neurochir Pol 2005 May-Jun;39(3):230-6. <https://pubmed.ncbi.nlm.nih.gov/15981163/>
2. <https://emedicine.medscape.com/article/315632-overview>
3. Vanuatu Population Worldometer 2012-2023

