HIV CASCADE TOOLKIT: A USER’S GUIDE
for constructing, presenting, interpreting and using HIV cascades in Vietnam
2014
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### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>ART</td>
<td>Antiretroviral Therapy</td>
</tr>
<tr>
<td>ARV</td>
<td>Antiretroviral</td>
</tr>
<tr>
<td>CDC</td>
<td>United States Centers for Disease Control and Prevention</td>
</tr>
<tr>
<td>CoPC</td>
<td>Continuum of HIV Prevention to Care</td>
</tr>
<tr>
<td>D28</td>
<td>Decision 28 (provides guidance on how to routinely report results of Vietnam’s HIV/AIDS program)</td>
</tr>
<tr>
<td>FSW</td>
<td>Female Sex Worker</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>HTC</td>
<td>HIV Testing and Counseling</td>
</tr>
<tr>
<td>KP</td>
<td>Key Population</td>
</tr>
<tr>
<td>LTFU</td>
<td>Loss To Follow Up</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>MMT</td>
<td>Methadone Maintenance Treatment</td>
</tr>
<tr>
<td>MSM</td>
<td>Men who have Sex with Men</td>
</tr>
<tr>
<td>NGI</td>
<td>Next Generation Indicators</td>
</tr>
<tr>
<td>OPC</td>
<td>Out Patient Clinic</td>
</tr>
<tr>
<td>PEPFAR</td>
<td>The President’s Emergency Plan for AIDS Relief</td>
</tr>
<tr>
<td>PLHIV</td>
<td>People Living with HIV</td>
</tr>
<tr>
<td>PWID</td>
<td>People Who Inject Drugs</td>
</tr>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>U.S.</td>
<td>The United States of America</td>
</tr>
<tr>
<td>VAAC</td>
<td>Vietnam Authority of HIV/AIDS Control, Ministry of Health</td>
</tr>
</tbody>
</table>
Acknowledgements

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I. Overview and Purpose

Although HIV may continue to be an important public health threat for years to come, strong evidence in support of the benefits of anti-retroviral therapy (ART) has ushered in an era in which we can envision an end to the AIDS epidemic. Focusing outreach efforts on individuals at greatest risk; increasing uptake of HIV testing and counseling (HTC) among key populations; facilitating early diagnosis of HIV infection and initiation on ART; and retaining people living with HIV (PLHIV) on treatment are the hallmarks of a strong HIV response that ultimately lowers viral suppression and achieves population-level impact.

To achieve ambitious AIDS-free goals, however, requires that implementers have tools that discern service system gaps, help focus or prioritize programmatic interventions, and make the most strategic use of available resources.

The continuum of HIV prevention to care (CoPC) cascade is a way to show, in visual form, the numbers of individuals who are actually accessing CoPC services and receiving the services they need. At each step of the continuum, the CoPC cascade illustrates engagement in an HIV service system. It powerfully identifies “leaks” in the system, so that implementers at site, district, provincial or national levels can target limited resources on effective interventions that improve the health of HIV positive individuals, lower the amount of virus in vulnerable communities, and prevent new infections in the long term. Knowing where the drop-offs are most pronounced is vital for knowing where, when and how to intervene to break the cycle of HIV transmission in Vietnam.

Why is the HIV CoPC cascade important for Vietnam?

Watch this video.
Purpose of this document

This user guide builds upon the World Health Organization (WHO) (2014) *Metrics for Monitoring the Cascade of HIV Testing, Care and Treatment Services in Asia and the Pacific*. It is designed to help government and civil society implementers construct, present, interpret and use HIV CoPC cascades in Vietnam with available data and minimal technical assistance. The document outlines:

1. **Recommended indicators** for the standardized construction of HIV CoPC cascades in Vietnam
2. **Simple steps** to follow during the cascade generation process
3. **Presentation guidelines** for illustrating cascade performance by location, gender, population, program and/or time; and
4. **Important tips** to help implementers effectively interpret and use HIV CoPC cascades

This guide has been designed for those who are new to developing and using HIV CoPC cascades. Two types of cascades are highlighted in this introductory manual:

1. **Periodic cascades** that can be generated by implementers to illustrate programmatic gaps, progress or achievements; and
2. **Cross-sectional cascades** that implementers can routinely develop to assess overall or aggregated cascade performance in a designated area at any one point in time.

