Note: This document was last updated on October 11, 2020. Development Gateway continuously updates this master document of Delivering Data Where it Counts with additional feedback and consultations.

Delivering Data Where it Counts

Considerations for Subnational Development Programming

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Introduction

With the 2030 Sustainable Development Goals (SDGs), we have a mandate to "leave no one behind" and ensure socio-economic gains reach the world's most disadvantaged populations. In parallel, governments are increasingly pursuing decentralization of service delivery. We also know that working at the subnational level can foster greater government responsiveness and more context-aware interventions, and currently accounts for almost 40% of public investment worldwide.

Within this context, a number of donor agencies and implementing partners are aiming to increase the use of data in decision-making, and strengthen subnational government capacities. Yet the MCC/PEPFAR Data Collaboratives for Local Impact (DCLI) program represents one of the few partnerships[1] aiming to unite these two areas of focus. **DCLI seeks to increase the use of data and evidence by individuals and communities, empowering these actors to contribute to better development outcomes.**

Further, as the 2020 global pandemic (COVID-19) has brought the global economy to a standstill, understanding how national and subnational governments can coordinate and streamline investments is essential to effective service delivery and ensures supplies are reaching those who need them most. **This crisis has thrown into sharp relief the importance of subnational data use for programmatic sustainability, and the importance of having subnational actors equipped to use evidence to meet community needs.**

This document seeks to identify good practices and lessons learned across DCLI and related subnational programs. Taking a case study approach, we explore six key Principles for Subnational Data Use:

I. **Listen, document, share**: Funders should engage with communities to shape development investments, by beginning with listening and gathering data on community needs.
II. **Measure at community scale:** We must continue experimenting with creative ways to measure the impact of subnational data use, as traditional tools may be inadequate for measuring the impact of subnational data programs.
III. **Build local skills**: Data transparency efforts should be paired with interventions that increase awareness of the value of data, and with skills needed to transform data into useful information
IV. **Bridge levels**: Data use investments should foster feedback loops and bi-directional information flows between local priorities and national-level decisions.
V. **Be intentionally inclusive**: Social inclusion and gender sensitivity mean more than generating disaggregated data: it also means equipping youth, women, and other underrepresented communities with the skills, incentives, and support to use that data.

[1] Other initiatives include the Open Government Partnership (OGP) Local Program.

VI. **Fund local organizations**: Investing in and working through local institutions should be the default practice – ensuring programs benefit from local know-how, and local organizations gain experience working with international funders.

Given the urgency inherent in the SDGs – and the need to ensure the global digital economy is building a better future – we hope this document can serve as a resource for those seeking to increase locally-driven change.

Making the Case for Subnational Data Use

Mitch Blaser and Agnieszka Rawa, MCC-PEPFAR Data Collaboratives for Local Impact

International development remains predominantly country- and program-focused.[2] A country-level view aggregates people into broad statistics; a program-view risks converting individuals into passive "beneficiaries" of investments and decisions made by others.

Shifting the development lens to focus on **communities** underscores that people have diverse needs, priorities, and views. Empowering community members with information and skills allows them to meaningfully shape solutions for productive, sustainable, healthy lives.

But achieving this shift requires a change in development thinking, and in the language we use. "Subnational" does not mean *below* national in importance. Rather, the citizen should be front and center. In such a landscape, community members are supported by services provided by local government and NGOs, and can engage in economic growth along with the private sector; local agencies are supported by regional actors; and regional actors can depend on supportive policies and funding from the national government and international donors.

Achieving this progress requires making sound, evidence-based decisions regarding development investments; but this evidence must also be shaped by the articulated needs of citizens. Sound decision-making requires access to and the use of the best-available information. Unfortunately, that information is commonly more scarce at the subnational level than at the national level – and the skills to access it and use it in what is an increasingly digital context, are insufficient. From a development perspective, the process should start with listening to and collecting data from local communities – to more clearly understand their needs and priorities – then iterating and adapting solutions in response to those needs.

This approach is not without challenges. The scale of these information flows is immense: DCLI's Data Zetu project listened, collected data, and engaged locally in 14 wards in Tanzania, with average populations of 29,700 people. While significant as a demonstration of the methodology, these individuals represent less than 1% of Tanzania's – and 0.04% of the continent's – total population.[3] How is it possible to advance citizen-centric development goals at such a scale? In what follows, we share the start of tools and methodologies we hope can be useful for others grappling with similar issues.

[2] See http://www.undatarevolution.org/wp-content/uploads/2014/11/A-World-That-Counts.pdf.
[3] 2012 Population and Housing Census, Tanzania Bureau of Statistics; and UN World Population Prospects 2012.

Data and closing the feedback loop for improved project design

The proper use of evidence is the basis of sound development decisions, and a significant level of development resources are now spent on monitoring and evaluation.[4] MCC, for example, allocates 3% to 5% of compact funding to M&E. However, generating and using evidence should not wait until the *end* of development projects. Data, including subnational data, could be collected by local actors and used to inform the design stages of large development and infrastructure investments, to better understand how proposed projects will affect citizens - and more importantly how these investments will create opportunities for the communities that surround them. In parallel and with the support of local, regional and national statistics offices, communities could be empowered to engage more proactively in materializing their own priorities and needs and closing the important investment-to-feedback loop that is essential to better and more sustainable solutions.

The DCLI partnership between PEPFAR and MCC has been examining how "front-end" attention to data – and its use for and by those in need of development investments can lead to better results – including sustainable planning for PEPFAR, and locally-informed project design at MCC. A key tenet of our work is country ownership, meaning countries taking the lead on their own development, engaging with funders as partners and investors. This is particularly effective for communities: acknowledging local problems, defining local priorities, and identifying local solutions. This depends on better use of the available data by communities: taking inventory of already-available data sets, identifying gaps in the data, and working on data analysis and evaluation, to find solutions and justify allocation of resources to make those solutions happen.

