Is documentation of research with HIV interventions across community, facility, and policy levels consistent and aligned to achieve UNAIDS 90-90-90 targets?

A systematic review

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UNAIDS 90-90-90 Targets for 2020

- 90% of people living with HIV know their status
- 90% of people living with HIV who know their status are on treatment
- 90% of people on treatment are virally suppressed

Source: UNAIDS (2017)
Rationale

• UNAIDS targets provide a useful framework for the reporting of data and evaluation of success towards HIV elimination across countries.
• Effective interventions (testing, linkage and retention) are critical to achieving UNAIDS targets.
• Yet, report of results is not aligned with 90-90-90 targets.
• A rigorous methodological evaluation of reporting of testing/treatment/retention interventions across community, facility and of policy interventions was not available.
• We conducted a systematic review to fill this gap.
Objectives

- To determine if reporting of outcomes and/or metrics before and after the 2014 announcement of the UNAIDS targets were consistent and in line with the care continuum.

- To highlight successful HIV interventions across community, facility and policy levels, that have been effective in contributing, directly or indirectly, towards the UNAIDS 90-90-90 targets.
Methods

• For the period, 2007-2018, three independent reviewers (NK, SD, CF) searched 8 databases and 3 conferences
  – Databases - BIOSIS, CINAHL, Cochrane Library, EMBASE, Global Index Medicus, LILACS, OVID, PubMed; Conferences - CROI, IAS, ASLM

• Exclusion criteria
  – Modeling studies, reviews, narratives, trial protocols, non-English papers
  – Studies with no mention of community, facility or policy-based interventions for one of the 90-90-90 targets
## Search Strategy

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Methods

• Eligible studies were classified by country income level (LIC, MIC, HIC)

• Outcome metrics were stratified as per UNAIDS 90-90-90 targets
  – Knowledge of HIV status (awareness/uptake), defined as any method of diagnosing/screening/testing for HIV
  – Linkages to treatment/on treatment, defined as any method of linking recently diagnosed HIV+ patients to healthcare services and/or initiated on ART within a reasonable time from diagnosis
  – Viral suppression/adherence, defined as having viral levels <1000 copies/mL, or as defined by the individual studies themselves. (In some cases, ART adherence was a reported outcome, this was used as a precursor to viral suppression, the rationale being that sustained ART adherence will result in viral suppression).
Overview of Results

- Of 116 eligible studies, break up:
  - 82 (71%) - community-based,
  - 26 (22%) - facility-based
  - 8 (7%) - policy-focused

- 62% (72/116) of studies reported on interventions as per UNAIDS targets;
  - 52% (60/116) on HIV status knowledge/HIV test uptake
  - 29% (34/116) on treatment initiation/linkage to care
  - 39% (45/116) on viral suppression/adherence
  
  (Some studies reported on more than one of the targets)
Results: Community-based interventions

- Of 82 eligible studies, 51.2% (42/82) reported on HIV testing, 20.7% (17/82) on linkage to care/on treatment, and 45.1% (37/82) on viral suppression.

- By strategies, 36.6% deployed community workers/peers, 22% used combined test and treat strategies, 12.2% used educational methods, 8.5% used mobile testing, 7.3% used campaigns and 13.4% used technology.

- Of the studies published after 2014, **50.0% reported metrics aligned with UNAIDS targets**
• Interventions that made use of **community workers** (lay workers, peers, etc) were successful.

• For HIV testing and treatment/linkage to care, integrated or combined test/treat interventions were successful.

• For viral suppression, technological and educational interventions were commonly deployed.
Results: Facility-based interventions

- Of the evaluated studies, 54% (14/26) reported on HIV testing, 46% (12/26) on treatment initiation, and 23% (6/26) on viral suppression.

- Eight studies published on multiple outcomes, addressing more than one of the three targets in a single initiative or using multiple metrics for a single target, totaling 36 reported outcomes.

- 15 studies were published after 2014, yet only 53% (8/15) reported results using outcome metrics according to UNAIDS targets.
Facility-based interventions
(undergoing peer review)

- 9 out of the 26 reviewed studies were successful in reaching their target, reporting on 10 outcomes

- Successful interventions included
  - In HICs: pre-test counseling; one-on-one ART counseling
  - In MICs: couples HIV testing/counseling; PITC initiatives; mobile phone based case management intervention
  - In LICs: partner notification; follow-up nurse program (home visits)

### Successful outcomes by country income level and UNAIDS targets

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Policy-based interventions

• Of the 8 eligible studies, there were 11 reported outcomes: 36.4% (4/11) on HIV diagnosis, 45.4% (5/11) on treatment initiation, and 23% (6/26) on viral suppression.
Findings: community based

- Community-based interventions demonstrated success when their implementations were tailored to country or community context

- Use of community healthcare/peer workers is recommended
  - This type of intervention was successful in middle and low income countries for reaching the HIV status knowledge and viral suppression targets

- Exploration of innovative interventions for linkage to care and to engage first time testers is encouraged
Findings: facility based

• Successful facility-based intervention in LICs highlighted the importance of resource level-tailored interventions, when employed in innovative ways
  – Eg. Harnessing the impact of nurse-led programs

• MICs initiatives showed the success of counseling based efforts led by lay healthcare workers to test, treat and maintain viral suppression

• HICs facility-based interventions improved their testing and treatment service outcomes when they were adapted to the needs, language and literacy levels of their at-risk populations
Findings: policy based

• There was a positive correlation between implementation of policies and programs that resulted in an increase in patient awareness and an increase in partner notification with services
  – Together these resulted in increasing testing rates, and deployment of linkage/retention programs that improved retention in care

• Implementation is essential, though monitoring is equally important to establish the country/state/province specific interventions that are effective within each country/region
Conclusions

• Outcome metrics (for targets) were inconsistently reported across the three levels
  
  – Only 53% of facility-based interventions and 50% of community-based interventions reported outcomes as per UNAIDS targets, following the announcement in 2014.
  
  – Inconsistent Outcome reporting impedes comparisons/implementation of successful interventions in other similar resource settings

• Successful deployment of community health care workers improved viral suppression (community and facility); nurse or lay health care workers (in LICs) and peers (in MICs), improved testing and retention. In HICs, policy interventions increased patient serostatus awareness, partner notification and adherence.
Conclusions

• Innovation interventions were successful if adjusted to resource limitations

• Adapting and scaling successful interventions by income levels in similar settings could facilitate reaching UNAIDS targets

• Policies that encourage a standardized reporting of outcome metrics and data as per UNAIDS targets could aid a greater comparability, monitoring and assessment of progress towards the UNAIDS 90-90-90 targets.
Acknowledgements

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• Dr. Trevor Peter (CHAI)
• Sailly Dave
• Clare Fogarty
• Nicolaos Karatzas
• Nandi Belinsky
• Dr. Angela Karellis
A useful metric is both accurate (in that it measures what it says it measures) and aligned with your goals. Don't measure anything unless the data helps you make a better decision or change your actions.

~ Seth Godin

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#MetricsMatter