# Overcoming obstacles to HIV care through the use of semi-mobile clinics in rural Kenya

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## Abstract

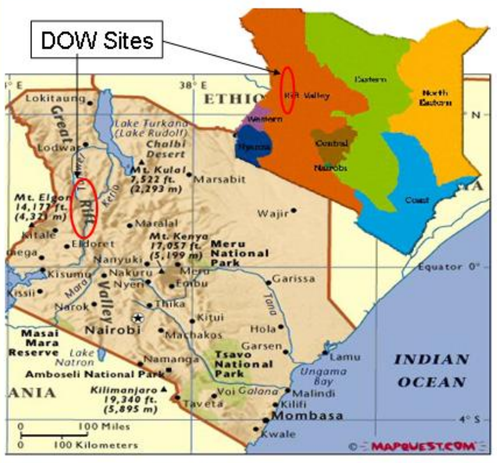
**Background:** Although the HIV/AIDS burden is growing in rural communities in Kenya, access to care and treatment services is still largely restricted to urban areas. Health facilities in West Pokot district, where HIV prevalence has been estimated at 8%, suffer from severe staff shortages and turn-over, poor HIV treatment capacity and lack of funding or resources from the central level.

**Methods:** Since 2005, Doctors of the World (DOW) has partnered with Indiana and Moi Universities´ Academic Model for Prevention and Treatment of HIV/AIDS (AMPATH) and the West Pokot District Health Management Team (DHMT). DOW´s program has expanded access to HIV prevention and care services among rural, semi-nomadic populations in West Pokot district through the use of semi-mobile clinics. A team of providers from the district hospital's comprehensive HIV clinic makes monthly visits to five rural health centers to provide ARVs, patient monitoring and psychosocial support to HIV positive patients. DOW conducted structured interviews and clinical chart reviews to evaluate the approach.

**Results:** By the end of 2007, DOW's program had enrolled over 1,200 patients in HIV treatment of which over two-thirds were women. After introducing semi-mobile clinics, DOW observed a rise in the average monthly enrollment by an estimated 57%. Initially, DOW also observed higher initial CD4 counts, shorter distances traveled, and equal or higher adherence to treatment at the semi-mobile sites. The current analysis describes patients at these two service delivery methods, comparing indicators including demographic characteristics, presenting symptoms, and survival.

**Conclusions:** A hospital-based treatment site and reference laboratory can provide a foundation for semi-mobile clinics which are a cost-effective means of increasing the reach of comprehensive HIV/AIDS services. With supportive policies, structures and collaboration between MOH and NGOs, this model can be replicated for rural HIV/AIDS treatment, expanding community access while maintaining quality.

## Project Location – West Pokot District




West Pokot, in the North Rift Valley, consists of extremely rural, poor, ethnic minority communities; it lags behind Kenyan averages in general and health infrastructure, as well as key health indicators.

*Main road - West Pokot*

*MOH Dispensary, West Pokot*

Before DOW's Program:

- Limited uptake at VCT sites; almost no provider-initiated counseling and testing.
- No formal support systems for HIV+ people.
- When treatment introduced by MOH in early 2005, fewer than 50 people enrolled, most lost to follow-up.

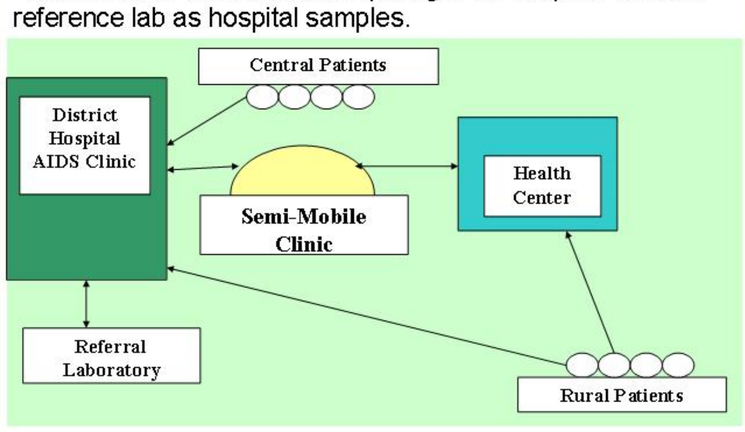
## Overview of HIV/AIDS Program

- HIV/AIDS clinic established at Kapenguria District Hospital
- Free, comprehensive clinical services provided by MOH staff, trained and supervised by DOW and AMPATH.
- Lab services, ARVs provided through AMPATH and Moi Teaching and Referral Hospital.
- >1,350 HIV+ people registered in care; >40% of currently enrolled patients are on ARVs.
- All patients have access to support services provided by DOW staff, including support groups, home visits, educational seminars, food supplements (based on socioeconomic criteria), and agricultural/livelihoods training.
- Regular community education and mobile testing sessions.

## Semi-Mobile Clinic Model – Why & What

**Challenges:** Roll-out of hospital-based ARV services showed:
- Patients came late, with advanced AIDS illness
- Patients came from far away, some >200kms
- Monthly visits burden on time, resources, confidentiality

**To respond, semi-mobile clinic introduced:**
- Sub-set of hospital team travels to rural health center (HC) weekly; each HC visited monthly.
- People found to be HIV+ through ongoing testing at HCs asked to return to HC on semi-mobile clinic day.
- Semi-mobile clinic team brings ARVs, test kits, patient records, medical equipment, cold chain box, and food distribution from hospital to HC.
- At HCs, semi-mobile clinic patients receive clinical monitoring, medicines, and access to support services.
- Semi-mobile clinic blood samples go, via hospital, to same reference lab as hospital samples.




