Hospital Outreach and Telehealth for the Rural Areas of Darling Downs Service (HOTRODS)

Mapping and Analysis of a Digital Health Outreach Service

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Investigators and Academic Mentors

Role	Name	Position	Site
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Associate Investigators	Eloise Nielsen	Griffith student	TBH
	Felice Ford	Griffith student	TBH
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Academic Mentor & Contact Person	Dr William MacAskill	RMEA Research Fellow, Griffith University	

Aims + Objectives

Aim: to evaluate the effectiveness of HOTRODS in addressing the needs of rural patients requiring expert opinions from general physicians in Toowoomba

Proposed outcomes:

1. Number of patients supported
2. Demographics and complexity of patients supported
3. Context of support provided
4. Impact of HOTRODS involvement and effect on subsequent management (readmissions, transfers to TBH)

Before HOTRODS…

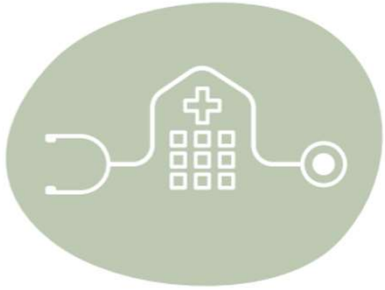
- Inequity of care at larger hospitals like TBH and rural hospitals
  - Lack of access to specialists locally and difficulty arranging investigations
- Toowoomba practitioners accept transfers, but results in significant burden on already strained bed limitations
- High costs and resources required to transport patients
- Patients sent to TBH suffer delays in transfer back to local hospitals for step-down or logistic difficulty getting back home after discharge
- Acutely unwell patients separated from family and country, sometimes in their last days

What is HOTRODS?

Darling Downs Health

Toowoomba Hospital

Hospital Outreach and Telehealth for the rural areas of Darling Downs Service (HOTRODS)



What is HOTRODS?

HOTRODS offers virtual General Physician ward rounds and case discussions to support the local Medical Officer caring for **adult inpatients** in rural hospitals in the Darling Downs.

Who is this service for?

A patient for whom General Physician review could support care of the patient closer to home.

Examples (not exclusive):

- A new diagnosis of chronic disease requiring inpatient care
- The patient is not responding as expected to first line therapy
- Challenging decisions e.g., goals of care, bleeding vs clotting risk etc

Exclusion criteria

Escalate these patients per usual pathways (e.g., TEMSU/RSQ/on call/outpatients):

- Patients who are too unwell to remain in their local hospital (e.g., haemodynamic instability)
- Patients who require a time critical decision or procedure from a specific medical specialty (e.g., acute myocardial infarct, stroke, acute gastrointestinal bleed)
- Patients who would be best served by a different discipline (e.g., O+G, surgical, paediatrics)
- Patients who are suitable for discharge with follow up in medical outpatients

