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## Pilot Evaluation of a Standardized Patient Actor Training Intervention to Improve HIV Care for Adolescents and Young Adults in Kenya

Cyrus MUGO, MBChB<sup>1,2</sup>, Kate WILSON, PhD<sup>2</sup>, Anjuli D WAGNER, PhD<sup>2</sup>, Irene W INWANI, MMED, MPH<sup>4</sup>, Kevin MEANS, MD<sup>3</sup>, David BUKUSI, MMED<sup>5</sup>, Jennifer SLYKER, PhD<sup>2,6</sup>, Grace JOHN-STEWART, MD, PhD<sup>2,3,6,7</sup>, Barbra A RICHARDSON, PhD<sup>2,8</sup>, Margaret NDUATI, BA<sup>10</sup>, Helen MORAA, BSN<sup>10</sup>, Dalton WAMALWA, MMED, MPH<sup>10</sup>, Pamela KOHLER, PhD, MPH, RN<sup>2,9</sup>

<sup>1</sup>Department of Research and Programs, Kenyatta National Hospital, Upperhill, Nairobi, Kenya

<sup>2</sup>Department of Global Health, University of Washington, Seattle, WA, USA

<sup>3</sup>Department of Medicine, University of Washington, Seattle, WA, USA

<sup>4</sup>Department of Paediatrics, Kenyatta National Hospital, Upperhill, Nairobi, Kenya

<sup>5</sup>VCT and HIV Prevention Unit/Youth Centre, Kenyatta National Hospital, Upperhill, Nairobi, Kenya

<sup>6</sup>Department of Epidemiology, University of Washington, Seattle, WA, USA

<sup>7</sup>Department of Pediatrics, University of Washington, Seattle, WA, USA

<sup>8</sup>Department of Biostatistics, University of Washington, Seattle, WA, USA

<sup>9</sup>Department of Psychosocial and Community Health, University of Washington, Seattle, WA, USA

<sup>10</sup>Department of Pediatrics and Child Health, University of Nairobi, Upperhill, Nairobi, Kenya

### Abstract

Poor retention in HIV care remains a major problem for Adolescents and Young Adults (AYA). A Standardized Patient (SP) clinical training intervention was developed to improve healthcare worker (HCW) “adolescent-friendly” competencies in Kenya. Professional actors were trained to portray HIV-infected AYA according to standardized scripts. HCWs completed a 2-day SP training that included didactic sessions, 7 video-recorded SP encounters, and group debriefing. AYA health experts rated HCWs by reviewing the video recordings. All HCWs (10/10) reported high satisfaction with the intervention and overall improvement in self-rated competency in caring for HIV-infected AYA. Cases were reported to be realistic and relevant by between 7 and 10 of 10 HCWs. The case on disclosure and adherence was rated as most challenging in communication

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Corresponding author: Cyrus Mugo Wachira, Kenyatta National Hospital, P.O Box 1285 00600 Nairobi, Kenya. cyrusmugodr@gmail.com, +254 721 599626.

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Data Availability  
Datasets analyzed for this manuscript are available upon request.

and making medical decisions by HCWs. Areas identified by SPs for improvement by HCWs included allowing patients time to ask questions, and enabling SP to share sensitive information. The overall ICC by experts was low 0.27 (95% CI: -0.79 to 0.95), however, ICCs in assessment of HIV disclosure 0.78 (95% CI: 0.17–0.98), and sexual behavior 0.97 (95% CI: 0.89–0.99) were high. This intervention was acceptable for Kenyan HCWs and improved self-rated competency in caring for HIV-infected AYA.

## Keywords

Adolescents; HIV; Healthcare Worker Competency; Adolescent-friendly Services; Standardized Patient Actors

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## Introduction

Retention in care remains a major problem for HIV-infected Adolescents and Young Adults (AYA) in sub-Saharan Africa, contributing to preventable morbidity and mortality (Auld et al., 2014). HIV-infected AYA report fear of encounters with HCWs who may treat them harshly or judgmentally; conversely, HCWs have reported feeling unprepared to provide appropriate care for AYA (Godia et al., 2013).

