Community-Led Monitoring of HIV, TB and Malaria Services in the Context of COVID-19

Data Management Tools

Considerations for choosing tools for data collection, analysis, and presentation for Community-Led Monitoring
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# Table of Contents

**SECTION 1: Introduction**  
4

**SECTION 2: Databases and Dashboards**  
5

**SECTION 3: Data Management Processes in CLM**  
6

- Data Collection  
7
- Data Analysis  
13
- Data Visualization  
16
- Disseminating the Findings  
17

**Key Takeaways**  
18

**Resources**  
19

**Glossary**  
20

**Acknowledgements**  
23
Community-led monitoring (CLM) is a process in which communities, particularly people who use health services, take the lead in identifying and routinely monitoring the issues that matter to them.

The focus is on getting inputs from recipients of services in a routine and systematic manner that will translate into action and change. In this process, data management is of utmost importance. Data management is the practice of collecting, keeping, and using data securely, efficiently, and cost-effectively.

This document is intended for community leaders (or community-led organizations) implementing CLM and using CLM data to advocate for improving access and quality of HIV, tuberculosis (TB), and malaria services during the COVID-19 pandemic. It explains the purpose and choice process of selecting tools for data collection, analysis, and presentation when designing and implementing CLM activities. See Table 1.

### TABLE 1 CLM experience: Data collection, data analysis, and data presentation

<table>
<thead>
<tr>
<th>Data Collection</th>
<th>Data Analysis</th>
<th>Data Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper and / or digital</td>
<td>Team capability and tools of comfort</td>
<td>Primary aim of targeted advocacy</td>
</tr>
<tr>
<td>Data security and harm reduction</td>
<td>Type and amount of data</td>
<td>Main point/insight vs. supporting materials</td>
</tr>
<tr>
<td>Devices and internet reliability</td>
<td>Periods of comparison</td>
<td>Focus your audience on what matters</td>
</tr>
<tr>
<td>Workflows and team experience</td>
<td>Identifying trends, and confirming them</td>
<td>Make the vision clear (not subject to interpretation)</td>
</tr>
</tbody>
</table>

Your CLM experience can vary greatly if you pick the wrong tool for the job. But what job are you optimizing for?
2. Databases and Dashboards

Databases

A DATABASE is a structured collection of data that is stored and accessed electronically. Most CLM projects no longer create or host separate databases because the majority of online data collection tools have a database built in.

Data security, confidentiality, and data ownership are crucial when committing to a data collection and database instrument.

CLM projects are meant to be replicated, repeated, and realigned over the years, and CLM implementers may need to reassess and reanalyze old data sets to explore new themes of analysis. Therefore, it is recommended that you opt for a database that is easy to explore, search, and filter, and one that can store data for a long period of time.

Dashboards

A DASHBOARD is a dynamic collection of charts representing analysis of CLM data. It gives real-time visuals, for example, pie charts, graphs, and other metric representations of the situation. The dashboard will constantly sync with the CLM data set so that the charts automatically updates to reflect new data and changes. It’s an efficient tool to track periodic changes and trends.
3. Data Management Processes in CLM

Community-led monitoring is an evolving field. While many community implementers agree on eight core principles of CLM,\(^1\) various implementation models exist. The ITPC CLM model is a four-step cycle (see Figure 1) and data management is important throughout.

![FIGURE 1 The ITPC Community-led Monitoring Model](image)

To download the ITPC CLM Implementation Toolkit and other resources, visit [CLMHUB.org](http://clm.itpcglobal.org)

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DATA COLLECTION is the process of gathering data for qualitative and quantitative indicators systematically designed during CLM planning.

→ **Quantitative data** are numerical data that can establish a benchmark for health indicators and conditions or service utilization.

→ **Qualitative data** are based on descriptive accounts, observations, and perceptions that can illustrate how people think or feel; typically gathered from interviews, focus groups, photovoice, participatory action research, or town hall meetings.

Before collecting any CLM data, an informed consent form must be presented to participants and expressed in a manner that is widely and easily understood. Consent forms must be kept separate from interview data and kept well-organized for easy reference.

