

# Visualizing the Burden of Impetigo and Scabies in Remote Aboriginal Communities

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## Introduction

- Aboriginal children in remote northern Australia have the highest documented burden of impetigo globally, with approximately half of all Aboriginal children having skin sores at any given moment
- The Healthy Skin and Acute Rheumatic Fever Prevention team at TKI aims to reduce the prevalence of untreated skin infections, which can increase an individual's risk for rheumatic heart disease

## Objective of Internship

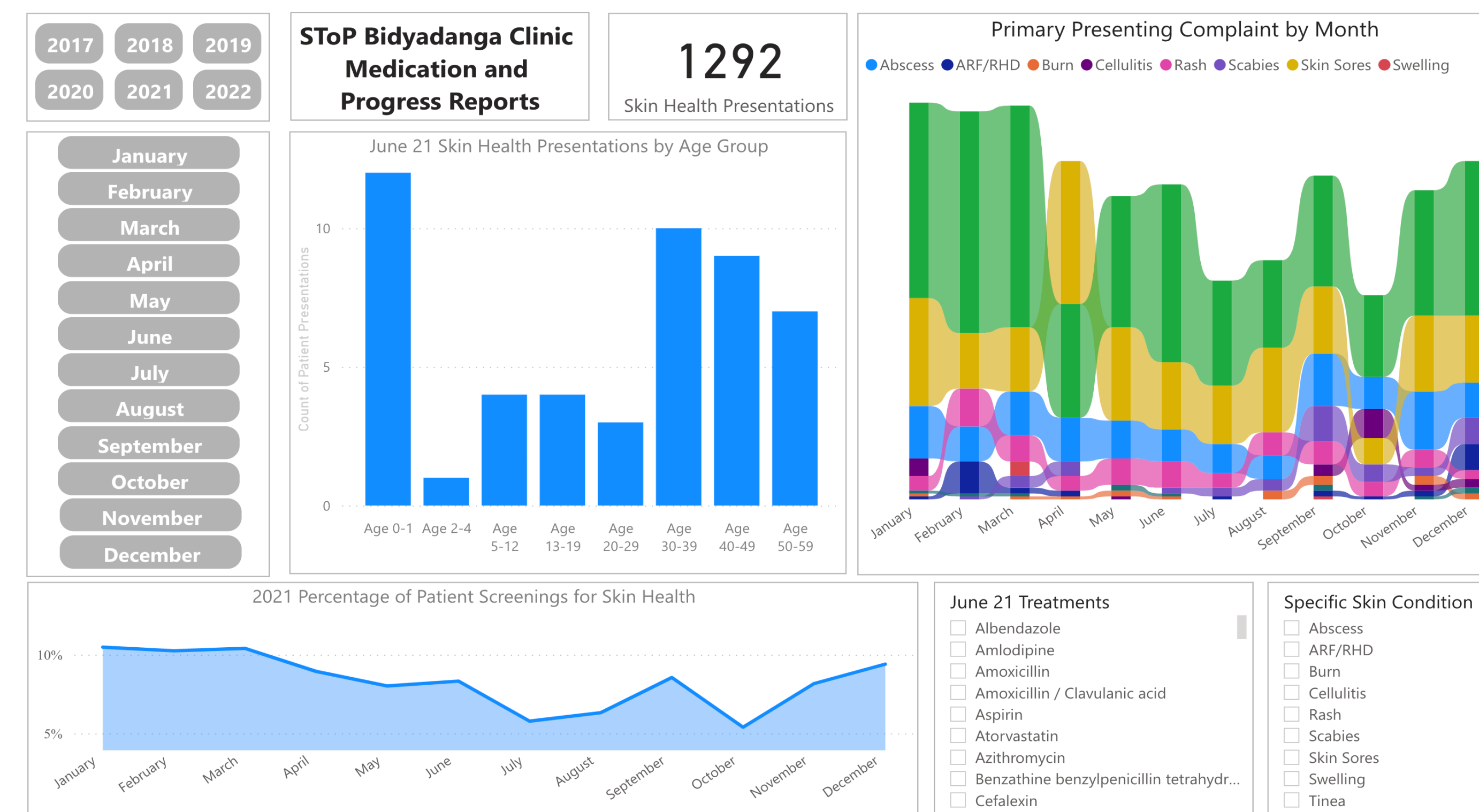
- Quantify the burden of impetigo and scabies across nine remote Aboriginal communities and health services
- Establish the infrastructure to routinely present electronically recorded episodes of care from Kimberley Aboriginal Medical Services' MMEx summaries via a digital dashboard

## Work Profile

- Developed a primary care dashboard prototype using Microsoft PowerBI to efficiently display the prevalence of skin infections throughout the duration of the SToP Trial in remote Australian Aboriginal populations to health workers, physicians, and researchers
- Served on field work teams for two research trials in four remote Western Australian Aboriginal communities

## Dashboard Prototype

June 2021 Bidadanga Clinic skin health episodes visualized in dashboard.



- Succinctly compares prevalence of skin infections across age groups over time relative to traditional methods of manual clinic review
- Team will continue scaling dashboard to comprise extractions from all nine SToP communities

## Surveillance Visits

- Traveled to four remote communities about 1800 miles north of Perth to conduct school-based surveillance
- Research trials: The Missing Piece Surveillance Study (examining the prevalence of strep A pharyngitis and impetigo in the Kimberley) and The SToP Trial (Seeing, Treating, and Preventing skin sores and scabies)
- Evaluated skin for impetigo, classical and crusted scabies, tinea, head lice, and boils while swabbing purulent sores and sore throats for the presence of group A streptococcus



Kennedy screening school child for Missing Piece Study. Photo credit: Bernadette Wong, PhD.

## Questions

- Is there a possibility to employ more effective treatment and prevention methods in the future by tracking admissions and re-admissions against primary complaints and prescribed treatments over time on the dashboard?
- Will the ability to digitally visualize SToP Trial data extractions rather than conduct manual reviews in each clinic improve detection rates of skin infections in the Kimberley region?
- How can the dashboard be modified to display metrics important to community Aboriginal health services and researchers alike?

## Conclusion

As an aspiring physician, the opportunity to screen children for skin and throat infections while practicing the ability to be an empathetic, conscientious health worker in Aboriginal communities was an unparalleled learning experience. Field visits unveiled how remote geographical settings, inequities in health systems, and broader social factors underlie the high burden of skin infections evident in dashboard data.

## Acknowledgements

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