Note: This is Online Appendix 2 of Ngoie KD, Jenkins L, Schoevers J. Evaluating referrals between rural district hospitals and a regional hospital in South Africa. *Afr J Prm Health Care Fam Med*. 2025;17(1), a4956. https://doi.org/10.4102/phcfm. v17i1.4956

Online Appendix 2

Data collection instrument 2 (Regional Hospital)

A. Demographics

Your place of work is George Regional Hospital

Yes / No

What is your department?

- Family Medicine (including ENT, Urology, and Dermatology) and Emergency Medicine (EC)
- Surgery
- Internal Medicine
- Paediatrics (incl Neonatology)
- Obstetrics and Gynaecology
- Orthopaedics
- Psychiatry
- Radiology
- Ophthalmology
- Oncology

What is your position?

- Community service medical officer
- Medical officer Registrar
- Consultant HOCU
- Medical Manager

How long have you been working at this hospital?

- Less than 6 months
- 6 months to 1 year
- 1 year to 3 years
- More than 3 years

Do you have any previous work experience in a district hospital?

- Yes I worked in a district hospital
- No I have never worked in a district hospital
- Only outreach

Section B Referral Practices

In general, how would you rate the current referral processes from the district hospital to your department for patients with non-emergency conditions?

- Very poor
- Poor
- Fair
- Good
- Very good

In general, how would you rate the current referral processes from the district hospital to your department for emergency patients?

- Very poor
- Poor
- Fair
- Good
- Very good

How would you describe the referral processes from your department to the district hospitals?

- Very difficult
- Complex
- Easy
- Very easy

Does your department provide referral guidelines to district hospitals?

- Yes
- No
- Not sure

Does your department regularly update the referral guideline and make it available to the district hospitals?

- Never
- Rarely
- sometimes
- often
- Always

Section C. Mode of communication

Which of the following is/are the current modes of communication mostly used for referral of patients with non-emergency conditions to your department?

- Email
- WhatsApp
- Vula
- Phone
- Teams
- Other, Please specify

Which of the following is/are the current mode of communication mostly used for referral of patients with emergency conditions to your department?

- E-mail
- WhatsApp
- Phone
- Vula
- Teams
- Other, Please specify

How would you rate your experience with the current mode of communication used for non-emergency referrals?

- Very poor
- Poor
- Fair
- Good
- Very good

How would you rate your experience with the current mode of communication used for emergency referrals?

- Very poor
- Poor
- Fair
- Good
- Very good

What mode of communication do you recommend for referrals of patients with non-emergency conditions?

Please rank the order of preference with the 1st being the most preferred and 5th being the least preferred mode.

- Email
- WhatsApp
- Phone
- Vula
- Teams

1st
2nd
3rd
4th
5th

Please specify other modes of communication you prefer for non-emergency referrals.

What mode of communication do you recommend for referrals of patients with emergency conditions?

Please rank the order of preference from the 1st being the most preferred to the 5th being the least preferred mode.

- Email
- Phone
- WhatsApp
- Vula
- Teams

1st
2nd
3rd
4th
5th

Please specify other modes of communication you prefer for emergency referrals.

Would you prefer all departments to use one mode of communication for non-emergency patient referrals?

Yes / No / Unsure

If all departments could agree on one mode of communication for non-emergency patient referrals, which one would be best?

Please rank your order of preference with number 1st being the most preferred and 5th being the least preferred mode.

- Email
- WhatsApp
- Phone
- Vula
- Teams

1st
2nd
3rd
4th
5th

Please provide any other mode of communication for non-emergency patient referrals you would like all departments to use.

Can a yearly face-to-face meeting between regional and district hospital doctor representatives to know each other improve communication between DHs and RH doctors?

Yes / No / Unsure

Please give any other suggestions on how to improve communication or relationships between regional and district hospitals.

Section D. Challenges

What are the common problems you face with referrals of patients with non-emergency conditions to your department?

- Insufficient information provided
- Inappropriate referral of patients
- Referral of patients that could have been managed
- Please choose one or more at the district level
- Incomplete workup
- Delayed referral of patients
- Healthnet transport issues
- Other

Please specify other common problems for non-emergency referrals from the district hospitals.

What are the most common problems you face with emergency referrals from the district hospitals?

Please choose one or more Referral of patients that could have been managed at the district level.

- Insufficient information provided
- Inappropriate referral of a patient
- Incomplete resuscitation of patients
- Delayed referral of patients
- Other

Please specify other common problems for emergency referrals from the district hospitals.

Regarding referral back to district hospitals, what barriers do you generally experience? Please choose one or more.

- Availability of the district hospital call roster
- District hospital switchboard issues
- Unable to get hold of doctor on call in the
- district hospital
- Delayed transport
- IT/email/Vula issues
- None of the above
- Other, Please specify

Section E: Quality of information and appropriateness of referral

In General, concerning emergency and non-emergency referrals to your department, do you receive enough information from the referral letter?

- Seldom
- Sometimes
- Always

In general, how would you rate the information provided in the referral letters for emergency patients from DHs?

- Very poor
- Poor
- Fair
- Good
- Very good

In general, how would you rate the information provided in the referral letters for non-emergency patients from DHs?

- Very poor
- Poor
- Fair
- Good
- Very good

How would you rate the appropriateness of emergency referrals from DHs?

- Very poor
- Poor
- Fair
- Good
- Very good

How would you rate the appropriateness of non-emergency referrals from DHs?

- Very poor
- Poor
- Fair
- Good
- Very good

Do you give feedback to district hospital doctors referring patients to your department?

Yes / No

How often do you give feedback to district hospital doctors referring patients to your department?

- Occasionally
- Sometimes
- Always

Section F: Pathways for Tertiary Care

Do you think patients requiring tertiary care should be referred directly to a tertiary hospital from DHs?

Yes / No / Sometimes

What is your opinion on district hospitals referring directly to tertiary hospitals?

- All patients requiring tertiary care should be referred directly from DHs to a tertiary hospital
- Some patients should be referred directly from DHs to a tertiary hospital
- Patients should be referred via the regional
- hospital to a tertiary hospital

Section G: Timeliness of transport access to the RH

In general, how do you rate the overall availability of the transport services for your referrals back to the DHs?

- Very poor
- Poor
- Fair
- Good
- Very good

Section H: Referral processes doctors' satisfaction

How satisfied are you with the current referral pathways from the district hospitals to the tertiary hospital (Via the Regional Hospital)?

- Very dissatisfied
- Somewhat dissatisfied
- Satisfied
- Very satisfied

Do you think the current referral processes of non-emergency patients to your department improve patient outcomes?

Yes / No / Unsure

Do you think the current referral processes for emergency patients improve patient outcomes?

Yes / No / Unsure

In your opinion, do you think that more knowledge and understanding by your department's doctors of how the district hospitals work could improve referrals?

Yes / No / Unsure