Use of Standardized Patient (SP) Actors has been useful in many settings to improve the quality of healthcare worker (HCW) interactions with patients (Baer et al., 2009; Eid, Petty, Hutchins, & Thompson, 2009; Walker et al., 2014; Wright, McKendree, Morgan, Allgar, & Brown, 2014). They have also been shown to be effective for improving provider communication (Hardee & Kasper, 2005) and patient outcomes (Zendejas, Brydges, Wang, & Cook, 2013), and may offer a scalable in-service training option for HCWs in Africa.

We developed a SP clinical training intervention to improve HCW “adolescent-friendly” competencies in providing HIV care to AYA in Kenya. This pilot study was designed to estimate HCW competency in caring for HIV-infected AYA, assess feasibility and HCW satisfaction with the SP training intervention, and test data collection tools to inform a randomized trial (Wilson, Mugo, et al., 2017).

## Methods

### Case script development

Case scripts were informed by World Health Organization guidelines for adolescent-friendly services (WHO, 2012), the Kenyan Ministry of Health’s Adolescent Package of Services (National AIDS and STD Control Program, 2005), and adolescent interviews (Wilson, Beima-Sofie, et al., 2017). Health issues covered include neuro-cognitive delays, tuberculosis (TB), prevention with positives (PWP), family planning (FP), disclosure, adherence, sexually transmitted infections (STI), gender-based violence (GBV), alcohol and drug abuse, sexual identity, depression, and fertility desire.

## SP training intervention

Professional Kenyan actors ages 18 and older were hired and received a 1-week training, conducted by an SP education expert, to portray 7 cases of AYA with different HIV-related concerns. Training included actors learning a ‘practice case’ plus a primary case according to case scripts, giving verbal feedback, and scoring HCW communication skills and identification of case goals.

The pilot intervention was a 2-day HCW training including didactic and practical components. Didactic sessions covered the SP methodology, adolescent-friendly clinical services, and motivational interviewing (Motivational Interviewing Network of Trainers, 2014). Participants completed 7 video-recorded SP encounters, with 7 different actors. Each SP encounter lasted 15–25 minutes, with another 5 minutes for SP feedback to the participant. Group debriefing sessions with trainers and SPs included review of selected videos, discussion of what worked and did not work in the encounters, and suggestions to improve future interactions with AYA clients.

## Data Collection

Eligible participants were recruited among employees of Kenyatta National Hospital, and were ages 18 and older and provided HIV services to AYA. HCW pre-training surveys collected data on socio-demographic characteristics, clinical experience, and prior training in AYA care. Self-rated competency interacting with AYA was evaluated immediately post-training using Likert scale items (1=strongly disagree to 5=strongly agree). HCWs rated case difficulty in communication and medical decision-making (1=very challenging to 5=very easy), and realism and relevance of each SP encounter (1=very irrelevant/ unrealistic to 5=very relevant/ realistic). Satisfaction with the training was also evaluated (1=strongly dissatisfied to 5=very satisfied). HCW familiarity with motivational interviewing was assessed before and after training on a Likert scale (1=very unfamiliar to 5=very familiar). SPs rated each HCW on communication and empathy skills (1=very poor to 5= excellent) (Joshi, Kale, Chandel, & Pal, 2015). Eight study trainers evaluated technical skills by reviewing video-recordings using a structured checklist. The review focused on 5 thematic areas: communication skills, assessment of social support, disclosure and adherence to ART, sexual behaviour, and mental health.

## Analysis

Socio-demographic statistics were summarized using medians, interquartile ranges (IQR) and proportions. Responses on satisfaction and HCW rating of cases were summarized as proportions. Competency scores were summarised as proportions of “strongly agree” and “agree” responses combined. SP checklist responses were summarized as means. For the expert review, the intra-class correlation coefficient (ICC) for the total average score and 5 thematic areas were calculated using two-way mixed effects models with SP encounter as a random effect and reviewer as a fixed effect (Gisev, Bell, & Chen, 2013). An ICC 0.7 was used as indication of inter-rater agreement. Analyses were conducted in Excel and STATA 14.0 (College Station, TX).

