

Impact of the model of care on antiretroviral adherence

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Background

- Providing antiretroviral therapy (ART) to all who need it is not enough to determine program success
- Without excellent adherence there is a risk of individual-level therapy failure and population-level resistance
- A sound public health policy for ART provision must explicitly address not only treatment access but also treatment adherence

Background

- Because ART services were introduced earlier than most other provinces, a relative maturity and diversity of such services exists in the Western Cape
- This study aimed to explore that diversity by examining the major features of current approaches to ART provision, including adherence programs

Aims

- To compare and contrast education and adherence systems
- To analyse clinical, virological and self-reported adherence outcomes at clinics

Key question: Do some models of care lead to better adherence & related outcomes compared to others?

Methods

5 sites were chosen to reflect:

- **Well established clinics:**
from 18 to 48 months continuous operation
- **Significant numbers on treatment:**
between 250 and 803 on ART at the time interviews began (July 2005)
- **Service delivery differences**
different approaches to patient adherence (detailed later)

Methods

- **On-ART patient interviews**

749 interviews, minimum 110 per site
field-worker administered structured q'aire

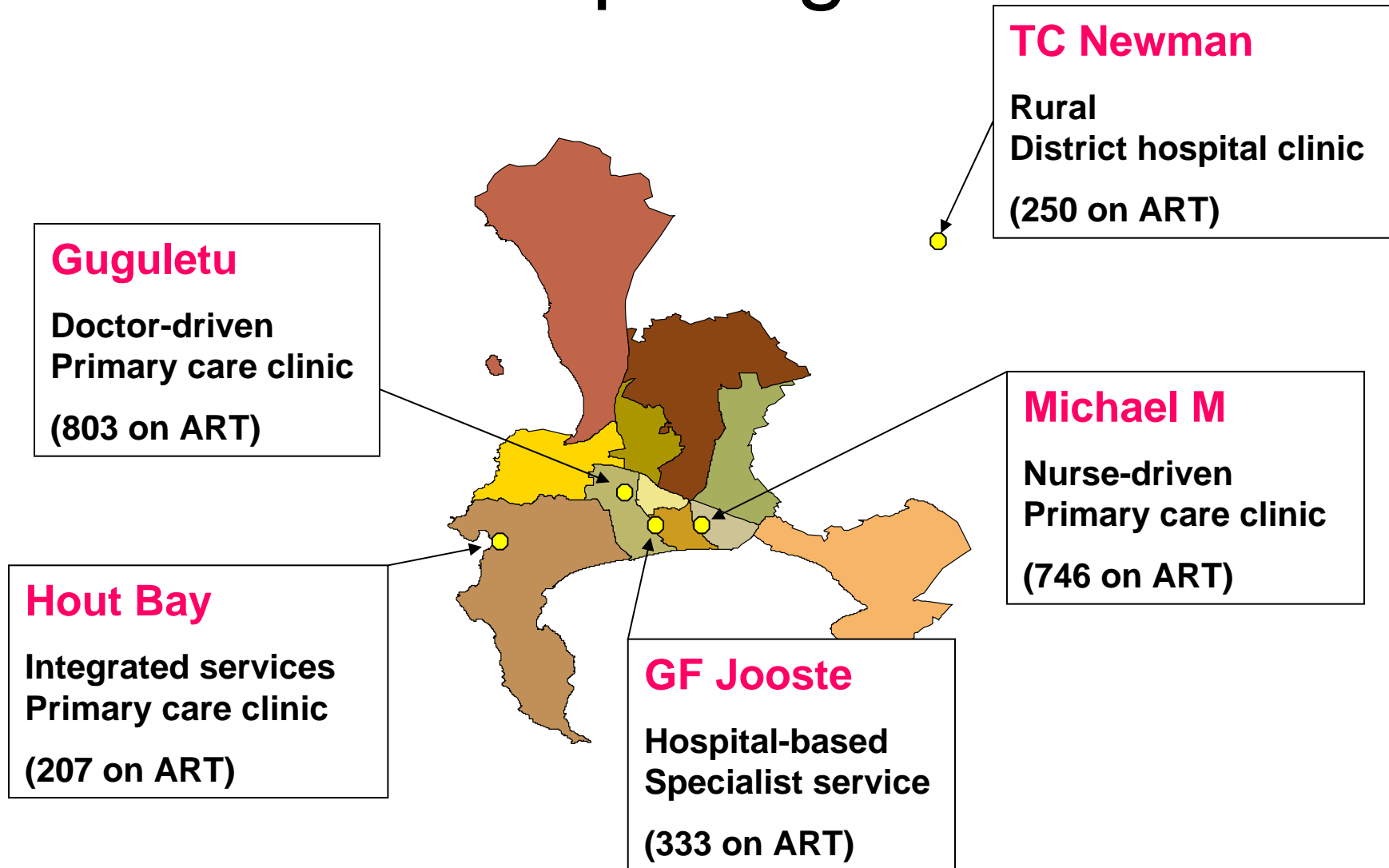
- **Facility assessments**

Service operations, staff structure

- **Analysis of routine reporting data**

Quarterly cohort report tracking (provincial)

Participating sites



Clinic differences

| GF Jooste | Guguletu | Hout Bay | Michael M | TC Newman |
|--|--|---|---|---|
| <ul style="list-style-type: none"> •Doctors as clinicians •“Academic” clinic •Weekly teaching forum on the hospital premises •Good access to tertiary level investigative services | <ul style="list-style-type: none"> •Doctors as clinicians •Largest number of community counsellors | <ul style="list-style-type: none"> •Single doctor clinician •CNPs from rest of clinic being trained to manage minor HIV morbidities •TB and STI management on site | <ul style="list-style-type: none"> •Nurses and doctors as clinicians •Comprehensive visit data-capture system | <ul style="list-style-type: none"> •Doctors as clinicians •Heterogeneous patient population •Strong links with hospice |