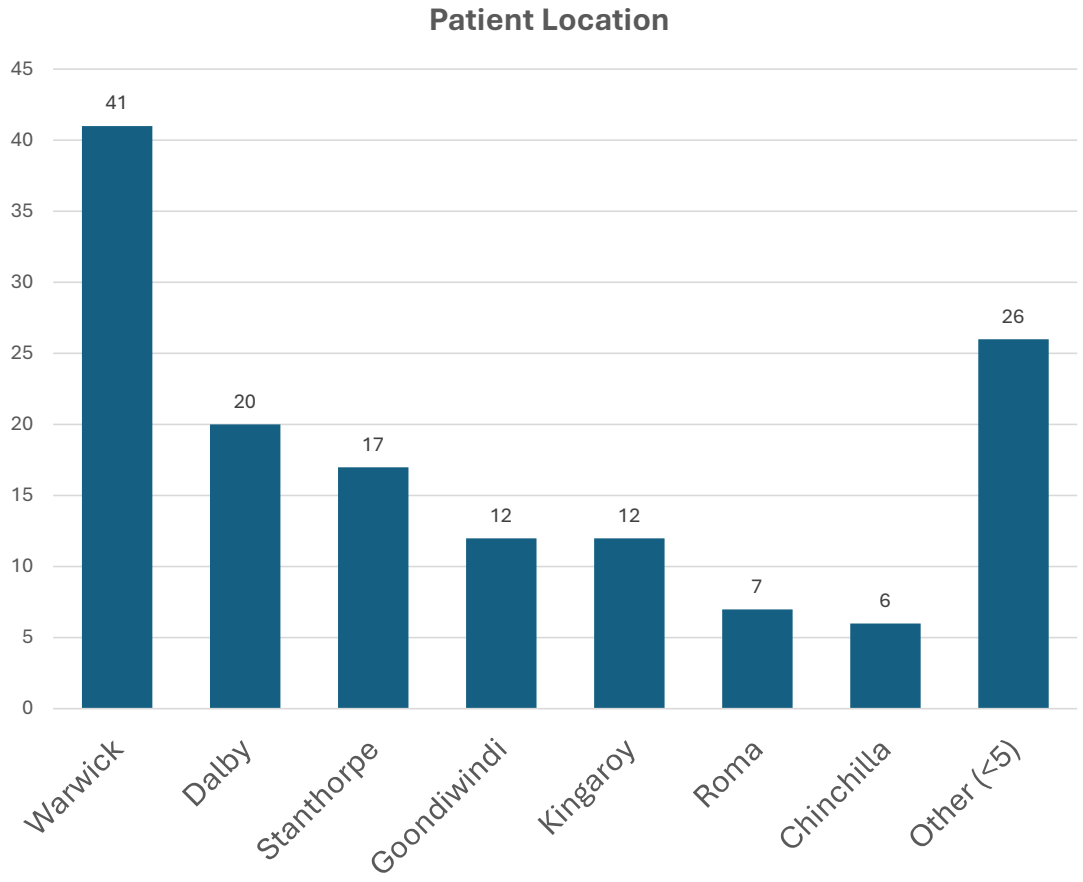
For further information

Please contact the HOTRODS team:
Phone on **0407 224 279** or
Email: **ddhhs_hotrods@health.qld.gov.au**

Methods & Data Collection

- Retrospective audit of records (paper and digital [e.g., the Viewer, IMR, and HBCIS]) held by the Internal Medicine Department of Toowoomba Base Hospital used to collect data on patients' demographics, location, presentation, management, and indication for transfer
- Further patient data collected prospectively as per above for all HOTRODS patients presenting between date of ethics approval and up to and including those seen on the 30th September 2024
- All patients seen by HOTRODS eligible for inclusion in this study
- Data collated and analysed on a Microsoft Excel spreadsheet in a de-identified manner. Basic statistics and thematic analysis of responses was performed.