## Results

### HCW competency

Among 10 HCW participants, the median age was 45 years (37–50) and 3 (30%) had ever received training in care of HIV-infected AYA. Following the training, all 10 HCWs (100%) reported improved overall competency in serving AYA. Within specific domains, the majority of HCWs reported improvement in empathy (90%) and communication (70%). Self-reported knowledge of motivational interviewing skills also increased after the training with 80% reporting to be very familiar with the subject after the training as compared to none (0) before the training (Table 1).

SPs rated HCW interactions (mean Likert score out of 5, 95% CI): lowest in cases on fertility desire (3.6, 3.3–3.9), STI/ GBV/ alcohol abuse (3.6, 3.3–3.9), and disclosure/ adherence (3.9, 3.6–4.2); and highest in case on cognitive delay (4.6, 4.4–4.8), TB/ PWP/ FP (4.6, 4.4–4.8), and depression/ sexual identity (4.4, 4.1–4.7). Actors rated HCW competency highest in clear communication (4.7, 4.4–5.0), respectfulness (4.5, 4.1–4.9) and friendliness (4.5, 4.1–4.9), moderately in demonstrating interest in what the SP was saying (4.2, 3.7–4.7) and showing empathy (3.8, 3.2–4.5), and lowest in enabling SP to share sensitive information (3.7, 3.2–4.2), and allowing time for questions (3.5, 2.8–4.2).

### HCW training satisfaction and feedback

All 10 HCWs reported high satisfaction with the training, relevance of the cases, SP feedback, and trainer's ability to lead training and group debriefings. Nine HCWs (90%) reported satisfaction with the training format, 80% were satisfied with realism of the cases, 60% were satisfied with length of training, and 30% felt it was too short. The case on disclosure/ adherence was rated challenging by highest number of HCWs: in communication by all HCWs and in making medical decisions by 9 (90%) HCWs (Table 2). Most (70%) recommended similar SP training every 6 months or more frequently.

### Inter-rater agreement of SP encounter videos

Four SP encounters were reviewed by 8 experts. The mean total score was 18 (range 9–26), out of 36 possible points. While the ICC for total scores was low (0.27, 95% CI: –0.79–0.95,  $p=0.28$ ), the ICCs within each thematic area were high and statistically significant for assessments of HIV disclosure and ART adherence (0.78, 95% CI: 0.17–0.98,  $p<0.001$ ), mental health (0.84, 95% CI: 0.37–0.99,  $p=0.004$ ), communication skills (0.87, 95% CI: 0.49–0.99,  $p<0.001$ ), social support (0.91, 95% CI: 0.64–0.99,  $p<0.001$ ), and sexual behaviour (0.97, 95% CI: 0.89–0.99,  $p<0.001$ ).

## Discussion

HCW participants reported overall satisfaction and increased self-rated competency in caring for HIV-infected AYA following participation in this pilot SP training intervention. SPs identified areas for HCW improvement in listening skills and offering opportunities for patients to ask questions. The relatively low scores on empathy, showing interest non-verbally, and making patients comfortable to share sensitive information could reflect a real

deficiency in these skills. Alternatively, some HCWs may have been using body language that came across as play acting rather than genuine since HCWs knew they were being video-taped.

Multicomponent cases, such as the case on disclosure and adherence were considered to be the most challenging by HCWs. HIV status disclosure to AYA is regarded by HCWs and caregivers of adolescents as a complex but a necessary area in HIV care (Aderomilehin, Hanciles-Amu, & Ozoya, 2016). HCWs are integral to this process, with research showing that AYA prefer HCW involvement instead of having only their caregivers during disclosure (Kidia et al., 2014). The perceived challenge of the disclosure case was not surprising in the Kenyan context, with previous studies showing poor rates of disclosure among children and adolescents in Kenya (John-Stewart et al., 2013; Vreeman et al., 2014).

