

BACKGROUND

- The SEARCH Study is an HIV test-and-treat cluster-randomized trial which includes 32 communities of approximately 5000 individuals each.
- SEARCH has achieved >90% HIV testing and >90% antiretroviral (ART) treatment for all HIV+ stable adult residents.
- Our “streamlined” HIV care model reduces wait times and facilitates viral suppression (84%).
- Prior to the implementation of routine viral load testing, standard HIV care delivery was estimated to cost \$224-\$1089 per-person-per-year (ppy).
- Studies on differentiated care for stable HIV-positive patients, including clinic-based group visits, pharmacy-only visits and home delivery, estimate the cost of this care at \$300-\$793 ppy.

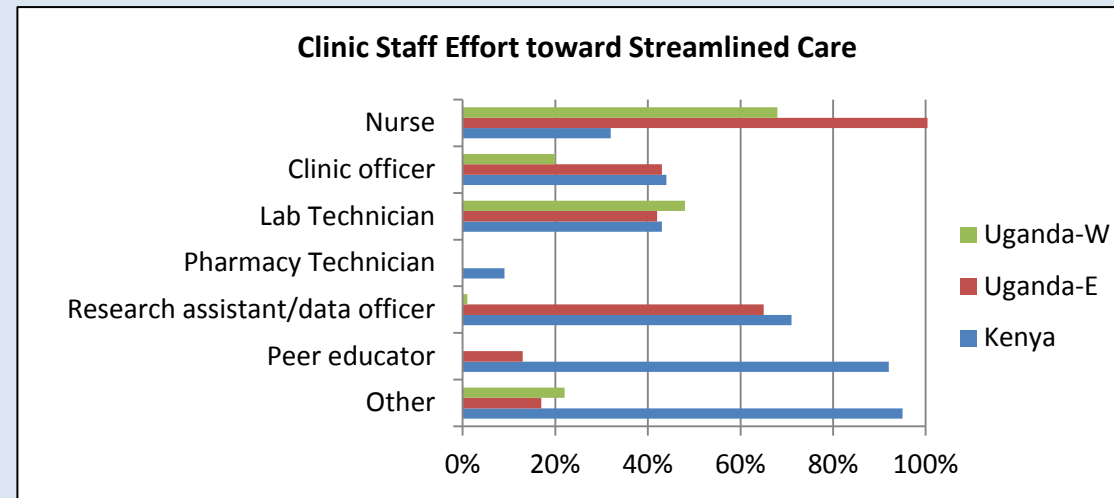
OBJECTIVE

- We sought to:
 - estimate the cost of streamlined HIV care delivery in SEARCH; and
 - model the cost of streamlined HIV care under optimized scale-up conditions.

METHODS

- We estimated the cost ppy of streamlined HIV care delivery in 17 health facilities in intervention communities in Kenya and Uganda within the SEARCH Study (NCT:01864603).
- Streamlined HIV care utilizes:
 - a patient-centered, multi-disease approach in a supportive environment;
 - nurse-driven appointments (q 3 months) with co-located clinical/phlebotomy/laboratory services;
 - appointment reminders;
 - telephone access to clinicians; and
 - viral load (VL) testing and counseling (q 6 months).
- We calculated costs using standard micro-costing techniques, time-and-motion studies, interviews of supervisory staff, and administrative records review.
- Cost categories included clinical and supervisor staff salaries, ART medications, VL testing, and fixed and recurring costs.
- We modeled HIV care costs under optimal scale-up conditions, which included:
 - lowest available ART costs based on United Nations Development Programme (UNDP) negotiated rates;
 - actual costs of annual VL testing in centralized laboratories, and
 - transition to government salaries.