**There are different methodologies to collect data for implementers (community organizations, key populations, and other civil society organizations). These include:**

**EXTRACTION FROM HEALTH REGISTRY:** Data collectors review health registries to extract anonymized data for specific indicators. For ethical reasons, it requires Institutional Review Board (IRB) approval or official authorization from the Ministry of Health, depending on the country.

**FOCUS GROUP DISCUSSIONS:** Focus group discussions usually use audio, video, and texts to collect data during tailored discussions.

**DIRECT OBSERVATION:** Data collectors report their observations on specific indicators during a facility visit. Direct observation can also be conducted via secret recipient of care or mystery recipient of care methodology in which a team member presents at a health facility pretending to be a real recipient of care in order to record their observations of healthcare provider behavior and overall experience of the health system.

Using mystery recipient of care approaches may be perceived as deceptive research and can foster discontent from providers. Therefore, IRBs should be consulted and all protocols approved to ensure that ethical concerns are addressed.

IRBs may require investigators to disclose the mystery recipient of care design in advance to health service providers and/or to debrief providers afterwards. The mystery recipient of care may be asked to sign a non-disclosure agreement as a condition of the research to enforce the importance of confidentiality.²

**PATIENT SURVEY/RECIPIENT OF CARE INTERVIEW:** Recipients of care are invited to complete a survey or participate in an interview with researchers during their visit to the health facility or online.

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SOCIAL HARM REPORTING FORMS: Individual reports of adverse events and incidents of harm are filled out and collected from recipients of care accessing health services.

COMMUNITY SCORECARD: Community scorecards are used by both community members (including civil society organizations and advocates) and healthcare providers to obtain community feedback on services and/or take a deeper dive into issues reported through individual recipient of care feedback.

Considerations for data collection using paper and/or digital methods

What is the best tool for data collection? Paper and pencil or electronic tools, such as tablets? While advanced technology has become increasingly common in CLM, both formats have their advantages, and each one may be appropriate depending on the specific stage of the data journey. Sometimes, a combination of both is needed: for example, handwritten data can be collected on site, then later scanned and saved as backup and for data quality review.

It’s impossible to generalize and say which data collection approach is best because each CLM project is different. Here are just a handful of factors to consider when choosing a data collection methodology: large or small catchment areas; rural or urban settings; general populations or key and vulnerable populations; distances to monitoring sites; and availability of charging stations and WiFi. In every situation, the data collection tools...
must be tailored to the specific context. The following table can help CLM implementers assess when to use paper tools, digital tools, or a combination of both. This applies to CLM programs at all maturity levels, from those that are in the design and set-up stage to more established and/or experienced CLM programs.

Considerations for choosing CLM data collection tools

<table>
<thead>
<tr>
<th></th>
<th>PAPER</th>
<th>DIGITAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pros</strong></td>
<td>→ <strong>Affordable</strong></td>
<td>→ <strong>Data security</strong>: password protected and access protocol</td>
</tr>
<tr>
<td></td>
<td>→ <strong>Accessible</strong>: requires minimal team skills and experience (no need to learn to use a specific app or digital platform)</td>
<td>→ <strong>Seamless workflow</strong>: fewer steps between data input and analysis</td>
</tr>
<tr>
<td></td>
<td>→ <strong>Reliable access</strong>: no risk of malfunction</td>
<td>→ <strong>For some digital platforms, data analysis presentations can be generated in different formats</strong> reducing the need to create them</td>
</tr>
<tr>
<td></td>
<td>→ <strong>Great data quality redundancy</strong> in case of digital issues; referring back to the photo of the paper for single source of truth is important</td>
<td>→ <strong>Implementers can access data from anywhere</strong></td>
</tr>
<tr>
<td></td>
<td>→ <strong>Data security</strong>: can be deteriorated (wet or burnt) misplaced, lost, or confiscated by law enforcement</td>
<td>→ <strong>Data format and completeness</strong> are easier to flag and correct; duplicate entries and other errors are also easier to find</td>
</tr>
<tr>
<td></td>
<td>→ <strong>May be hard to read</strong> if written illegibly, leading to incomplete or incorrect data transfer</td>
<td>→ <strong>Recipients of care can take surveys from the comfort of their home</strong></td>
</tr>
<tr>
<td></td>
<td>→ <strong>Additional step/time</strong>: paper-based data eventually needs to be encoded/digitized for analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>→ <strong>Volume of paper forms</strong> to analyze data can be overwhelming</td>
<td></td>
</tr>
<tr>
<td><strong>Cons</strong></td>
<td>→ <strong>Can be costly</strong> due to procurement and maintenance fees</td>
<td>→ <strong>Requires devices</strong> (tablets, smartphones, laptops)</td>
</tr>
<tr>
<td></td>
<td>→ <strong>Requires training of data collectors</strong> (time and funds)</td>
<td>→ <strong>Internet reliability</strong> sometimes makes it difficult to get data from rural and remote areas</td>
</tr>
<tr>
<td></td>
<td>→ <strong>Requires a certain level of digital skills</strong>, which may sometimes be hard to find within the community</td>
<td>→ <strong>Cloud storage capacity</strong></td>
</tr>
<tr>
<td></td>
<td>→ <strong>Online surveys can miss recipients of care</strong> who don’t have smartphones or access to internet and can also risk double-counting unless steps are built in to prevent double-entries (ensure unique entries)</td>
<td></td>
</tr>
</tbody>
</table>
Most CLM projects employ digital data collection tools in some form. There are many reasons why different projects might choose to use different tools (including cost and ease of use). Here, we introduce some of the most commonly-used platforms – this is not an exhaustive list – and provide a table to briefly summarize and compare them.