Advanced analytical, visualization, and data verification guidance for M&E professionals may be introduced in guide updates, along with tips for developing more sophisticated cascades, including cohort HIV CoPC cascades, and integrated health cascades (e.g. TB/HIV, methadone/ART).
II. Adaptation of the HIV CoPC Cascade in Vietnam

Common features of HIV cascades

HIV cascades are used all over the world, and are referred to by various names, including the HIV/AIDS care continuum; the cascade of HIV care; and recently, the cascade of HIV testing, care and treatment services.

HIV cascades commonly begin at HIV diagnosis and consist of six bars or steps that illustrate the continuum of care (Figure 1).

![Figure 1](Image)

1. HIV infected
2. HIV diagnosed
3. Linked to HIV care
4. Retained in HIV care
5. On ART
6. Suppressed viral load

6. Suppressed viral load occurs when antiretroviral drugs reduce the HIV virus to a very low level in the body. Lowering the amount of virus helps PLHIV live longer, healthier lives and greatly reduces the chances of transmitting HIV to others.
Key indicators, or metrics, are linked to each bar or step of HIV cascade. These indicators are used to generate a visual representation of HIV service system performance. They help implementers to:

- Obtain a snapshot of HIV service system performance
- Present client engagement by gender or key population (as appropriate)
- Identify loss of client engagement – expressed as gaps, leakages or missed opportunities in the continuum of HIV prevention to care
- Prioritize actions to improve HIV service system performance
- Illustrate programmatic progress or improvements over time
- Use human, financial and programmatic resources in strategic ways
- Adopt a public health approach that focuses on population-level impact

Taken together, utilization of the cascade assists countries like Vietnam to provide the highest standard of care that is feasible within available resources.

WHO (2014) has defined Metrics for Monitoring the Cascade of HIV Testing, Care and Treatment Services in Asia and the Pacific. Access the resource [here](#).
Guiding Principles

Five key principles guide the construction and use of HIV CoPC cascades in Vietnam. Simply put, cascades should be:

1. **Simple to generate**, by relying on a minimal set of core indicators that exist in the HIV service system and are routinely collected as part of national reporting procedures.

2. **Easy to use and interpret** by a variety of implementers, with minimal outside technical assistance.

3. **Adaptable**, according to the data needs at program, site, provincial or national-levels.

4. **Consistent**, by using the same set of recommended indicators and clearly outlining the location, time period and population represented in the analysis.

These four principles support the fifth one – that utilization of the cascade

5. **Fosters a culture of data use**, that strives to continually improve the HIV service system in Vietnam.
**Vietnam’s HIV CoPC cascade**

The HIV CoPC cascade has been adapted for Vietnam’s highly concentrated HIV epidemic to reflect the importance of outreach efforts that identify key populations who are most vulnerable for acquiring or transmitting HIV. Instead of six cascade bars, the Vietnam CoPC cascade has eight, depicted visually as follows (Figure 2):

**What each bar means**

![Vietnam HIV CoPC cascade](image)

(Scroll over the bars for more information)
The first three bars of the cascade focus on HIV prevention, or outreach. Cascade analysis across these bars helps implementers better understand:

- Who is being reached, and how many members of key populations are being reached, in HIV prevention or outreach efforts
- Who is testing for HIV and how many of these individuals are testing positive for the virus

The use of consistent unique identifier codes (UIC) in routine monitoring data efforts can improve the validity of outreach data and enable program implementers to graph the progress of individuals through the cascade of services. Figure 3 illustrates an HIV CoPC cascade that monitors overall cascade performance in outreach and testing services – without the application of UIC – across one Vietnamese province. Figure 4 uses HIV prevention UIC monitoring to track clients reached to testing, diagnosis, and to enrollment in care and treatment services across nine provinces implementing USAID/SMART TA’s enhanced outreach approach.