Locations Serviced by HOTRODS

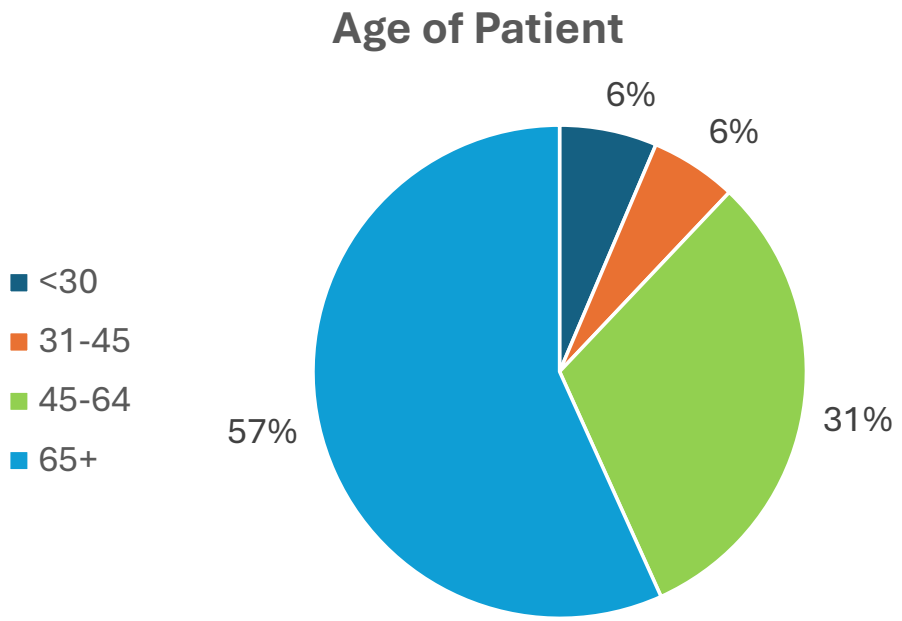


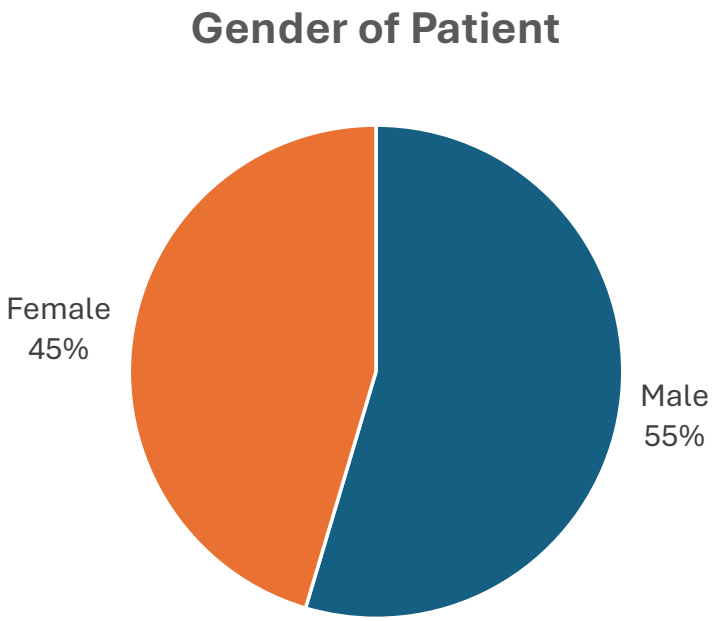
Other locations served:

- Tara
- Charleville
- Texas
- Murgon
- St George
- Oakey
- Cherbourg
- Cunnamulla
- Inglewood
- Milmerran
- Surat

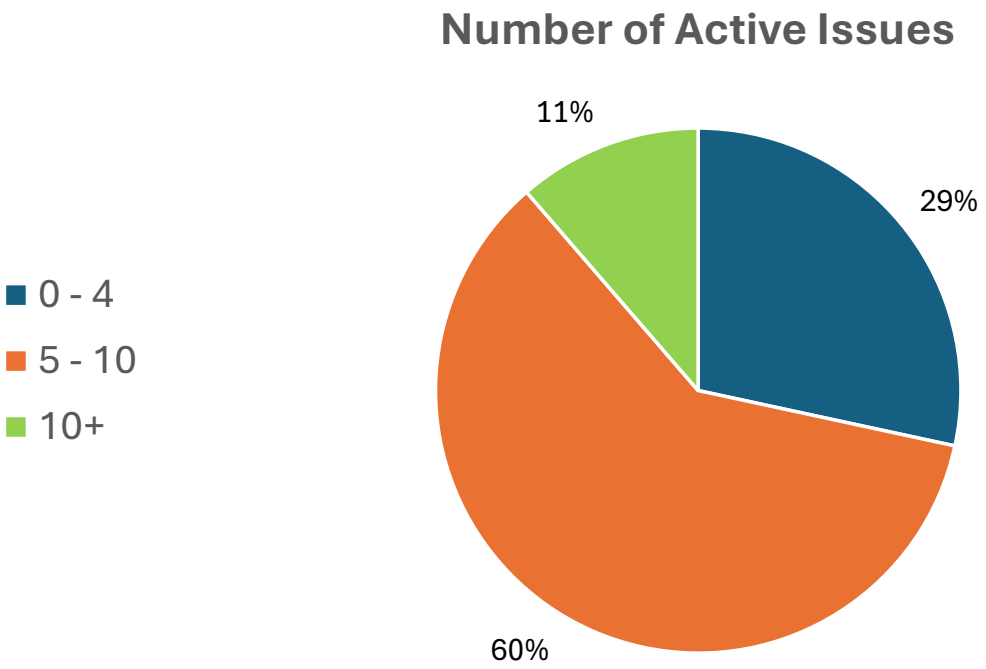
Patient Demographics

Patients seen: 82 since inception + 59 since relaunch = **141 total**
from 14/2/2023 - 30/9/2024