<table>
<thead>
<tr>
<th><strong>Microsoft Forms</strong></th>
<th><strong>Google Forms</strong></th>
<th><strong>Jotform</strong></th>
<th><strong>Alchemer (formerly SurveyGizmo)</strong></th>
<th><strong>Kobo Toolbox</strong></th>
<th><strong>OneImpact</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>An online survey creator, integrated in Microsoft Office 365. Some features are available only for the paid plans, Business or Education.</td>
<td>A free online survey administrator included as part of Google Editor.</td>
<td>A form builder used to collect various types of data, including voice recordings and geolocations.</td>
<td>is an online survey software tool for designing forms, collecting data, and performing analysis.</td>
<td>is a free and open-source tool that is generally used for mobile data gathering.</td>
<td>is TB-specific digital platform. It is made up of three tools that work together to provide a comprehensive community empowerment, community engagement, and community-led monitoring solution that puts people at the heart of the TB response.</td>
</tr>
</tbody>
</table>

### Overview of Digital Data Collection Tools

| **Considerations and/or solutions** | **Physical space for storage**: this should be taken into consideration as paper-stored data can become physically large | **Data size**: more data = more paper | **Data security**: design robust protocol for data access, scan copies as backup | **Review** for completion and correct format | **Budget** for cost-effective devices | **Training data collectors** to get comfortable with the devices and platforms | **Regular supervision** will ensure that the device, app, or platform is being used correctly and efficiently | **Reliable internet access** for data collectors | **Data security**: control and overseeing of who can access and/or edit data | **The lead community implementer holds the data on behalf of the coalition and oversees data management, with the responsibility of ensuring that the data security protocol remains fit for purpose** | **Digital platforms allow an automatic review** for format and completeness. This can be set up during planning. |

| Physical space for storage: this should be taken into consideration as paper-stored data can become physically large | Data size: more data = more paper | Data security: design robust protocol for data access, scan copies as backup | Review for completion and correct format | Budget for cost-effective devices | Training data collectors to get comfortable with the devices and platforms | Regular supervision will ensure that the device, app, or platform is being used correctly and efficiently | Reliable internet access for data collectors | Data security: control and overseeing of who can access and/or edit data | The lead community implementer holds the data on behalf of the coalition and oversees data management, with the responsibility of ensuring that the data security protocol remains fit for purpose | Digital platforms allow an automatic review for format and completeness. This can be set up during planning. |
## COMPARISON SUMMARY:
### Commonly used CLM digital data collection tools