**Figure 3** | HIV CoPC cascade (bars 1-4), Quang Ninh province, 2013

<table>
<thead>
<tr>
<th>Persons</th>
<th>Identified KPs</th>
<th>Reached KPs</th>
<th>Tested KPs</th>
<th>Newly diagnosed PLHIV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6748</td>
<td>6357</td>
<td>1218</td>
<td>248</td>
</tr>
<tr>
<td>Source</td>
<td>Quang Ninh PAC, 6/2014</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 4** | HIV CoPC cascade (bars 2-5), Enhanced Outreach Approach, 9 provinces, May – September 2014

<table>
<thead>
<tr>
<th>Persons</th>
<th>Identified KPs</th>
<th>Reached KPs</th>
<th>Tested KPs</th>
<th>Newly diagnosed PLHIV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9360</td>
<td>7448</td>
<td>232</td>
<td>232</td>
</tr>
<tr>
<td>Source</td>
<td>USAID/SMART TA, Monthly Report, 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A significant proportion of HIV positive individuals enter the cascade at HIV diagnosis; in these cases, the Vietnam CoPC cascade can be modified to begin at HIV diagnosis and extend to enrollment in care and initiation on ART, as illustrated in Figure 5.

Figure 5 | HIV CoPC cascade (bars 4-6), Province “A”, January - December 2013

Figure 6 illustrates the same care and treatment cascade that now includes bar 7, or “sustain on ART,” which measures the number or proportion of PLHIV who are registered at HIV care and treatment facilities 12 months after ART initiation. Vietnam is unable to reliably collect population-level viral load data, as viral load testing is not yet a routine part of the care and treatment monitoring system.

Figure 6 | HIV CoPC cascade (bars 4-7), Province “A”, January - December 2013
III. CoPC Cascade Metrics

1:1 rule

To ensure that CoPC cascades are based on consistent data sources, we follow a 1:1 rule. This means that a single, recommended indicator is used to designate each bar of the cascade. Each of these indicators is (or will be) routinely collected in Vietnam, as part of the national D28 or HIV INFO reporting systems.

Slightly different sets of metrics are associated with the two types of cascades that can be commonly developed and used by program implementers:

1. Periodic cascades help implementers understand how their program is performing. In particular, these cascades generate information on cascade gaps and help implementers prioritize programmatic actions. These cascades, when performed routinely, also assist implementers to track programmatic quality improvement efforts. Core indicators for periodic cascades – outlined in Figure 7 – focus on the number of clients who are newly engaged in each step of the cascade over a specified time period.

2. Cross-sectional cascades assess overall cascade performance in a designated area at any one point in time. Because Vietnam is currently unable to reliably collect individual reach and testing figures, cross-sectional cascades focus on care and treatment and include an initial cascade step called “Identify PLHIV”. These cascades help implementers answer questions such as “How many people are enrolled in care?”, or “How many individuals are on ART”? Core indicators for cross-sectional cascades – shown in Figure 8 – aggregate program data across key cascade bars to provide the big picture view of the HIV response and the major areas of cascade leakage at the district, provincial or national levels.

(Scroll over the bars for more information)

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Figure 8 | Recommended core numerical indicators for cross-sectional cascades

(Scroll over the bars for more information)

Identify PLHIV | Enroll in care | Initiate ART | Sustain on ART | Suppress viral load

No current data source

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Numbers first

All core indicators are first expressed as numbers. Implementers who prepare cascades using numerical core indicators will find it easy to convert the cascade data into proportional or percentage figures, which are typically expressed as arrows between cascade bars.

Proportion indicators for periodic cascades are illustrated in Table 1. At each step of the periodic cascade, implementers can measure the uptake of services relative to the previous stage. Here, the highlighted cascade step becomes the numerator and is divided against the value in the previous step (the denominator).