Targeted locally-rooted solutions, better results

Funders are looking for better ways to reach people, across a number of areas: including health, social behaviors, economic growth; and to drive real change in local outcomes. Private funds and the private sector are looking for better information about new markets, and specifically targeting micro-markets in underserved areas. Early projects are still being evaluated. However, our experiences indicate that data-driven sub-national methodologies can achieve lasting results with relatively low costs – by involving beneficiaries as participants and contributors to overall objectives.

Steps are being taken to make available to cities and communities the tools and skills to take on responsibility and accountability for those they serve. We believe these efforts should accelerate, and should seek to increase engagement with those least likely to be involved. By 2040, 90% of jobs globally will require data and digital skills[5], and the rate of change is extremely rapid. This puts social and gender divides at risk of widening; but this exponential rate of change also presents a strong opportunity for excluded community

[4] See https://www.developmentgateway.org/sites/default/files/2018-11/DataUse_ReportV5_Dec2018.pdf.
[5] *Job market fails to unleash ICT potential*, Science Hub, the European Commission's science and knowledge service.

members, including women and youth, to get “on the curve”, becoming empowered through skills to access and use information.

Local knowledge is essential. This is true for listening to and understanding a diverse set of voices in a community – and for *acting* – through locally-rooted organizations. A lesson from DCLI’s work is that a powerful mechanism for change is enabling local community leaders and organizations – through skills and through funding to solve or at least contribute to solving their challenges. These are the people most able to apply better information to a specific situation, context and problem, in a lasting and culturally-appropriate way.

PEPFAR, for example, has developed methods of targeting results at a community level, through clinics in each community. This is leading to community partnerships and joint monitoring of resources and results with community partners and district officials – a significant, data-driven undertaking which will distribute accounting and accountability for success into the communities where the HIV epidemic is confronted. This kind of focused programming and tracking of resources and results means increasing funds for community-focused work, and a greater focus on building the necessary data skills and analysis in the communities themselves.

This document captures only the start of what can be done to support communities as they continue to take responsibility and accountability for their own development, and of the tools that can be developed to make the data revolution a reality for communities in an inclusive way. It is also an opportunity to pause for reflection on what should come next, and to build agreement on principles of good subnational data activities, informing where future funds and time should be invested.

I. Listen, Document, Share

Funders should engage with communities to shape development investments. Central to this approach is beginning with listening and gathering data on community needs.

A. Aligning budgets to community needs

Samhir Vasdev, IREX

Oliva Mgeni describes how she used community-generated data about their biggest priorities to inform her investments in the health sector.

In rural Tanzania, local leaders used information about their community's highest priority needs to inform their budgets and investments in the health sector. This has increased collaboration between citizens and local government officials to deliver important services where they're most needed.

Oliva Mgeni is the Community Development Officer (CDO) for Iyunga Ward, a community of about 15,000 in the Mbeya Region of western Tanzania. Like many of the thousands of wards across the country, service delivery resources are limited, and her team must make difficult decisions about which investments to prioritize. This means that aligning these decisions with real community needs is imperative to ensure that limited resources are going where they can have the most impact on health and social service delivery in the ward. But doing so is challenging for a few reasons, including insufficient resources to collect information about constituents' needs, and low engagement between citizens and their local leaders.

Data Zetu, a project to support data use in local communities across Tanzania, connected Oliva and her fellow ward executives to citizens' needs through a "Listening Campaign" in Iyunga Ward.[6] At this two-day

[6] Data Zetu is part of the Data Collaboratives for Local Impact (DCLI) program, funded by the Millennium Challenge Corporation (MCC) and President's Emergency Plan for AIDS Relief (PEPFAR). Learn more at www.datazetu.or.tz.

meetup, a team from Data Zetu partner Sahara Sparks (a Tanzanian design research and consulting firm), citizen representatives, youth groups, and local officials including Oliva to highlight and prioritize the most important health-related challenges confronting their everyday livelihood. The conversation also covered potential root causes and courses of actions suggested by community members themselves.

The raw data from this meetup, as well as summaries of key insights, a methodology for others to conduct their own similar events, and data from thirteen other wards across urban and rural Tanzania, are published openly online to help other actors (such as donors) prioritize or inform their own investments.[7] Through "Shareback Sessions", the information collected by the Listening Campaigns were later shared back with the communities to build energy and develop action plans based on the data.

When Oliva reviewed this citizen-generated data, she was struck by how many priority issues pertained to the Iyunga Health Center, the ward's main health facility. Specifically, citizens cited poor equipment, inadequate lab services, understaffed departments, and unreliable medical supplies. Armed with this information, Oliva was better prepared to advocate for improvements where they mattered.

A Listening Campaign in Mbeya District Council convened community members to discuss their priority issues. Oliva Mgeni used data from these events to inform her advocacy and decision making.

Sparked by the Listening Campaign data and process, Oliva convened ten follow-on discussions (without any outside support or resources) with key community representatives to understand the severity of issues at Iyunga Health Center. She explains: "We listened to the problems and we sent them to the city director. I told [city leaders] that this community is faced with these problems. After that, the city director made a budget based on these problems which have been raised". This budget, which was based on community priorities identified at the Listening Campaign, was approved by the District Executive Director and resulted in a 400,000,000 T/Sh (~USD 175,000) investment to renovate Iyunga Health Center.