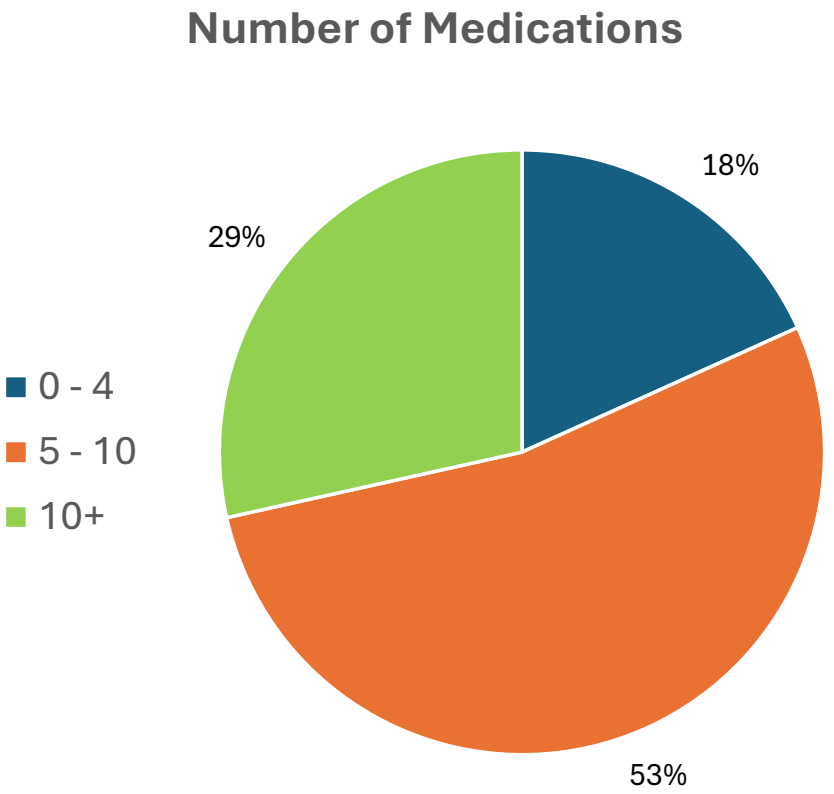




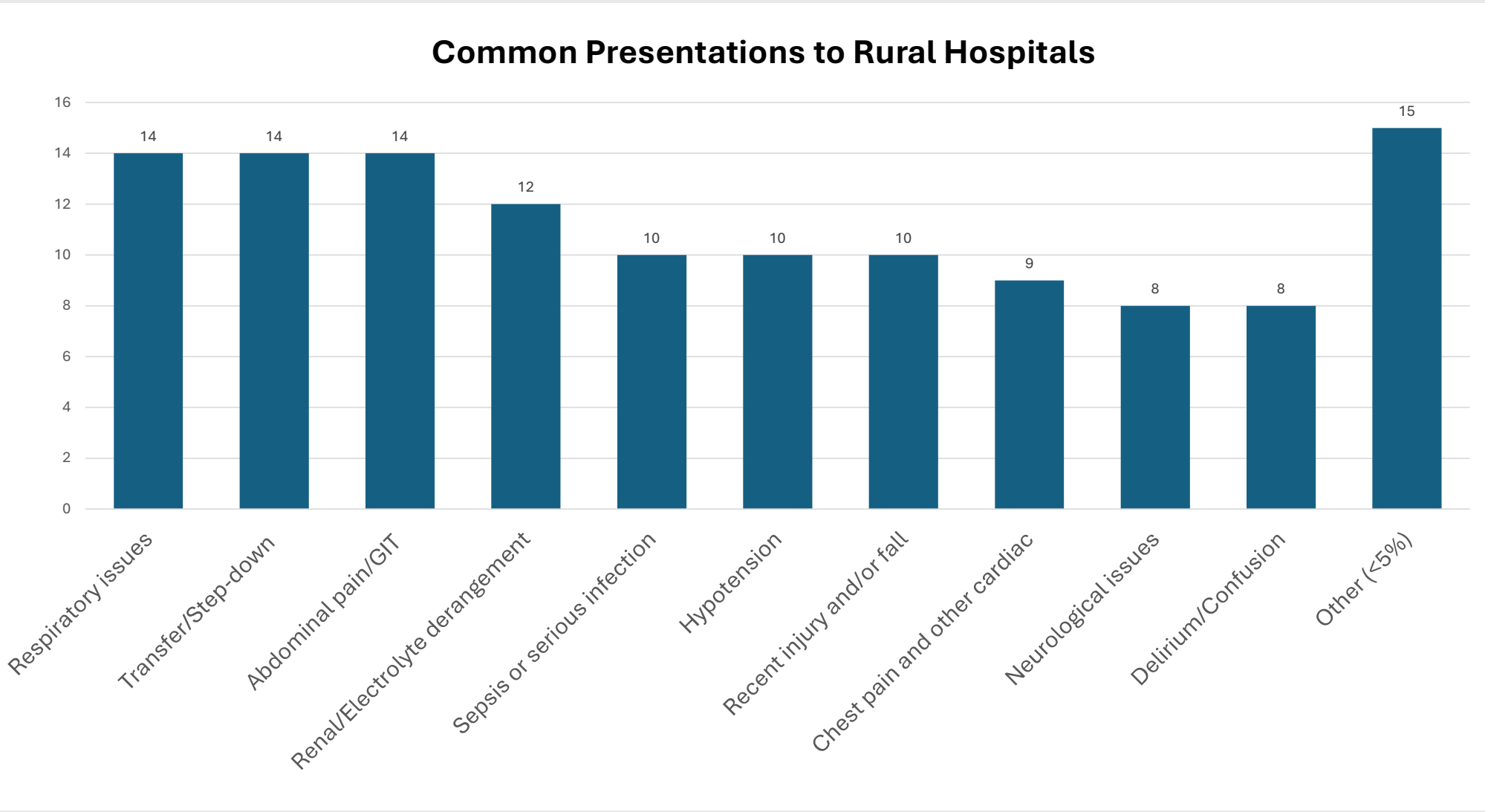
Patient Complexity



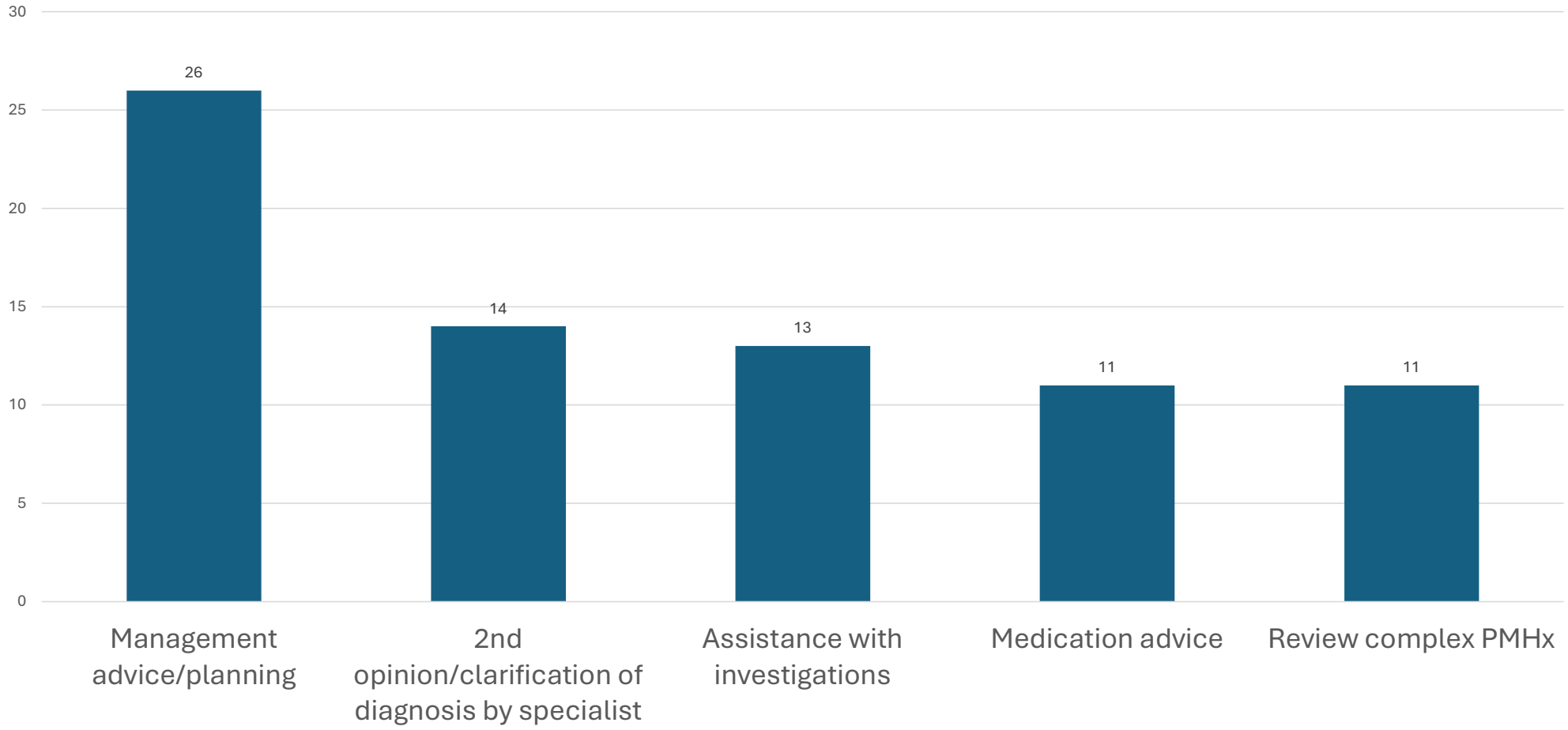
Average # of active issues: 6.64

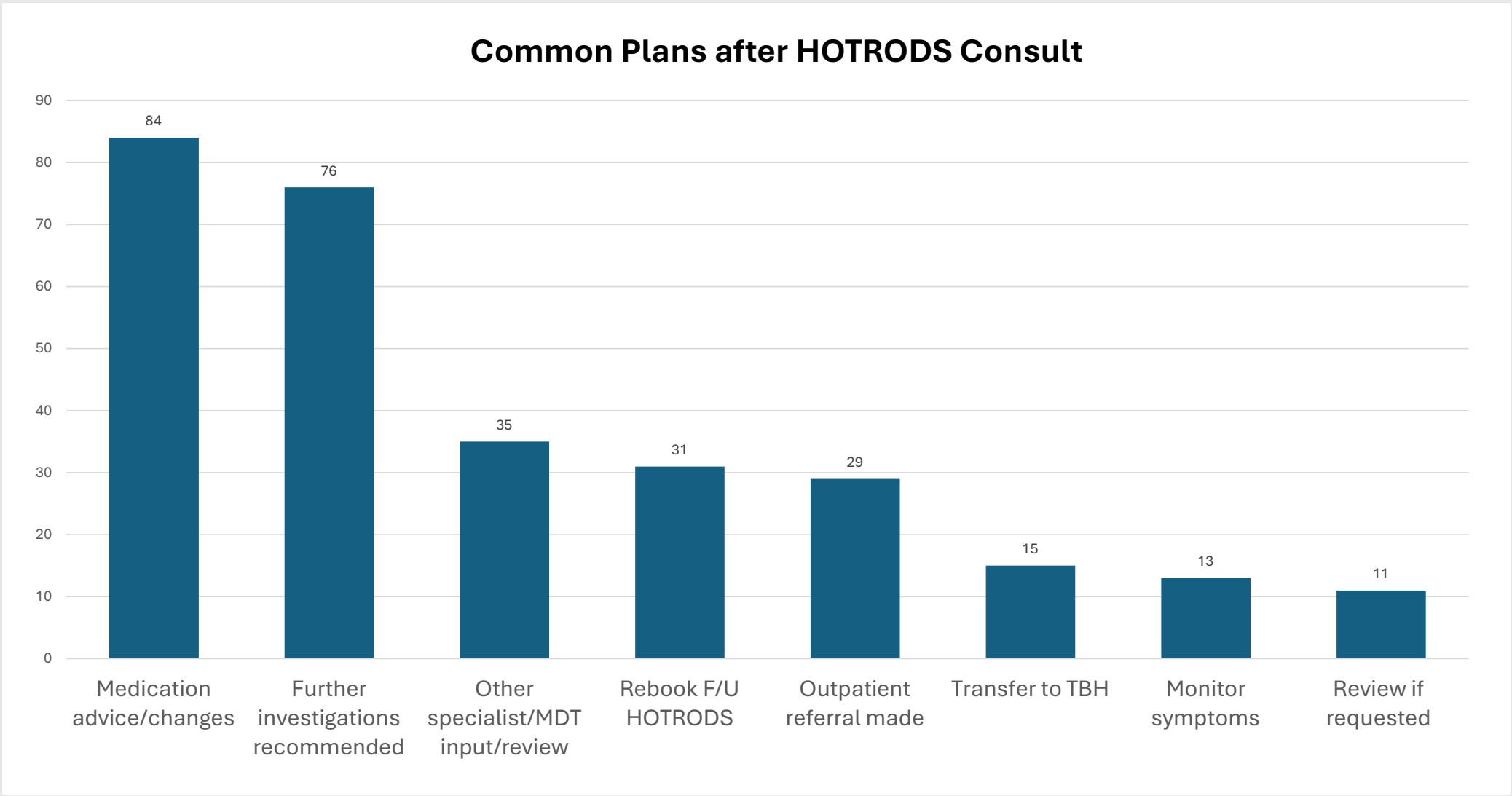


Average # of medications: 8.62