Table 1 | Calculating proportional or percentage data for periodic cascades

<table>
<thead>
<tr>
<th>Cascade bars</th>
<th>Proportion/Percentage</th>
<th>Numerator/Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify key populations</td>
<td>PROPORTION of KPs reached by community outreach workers during the reporting period</td>
<td>Numerator: NUMBER of KPs reached by community outreach workers during the reporting period Denominator: NUMBER of persons in KP groups estimated by the end of the last reporting period</td>
</tr>
<tr>
<td>Reach key populations</td>
<td>PROPORTION of KPs reached by community outreach workers who received test results and post-test counseling during the reporting period</td>
<td>Numerator: NUMBER of KPs who received test results and post-test counseling during the reporting period Denominator: NUMBER of KPs reached by community outreach workers during the reporting period</td>
</tr>
<tr>
<td>Test key populations</td>
<td>PROPORTION of KPs who received HIV+ test results and post-test counseling during the reporting period OR PROPORTION of newly diagnosed PLHIV reported from HIV INFO during the reporting period</td>
<td>Numerator: NUMBER of KPs who received HIV+ test results and post-test counseling during the reporting period Denominator: NUMBER of KPs who received test results and post-test counseling during the reporting period OR Numerator: NUMBER of newly diagnosed PLHIV reported from HIV INFO during the reporting period Denominator: Number of KPs who received test results and post-test counseling during the reporting period</td>
</tr>
<tr>
<td>Diagnose PLHIV</td>
<td>PROPORTION of new patients registered at HIV outpatient clinics during the reporting period</td>
<td>Numerator: NUMBER of new patients registered at HIV outpatient clinics during the reporting period Denominator: NUMBER of newly diagnosed PLHIV reported from HIV INFO during the reporting period</td>
</tr>
<tr>
<td>Enroll in care</td>
<td>PROPORTION of PLHIV with advanced HIV infection who are newly enrolled on ART during the reporting period</td>
<td>Numerator: NUMBER of PLHIV with advanced HIV infection who are newly enrolled on ART during the reporting period Denominator: NUMBER of new patients registered at HIV outpatient clinics during the reporting period</td>
</tr>
<tr>
<td>Initiate ART</td>
<td>PROPORTION of PLHIV known to be alive and on treatment 12 months after initiation of ART</td>
<td>Numerator: NUMBER of PLHIV known to be alive and on treatment 12 months after initiation of ART Denominator: NUMBER of PLHIV who initiated ART 12 to 24 months prior to the reporting period</td>
</tr>
<tr>
<td>Sustain on ART</td>
<td>PROPORTION of PLHIV currently on ARV treatment who have a viral load less than 1000 per ml of blood</td>
<td>Not currently applicable</td>
</tr>
</tbody>
</table>
Table 2 outlines proportion indicators for cross-sectional cascades. In cross-sectional cascades, two cascade steps are highlighted: (1) enroll in care and (2) initiate ART. The denominator for both cascade steps is the first cascade stage: Identify PLHIV. This allows implementers to calculate the total numbers of PLHIV who are accessing care and treatment services at a particular point of time.

### Table 2 | Calculating proportional or percentage data for cross-sectional cascades

<table>
<thead>
<tr>
<th>Cascade bars</th>
<th>Proportion/Percentage</th>
<th>Numerator/Denominator</th>
</tr>
</thead>
</table>
| Enroll in care     | PROPORTION of patients who are currently registered at HIV outpatient clinics by the end of the reporting period | Numerator: NUMBER of patients CURRENTLY registered at HIV outpatient clinics by the end of the reporting period  
Denominator: Total NUMBER of PLHIV reported from HIV INFO by the end of the reporting period |
| Identify PLHIV     |                                                                                        |                                                                                                                                                        |
| Initiate ART       | PROPORTION of PLHIV with advanced HIV infection who are currently enrolled on ART by the end of the reporting period | Numerator: NUMBER of PLHIV with advanced HIV infection who are CURRENTLY enrolled on ART  
Denominator: NUMBER of patients CURRENTLY registered at HIV outpatient clinics by the end of the reporting period |
| Identify PLHIV     |                                                                                        |                                                                                                                                                        |
Data limitations

Like any tool, there are limitations associated with the utility and application of the HIV CoPC cascade. Implementers must be cognizant that:

1. **The usefulness of the CoPC cascade is heavily influenced by the quality of available data.** Routine data quality assurance procedures are important for ensuring accurate reporting. It’s crucial for implementers to know the source of data and how data are reported when calculating the indicators. Missing information – such as the numbers of PLHIV loss to follow up or dead from AIDS – can skew bar totals and under- or overestimate the impact of a CoPC program. Over-reporting – counting outreach contacts instead of outreach individuals for instance – will accentuate the size of the reach-testing gap. The lack of disaggregated HIV testing figures for key populations means that implementers will need to adjust the data during the cascade generation process.

   It’s important to note that individuals enter and/or leave the continuum of HIV services at any point in the cascade and, as a consequence, it becomes difficult to infer causal relationships between cascade bars. The utilization of coordinated UIC systems are particularly helpful for monitoring the linkages between services, reducing episodes of double counting, and tracking individuals as they transition from services and locations.