Despite this remarkable achievement, another important impact of the Listening Campaign has been to increase dialog and collaboration. Under Oliva's guidance, local leaders convened meetings in Iyunga Ward, where citizens themselves collectively agreed to a voluntary 5,000 T/sh contribution to complement the

[7] See www.bit.ly/dzinsights.

400mn T/sh investment. Moreover, the ward office shared a public advert to allow community members to apply to offer their expertise on community development projects, receiving over 600 applications.

In this corner of rural Tanzania, data generated by citizens, about issues that matter most to them, not only catalyzed meaningful action to improve service delivery, but also sparked a sustainable legacy of improved civic engagement and confidence between citizens and local leaders.

B. Keeping CALM during sectoral system design

Carmen Cañas and Paige Kirby, Development Gateway

DG's Custom Assessment and Landscaping Methodology (CALM) is a framework that surfaces opportunities for sustainable digital tools by putting decisions and users at the center of design. To build a framework for the National Agriculture Management Information System (NAMIS), "staying CALM" was key to enable this complex programming to meet its objectives.

Priority results areas for the agriculture sector were articulated in the Government of Malawi's M&E framework. However, no system for measuring progress against these goals existed – limiting the Government's ability to evaluate policy effectiveness. An M&E management information system can improve the use of data and evidence to support decision-making, by identifying what is working, what must be addressed, and which activities are failing to bear fruit.

From May 2017 through November 2018, Development Gateway (DG) engaged with the Malawi Ministry of Agriculture, Irrigation, and Water Development (MoAIWD) through the Results Data Initiative, supported by the Bill & Melinda Gates Foundation. The purpose of this engagement was to support the design of a framework for a National Agriculture Management Information System (NAMIS).[8]

A digital platform like NAMIS can enable better data collection, management, sharing, and analysis – if developed through a user-centric approach. The key is understanding available data sources, users, and collectors through a comprehensive landscape assessment.

Using DG's Custom Assessment and Landscaping Methodology (CALM), we conducted a landscape analysis of priority decisions, data and tools, and barriers to more effective data use across the agriculture sector.[9] The CALM assessment identified opportunities and challenges related to data quality, sharing, management, and use. Importantly, **the assessment gathered insights from agriculture sector stakeholders across government, private sector, non-governmental, and development partner stakeholders, from national to extension planning area levels**.

Keeping CALM during sectoral system design

The NAMIS conceptual framework was informed by several

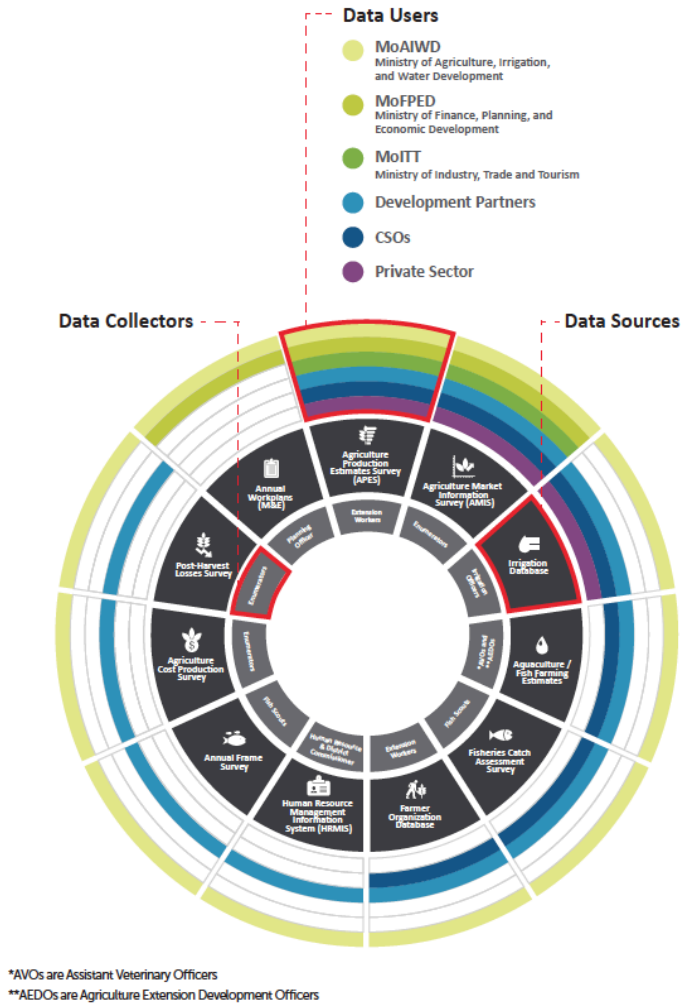
[8] See the launch of the framework of NAMIS design: https://www.developmentgateway.org/blog/keeping-calm-design-national-me-system-malawi.
[9] See https://www.developmentgateway.org/sites/default/files/2018-12/CustomAssessmentLandscapingMethodology_December2018.pdf

component activities:[10]

1. A foundational concept paper and implementation plan developed by MoAIWD was reviewed by DG technical experts. Building on this work, DG held initial consultations with key personnel in the MoAIWD M&E and Planning Units.
2. Findings from desk research and initial consultations were mapped into DG's Custom Assessment and Landscaping Methodology (CALM), and a comprehensive assessment plan was co-designed by DG and the MoAIWD Planning Unit.
3. DG and MoAIWD held a multi-sectoral workshop with the Technical Working Group on Agriculture M&E to surface methodological feedback and ecosystem insights.
4. A research team composed of DG and the MoAIWD Planning Unit conducted 75 key informant interviews across government, non-governmental organizations, and civil society groups at district, central, and extension planning area levels during March and April 2018.
5. DG analyzed and synthesized key findings from interviews and desk research, and validated findings through a final meeting with the Technical Working Group in Malawi.