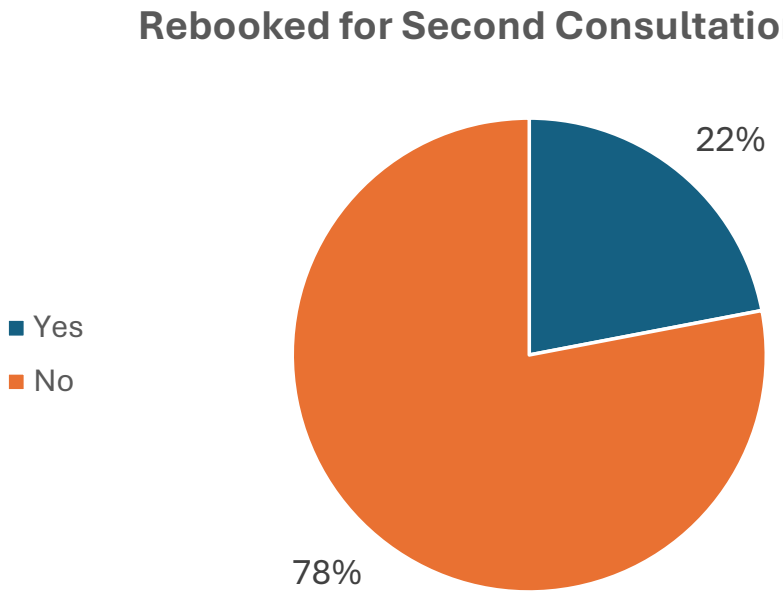

Common Presentations to Rural Hospitals
16
14
12
10
8
6
4
2
0
14
14
14
12
10
10
10
9
8
8
15
Respiratory issues
Transfer/Step-down
Abdominal pain/GIT
Renal/Electrolyte derangement
Sepsis or serious infection