2. **Consistency is critical.** When implementers do not use core indicators in the construction of cascades – and when they do not clearly identify geographic location, time, data source, or population – it limits the usefulness of the cascade and makes it difficult for others to reliably assess service performance.

3. **The cascade is an important – but not sole – tool in HIV service planning and quality improvement efforts.** It should be used together with other programmatic and strategic information/M&E tools – such as service mapping, quality improvement monitoring, epidemic modeling, and gender/policy/service access assessments – to better understand and program for the response.
IV. Building a CoPC cascade

Preparatory steps

Building a CoPC cascade starts with 6 simple steps:

1. **What? Identify the kind of cascade to be used.** Will focus be placed on assessing cascade gaps and prioritizing/tracking programmatic actions (periodic cascade)? Is emphasis given on calculating the total numbers of individuals served in care and treatment and assessing overall programmatic progress (cross-sectional cascade)? Knowing what cascade to use is a critical first step in cascade construction.

2. **Where? Distinguish the geographic area of focus or scope.** Is it the national HIV system? The provincial or district response? A particular program? One facility? Knowing the focus of a cascade will help implementers identify key data needs and steer them towards appropriate data sources.

3. **Which service area will be emphasized?** Will focus be on the full CoPC? Outreach? Care and treatment? Knowing the CoPC technical focus will assist implementers to distinguish which cascade bars will be examined.

4. **Who? Identify the population.** Will data disaggregation be by key population or gender? Or will total population figures be used? Because women/men and key population sub-groups may have unique CoPC service access, acceptability or utilization issues, it is recommended that implementers use disaggregated data whenever possible.

5. **When? Plot the time period,** clearly specifying the start and end dates (e.g. month/year). Ensure that the time period reflects an official reporting cycle, such as the end of a month, quarter, semi-annual or annual episode.

6. **How? Distinguish presentation format.** Will a cascade graph be used, or another representational style, such as a dashboard or trend graph.
Data collection guidance and considerations

All data used in the preparation of HIV CoPC cascades should come from official reports, particularly reports submitted as part of the D28 M&E reporting requirements. We've added important data collection considerations for each step of the CoPC cascade below:

1. **Identifying key populations** – It's critical that implementers use size estimation figures that have been officially vetted, either through provincial consensus consultations or via national modeling exercises. D28 forms 2 (quarter period) and 4 (annual period) provide this information for the provincial and district levels.

2. **Reaching key populations** – Outreach figures should use individuals reached – not contacts – as the designated unit of analysis. Whenever possible, data should be disaggregated by KP sub-category and gender.

3. **Testing key populations** – HIV testing and counseling data in Vietnam records the number of tests, rather than the number of individuals who test. This means that one individual may test for HIV multiple times at the same facility during a specific reporting period. The data from D28 forms 10 (quarter period) or 15 (annual period) must therefore be adjusted to exclude repeated positive tests; we provide guidance on how to do so in the following section.

4. **Identifying PLHIV** – HIV INFO records the total number of PLHIV reported in districts and provinces within a specified reporting period.

5. **Recording newly diagnosed PLHIV** – HIV INFO documents the number of newly diagnosed PLHIV within a specified reporting period.

6. **Enrolling PLHIV in care** – Using the facility ART (and pre-ART) registers, it is important for implementers preparing periodic cascades to collect data only for the number of new patients registered at HIV outpatient clinics during the reporting period. Implementers preparing cross-sectional cascades can access aggregated data in D28 forms 12 (annual period) or 7 (quarterly period).

7. **Initiating ART** – Implementers preparing periodic cascades must distinguish the number of PLHIV who newly initiate ART using the facility ART register or D28 forms 12 (annual period) or 7 (quarterly period). Those preparing cross-sectional cascades can also gather cumulative data using the same D28 forms.