Two practical outputs from this assessment included user journeys and a data ecosystem map. User journeys outline how future NAMIS users interact with data to make key decisions. The journeys identify which users are mandated to make specific decisions, and which data sources are most useful for achieving their decision-making goals. Articulating user journeys helps to ensure that NAMIS includes modules that respond directly to a decision-making need.

[10] See the full Conceptual Framework for the design of a National Agriculture Management Information System (NAMIS).



Malawi Agriculture Data Ecosystem Map

The ecosystem map helps guide a phased implementation approach, by identifying which data producers, consumers, and sources exist for each module – and whose buy-in would need to be achieved in order for a successful implementation. These resources were used to inform NAMIS technical recommendations, and can be used throughout the design and implementation process.

DG continued collaboration with MOAIWD, to design the architecture of the first of fourteen NAMIS modules. NAMIS will be used by MoAIWD staff at national and local levels, as well as private sector, non-governmental, and development partner collaborators. As such, the platform should include functionalities tailored to low connectivity contexts, such as a mobile data collection application, offline data entry, and a low-bandwidth website.[11]

[11] See https://www.developmentgateway.org/sites/default/files/2019-05/NAMIS_ExecutiveSummary_March19.pdf

C. IMPACT teams for improved supply chain performance

Yasmin Chandani, inSupply Health, John Snow, Inc. (JSI)

Ensuring the efficient distribution of medical products is key to achieving better health outcomes. Fostering IMPACT Teams – cross-functional, interconnected staff who are empowered to overcome process obstacles – is one mechanism for increasing the usefulness and use of logistics data.

Country governments have made significant investments in building and automating health logistics management information systems (LMIS). These efforts have resulted in greater availability of real-time supply data. However, data availability alone is not sufficient to ensure critical health products reach clients. A critical gap remains in the use and usability of this data, particularly at the subnational level.

Data that are available are rarely accessible in user-friendly, actionable formats. Further, many decision-makers at the subnational level lack routine processes to use data for prioritization. Ensuring that data are analyzed, triangulated, and used for operational, management, and strategic decisions at all levels of the health system requires a change management and problem solving approach that institutionalizes processes and builds skills among management teams.

In an effort to build a data culture that supports data for decision-making, John Snow, Inc. (JSI) and inSupply Health implemented Information Mobilized for Performance Analysis and Continuous Transformation (IMPACT) Teams.[12] This people-centered, data-driven approach trains team members to develop, interpret, and set targets for key supply chain indicators; encourages a structured and rigorous problem solving process; and empowers members to use data for operational and strategic decisions.

The ultimate goal of IMPACT Teams is the improvement of supply chain performance by fostering a system of interconnected, cross-functional and cross-discipline teams. IMPACT Teams achieve this by following a Review-Innovate-Do cycle.

[12] See John Snow, Inc. (JSI), https://www.jsi.com/JSIInternet/; InSupply Health, http://insupply.jsi.com;IMPACT Teams, https://www.jsi.com/JSIInternet/Inc/Common/_download_pub.cfm?id=17216&lid=3.

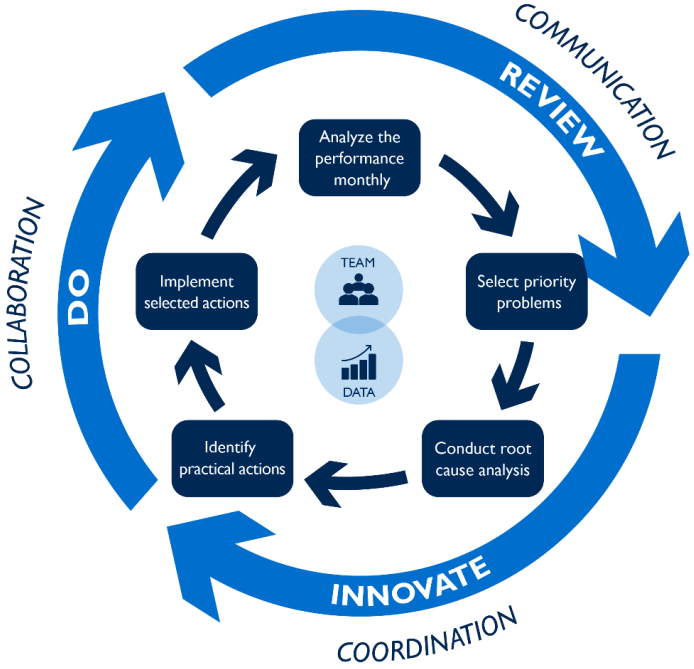
Review-Innovative-Do Cycle

Review: Teams are trained to critically examine and collectively interpret supply chain data on a regular basis, using standardized indicators and user-friendly decision support tools, including dashboards. These tools utilize data from routine national systems to display analyzed and actionable visualizations that allow for easy interpretation and can facilitate a manager's action.

Innovate: Teams engage in a structured process of prioritizing problems and finding solutions, based on the data at hand. Each IMPACT Team meeting has a standard agenda and involves conducting root causes analysis (e.g., the "5 whys" approach for identifying underlying factors contributing to a challenge) and developing possible solutions, which are documented via action plans and shared up and down the supply chain.

Do: Actors at all levels of the supply chain take actions to improve performance, based on the action plans. The cycle repeats in subsequent meetings, institutionalizing a culture of data use for action.

The continuous Review-Innovate-Do cycle enables IMPACT Teams to reinforce the correct and consistent use of supply chain procedures; creates transparency and accountability; improves coordination and communication; and fosters trust and collaboration among supply chain staff.