<table>
<thead>
<tr>
<th></th>
<th>MICROSOFT FORMS</th>
<th>GOOGLE FORMS</th>
<th>JOTFORM</th>
<th>ALCHEMER</th>
<th>KOBO TOOLBOX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data type</strong></td>
<td>Text, numbers, date and time, file upload, choice, Likert scale</td>
<td>Text, numbers, image, video, file upload, date, time, choice</td>
<td>Text, numbers, date and time, file upload, single choice, scale rating</td>
<td>Audio and video sentiment question 43 question types, including GPS</td>
<td>Text, numbers, date and time, choice, scale, rating, GPS</td>
</tr>
<tr>
<td><strong>Security</strong></td>
<td>Single sign-on allows users to link Microsoft Office software Editing restriction on shared forms</td>
<td>Single sign-on for Google Workplace users Editing restriction can be enabled in settings</td>
<td>Forms can be encrypted Health Insurance Portability and Accountability Act (HIPAA) compliance for health data (USA)</td>
<td>Multi-factor authentication Alerting and notifications</td>
<td>User can choose to enable encryption on their project data Users control who has permission to enter and edit data</td>
</tr>
<tr>
<td><strong>Sharing, collaboration options</strong></td>
<td>Microsoft Office 365 users can collaborate and share forms</td>
<td>Google Workplace users can collaborate on Google Forms</td>
<td>Collaboration links can be shared with other users Forms are mobile-friendly and can be shared on social media</td>
<td>Multi-user accounts allow collaboration Custom survey URL Mobile survey</td>
<td>Share and download data Users can share projects with collaborators and manage permissions</td>
</tr>
<tr>
<td><strong>Ease of use</strong></td>
<td>Accessible with minimal computer skills Templates available</td>
<td>Accessible with minimal computer skills Auto-suggest during form creation</td>
<td>Form can be imported from Word document or Excel file Intuitive form building</td>
<td>Accessible with minimal computer skills Intuitive survey building</td>
<td>Intuitive form building</td>
</tr>
<tr>
<td><strong>Special features and limitations</strong></td>
<td>Translation into 75 languages Doesn’t include conditional logic or auto-suggest Limit of up to 200 respondents for free accounts</td>
<td>Conditional logic available</td>
<td>Geolocation, voice recording, QR code, signature collection Conversational Forms</td>
<td>Unlimited questions and surveys Conditional logic is available Translation tool available</td>
<td>Offline access Kobo collect tool for data collectors Conditional logic available Video question type Limit of 10,000 form submissions per month</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>Microsoft Business plans $6-22/user/month</td>
<td>Business plans $12/user/month</td>
<td>$24-79/month for paid plans 50% discount for non-profit organizations</td>
<td>$49-249/user/month</td>
<td>Free, open source</td>
</tr>
</tbody>
</table>

*The prices in the table were verified as of December 2022. For more information about the features associated with licensing plans and pricing, visit the official websites of the service providers.*
CONSIDERATIONS FOR CHOOSING A DATA COLLECTION TOOL

When choosing a data collection tool, it is important to consider your specific needs and resources (time, technical capacity, and funds). CLM data usually relies on the following critical elements:

Confidentiality and data protection: All data should be anonymous and no information that could allow individual identification will be shared. This is particularly relevant for very small populations of respondents where it is easy to link behaviors to individuals, even though respondents are not named.

Type of data: Text, numbers, date and time, audio and video recordings, GPS

Data ownership: The lead community implementer holds the data on behalf of the coalition and oversees data management, with the responsibility of ensuring that the data security protocol remains fit for purpose.

Data transfer and analysis: Building analytical capacity is a priority for maintaining trust that the data cleaning and processing are not being used to suppress some information. Only designated data stewards will have access to the data files.

Technical capacity: The choice of data collection tools and data transfer processes on a digital platform (that is, how will data be shared?) will depend in part on the technical capacity available and security protocol.

Devices and internet reliability: The choice of data collection devices and methods (paper vs. digital) will rely on the needs and available resources identified during the planning phase.
**Data Analysis**

Only once the data has been collected and reviewed for timeliness, completeness, coherence, and clarity can the process of data analysis begin. It looks out for trends, progress towards targets, links to outcomes, and data use for advocacy, as well as questions raised by the data (for example, issues requiring further exploration or research and gaps in services).

