Costs and benefits to recipients of HIV treatment in DSD models

Sydney Rosen for the AMBIT Project
Boston University School of Public Health
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ICAP Columbia University Mailman School of Public Health

HIV LEARNING NETWORK
The CQUIN Project for Differentiated Service Delivery

Background: The AMBIT Project

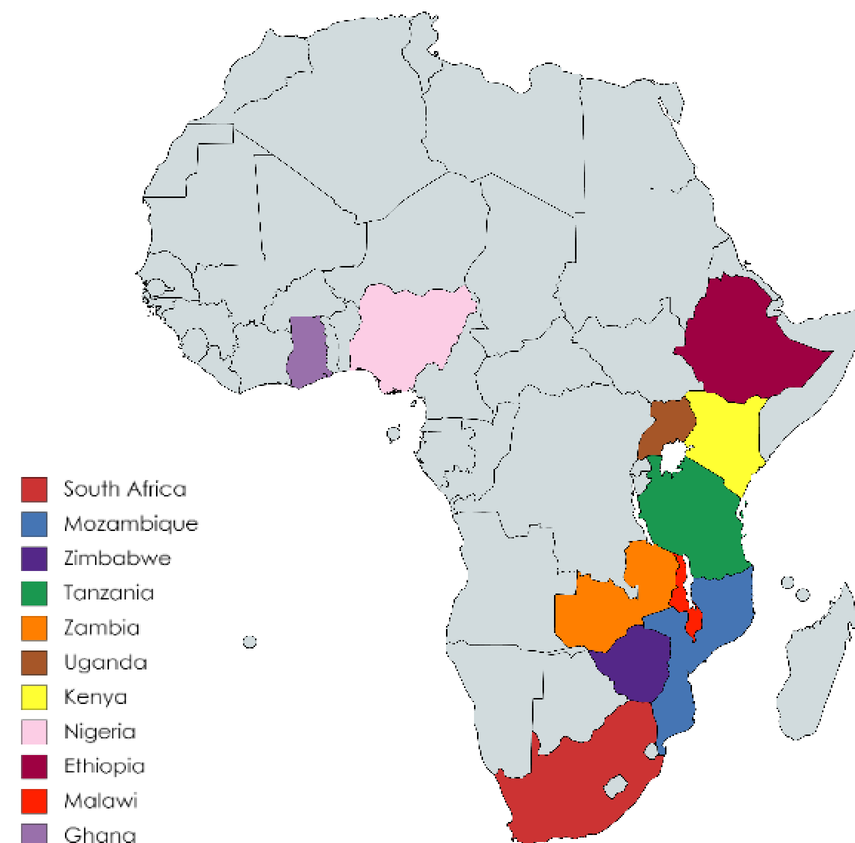
- AMBIT = Alternative Models of ART Delivery: Optimizing the Benefits
- Project will generate system-level data on the scale, scope, outcomes, and impact of DSD models for ART
- First activity is a comprehensive review of published and unpublished sources on DSD models in Africa 2016-2019*
- Sub-reviews focus on specific outcomes, including benefits and costs to recipients of care

Health Economics and Epidemiology Research Office
HE²RO
Wits Health Consortium
University of the Witwatersrand

*The review team includes Matthew Fox, Salome Kuchukhidze, Lawrence Long, Brooke Nichols, and Sydney Rosen from Boston University and Refiloe Cele, Caroline Govathson, Amy Huber, and Sophie Pascoe from HE[2]RO. The project is supported by the Bill & Melinda Gates Foundation.

Sub-review details

- Overall review identified 85 published and unpublished reports
- 29 (34%) contained information about recipient costs and/or benefits from 11 countries
- Very few included comparisons with standard of care or other models, but costs and benefits are always relative to the alternatives or to the resources available



Costs

Costs = We define costs as differences due to DSD model participation in monetary and in-kind resource usage from the patient perspective

- Monetary payment for travel and service
- Value of wages lost or replacement labor (e.g. childcare)
- Value of time spent traveling, waiting for, and/or receiving services