We have found that **IMPACT Teams are most effective when operationalized at the subnational level** (district/county). Members at subnational level have a greater understanding of the root causes of supply chain performance challenges, because they are close to the problem and are more empowered with the authority to make changes. IMPACT Team membership is intentionally multidisciplinary – a critical enabling factor for identifying root causes and finding holistic, creative, local solutions. Other success factors for IMPACT teams include a shared common goal among members, and strong support from national and subnational leadership.

Results indicate that the benefits derived from the IMPACT Teams are rapid, transformative, far-reaching, and pervasive. A recent cross country analysis that examined the success of IMPACT Teams in Guinea, Indonesia, Kenya, and Myanmar found – for nearly all products examined – a reduction in instances of stockouts (treatment effects ranging from -2.1% to -35.8%) and an increase in the instances of products being stocked according to plan (treatment effects ranging from 7.3% to 38.2%).[13] These improvements were attributable to the IMPACT Team intervention. In addition, implementation research found that IMPACT Teams achieve improved lead times and supply reliability (over and above eLMIS).

Key takeaways for implementing this approach include:

- Members should be kept motivated and leadership engaged
- Use existing routine meetings in order to minimize competing priorities
- Capacity building should be part of the implementation model to reduce dependency on outside partners.

JSI and inSupply are continuing their work with IMPACT Teams, using human-centered design to create different prototypes for IMPACT teams across a variety of settings. Both will be supporting implementation and adaptive learning in Kenya, Tanzania, and various other settings staring in January 2019 and onwards.

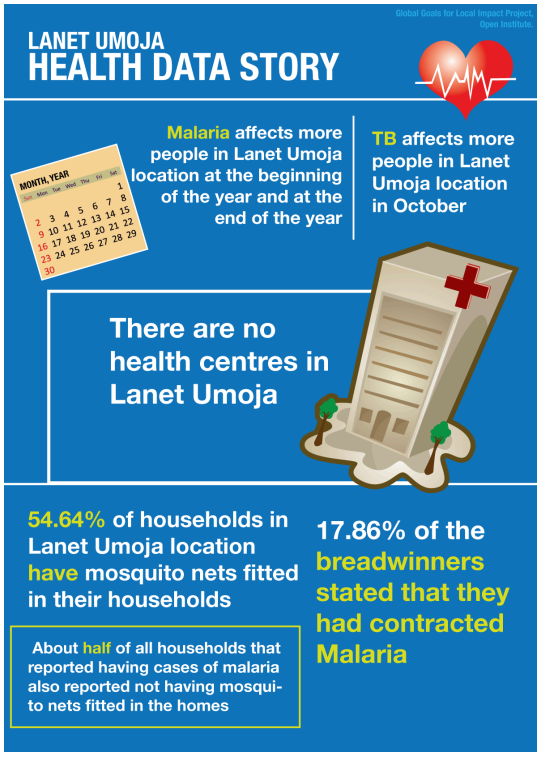
[13] See "Placing People, Data & Processes at the Heart of Supply Chain Improvement," https://www.jsi.com/JSIInternet/Inc/Common/_download_pub.cfm?id=21966&lid=3.

D. How Lanet-Umoja got a health facility

Jay Bhalla and Benjamin Charagu, The Open Institute (OI)

The bottom line is that financial resources alone cannot ensure program success – constructive relationships, community engagement, and a common goal are essential to prioritising health issues. A story from the Lanet-Umoja ward in Nakuru County, Kenya, on harnessing the power of community knowledge to request and gain a new health center.

SDG 3 aims to ensure healthy lives and promote wellbeing for all at all ages – essential to sustainable development. The Open Institute (OI)'s Global Goals for Local Impact (GGLI) programme aims to localize the SDGs and drive initiatives to achieve SDG 3 from local level, in line with community health priorities.[14] GGLI's achieved results demonstrate that communities can identify and set their own development agendas to fit both the SDGs and their own objectives. Through GGLI, OI aims to prove that monitoring subnational achievement of the SDGs, and engaging local communities to understand the importance of data and community data collection, is essential to start local conversations around the SDGs.



In the Lanet-Umoja ward in Nakuru County, Kenya, OI partnered with local administration to collect household data from citizens. Through this data, the community identified the SDGs and indicators of highest priority to them, one being distance to a health center. The data showed that the majority of the community members had to travel more than 5 to 10 kilometres to access public health services. Most closeby health facilities were privately owned, expensive, and often not open 24 hours.

Using the household data collected, the community moved to 'Leave No One Behind' – individuals submitted data on the provision and challenges of their health services. Through GGLI, the community then went through in-depth data capacity building exercises to ensure they understood the importance of data as a fact-driven mechanism that could be used for solution identification and advocacy.

[14] See the Global Goals for Local Impact program: https://openinstitute.com/category/global-partnership/ggli/.

