A big picture view of quality for HIV services

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Outline

• How is impact achieved?
• Elements of quality HIV services
• How can HIV quality services improve other health services?
• The link between quality care and drug resistance
• What are your quality blind spots?
• Conclusions
When you look at this curve, what comes to mind?

HIV mortality: global goals vs. current trajectory

UNAIDS, 2018
What comes to mind?

Clinical Quality?

HIV mortality: global goals vs. current trajectory

UNAIDS, 2018
Quality care and mortality

Longitudinal survival analysis of the (US) Veterans Aging Cohort Study included 3038 people living with HIV

Table 1. Human Immunodeficiency Virus Quality-of-Care Indicators

<table>
<thead>
<tr>
<th>Quality Indicator</th>
<th>“Pass” Criteria</th>
<th>Eligibility Criteria</th>
<th>Proportion Meeting Criteria, if Eligible, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ART</td>
<td>Receipt of ART in past 12 mo</td>
<td>CD4 cell count nadir ≤350/mL ever</td>
<td>90.6</td>
</tr>
<tr>
<td>Pneumocystis jiroveci pneumonia prophylaxis</td>
<td>Receipt of dapsone, trimethoprim-sulfamethoxazole, atovaquone, pentamidine in past 12 mo</td>
<td>CD4 cell count ≤200/mL in past 12 mo</td>
<td>92.9</td>
</tr>
<tr>
<td>Mycobacterium avium complex prophylaxis</td>
<td>Receipt of clarithromycin, azithromycin, or rifabutin in past 12 mo</td>
<td>CD4 cell count ≤50/mL</td>
<td>87.6</td>
</tr>
<tr>
<td>Screening</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td>Lipid test in past 12 mo</td>
<td>Receiving ART</td>
<td>80.0</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>HCV antibody test ever</td>
<td>All</td>
<td>95.3</td>
</tr>
<tr>
<td>Prevention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumovax</td>
<td>Pneumococcal vaccine ever</td>
<td>All</td>
<td>89.2</td>
</tr>
<tr>
<td>Influenza</td>
<td>Influenza vaccine in past 12 mo</td>
<td>All</td>
<td>56.8</td>
</tr>
<tr>
<td>Monitoring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CD4 cell count</td>
<td>≥2 CD4 cell counts separated by ≥3 mo, within past 12 mo</td>
<td>All</td>
<td>80.4</td>
</tr>
<tr>
<td>HIV clinic visits</td>
<td>≥2 HIV clinic visits separated by ≥3 mo, within 12 mo</td>
<td>All</td>
<td>89.1</td>
</tr>
</tbody>
</table>

Korthuis et al, CID 2016
Quality indicators associated w/decreased mortality

Overall, receiving ≥80% of eligible QIs was associated with a **25% decrease in mortality rate** compared with receiving a lower percentage of eligible QIs (age-adjusted hazards ratio, 0.75; 95% confidence interval, .65–.86).
Mortality is highly variable across HIV care sites in Zambia
WHO advanced care guidelines

- For adults, adolescents, and children ≥ 5 years, advanced HIV disease is defined as a CD4 cell count <200 cells/mm³ or a WHO clinical stage 3 or 4 event at presentation for care.
- Estimates of eligibility in LMIC for the advanced care package range from 15-30% depending on the setting.
• Show of hands for current coverage of advanced disease package:
  • 10%
  • 46%
  • 81%

• The Answer?
  • We don’t have any idea..
Access (coverage) x quality = impact
Access?

Is our treatment scale-up slowing down?

HIV mortality: global goals vs. current trajectory

- Global goals
- Actual

UNAIDS, 2018
Access?