- **Microsoft Excel** is the most common tool used for manipulating spreadsheets, building analyses, and making charts. Excel is suitable for simple analysis, but it is not suited for analyzing big data. Big data involves extremely large and complex data sets characterized by a large volume of data, a wide variety of data types, and a significant velocity in which much of the data is generated.

- **CommCare** is a platform used to build mobile applications that can be used as a case management tool for tracking beneficiaries through a lifecycle of services, in addition to streamlining data collection. Since this tool tracks individual recipients of care, protocols to protect privacy and confidentiality are of utmost importance.

- **Power BI** allows users to create and share reports, visualizations, and dashboards. Users can combine a group of dashboards and reports into a Power BI app for simple distribution.

- **Tableau** is a data visualization and analytics platform that allows users to create reports and share them across desktop and mobile platforms, within a browser, or embedded in an application.

- **Data Studio** is a free dashboarding and data visualization tool that automatically integrates with most other Google applications. Studio can work with data from a variety of other sources as well, provided that the data is first replicated to BigQuery using a data pipeline like Stitch.
### Overview of Data Analysis Tools

For ease of comparison, we have listed several of the most commonly used CLM data analysis tools in the following table. Again, this is not an exhaustive list, but it does clarify some of the features that CLM implementers might want to consider when choosing a data analysis tool that best fits their specific context.

#### COMPARISON SUMMARY: Data analysis tools

<table>
<thead>
<tr>
<th>Easy data selection</th>
<th>POWER BI</th>
<th>TABLEAU</th>
<th>MICROSOFT EXCEL</th>
<th>DATA STUDIO</th>
<th>COMMCARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drag and drop fields for data selection</td>
<td>Fields automatically added to filters shelf</td>
<td>Pivot tables allow intuitive data filtering and selection</td>
<td>Filter properties available</td>
<td>Menu filters can be created by users</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Data mash-up: integrate data sets from disparate sources</th>
<th>POWER BI</th>
<th>TABLEAU</th>
<th>MICROSOFT EXCEL</th>
<th>DATA STUDIO</th>
<th>COMMCARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerQuery is the tool that allows data mash-up on Power BI</td>
<td>Various data sources can be blended</td>
<td>PowerQuery and M can be used to create data mash-up on Excel</td>
<td>Data integration requires replication by another tool</td>
<td>Excel case import</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of expertise required</th>
<th>POWER BI</th>
<th>TABLEAU</th>
<th>MICROSOFT EXCEL</th>
<th>DATA STUDIO</th>
<th>COMMCARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rigid formulas (DAX as language for calculations)</td>
<td>Basic programming skills preferable for in-depth analysis</td>
<td>Excel formulas and pivot table analysis skills required for basic data analysis</td>
<td>Easy to use for users who are familiar with Google Workspace</td>
<td>Export and analysis through Excel</td>
<td></td>
</tr>
<tr>
<td>Basic analysis accessible to non-programmers</td>
<td></td>
<td></td>
<td>Drag and drop actions</td>
<td>Build reports using report builder tool in CommCare</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Data sharing and collaboration</th>
<th>POWER BI</th>
<th>TABLEAU</th>
<th>MICROSOFT EXCEL</th>
<th>DATA STUDIO</th>
<th>COMMCARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution of combined dashboards and reports into mobile application</td>
<td>Tableau Cloud allows colleagues to collaborate on a project</td>
<td>Online organizational collaboration</td>
<td>Collaborators can be invited to view or edit data</td>
<td>Reports can be shared</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dashboards</td>
<td></td>
<td>Accessible with a smartphone</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exports</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special features and limitations</th>
<th>POWER BI</th>
<th>TABLEAU</th>
<th>MICROSOFT EXCEL</th>
<th>DATA STUDIO</th>
<th>COMMCARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text mining and sentiment analysis (qualitative data)</td>
<td>Segmentation and cohort analysis</td>
<td>Predictive analysis</td>
<td>Number of rows limited to around 1 million</td>
<td>Drag and drop dashboard creation</td>
<td>Unlimited data storage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Not suitable for qualitative data</td>
<td></td>
<td>Offline access</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Licensing cost</th>
<th>POWER BI</th>
<th>TABLEAU</th>
<th>MICROSOFT EXCEL</th>
<th>DATA STUDIO</th>
<th>COMMCARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>$9.99/user/month</td>
<td>$70/user/month</td>
<td>$8.25/user/month (Microsoft Office 365 Business)</td>
<td>$239/month for advanced features (Looker Studio)</td>
<td>$250-1,000 monthly</td>
<td></td>
</tr>
</tbody>
</table>
CONSIDERATIONS FOR CHOOSING A DATA ANALYSIS TOOL