The SDG 3 data collection exercise was carried out in the following stages:

Stage	Description
Stage 1: Mobilization of Community Leaders	Communities selected and provided their own champions, who led the process, answered community questions, and liaised between the community and the administration. Community Leaders were invited by their Chief and Assistant Chiefs. Leaders must understand the scope of the activities and the importance of SDG 3 highlighting how data was a key component in finding solutions. 300 leaders participated, representing at least 25 to 30 households. They also disseminated learnings to their communities.
Stage 2: Capacity Building	Community leaders were introduced to the SDG 3 targets and indicators and were encouraged to engage and use the targets to drive community conversations. By connecting the targets to their current scenarios, leaders were able to effectively communicate SDG 3 messaging. Leaders also identified priorities, indicators, and areas of concern that affected the community in general – which would be essential to questionnaire formulation.
Stage 3: Questionnaire Design	The leaders formulated a draft questionnaire using the agreed upon SDG 3 target and indicators. Through building these questionnaires, they learned how to tailor questions to respondent needs, and how best to ask and fill a questionnaire. Once the questionnaire was clear and sound, it was finalized and printed to distribute to all households in Lanet-Umoja.
Stage 4: Data Collection	The leaders chose to print paper questionnaires due to previous technical challenges using cell phones. Time efficiency was also a factor, and paper questionnaires were shown to be faster than sharing and relaying phones between leaders.
Stage 5: Data Analysis	Once collected on paper, the data was digitized, uploaded to a database, and analysed to create stories that detailed different health considerations of the community. For example, the data included the number of people that visited a health center in the previous 6 months and the main reasons for their visit, among other questions. Later, the data and takeaways from analysis were presented to the community. The Chief also organized a Data Fair, inviting the community, key government stakeholders, and CBOs to participate. The data pointed out that Lanet-Umoja's main challenge was that no health facility close to the community provided services for common ailments. There was also a lack of postnatal services closeby, increasing expenses and security concerns for mothers having to travel at night for healthcare.

Driving community conversations on SDG 3 and identifying priority health and data needs

Key lessons learned include:

- **Constructive relationships** between leaders and community members are key to the success of citizen-generated data projects. We reviewed how often they meet, what tools are used to communicate, attendance of meetings called by administrators, and citizen opinion. A main reason why Lanet-Umoja was successful was because of strong leadership. When citizens do not trust the administrator, the project cannot succeed – which was the case in two other locations.
- An **active and vibrant champion/owner** motivates and encourages the community to follow through with planned activities. The champion can be an administrator or a community member who has earned community respect and whose voice speaks for the majority.
- **A community with a common goal** is cohesive and often has a better understanding of the individuals within it. Where the community organizes itself to tackle common issues, it is more likely to succeed in undertaking citizen-generated data oriented programs.

The community was able to use data to strengthen its situational awareness, gathering information to prioritize community health issues. They noted that some disease threats could also be solved by community mobilization; e.g. clearing shrubs and long grass to reduce mosquito breeding, and burning refuse to reduce water-borne diseases. However, Lanet-Umoja's **biggest win was when the community summoned government officials and used the data to request a health centre**. They produced a signed memorandum that activated the government requirements. The government heard the request and built a health center in the community.[15]

Health Center in Murunyu Sub-Location, Lanet - Umoja Location, Dundori Sub County, Nakuru County

[15] Access the health center video blog here: https://www.youtube.com/watch?v=4CPkzkbJBhQ&t=60s; See the full chronology of the project, the lessons learned, and find all tools used at https://datalocal.info.

E. Emergency Procurement during Covid-19: Lessons Learned from Purchasing in Crisis

Emily Fung, Development Gateway; Warren Smith, Global Digital Marketplace Programme

No national or subnational government in the world could have predicted, or was prepared to handle, the severity of the Covid-19 pandemic. Development Gateway built recommendations and an indicator framework to support governments in understanding how to improve emergency procurement processes.

Covid-19 has brought the global economy to a standstill – making it apparent where societies have been unprepared to face such a devastating global pandemic. It has highlighted public procurement as an imperative area for coordination, innovation, and emergency preparedness.

Further, the global emergency highlights how national and subnational governments would benefit from closer collaboration with one another, and has presented the necessity – and the opportunity – to do so.

Government Emergency Procurement during Covid-19: Lessons Learned from Purchasing in Crisis

Report and Indicator Framework for Emergency Procurement

During the first half of 2020, Development Gateway and the Global Digital Marketplace Programme[16] partnered to identify ways to improve government digital procurement effectiveness, efficiency, and transparency. Discovery research and analysis with national and subnational government stakeholders took place on a range of procurement-related issues, at a time when Covid-19 outbreaks escalated globally.

Understanding national and subnational procurement processes during Covid-19 presented an opportunity for DG to include in its work a focus on developing recommendations and an Indicator Framework for stronger emergency procurement. We created these tools to support Global Digital Marketplace Programme priority countries identify where to strengthen procurement response during emergencies, sustain government services, and support the economy during and post-crisis. While no silver bullets exist during such scenarios, DG and Global Digital Marketplace Programme found that there are key policies, processes, and tools that government procurement can put in place to ensure the ability to:

[16] The Global Digital Marketplace Programme aims to share lessons learned from the UK Government Digital Service journey to reform ICT public procurement. The programme is focused in Malaysia, Indonesia, South Africa, Mexico, and Colombia.

1. **Procure emergency supplies fast** by identifying procurement needs and priorities, aggregating demand and distribution, quickly identifying reliable suppliers, and using digital tools for procurement;
2. **Ensure quality supplies and services** by taking concrete steps to reduce fraud, and using open data and analytics for accountability and transparency;
3. **Ensure service delivery and sustain the economy** by protecting all government supply chains, by providing support to already contracted suppliers, and digitising existing government services.

Government purchasing has been key in response to, and in recovery from, emergency situations. Governments around the world have been forced to work across bureaucratic levels, innovating during the crisis to ensure health supplies reached those who needed them most. For example, without a central purchasing hub or coordinated budget planning, state-level buyers in the United States initially competed against one another to secure personal protective equipment (PPE) for healthcare workers. City, state, and national-level governments had to act quickly to aggregate supply and demand, remedy pain points, and avoid vying for the same limited set of resources. Further, private hospitals were also vying for materials, adding an additional level of competition.