Treatment scale-up is continuing apace

But maybe we’re **differentially missing** subgroups with higher mortality

**Female sex workers and adult women**
(aged 15 years and older), 2016–2017

**Number of children (aged 0–14 years) accessing antiretroviral therapy, global 2000–2017 and 2018 target**
Upstream quality affects downstream access

• If we’re differentially “missing” individuals at high risk for mortality, we have an upstream quality problem
• It could be that existing testing programs are settling for numbers or yield, but not effectively reaching the highest risk individuals (a quality issue in testing program)
• It could also be that the services for FSW or for children are insufficiently person-centered and do not retain people in care (a quality issue in the care delivery program)
• From a public health perspective, ACCESS at any step of the cascade is a partly a function of upstream QUALITY and ACCESS
Access (coverage) x quality = impact
Upstream quality affects access and impact

**Prevention**
Access (coverage) x quality

**Testing**
Access (coverage) x quality

Better upstream **quality** in testing programs (e.g., not overlooking those at greatest risk for mortality - or transmission)... And so on throughout the cascade

**Linkage and treatment initiation**
Access (coverage) x quality

**Advanced care package**
Access (coverage) x quality

**Retention**
Access (coverage) x quality

**Virological suppression**
Access (coverage) x quality

...results in greater access to care and treatment

Quality upstream in the public health cascade contributes to later access to service

HIV mortality: global goals vs. current trajectory


400,000 600,000 800,000 1,000,000 1,200,000 1,400,000

AIDS Deaths

Glo…
Mortality due to poor quality versus non-utilisation of health care by condition type

5 million ‘excess’ deaths due to poor quality care in LMIC in 2016

Kruk et al, Lancet 2018
What do quality HIV services look like?

• Quality HIV services span not only clinical, but health systems and other service delivery components and settings across cascades of HIV prevention, care and treatment services as well as maternal, newborn and child health.
WHO: Enablers of Quality HIV Services

Enablers for quality HIV care services

- HIV care quality incorporated in national policy and programme framework.
- QA/QI integrated in to the management and delivery of HIV care services at health facilities and community levels.
- Defined package of HIV care services on offer, including which population and at what level of the health system delivery.
- Community engagement for strengthening quality of HIV care services, advocacy and demand creation; community literacy on quality.
2016 WHO consolidated HIV treatment guidelines

• High quality HIV (Clinical) services should:
  • Provide **people-centered care** that is focused and organized around the health needs, preferences and expectations of people and communities, upholding individual dignity and respect (especially for vulnerable populations); and engage and support people and families to play an active role in their own care by informed decision-making;
  • Offer **safe, acceptable and appropriate** clinical and non-clinical services in a timely fashion, aiming to reduce morbidity and mortality associated with HIV infection and to improve health outcomes and quality of life in general;
  • Promote **efficient and effective use of resources**.
Person-centered care as a driver of quality

“Person-centered health services is an approach to care that consciously adopts the perspectives of individuals, families and communities, and sees them as participants as well as beneficiaries of trusted health systems that respond to their needs and preferences in humane and holistic ways”

- WHO
Measuring the ‘demand-side’ to ensure person-centered quality health services

“Health systems should measure and report what matters most to people, such as competent care, user experience, health outcomes, and confidence in the system”

- Lancet Commission on Quality Health Systems

Kruk et al, Lancet 2018
• This can be done broadly, or among enriched sub-sets of patients
• We did a study in Zambia to better understand the health systems preferences of those who had disengaged from care - with the goal of adjusting elements of the health system to better accommodate their needs and improve quality
• Sought a random sample of HIV patients who were lost to follow-up (defined as >90 days late for their last scheduled appointment) from treatment facilities in Lusaka Province, Zambia.
• We offered the survey to 385 patients, and 280 participated (average age 35; 60% female)
Preferences for HIV care among the lost

- **Willingness to wait** analysis suggested that patients would trade up to 19 hours of waiting time to access a facility with nice as opposed to rude providers.

- **A willingness to travel** analysis suggested that patients were willing to travel an extra 45 km to see a nice as opposed to a rude provider.

Zanolini, PLOS Med 2018
How can we improve the patient experience and health outcomes?