Team capability and tool comfort: Does the team have the technical capability to efficiently exploit the chosen data analysis tool? How comfortable are they with the said platform?

Type and amount of data: Can our tool of choice support the type of data and amount of data? Account for increasing amount of data over the years and check if it can be supported.

Periods of comparison: If we need to compare data from different time periods, will it allow that?

Identifying trends and confirming them: Some tools intuitively flag trends in data, allowing for further analysis to identify priorities.

Easy use: The best tool is often the one you are most comfortable with (especially if time is limited).

Available tool: The best tool is sometimes the one you already have (Google, O365, Zoho). Always ask about non-profit pricing.

Optimization: If considering a new tool, focus on the key activities you want to optimize for, instead of all the possibilities (that you may rarely use).

Less complexity: More features usually mean more complexity, which means more effort to set up and maintain.

Integration: Think about integrations to reduce steps, automate, and faster syncing.
Charts, maps, dynamic charts/graphs, and word clouds are used to condense and present the core insights from the data. They make the data easy to understand, highlight, and summarize and therefore accessible to different target audiences.

- Charts are sheets of information in the form of a diagram, a histogram, or a graph. It shows the relation between variable quantities, typically of two variables, each measured along one of a pair of axes at right angles.

- Maps are visual representations of an area of land showing specific features of the population of study. The UNAIDS Key Populations Atlas is an example of a map visualization.

- Dynamic visuals update automatically when the data source changes. They allow a real-time representation of the specific indicators at play. WHO’s COVID-19 dashboard is an example of a dynamic visual.

Word clouds or tag clouds are graphical representations of word frequency that give greater prominence to words that appear more frequently in a source text.

All the platforms cited previously integrate data visualization in their features.

The most adequate tool is the tool that aligns best with the primary aim and target of CLM findings. For example, one might need to disseminate findings on social media and/or with government institutions and/or allow for public access.

Given the amount of work required to collect and analyze the data, how one presents it can have a big impact.
CONSIDERATIONS FOR CHOOSING A DATA VISUALIZATION TOOL

**Primary aim and target:** With whom do you want to share and discuss the findings? Are they comfortable with your presentation tool?

**Main point or insight:** Pick a visual presentation that makes the main insights poignant and hard to miss for the target audience.

**Focus your audience on what matters:** Which part of the findings matters to the service users and should hold the focus of the audience?

**Make the vision plain (not subject to interpretation):** Which visual presentation makes the main point undisputable?

Disseminating the Findings

The findings can be disseminated through various channels, such as reports, briefings, slide decks, media articles, case studies, and social media. It is important to assess and select the right channels to reach the desired audience. It is critical that the data are communicated back to community members first so that they can be part of advocacy and mobilization efforts and help build momentum for the change they seek.

(BY LENGTH AND COMPLEXITY IN DESCENDING ORDER)

- Long-form data reports, including from academic partners
- Short reports
- Policy and data update briefings
- Peer review journal publications
- Presentation slide decks
- Fact sheets
- Media articles
- Case studies
- Inclusion of data summaries and key messages in funding proposals
- Email and listserv updates
- Dashboard screen shots
- Infographics
- Regular messaging via mobile phone applications
Key Takeaways

→ **CLM projects can have heterogeneous data types**, including text, numbers, date/time, GPS positions, audio, and video recordings.

→ **There are various tools available for data collection, analysis, and visualization.**

→ **During CLM planning**, it is recommended that you assess the resources needed for the project (financial, technical, time).

→ **It is important to design and implement robust data storage, access, and editing protocols.** The goal is to protect the reliability of the data and the confidentiality and physical integrity of participants.