When the pandemic ravaged New York City, instead of competing and individually vying for scarce resources, New York State and five neighboring states formed a partnership to aggregate demand and distribution channels under a single, bulk purchasing order to improve coordination, efficiency, and value-for-money.

Additionally, a majority of worldwide government services and procurement transactions – especially at the state level – are facilitated via face-to-face or paper-based systems. Though many governments are not able to fully digitize their systems, we have observed many examples of creative solutions that assist governments in deploying a faster, more equitable pandemic response.

We found that these solutions also increase cost-savings and streamline the delivery of essential goods and services, each of which can serve as an example for others:

Demand Aggregation Tools	Supply Aggregation Tools	Digital Marketplaces	Open Data Platforms
Colombia expanded its open contracting portal, Colombia Compra Eficiente, to	In South Africa, the state of KwaZulu-Natal created its own Covid-19 Supplier Database for	Amazon Business created Covid-19 supply store for frontline medical personnel	Ecuador developed a public procurement search tool and called on the public to help

centralize procurement and aggregate demand	its Public Health Department	and emergency response organizations	monitor for corruption, including a training video on how to report suspicious activity
Malaysian civil society launched kitajagakita.com, a platform which matches people who want to help with people who need help	The UK government launched a webpage where UK businesses could offer coronavirus support	Gov shop, part of the US Task Force on the Covid-19 supply chain, maintains a registry of vetted suppliers	Moldova launched a Covid-19 procurement dashboard to allow the public to monitor pandemic spending

Launched in September 2020, DG and Global Digital Marketplace Programme's public-facing **Emergency Procurement: Lessons Learned from Covid-19 Report** and **Indicator Framework**[17] are tools for national and subnational governments to measure their progress on emergency procurement. The indicators provide a scale of practices, policies, and tools that governments might employ. The indicators are also attached to numerical values that define good, better, and best practices. After using the tool to identify where they stand in regards to crisis procurement readiness, governments can plan how they might move up the scale for each indicator. Countries should tailor tool usage according to their unique government structures and policies, and can adapt the framework as they see fit.

In addition to putting together the report and framework, DG also worked with Global Digital Marketplace Programme regional and country offices to create tailored country briefs for Malaysia, Indonesia, South Africa, Mexico, and Colombia. We have taken the first step to help governments identify where they stand to support the selection of priority areas for procurement reform to address their specific challenges.

DG's findings on emergency procurement are also being integrated into the UK GDS Digital Buying Guide, a set of guidance to buy digital and technology products and services in a fair, open and effective way. The Buying Guide also includes associated case studies from global buyers and procurement professionals. Global Digital Marketplace Programme is making a concerted effort to bring together comprehensive sets of indicators to strengthen Covid-19 response, including (a.) the DG-built emergency procurement indicators and (b.) a set of indicators relating to gender equality and social inclusion, which are sponsored by the UN International Telecommunication Union (ITU) 'United for Smart Sustainable Cities' (U4SSC) initiative.

[17] Prompts Excel download.

"The pandemic has exposed system deficiencies that were already weakened due to corruption. User-centred, design-led, data-driven and open approaches have never been so critical for public procurement globally. It's imperative that these approaches are mainstreamed to ensure global economies build back better, to be more resilient, equitable, inclusive, sustainable and competitive."

– Warren Smith, Global Digital Marketplace Programme Director

We look forward to hearing from more governments, partners, and civil society on how they have used findings from the report, or used the indicator framework, to contextualize their Covid-19 procurement strategies, and/or in their response to other emergencies.

II. Measure at Community Scale

The global community must continue experimenting with creative ways to measure the impact of subnational data use. Quantifiable data are cornerstones of program design and accountability, yet traditional tools are inadequate for measuring the impact of subnational data programs.

A. Defining subnational data use indicators

Samhir Vasdev, IREX

At local levels, data are often made available and utilized in organic, unstructured, analog, and under-reported ways. We need to experiment with creative ways to meaningfully measure subnational data use.

Governments, community organizations, and donors are coalescing around the need to foster more effective use of data to inform decision making. To support this objective, an abundance of efforts have been undertaken to amplify the supply of better quality data, evidenced through numerous open data initiatives (which publish statistics for other actors like academics or journalists to reference) or statistical capacity-building projects. For tools like open data portals, reviewing digital analytics can be used to understand whether and how that information is being used.[18] But what about subnational areas or other contexts where digital data platforms are less prevalent, and where concerted investments into statistical capacity are low or non-existent? What does it mean to "use" data, and how does that relate to real-world impact actually like progress towards the Sustainable Development Goals? What are other ways to measure the impact of our investments into subnational data use?

Data Zetu, a project to support data use in local communities across Tanzania, confronted these questions when designing and implementing its monitoring, evaluating, and learning (MEL) plan.[19] The project has a wide-ranging set of interventions, ranging from helping local community and government organizations

[18] See for example https://opendatawatch.com/publications/measuring-data-use/.
[19] Data Zetu is part of the Data Collaboratives for Local Impact (DCLI) program, funded by the Millennium Challenge Corporation (MCC) and President's Emergency Plan for AIDS Relief (PEPFAR). Learn more at www.datazetu.or.tz.

use digital data collection tools, to providing local actors with data literacy training, to producing "data murals" and television shows to make health information accessible and relevant to youth. These activities were informed by an equally diverse set of outcomes, ranging from increasing "positive experiences with data" to improved "accessibility of data to non-specialists".[20]

This diversity challenged the Data Zetu team to develop a coherent structure to measure and communicate the impact of these efforts. To measure progress towards these indicators, Data Zetu created new indicators, including:

- Improvements in how project participants perceive the "value of data" in their day-to-day work;
- Increase in the frequency of "data-informed decisions" made by project participants.