8. **Sustaining ART** – The last bar of the cascade requires implementers to collect data from the previous 12-month period. This figure includes all adult and children patients who are alive and on ART 12 months after initiation of treatment as reported in facility ART registers or D28 form 13 (annual period) or 8 (quarterly period).
Adjusting data

In Vietnam, HIV testing and counseling data records the number of tests conducted, rather than the number of individuals who test for HIV. This means that the data must be adjusted in order to estimate a true number of KPs who test, with repeat testers – which can constitute, on average, 25% of total tests – subtracted from the totals. Implementers can use the following formula to adjust the data for the number of key populations tested, and for the number of key populations who test HIV positive (which may be included within this column bar):

- **Number of KP clients who test for HIV =** (Number of reported tests) x (Proportion of clients who tested that are KPs (IDUs, FSWs, MSM)) x (1 - Proportion of clients who retested among clients who are KPs)

- **Number of KP clients who test positive for HIV =** (Number of reported positive tests) x (Proportion of clients who are KP among clients who are positive for HIV) x (1 - Proportion of KP clients who retested among clients who are positive for HIV)
V. Presenting a CoPC cascade

General presentation guidelines

1. **Title.** All CoPC cascades should have a title that illustrates (a) geographic location or scope; (c) population focus (as applicable); and (d) targeted time period, with month/year if possible.

2. **Vertical axis.** The vertical axis should be displayed as numbers (either hundreds, thousands or higher, as applicable) with the title “persons” or “clients.”

3. **Horizontal axis.** We recommend keeping the cascade bar titles consistent with the ones described in the guide; using different cascade bar terms can be confusing and can make it difficult to compare cascade data over time and place.

4. **Designating cascade column values (top).** Putting numerical values (in numbers) at the top of each relevant column makes it easy for others to interpret the cascade and to use the information for programmatic quality improvement.

5. **Indicating proportions.** Arrows linking cascade bars are labeled with percentages that indicate the proportion of clients moving across relevant steps of the CoPC continuum.

6. **Indicating data source(s).** Whenever possible, CoPC cascades should have the relevant data sources listed on the bottom of the graph.

![CoPC cascade presentation guidelines](image-url)
Stacking cascade bars

In some cases, implementers may want to disaggregate cascade data by:

**Gender**, by showing the differences between men and women as they move through the CoPC

**Key population**, by distinguishing the proportion of MSM, FSWs or PWID reached and tested for HIV

---

**Figure 9** | HIV CoPC Cascade of Province A by Gender, 1-12/2013

**Figure 10** | HIV CoPC Cascade of People Who Inject Drugs in Province E, 2013
KPs who test positive for HIV, as compared to the total who tested

Figure 11 | HIV CoPC Cascade of PWID and Others in Province B, 2013

Service sites, by showing which sites contribute to cascade bar totals

Figure 12 | HIV Care and Treatment Cascade of Site A compared to other Sites in Province C, 2013

Adding complexity to simple cascades is possible, if the data is available. Implementers should be sure to label stacked bars with relevant information and to designate data sources whenever possible.
Graphic presentation styles

There are many ways to show cascade data:

1. **Cascade graphs.** Our preferred style of presentation, cascade graphs visually display leaks in the HIV service system, where individuals may not be accessing CoPC services and receiving the services they need.

2. **Indicator dashboards.** This data visualization tool can provide implementers with an “at a glance” listing of key cascade indicators. Dashboards show recent program performance and actionable information. While dashboards do not track individuals as they progress through the CoPC, they do provide a cross-representational representation of different groups of individuals at different stages of the cascade.

3. **Trend graphs.** Trend graphs are particularly useful when implementers assess progress or improvements over time of particular indicators.

A cascade graph is illustrated in Figures 13 and 14; indicator dashboards and trend graphs are shown in Figure 15.
**Figure 15 | HIV CoPC Cascade of Enhanced Outreach Approach, May – October, 2014**

### #1. CASCADE PERFORMANCE (CUMULATIVE)

- **Clients**:
  - Reach: 13159
  - Test: 10729
  - Diagnose: 311
  - Enroll in Care: 325

### #2. PROPORTION OF SUB-PATIENTS BY KPS REACHED (CUMULATIVE)

- **FSW**: 29%
- **MSM/TG**: 17%
- **PWID**: 5%
- **Sex partners**: 13%
- **Others**: 19%

### #3. REACH: NUMBER OF KEY POPULATION REACHED BY MONTH

- **Clients**:
  - May 2014: 0
  - Jun 2014: 53
  - Jul 2014: 59
  - Aug 2014: 65
  - Sep 2014: 56
  - Oct 2014: 59