Several lessons from this pilot informed the randomized trial of the intervention. The didactic sessions on clinical care and motivational interviewing provided the HCWs with new approaches for working with HIV-infected AYA. The low overall ICC scores from the expert reviews however led us to modify the didactic component of the intervention to provide more structured guidance on conducting clinical assessments with AYA. The pilot enabled identification of feasibility issues, including the optimal number of trainees (6), optimal time for each SP encounter (15 minutes), and format for debriefing sessions to include review of selected videos and inclusion of SPs to offer their perspectives.

This pilot had strengths and limitations. Multiple sources of feedback by the SPs, trainers, fellow participants in group sessions, and experts enriched the training experience. Limitations included a small sample with limited generalizability and assessment of competency based on self-report which is prone to social-desirability bias (Fisher, 1993).

In conclusion, implementation of an SP training intervention utilizing real-world cases and multiple forms of feedback was acceptable and relevant for HCW participants and supported increased competency in caring for HIV-infected AYA. This study also provides a practical example of how an intensive SP training is implemented, including development of case scripts, actor training, intervention implementation, and assessments. If effective in the trial, this training package could be adapted for routine in-service or pre-service training for other clinical topics and settings.

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**Table 1:**

Healthcare worker socio-demographic characteristics, work experience and proportion reporting improvement in post-training self-rated competency

Healthcare worker characteristic/ competency domain N=10	Median (IQR)/ n (%)
Age	45 (37–50)
Female	70%
Number of years serving HIV-infected AYA	4 (2–9)
HCWs trained in adolescent friendly services	8 (80)
HCWs trained on HIV-infected AYA care	3 (30)
HCWs trained on substance use and depressive illness	4 (40)
Overall improvement in serving adolescents	10 (100)
Improved ability to empathize with HIV-infected AYA	9 (90)
Improved understanding of issues facing HIV-infected AYA	7 (70)
Improved ability to communicate with HIV-infected AYA	7 (70)
Improvement in skills to address the clinical needs of HIV- infected AYA	7 (70)
Improvement in skills to address the emotional needs of HIV- infected AYA	7 (70)
Improvement in comfort interacting with HIV-infected AYA	6 (60)
Improved confidence in ability to care for HIV-infected AYA	7 (70)
Improvement in skills to provide youth friendly services	6 (60)



**Table 2:**

Proportion of healthcare workers rating cases as realistic, relevant and challenging (N=10)

Case Description	Realism N (%)	Relevance N (%)	Challenge in communication N (%)	Challenge in making medical decisions N (%)
Neuro-cognitive delays	9 (90)	9 (90)	7 (70)	6 (60)
Contraception/ PWP/ TB	7 (70)	9 (90)	2 (20)	0 (0)
Disclosure/ adherence	10(100)	10(100)	10 (100)	9 (90)
STI/ GBV/ alcohol abuse	9 (90)	10 (100)	4 (40)	6 (60)
Sexual identity/ depression	10(100)	10(100)	8 (80)	6 (60)
Fertility desire	10(100)	10 (100)	7 (70)	5 (50)

PWP - Prevention with Positives; Refers to measures taken to prevent HIV reinfection and infection of others by a HIV infected person.

TB - Tuberculosis

STI - Sexually Transmitted Infections

GBV - Gender Based Violence

*Realism* refers to whether the healthcare workers felt the case could occur in real life setting as presented by the actor. *Relevance* refers to whether the healthcare workers felt the topics canvassed in a case would help them solve a similar real life case. *Challenge* in communication refers to the difficulty healthcare workers faced in talking about the issues presented by the standardized patient actor. *Challenge* in making medical decisions refers to difficulty healthcare workers faced in formulating a management plan due to issues the standardized patient actor presented.