**Assumed benefits of semi-mobile clinics:**
- Speeds roll-out of rural treatment, no infrastructure delays
- Maximizes reach of reference laboratory
- Avoids quality challenges for providers at low-volume sites

## Study Questions and Methods

**Questions:** Will patients seek care at semi-mobile sites?

If so, do semi-mobile clinics:
- Accelerate enrollment in care?
- Draw different patients than the hospital clinic?
- Have an effect on adherence, retention in care, or survival?

**Methods:**
- Patient charts provided age, sex, initial/last CD4 count, presenting symptoms, diagnoses during treatment; ARV status, travel time/distance, loss to follow-up, and survival.
- Chart reviews conducted for:
  - ALL semi-mobile clinic patients making more than one visit
  - Random sample of hospital patients making more than one visit (~10% of cases)

## Key Findings

**Characteristics of Semi-Mobile Clinic vs. Hospital Patients**

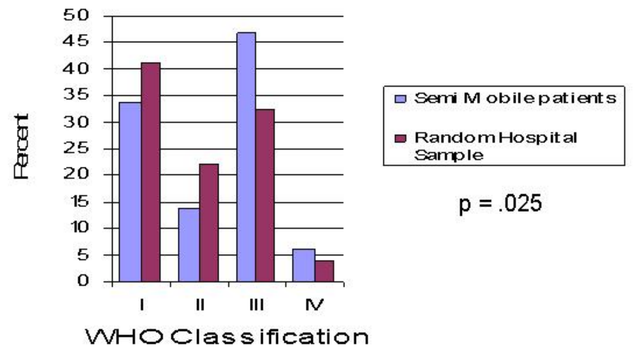
| | District Hospital | Semi-Mobile Sites |
|---|---|---|
| Age (median, adults) | 34 | 35 |
| Pediatric cases (%) | 21.6% | 18.9% |
| Gender (female) | 75.8% | 68.9% |
| Eligible for food* | 18.3% | 61.7% |

* p = <.001

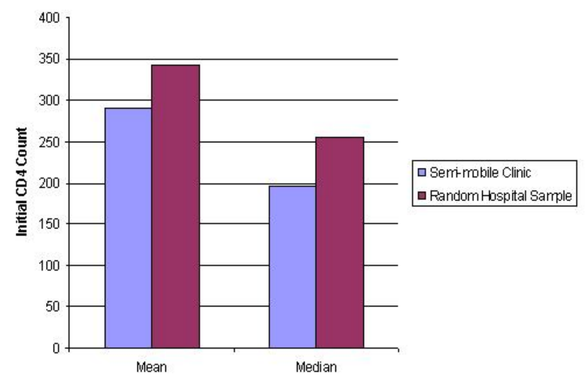
- Food eligibility data are taken from food distribution records, rather than patient charts. They refer to the total hospital population, rather than a random sub-sample.

## Key Findings, continued

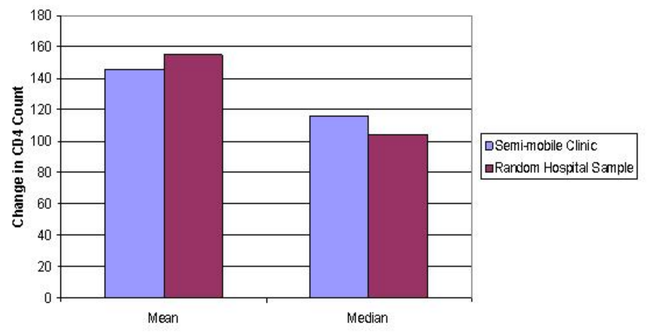
**WHO AIDS Clinical Stage at Enrollment – Hospital vs. Semi-Mobile**



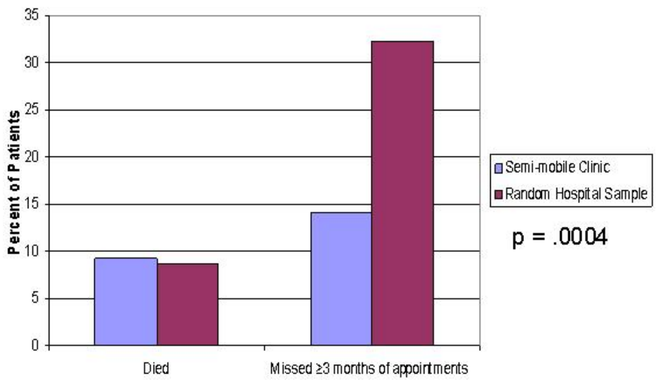

**CD4 Count at Enrollment – Hospital vs. Semi-Mobile**




**Increase in CD4 Count to Date – Hospital vs. Semi-Mobile**




**Survival and Missed Appointments – Hospital vs. Semi-Mobile**




## Conclusions

I. Introducing semi-mobile services requires a fixed point for record-keeping, procurement, and lab services.

II. The poorest patients, as measured by eligibility for food supplements, appear to benefit the most from reductions in distance from care. Semi-mobile clinic patients are significantly more likely to be food eligible.

III. Despite seeing patients who are sicker, semi-mobile clinics appear to offer equal care as the hospital, as measured by survival; and better care as measured by regular retention in services.

**With adequate support mechanisms (see I.), semi-mobile clinics can be an effective way to increase the reach of comprehensive AIDS services to the poorest community members in rural areas.**

## Acknowledgements

DOW would like to thank the West Pokot DHMT, AMPATH, health facility staff, and community members for their partnership and contributions to this effort. Previous analyses of the semi-mobile clinic model have been presented at meetings of the American Public Health Association (2007) and the Global Health Council (2008); however, those used database searches rather than chart reviews and did not include data on presenting symptoms. This analysis examines new and expanded data.