Hypotension
Recent injury and/or fall
Chest pain and other cardiac
Neurological issues
Delirium/Confusion
Other (<5%)

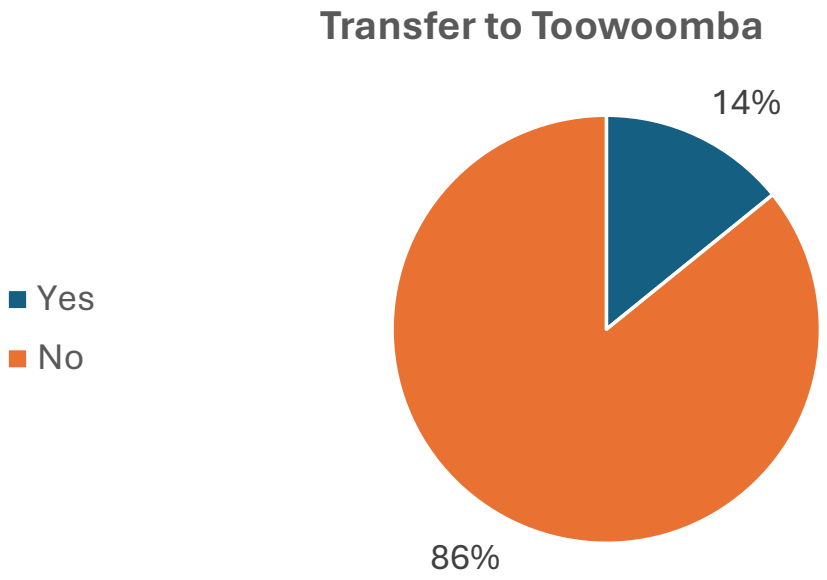
Common Reasons Appointment was Requested




Common Plans after HOTRODS Consult
90
80
70
60
50
40
30
20
10
0
84
76
35
31
29
15
13
11
Medication advice/changes
Further investigations recommended
Other specialist/MDT input/review
Rebook F/U HOTRODS
Outpatient referral made
Transfer to TBH
Monitor symptoms
Review if requested