Costs

Country	Model	Travel cost		Time or distance	
		DSD model	SOC model	DSD model	SOC model
Facility based individual models					
Malawi	Fast track refills	$2.30/year	$7.00/year	20.9 hrs/year	74.7 hrs./year
Malawi	Multi-month scripting	$2.30/year	$7.00/year	24.9 hrs/year	74.7 hrs./year
Out of facility based individual models					
South Africa	Centralized chronic medicines dispensing and distribution (CCMDD)	$1.07/visit		13% of patients had >1 hour travel time to pickup point	
South Africa	Community based ART pick-up points	83% reduction in travel cost/year			
Tanzania	ARV community delivery	$0.40/year	$3.30/year		
Uganda	Community pharmacies			9.0 waiting-hours/year	
Healthcare worker led groups					
South Africa	Youth care clubs			13.8 visit-hours/year	48.0 visit-hours/year
South Africa	Adherence clubs	$0.80/visit		20% of patients had > 1 hour travel time to AC meeting point	
Client led groups					
Malawi	Community ART groups	$1.20/year	$7.00/year	36.8 hours/year	74.7 hours/year

References provided in full report

Benefits

Benefits = We define benefits as self-reported positive and negative aspects of DSD model participation (facilitators and barriers)

- Greater (or less) confidentiality
- More (or less) efficient receipt of care
- Friendlier (or not) care-givers
- Negative benefits are labeled “drawbacks”

Benefits and drawbacks (1)

Facility based individual models	• Reduced waiting time • Facility decongestion • Reduced travel cost • More patient freedom for employment and family travel • Potential for improved adherence and retention • No reports of unwanted disclosure • Patients successfully carried large supply of ARVs • Patients successfully stored drugs for a long time • No problems with lost or stolen medications	• Concerns regarding safety and storage of multiple months of medication for a long period of time at home • Drug stock-outs and supply chain issues • Inconsistent implementation across facilities • Long waiting times during clinic visits • Some concerns about stigma
Out of facility based individual models (FSW projects only)	• Reduces travel costs and waiting time • Minimizes sex work-related stigma and risks of inadvertent status disclosure • Safety net for FSW who have missed ART pickup • Improves tracing of FSW	• Patient fear of stigmatization • FSWs are concerned about the branding of mobile clinics which may lead to accidental HIV disclosure

References provided in full report

Benefits and drawbacks (2)

Healthcare worker led groups	• Provides a group identity/peer support • Empowers patients to stay adherent and remain in care • Less time consuming (shorter queues) • More convenient for employed patients • Reduces stigma • Helps link patients to care and track LTFU	• May lead to complicated patient-provider relations • Patient concern about big group size, stigma, and unintended disclosure of status • Patient concern about needing to find members to join the group • Patient concern about models being time consuming and inefficient • Patient concern about ARTs not delivered in time
Client led groups	• Improved social support • Savings in transport costs • More patient freedom to engage in employment and family activities	• Privacy and confidentiality concerns (fear of accidental disclosure) • Concerns about interpersonal conflicts between group members • Lack of patient understanding of how models work • Patients found it useful to meet with providers in person

References provided in full report

Satisfaction and preferences

Country/z	Model name	Satisfaction metric or model to which DSD is preferred	% reporting satisfaction with DSD model	% reporting that they prefer the DSD model
Facility based individual models				
Tanzania	Clinic and home based adherence intervention	% patients who were "satisfied" or "very satisfied"	97.6%	
Kenya	Facility fast track	Compared to CAGs		84.7%
Out of facility based individual models				
South Africa	CCMDD	% patients who were happy to be enrolled in model	96.3%	
Tanzania	ARV community delivery	% patients who were "satisfied" or "very satisfied" with model	96.9%	
Ghana	Refills from community based case managers for key populations	Compared to refills by clinicians		80.0%§
Mozambique	Community pharmacies	Compared to SOC		84.0%
Uganda	Community-based treatment	Compared to SOC		87.4%
Tanzania	Home-based delivery	Compared to SOC		86.0%
Zambia	Home-based delivery	Compared to adherence club or SOC		70.5%
Healthcare worker led groups				
South Africa	Adherence clubs	% patients who were "satisfied" or "very satisfied" with care	96.3%	
Zambia	Adherence clubs	Compared to home-based delivery or SOC		15.4%
Client led groups				
Kenya	Community adherence groups	Compared to facility fast track		15.3%
Zambia	Community adherence groups	Compared to SOC		64.2%