### #4. TEST: PERCENTAGE OF REACHED KEY POPULATIONS TESTED BY MONTH

- **Percentages**:
  - May-14: 67%
  - Jun-14: 72%
  - Jul-14: 77%
  - Aug-14: 85%
  - Sep-14: 85%
  - Oct-14: 83%

### #5. DIAGNOSE: PERCENTAGE OF NEWLY REPORTED HIV INFECTION AGAINST 6% THRESHOLD BY MONTH

- **Percentages**:
  - May-14: 4.30%
  - Jun-14: 3.42%
  - Jul-14: 4.13%
  - Aug-14: 2.63%
  - Sep-14: 2.39%
  - Oct-14: 2.71%

### #6. PERCENTAGE OF PLHIV ENROLLED IN CARE BY MONTH

- **Percentages**:
  - May-14: 104%
  - Jun-14: 100%
  - Jul-14: 97%
  - Aug-14: 92%
  - Sep-14: 100%
  - Oct-14: 123%

### #7. NUMBER RE-ENGAGED in CARE AND TREATMENT

- **Percentages**:
  - May-14: 4%
  - Jun-14: 9%
  - Jul-14: 12%
  - Aug-14: 18%
  - Sep-14: 23%
  - Oct-14: 23%
VI. Interpreting a CoPC cascade

Interpretation tips

The real value of CoPC cascades lies in their use as programmatic assessment and quality improvement tools. When reviewing cascade data, implementers should ask the following questions as they begin the process of interpretation and utilization:

1. **Where are the leaks?** While there may be leaks throughout the cascade, some areas may be more pronounced, or more important to address, than others. Often, key leaks in the cascade occur from the reach – test, and from the diagnosis – enrollment phases of the cascade. Deciding where to focus quality improvement efforts is a critical step in interpreting cascade data.

2. **Who is most affected by the leak(s)?** Is the data disaggregated by gender and/or KP subcategory? If so, are there differences between groups and their service access, uptake or retention?

3. **Why are there leaks?** Implementers should examine, in collaboration with service providers, KP clients, and other key stakeholders, the reasons behind cascade leaks. Reasons can include:
   - **Client access and uptake barriers.** Do clients know and believe in the benefits of the service(s)? Are service locations accessible, affordable, and convenient?
   - **Structural barriers.** Does the legal and policy environment facilitate or impede client access and uptake of services?
   - **Data quality issues.** Do data quality issues compound cascade gaps, or minimize cascade leakages?

4. **How do we best address the leak(s)?** While cascade guide updates will focus on the practice of cascade quality improvement action planning and course corrections, implementers can now use the cascade as a starting point for brainstorming about solutions. One of the important strengths in using the cascade is that it can not only identify where the leak is and who is most affected, it can also lead to tailored interventions that will be most effective in addressing and closing the leaks. Examples of common leaks and relevant solutions include:
   - **Low service coverage of KPs:** Solutions may include moving services to locations closer to the KPs, extending opening/closing times, reducing fees, integrating services, training providers to create a more friendly environment for clients being served, etc.
   - **Outdated or no specific policy,** may require the updating of policies and standard operating procedures, issuing directives and decrees, etc.
   - **Limited clientele,** may require demand creation strategies, performance-based incentives, greater confidentiality, transportation support, etc.

It is important for implementers to brainstorm on a variety of possible solutions, and to work in close collaboration with KP clients, HIV service providers, and policy makers, as they develop strategies for improving cascade performance.
VII. Supporting others to generate, present and use simple HIV CoPC cascades

Key resources

USAID/SMART TA has prepared training materials for individuals who would like to support others to prepare and present CoPC cascades. Click here to access all resource materials.
VIII. Summary

This introductory guide has been designed to help government and civil society implementers construct, present, interpret and use HIV CoPC cascades in Vietnam with available data and minimal technical assistance.

The cascade approach identifies “leaks” in the system, targeting resources on interventions that diagnose people with HIV, quickly initiate ARV treatment, and sustain PLHIV in care. Using the cascade - in every facility, commune, district and province - will help Vietnam monitor HIV service system performance and focus its remaining human, financial and programmatic resources on the ultimate aim of the HIV response: viral suppression. Knowing where the drop-offs are most pronounced can assist decision makers and service providers to implement system improvements and service enhancements that make the greatest impact for individuals, communities and Vietnamese society.