Treatment Education

(as adherence precursor)

- Common to all clinics - preparation through intensive patient education
- Instruction includes side-effects of ART, HIV disease progression and the necessity for excellent adherence
- Differences include **whether the information is delivered to a group or an individual** (or a combination), **the number of sessions**, **the duration of the learning process** and the **presence of a 'treatment buddy'**
- Certain clinics include a home visit - to identify potential barriers to adherence

Adherence support

| GF Jooste | Guguletu | Hout Bay | Michael M | TC Newman |
|---|--|---|--|--|
| <ul style="list-style-type: none"> •5 counsellors, facility based. •Patient education concurrent to clinical work-up. •Tailored ongoing adherence counselling support after initiation | <ul style="list-style-type: none"> •Clinic and community support •24 counsellors •Patients assigned to individual counsellors •Home visits | <ul style="list-style-type: none"> •On-site routine education •Community advocate support •Home visits | <ul style="list-style-type: none"> •On-site counselling and support groups •‘treatment buddies’ •Very little community outreach •Tailored on-treatment adherence sessions •Every patient receives pillbox | <ul style="list-style-type: none"> •On-site tailored education and community advocate •Home visits •Home based carers have been incorporated into adherence support network |

Routine reporting and outcomes

- Two forms of routine reporting:
 - 1) Monthly reporting: total patient numbers, new patients
 - 2) Quarterly cohort reports
- Outcomes are not only a product of the services, but also the different patient populations themselves.
- The major items tracked in the cohort reports are survival in care and laboratory outcomes.
- Lost to care = death, loss to follow-up or being transferred to a different service.
- Cohort reports are limited to naïve patients