• “In addition to current improvement efforts to increase drug dispensation, move services closer to home, and extend hours (through DSD models), a concomitant effort to improve healthcare worker attitude has not been undertaken but may represent a high priority.”
  • Requires systematic measurement of patient experience, provider morale and satisfaction
  • Likely requires ongoing training and support for providers that enables them to enhance their practice of person-centered care, along with feedback of actionable data to site-and higher level decision-makers.

• Ongoing Patient-Centered Public Health (PCPH) study in Zambia - a stepped wedge study testing these combined strategies

Zanolini, PLOS Med 2018
How can efforts to improve HIV quality services contribute to other health services (that these and other patients also need)?
Joint measurement and use of data

- Retrospective cohort study of all PLHIV enrolled in three Ugandan HIV clinics between 2014 and 2017
- Integrated services: NCD screening among patients enrolled in HIV care and clinical integration of HIV and NCD service delivery
- Determined the proportion of patients in the following cascade steps over 12 months: screened, diagnosed, initiated on treatment, retained, monitored, and controlled

Muddu et al, JAIDS 2019
Integrated care cascades for HIV and HTN

Muddu et al, JAIDS 2019
Joint measurement and data use

Going beyond the vertical: leveraging a national HIV quality improvement programme to address other health priorities in Haiti

Jean Paul Joseph\textsuperscript{a}, Gregory Jerome\textsuperscript{a}, Wesler Lambert\textsuperscript{a}, Patrick Almazor\textsuperscript{a}, Colette Eugene Cupidon\textsuperscript{b} and Lisa R. Hirschhorn\textsuperscript{c,d,e}

Joseph et al, AIDS, 2015
“Although the central role of quality to achieve targeted population health goals is widely recognized, how to spread the capacity to measure and improve quality across programmes has not been widely studied.”

“Although some evidence exists that HIV scale-up improves utilization of care more generally, there is more limited information on how efforts to introduce systems-based quality improvement processes within a vertical programme can be designed to benefit other clinical areas, such as maternal and child health, inpatient care and management of noncommunicable diseases.”

Joseph et al, AIDS, 2015
Elements of QI program in Haiti

- First, established quality committees at each site focused on HIV quality indicators
- Roving coaching teams to facilitate and build capacity for QI activities at sites
- **Included patient involvement in all aspects of QI**
- Developed cross-site meetings to increase peer-to-peer learning and individual motivation (celebration of accomplishments in QI)
- Encouraged QI projects to more holistically meet patient needs
- November 2011 and December 2012, the number of quality improvement project related to other [non-HIV] clinical areas increased from 0 to 17 by 2012

Joseph et al, AIDS, 2015
HIV QI yielded gains in HIV performance indicators

Change in performance measurement

- Adherence evaluation: 76% first, 81% last
- CD4 monitoring*: 8% first, 22% last
- Eligible on ART*: 45% first, 81% last
- TB screen*: 17% first, 97% last
- Nutrition assessment**: 53% first, 85% last
- Family planning: 32% first, 42% last
- PMTCT**: 39% first, 39% last
- Average*: 39% first, 72% last

Joseph et al, AIDS, 2015
Began to influence broader gains in health system performance

Joseph et al, AIDS, 2015
What’s the link between quality HIV services and prevention of drug resistance?
GLOBAL ACTION PLAN ON HIV DRUG RESISTANCE 2017-2021

JULY 2017
Global Action Plan on HIV drug resistance (HIVDR) and its five Strategic Objectives

1. PREVENTION AND RESPONSE
   Implement high impact interventions to prevent and respond to HIVDR.

2. MONITORING AND SURVEILLANCE
   Obtain quality data on HIVDR and HIV service delivery from periodic surveys, while expanding routine viral load and HIVDR testing.

3. RESEARCH AND INNOVATION
   Encourage relevant and innovative research which will have the greatest public health impact in minimizing HIVDR.