References provided in full report

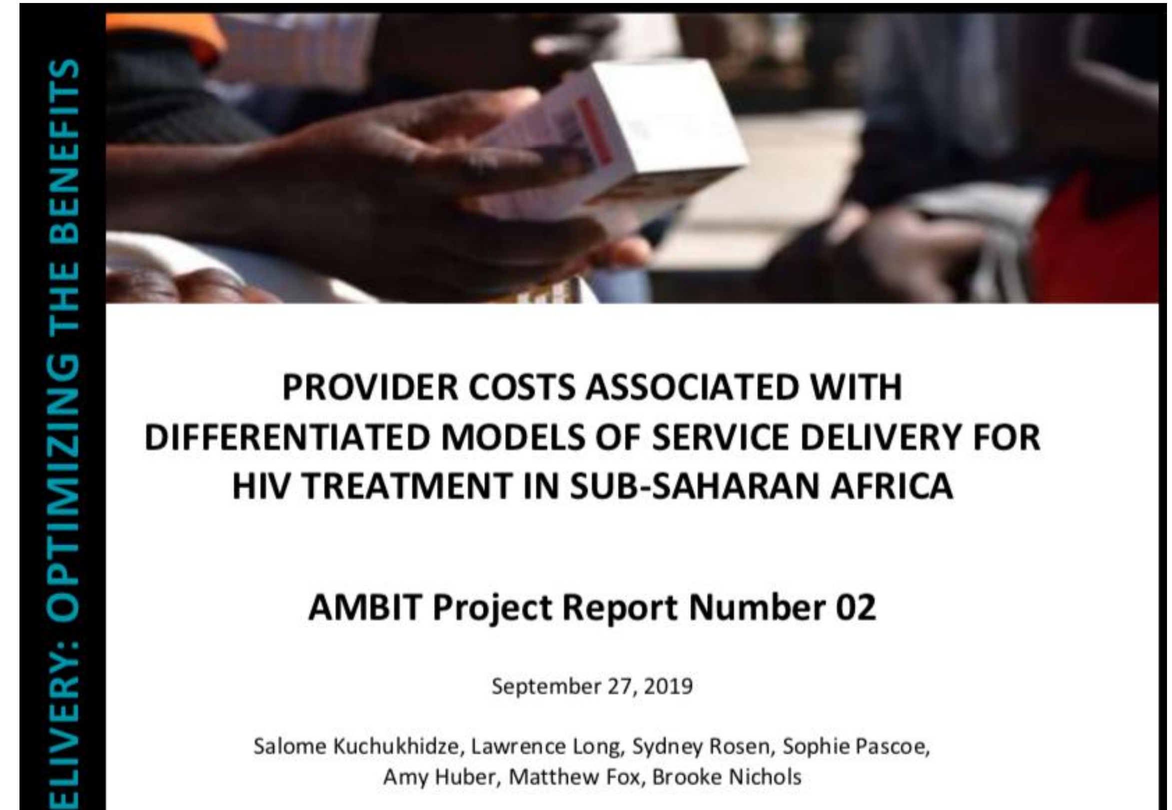
Some conclusions

- Where a comparison was reported, DSD models saved patients meaningful amounts of money on travel costs and reduced the time required to receive ART. This is likely the case for most (not all) lower intensity DSD models.
- Benefits of DSD models included reduced costs and time, greater flexibility, and social support.
- Drawbacks of DSD models included fears of confidentiality loss, stockouts, and difficult interpersonal relations in groups.
- Satisfaction with DSD models was generally high (>80%), but we don’t know if the same patients were satisfied with SOC or not (and these are patients who’d already mastered SOC…)
- Where a comparison was reported, patients preferred individual models to group models.

Final thoughts

- Not enough evidence to make broad generalizations about which models are "better" or "worse" for recipients of care or for healthcare systems.
- Perceptions of benefits and costs vary by individual patient, facility or program, and setting.
- Publication bias very likely (*DSD models that were found to have higher costs for patients might not have been reported*).
- No studies linked patient costs or benefits with clinical outcomes or patient welfare.
- Many reports did not provide any comparison values, making findings hard to interpret.
    - Studies that report that a high proportion of patients were satisfied with a DSD model generally do not tell us what proportion were also satisfied with the standard of care.
    - *Since most models enrolled only experienced, clinically stable ART patients who have already overcome most obstacles presented by standard of care, it is possible that many of them would be satisfied either way.*
- We need more rigorous evaluation methods, standard outcome definitions, and comparison populations (and more evaluations overall!).

For further information



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