Routine reporting outcomes

| | | GFJ | GG | HB | TCN | MM | Total |
|--------------------|------------------------------------|------|------|------|------|------|-------|
| Start | 1/7/4 to 31/12/4 | 43 | 164 | 61 | 95 | 200 | 563 |
| | Proportion male | 25.6 | 22 | 41 | 33.7 | 27.5 | 28.2 |
| | Prop. CD4 <50 | 34.9 | 29.9 | 11.5 | 18.9 | 29.5 | 26.3 |
| After 6 mo. | On 1st line | 33 | 145 | 53 | 71 | 170 | 472 |
| | Total lost | 8 | 19 | 7 | 20 | 26 | 80 |
| | % in care | 81.4 | 89.5 | 91.5 | 86.2 | 89.7 | 88.6 |
| | Of those done, % CD4>200 | 55.6 | 58.3 | 55.8 | 68.9 | 64.7 | 62.1 |
| | VL done | 7 | 141 | 52 | 75 | 169 | 444 |
| | VL<400 | 7 | 135 | 50 | 69 | 158 | 419 |
| | %VL<400 | 100 | 95.7 | 96.2 | 92 | 93.5 | 94.4 |

Self-reported adherence outcomes

| | GFJ N=133 | GG N=183 | HB N=110 | MM N=207 | TCN N=116 | All N=749 |
|---|--------------|-------------|-------------|-------------|--------------|--------------|
| Any missed dose in previous 3 days? | 14% | 3% | 3% | 7% | 5% | 6% |
| Excluding the previous 3 days, any missed dose in previous month? (amongst those on for >1m) | 25% | 10% | 19% | 18% | 15% | 17% |

Self-reported adherence measures

| | Total N=749 | GFJ N=133 | GG N=183 | HO N=110 | MM N=207 | TCN N=116 |
|---|----------------|--------------|-------------|-------------|-------------|--------------|
| Percent using: Used pillbox ever (past or present) | 36% | 23% | 13% | 2% | 100% | 3% |
| Rate <u>very important</u> | 94% | 81% | 91% | 100% | 95% | 100% |
| Percent using: Clinic-based support group | 38% | 16% | 35% | 47% | 68% | 8% |
| Rate <u>very important</u> | 92% | 81% | 98% | 88% | 92% | 100% |
| Percent using: Community-based support group | 14% | 9% | 22% | 7% | 10% | 21% |
| Rate <u>very important</u> | 91% | 75% | 100% | 100% | 75% | 96% |
| Percent using: Self-selected treatment supporter | 81% | 68% | 85% | 61% | 99% | 78% |
| Rate <u>very important</u> | 83% | 86% | 97% | 97% | 62% | 97% |
| Percent using: Counsellor home visit since initiation | 36% | 0% | 94% | 40% | 2% | 43% |
| Rate <u>very important</u> | 69% | -- | 62% | 95% | 100% | 68% |

Results overview

| | GF Jooste | Guguletu | Hout Bay | Michael M | TC Newman |
|--|---|--|---|-------------------------------|---|
| Adherence method | Facility only | Facility and community | Facility and community | Largely facility | Facility and community |
| Percentage in care after 6 months | 81.4 | 89.5 | 91.5 | 86.2 | 89.7 |
| Virological suppression | 100* | 95.7 | 96.2 | 92 | 93.5 |
| Self-reported 3-day adherence | 14% | 3% | 3% | 7% | 5% |
| Self-chosen adherence tool | Treatment supporter (78/133) | Treatment supporter (151/183) | Treatment supporter (65/110) | Pill-box (197/205) | Treatment supporter (88/116) |

Conclusions

- **Limitations:**

- Incomplete routine data from one site
(although unlikely to be a replicable model)
- ? Recall data has differential social-desirability bias
- Difficulty attributing clinical and virological outcomes to adherence and education model only (other confounders operating)

- **Nevertheless:**

- Routinely collected laboratory data on patient outcomes does not readily distinguish outcomes in one model of care from any other
- All the sites are performing well in terms of retention in care, immunological response and virological suppression

Conclusions

- Adherence is critical to a successful roll-out
- The two largest clinics are examples of the two broad approaches of facility versus community-based counselling; little difference is seen in adherence outcomes between them
- Whatever adherence tool is used, needs to be replicable, manageable, transferable across facilities and acceptable to patients
- Should adherence support be the domain of health services only?