RESULTS



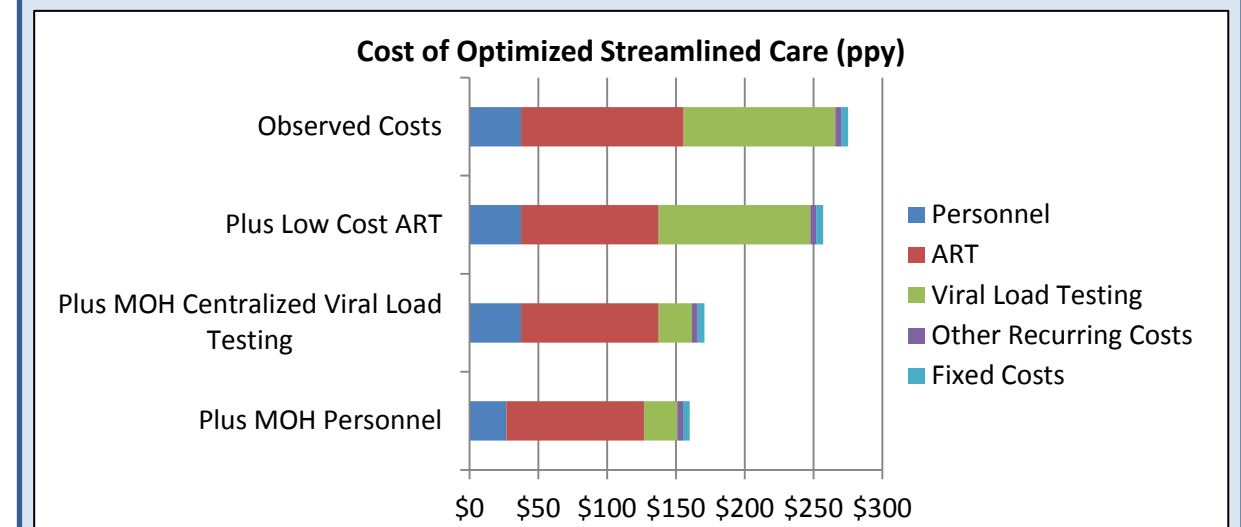
Effort of Clinic Staff toward Streamlined Care (Percent Effort)

- Implementation of streamlined care differed by region:
 - In Uganda-West, streamlined care was nurse-driven with support from clinical officers, laboratory technicians and other staff (receptionists and community health workers).
 - In Uganda-East, streamlined care also included support from data officers to manage clinical care data.
 - In Kenya, implementation of streamlined care was more evenly distributed among nurses, clinical officers and laboratory technicians with substantial support from research assistants and lay health workers (peer educators and other staff).

	Uganda-W	Uganda-E	Kenya	Overall
Personnel	\$36.64	\$25.24	\$48.20	\$37.53
ART	\$150.36	\$150.36	\$99.00	\$118.19
Viral load testing	\$110.30	\$110.17	\$110.09	\$110.21
Other recurring costs	\$7.23	\$9.41	\$5.34	\$4.24
Fixed costs	\$5.81	\$3.77	\$7.08	\$4.99
Total	\$310.34	\$298.95	\$269.72	\$275.18

Cost of Streamlined Care (ppy)

- Streamlined HIV care delivery averaged \$275 ppy.
- ART medications (TDF/3TC/EFV) and VL testing dominated costs.
- Staff salaries [\$38 ppy for clinical (\$37) and supervisory (\$1) staff], fixed costs (for infrastructure and equipment) and other recurring goods and services made up a smaller portion of costs.
- Personnel costs were lowest in Uganda-East and highest in Kenya.
- ART costs were lower in Kenya because of MOH procurement of medications.



Cost of Optimized Streamlined Care (ppy)

- Optimize scale-up may include:
 - lowest available ART costs (\$100 ppy);
 - annual centralized VL testing (\$24 ppy); and
 - transition to government salaries (\$27 ppy).
- The overall cost of streamlined HIV care in this optimized model would drop to \$160 ppy.
- National procurement of ART would have a substantial impact on the cost of streamlined care in Uganda (-\$50 ppy).
- Annual VL testing in centralized laboratories would have the most impact on overall costs (-\$86 ppy).
- Transition to government salaries would have a modest impact on overall costs (-\$11 ppy).

CONCLUSIONS

- Costs of streamlined HIV care within the SEARCH test-and-treat trial were similar to or lower than previous standard HIV care cost estimates, even after including costs for VL testing and counseling.
- Optimized models of care delivery would substantially reduce these costs below prevailing estimates.
- These data can inform global cost and policy formulations focused on financing the expansion of ART to achieve UNAIDS 90-90-90 targets.

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