4. LABORATORY CAPACITY
   Support and expand use of viral load testing and build capacity to monitor HIVDR.

5. GOVERNANCE AND ENABLING MECHANISMS
   Ensure country ownership, coordinated action, awareness/advocacy and sustainable funding are in place to support action on HIVDR.
“Preventing HIV drug resistance is critical for the success of any HIV treatment programme and is achieved by optimizing the quality of antiretroviral therapy services and eliminating programmatic gaps along the cascade of HIV treatment.”
The HIVDR agenda is a quality agenda

• “Actions to prevent HIVDR in people on ART should be intensified to minimize the emergence of HIVDR and its transmission to others”
  • Procurement and supply chain systems for ARV drugs and viral load testing reagents should be strengthened ... and the risk of stock-outs is avoided.
  • Continued efforts to expand access to viral load ... and turnaround time to return viral load test results to providers should be minimized, and viral load results effectively used to inform decisions for the management of HIV infection.
  • Individuals failing first-line ART should be promptly switched to second-line ART to obtain viral load suppression and avoid accumulation of resistance mutations
The HIVDR agenda is a quality agenda

• Poor performance on these quality metrics $\rightarrow$ drop-offs in cascade performance, larger numbers of people out of care with potential for greater mortality, unsuppressed VL with greater HIV transmission, and development of drug resistance

• Development of drug resistance (transmitted or acquired) threatens virological suppression and further worsens cascade performance

• Quality is at the root of preventing these outcomes - measurement, use of data and QI
2018 Year 1 update of the HIVDR GAP – how are we doing?

**Programme quality indicators associated with HIV drug resistance (HIVDR) and associated targets**

<table>
<thead>
<tr>
<th>Programme quality indicator for HIVDR</th>
<th>Indicator target</th>
<th>Proportion of focus countries achieving indicator target as of 2017a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antiretroviral drug stock-outs</td>
<td>Zero antiretroviral drug stock-outs during a 12-month period</td>
<td>14 of 27 (52%)</td>
</tr>
<tr>
<td>Retention on antiretroviral therapyb</td>
<td>≥85% of people living with HIV retained on antiretroviral therapy 12 months after initiation</td>
<td>8 of 26 (31%)</td>
</tr>
<tr>
<td>Viral load testing coveragec</td>
<td>≥90% of people on antiretroviral therapy receiving at least one routine viral load test in a year</td>
<td>3 of 31 (10%)</td>
</tr>
<tr>
<td>Viral load suppressiond</td>
<td>≥90% viral load suppression among people on antiretroviral therapy with a viral load test result available</td>
<td>4 of 14 (29%)</td>
</tr>
<tr>
<td>Use of second-line antiretroviral therapy regimens</td>
<td>At least 5% of people receiving second-line antiretroviral therapy</td>
<td>13 of 28 (46%)</td>
</tr>
</tbody>
</table>
What are your quality blind spots?
What are your quality blind spots?

• Are there above site-level factors that are leading to suboptimal quality at the site level?
  • Frequent rotation of HCW, stock-outs of OI prophylaxis and STI drugs
• Are patients and communities providing systematic feedback about the quality of services provided?
  • Has your program ACTUALLY responded to community/patient preferences? How?
• Is your care person-centered?
  • e.g., are you judging quality solely based on HIV metrics, or incorporating cardiovascular/TB/SRH/other services that are important to the same patients?
  • Are patients involved in your QI meetings? They may be critical for achieving spread of service improvement w/in and beyond HIV
• Does your quality focus need to be refocused? What are your CURRENT priorities?
  • For example, your linkage rates from testing to starting therapy have come up, but overall mortality in your clinic is three times that of a neighboring clinic. Are advanced care services being consistently provided?
  • Are you applying quality practices to your prevention programs? If not, why not?
Conclusions

• Quality upstream in the public health cascade helps to determine later access to service- quality is therefore an essential part of access and impact
• Promotion of person-centered care is central to improvements in quality
• Patient preferences/experience should be measured among those in HIV services (or those targeted, or among those who have been lost), and are essential to tailoring services to become more person-centered
• HIV programs can be leveraged to improve systems quality and related health services through joint measurement and holistic QI
• Prevention of HIV drug resistance relies on quality delivery of health services (and there is a long way to go)
Thanks!