Point-of-care testing for common infections in South Africa: primary care clinicians’ perceptions on adoption

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Declaration

- I have received research grants from National Institute for Health Research (NIHR) School for Primary Care Research, RCGP Scientific Foundation Board, British Research Council.
- I have no competing interests.
Who am I?

- Academic family physician (GP)
- University of Oxford
- PhD or DPhil (Primary Health Care)
- Research interests: infectious diseases, antibiotic resistance (“superbugs”) and antibiotic stewardship
ANTIBIOTICS AND ANTIBIOTIC RESISTANCE
PRIMARY CARE

Antibiotics prescribed in community

Respiratory tract infections in primary care account for 60% of antibiotic prescriptions

Antibiotic use drives the risk of antibiotic resistance (Costelloe et al. BMJ 2010)

POINT-OF-CARE TESTS (POCT) FOR COMMON INFECTIONS
OTHER NAMES: RAPID DIAGNOSTIC TESTS OR NEAR-PATIENT TESTING

- Performed by clinician or patient
- No need to transport sample to laboratory
- Tests available quickly
- Reduce antibiotics
- Convenience for patients
POINT-OF-CARE TESTS FOR COMMON INFECTIONS

WHY ISN’T EVERYONE USING POCTS?

? Impact on clinicians

Cost, safety, accuracy

Poor access to antibiotics

Many unknowns

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IMPROVING ANTIBIOTIC PRESCRIBING IN SOUTH AFRICA
UNDERSTANDING FRONT-LINE CLINICIANS

- Essential to understand the context of antibiotic prescribing

- Learn about experiences of front-line clinicians (nurses and doctors) in the community managing common infections

- Find out about their perceptions of the barriers and opportunities to uptake of POCTs in their setting.

- No qualitative studies in South Africa that have explored this.
Point-of-carE Testing foR Infections
(PETRI Study)
THE ‘PETRI’ STUDY
PRIMARY AIMS

- Explore the perceptions of primary care clinicians at publicly-funded primary care clinics in the Western Cape Metro about point-of-care tests for two common infection syndromes (urinary tract infections, acute cough).
- Identify clinicians’ perceptions of barriers and opportunities for uptake of POCTs into routine care.
METHODS

Point-of-care Testing for Infections (PETRI Study)
THE ‘PETRI’ STUDY

METHODS

- **What’s was entailed:** Face-face qualitative interviews around 30-45 min (Feb to April 2018)
- **Who:** Primary care clinicians (doctors, nurse prescribers) at day hospitals/primary care clinics across Western Cape Metro
- **Recruitment:**
  - Maximum variation sampling (clinic type/size, antibiotic prescribing pattern) through (a) Family Physician Forum (b) Nurse managers workshop (c) Snowballing
- **Data analysis:**
  - Anonymised transcripts analysed using thematic analysis aided with Nvivo software
  - Iterative approach to data collection and analysis
- **Ethics approval:**
  - HREC 071/2018 (University of Cape Town); OxTREC Ref: 508-18 (University of Oxford)
RESULTS

Point-of-carE Testing foR Infections
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THE ‘PETRI’ STUDY

Results

- 23 primary care clinicians were interviewed between March-April 2018
- 13 independent primary care clinics across the Western Cape Metro (1 to 6 participants/clinic)
- Majority female participants (n=14). Average age of 42 years old.
- Most participants were recruited through contacts at the regional Family Physician Forum
- Nurse prescribers (n=8), doctors (n=15, 11 family physicians, 4 medical officers)
- Three themes were identified to represent the data
Theme 1 Context of antibiotic prescribing
Perceptions of carrying out antibiotic guideline-led practice

“Sometimes it looks like a person is sick but the clinical features [don’t] match. So, I would love to give her antibiotics but clinically it’s not allowed based on the guidelines”

(P17; nurse prescriber)
Theme 1 Context of antibiotic prescribing
Factors influencing antibiotic prescribing decisions for common infections

“Sometimes you actually know it’s a viral thing, but because the patient might be elderly, might not have access to the facility, doesn’t have transport to come back [...]. So, you sort of soothe your conscience by prescribing prophylactic antibiotics. I've done it before.”

(P4; family physician)

“A lot of patients come with an expectation of treatment and ‘watch and wait’ and things like that don’t often [work]. They want to leave with something quite often”.

(P5; family physician)
Theme 2 Providing patient care in South Africa
Patient access to care is difficult

“So, you don’t want the patient to come back again. The clinic is full, and to get the person to come back in 3 days’ time to make sure that their upper respiratory tract infection is not truly a bacterial tonsillitis. It’s just not going to happen, so an antibiotic gets prescribed”.

(P16; family physician)

“I think we, we sort of function in an environment where we don’t know what we could use and so we just, I find myself quite happy to carry on as I am…”

(P13; family physician)
Theme 2 Providing patient care in South Africa
Patient expectations of care provided

“...for an [acute] cough, you don’t get [antibiotics] then you must go and buy cough syrup or you must use a home remedy”.

(P17; nurse prescriber)
Theme 2 Providing patient care in South Africa
Explanations of antibiotic use and patient acceptance

“In Xhosa, there is only one word, kwamagciwane [bacteria], which means germs. Even that word, kwamagciwane, now has the connotation of - that’s HIV”.

(P16; family physician)
Theme 3 The potential for point-of-care tests
Perceptions of new POCTs based on past experience of POCTs

“Yes [...] when it comes to STIs [sexually transmitted diseases] and you are able to do the rapid RPR [syphilis POCT], you [can] see whether it is reactive or not, and then you can start treatment immediately”.

(P7; nurse prescriber)

“The [novel POCT] will tell me exactly, must I give antibiotics or not. It will tell me I need to advise this [patient] to use home remedies immediately or I need [...] to manage them with the antibiotics”.

(P17; nurse prescriber)
Theme 3 The potential for point-of-care tests
Patient benefits of POCTs and its impact on the consultation

“...Especially with patients that pressure you for antibiotics, you have something to show them that [antibiotics] aren’t really indicated”.

(P9; nurse prescriber)

“Yes, I think [a POCT] may be misused. People would not be using their clinical judgement, they won’t make time to talk to patients, so I think a test often does [disrupt this interaction]”.

(P1; family physician)
Theme 3 The potential for point-of-care tests
Cost implications and workload of performing, maintaining POCTs

“I think [POCTs] will outweigh [the costs] especially because of where we are. We cannot afford to be prescribing antibiotics where they are not needed”.

(P3; family physician)

“And it’s really busy [in clinic], so people might think, it’s just going to take more time, if I can just send the patient for a blood [test] it’s going to be quicker because then I don’t have to do it”.

(P12; family physician)
IMPLICATIONS

Point-of-carE Testing for Infections (PETRI Study)
IMPLICATIONS
Clinical practice, policy and future research

- POCTs for common infection syndromes (RTI/UTI) may only affect a proportion of antibiotic prescribing (social determinants of prescribing)
- Policy-makers need to see the value of bringing diagnostic methods to primary care
- Data on antibiotic prescriptions needs to be routinely collected
- Further studies needed in primary care settings to test the clinical and cost-effectiveness of POCTs for common infections
- ? Patient voice
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