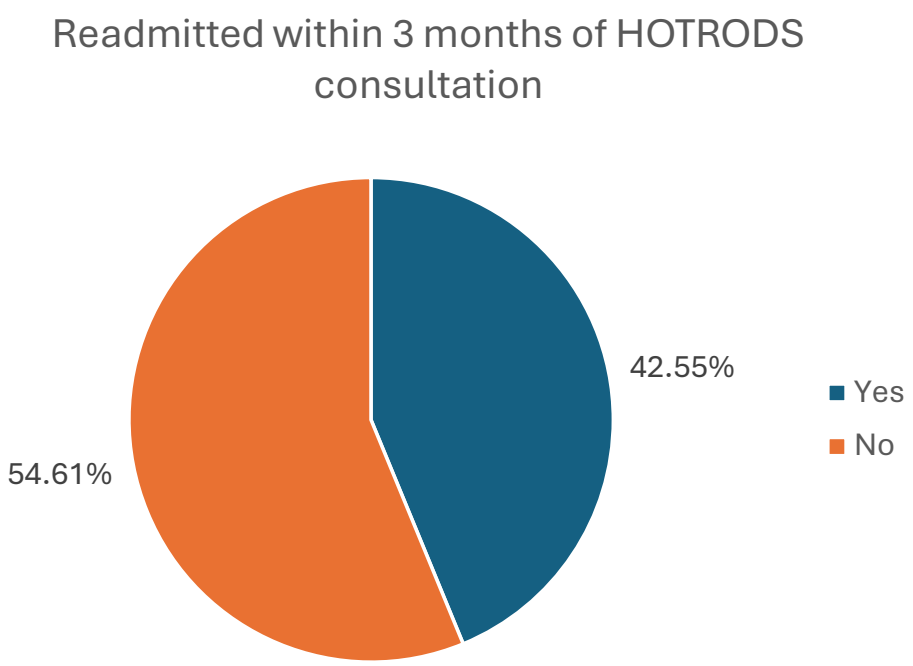
Follow-up of Consults

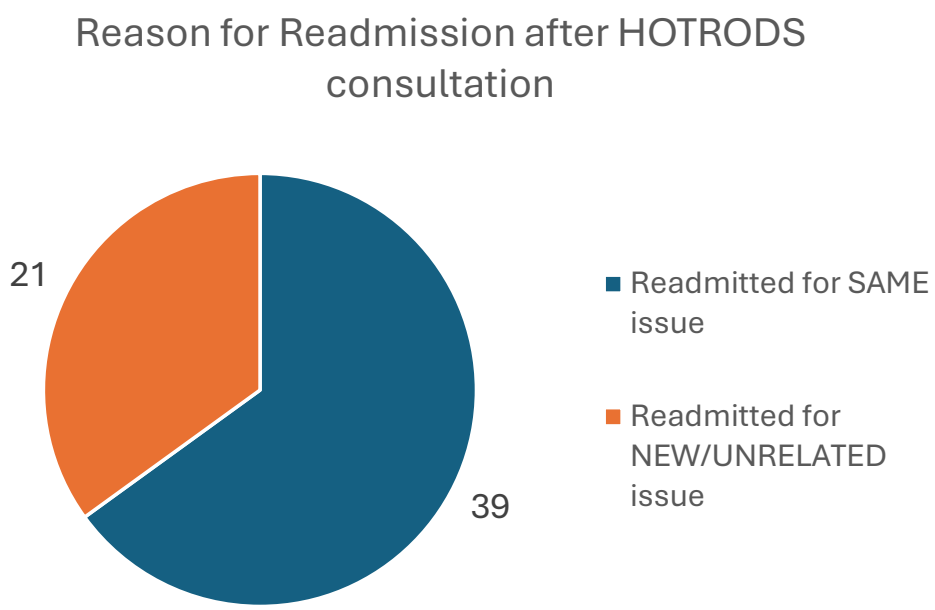




With 121 patients avoiding transfer to Toowoomba, HOTRODS reduced a total distance of **18,768km** of emergency vehicle travel.

Subsequent Readmissions





Feedback from Surveys

Patient survey (11 responses)

- All "**very satisfied**"

Medical staff survey (24 responses)

- **4.79/5** approval rating (5-point Likert scale – extremely helpful to not helpful at all)
  - 26% would have sought transfer to another hospital
  - 50% would have phoned medical registrar for advice (it is reported that often these patients are transferred as a pathway of least resistance)
  - Commended on **ease of access**, **upskilling of rural doctors**, **access to senior clinicians**, **health equity**

Take-aways and Suggestions for Improvement

- HOTRODS is prompt in seeing patients and largely successful in substantially reducing transfers to Toowoomba
- Would benefit from clarity in marketing to rural sites about what services and advice HOTRODS can offer
  - Emphasis on assistance managing complex patients, including investigation arrangement, medication review, and advice on palliation
- Currently using a simple survey to assess local doctors' satisfaction
  - Consider expanding this and/or proactively interviewing doctors who have used the service to identify and address their concerns and suggestions

Questions?

Thank you for listening!