→ **Data collectors must be trained and retrained on a regular basis** to comply with the collection process and maintain the skills necessary to collect and report on data properly.

→ **Data cleaning is an important step that precedes analysis** and ensures data timeliness, completeness, and format. Digital tools have efficient ways to flag and correct those.

→ **Themes and level of analysis identified** during the planning phase are important criteria for choosing a data analysis tool.

→ **Graphic presentations** can be an efficient way to make the insights plain and hard to miss.

→ **For security and efficiency reasons, it is recommended that you choose a tool that integrates all aspects of data management**, from data collection to visualization, storage, and databases.

→ **Don’t collect what you don’t need.** (Use proxies, initials, or codes instead of personal identifiable information on forms.)
Resources


**Glossary**

**CONDITIONAL LOGIC** provides a custom path through a survey that varies based on the respondent’s answers. This pattern will vary based on the rules you define for the survey. This allows you to ask follow-up questions to responses submitted to gain deeper insight into why the respondent chose that response.

**CONVERSATIONAL FORMS** is a type of web form that asks questions in an interactive environment. Questions in Conversational Forms appear only one at a time and feel like a real conversation. This helps greatly improve user experience compared with traditional forms.

**GEOLOCATION** applies to the geographical location of a person or device by means of digital information processed via the internet.

**INTUITIVE FORM BUILDING** is a feature on form-building platforms that suggests specific questions, statements, or choice of responses based on prior entries. It also allows the user to customize a set of questions or statements available on the digital platform.

**LIKERT SCALE** is a psychometric scale commonly used in research to represent people’s attitudes to a statement or question. The Likert scale (typically) provides five possible answers to a statement or question that allows respondents to indicate their positive-to-negative strength of agreement or strength of feeling regarding the question or statement, that is, from strongly agree to strongly disagree.

**MULTI-FACTOR AUTHENTICATION** is a layered approach to securing data and applications where a system requires a user to present a combination of two or more credentials to verify a user’s identity for login.

**PIVOT TABLE** is a statistics tool that summarizes and reorganizes selected columns and rows of data in a spreadsheet or database table to obtain a desired report.

**QR CODE** is a machine-readable code consisting of an array of black and white squares, typically used for storing URLs or other information for reading by the camera on a smartphone.

**SENTIMENT ANALYSIS** is the process of computationally identifying and categorizing opinions expressed in a piece of text, especially to determine whether the writer’s attitude towards a particular topic or product is positive, negative, or neutral.

**SINGLE SIGN-ON** is an authentication scheme that allows a user to log in with a single ID to any of several related, yet independent, software systems.

**TEXT MINING**, also known as text data mining, is the process of transforming unstructured text into a structured format to identify meaningful patterns and new insights.

**URL** stands for Uniform Resource Locator, the address of a given resource on the internet.
About ITPC

The International Treatment Preparedness Coalition (ITPC) is a global network of people living with HIV and community activists working to achieve universal access to optimal HIV treatment for those in need. Formed in 2003, ITPC actively advocates for treatment access across the globe through the focus of three strategic pillars:

→ **Build Resilient Communities (#TreatPeopleRight)**
→ **Intellectual property and access to medicines (#MakeMedicinesAffordable)**
→ **Community monitoring and accountability (#WatchWhatMatters)**

About Watch What Matters

Watch What Matters is a community monitoring and research initiative that gathers data on access to and quality of HIV treatment globally. It fulfills one of ITPC’s core strategic objectives, to ensure that those in power remain accountable to the communities they serve.

Watch What Matters aims to streamline and standardize treatment access data collected by communities – helping ensure that data is no longer collected in a fragmented way and that it reflects the issues and questions that are most important to people living with and affected by HIV. It relies on a unique model that empowers communities to systematically, routinely collect and analyze qualitative and quantitative data on access barriers and shortfalls in quality of care and treatment and use it to guide advocacy efforts and promote accountability.

To learn more about Watch What Matters and our community-led monitoring work, visit [www.WatchWhatMatters.org](http://www.WatchWhatMatters.org) or send us an email at admin@itpcglobal.org.
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