Defining methods to measure these indicators was complex. For example, to understand how participant's "perceived value" of data changed over time, they were asked to respond to three prompts indicating whether they use data to set their goals, to make decisions, and to inform their day-to-day work. By gauging their response before and after an intervention, the Data Zetu team was able to detect any improvements in their perceived value of data.

Clearly, these indicators and measurement techniques are experimental and can be improved. But more importantly, before long, it became clear that measuring subnational data use is about much more than measuring how people engage with or value data. These are simply intermediate outcomes that are only meaningful if improvements about data lead to improvements in the real world: that is, better service delivery, more effective advocacy, etc.

Data Zetu's efforts to measure subnational data use provided an opportunity to refine the way we as the broader "data for development" community can evaluate our work.

Key recommendations from the Data Zetu experience include:

- Actors and implementers should coalesce around similar outcomes and indicators for measuring data use. Projects must coordinate with each other to share and iterate indicators and techniques for measuring, for example, how to track changes in perceptions about the value of data among project participants. This will facilitate broader, ecosystem-level evaluations of our collective efforts.

[20] The full list of outcomes, specific indicators used by the Data Zetu project, and the project's impact data tracking progress towards those indicators are published openly online at www.datazetu.or.tz/impact/indicators.

- A two-tiered system of measuring subnational data use is necessary. The first level could measure data-specific outcomes, such as those guiding the Data Zetu project. The second level would evaluate real-world impact (likely by sector) resulting from improved decisions as a result of the first level being achieved. For instance: more at-risk youth tested for HIV, or new legislation being introduced based on evidence.

- Qualitative data is most useful to track real impact at the subnational level. Data Zetu's most successful efforts to track that second level of real-world impact were driven by qualitative data collection methods, including interviews and focus groups with beneficiaries held months after interventions. These methods are more time consuming and not as efficient or scalable as, for example, reviewing web traffic to online data portals, but they unveiled the most tangible stories of data being meaningfully used to affect and improve lives. Actors seeking to strengthen data use ecosystems must therefore be versed in qualitative data collection approaches and be prepared to devote meaningful resources to measuring subnational data use using these methods.

B. Connecting data to local development challenges

Jorge Florez, Global Integrity

Transparency alone does not guarantee accountability. Citizens and activists must further explore connections between data, policy, and collective action.

Substantial investments have been made in making public financial spending data more open around the world. Yet serious question marks remain about whether and how fiscal transparency helps citizens "follow the money," shape the use of public resources, and hold governments to account. **Transparency does not automatically translate into more accountability in the use of public resources, or into solutions for public service delivery challenges.** Initiatives primarily focused on opening up data risk paying insufficient attention to the institutional and political dynamics that are at the heart of the challenges citizens care about.

The Treasure Hunts methodology is a highly adaptable tool that structures the exploration of connections between data, policy, and collective action.[21]

Sector-agnostic and applicable across financial topics (revenues, budgets, contracts, results), the methodology can be tailored to support the needs of country-level partners.

Treasure Hunts have four steps:

1. **Problem Definition and Preparation**: Engage with key stakeholders to (i) identify a particular sectoral challenge; (ii) develop a shared understanding of that challenge; and (iii) assess the institutional and data environment around the challenge.

2. **User-led assessment**: Work with participants to explore whether and how they are able to use financial data to address the identified challenge. Throughout this step, clear evidence on users' capacities, data needs, and their understanding of the institutional and political landscape are also collected.

3. **Validation and reporting**: Collate and validate the findings from the user-led assessment. For instance, we aim to distinguish whether obstacles faced by participants were due to the

[21] See https://www.globalintegrity.org/impact-story/treasure-hunts/.

characteristics of the data, or gaps in participants' capacities. Throughout this step, we also distill actionable insights identified through the process.

4. **Planning and strategizing**: Finally, take lessons from Steps 1-3 and engage with country-level reformers to develop a strategy for supporting the use of financial data to address the prioritized challenge. This strategy should include (i) actions prioritized by participants, (ii) a framework for collecting evidence, in order to trace progress towards addressing the challenge, and (iii) include structured learning and adaptation processes to help local reformers better navigate and shape context dynamics.

The Treasure Hunts methodology was developed and tested in Mexico – used subnationally across the states of Durango and Veracruz, and at the national level[22] – and has since been scaled with civil society organizations in Nairobi and New York City.

Using the Treasure Hunts approach has helped local partners better understand how data are produced, and has helped them advocate for more effective data use to improve government planning, procurement monitoring, and the delivery of public works and social programs.

[22] See https://www.globalintegrity.org/impact-story/durango/ ; https://www.globalintegrity.org/2016/05/13/following-money-mexican-road-trip/; https://www.globalintegrity.org/impact-story/engaging-citizens-municipal-public-works-veracruz/.

C. Measuring transparency and accountability for better outcomes

Courtney Tolmie, Results for Development

Can greater transparency and accountability improve service delivery, and contribute to better development outcomes? Measuring community empowerment and target response training are two innovative methods for capturing subnational data.

Recent decades have seen vast expansions of public health services across low- and middle-income countries. However, service quality is often lacking, limiting the ultimate potential for improved health outcomes. Transparency and accountability (T/A) techniques – such as social audits, public expenditure tracking surveys, citizen report cards, absenteeism studies, and community scorecards – are increasingly seen as one potential solution to these problems.

A major opportunity exists to develop a more nuanced and action-oriented understanding of whether and in what context T/A interventions work; and to provide evidence that can be useful both to academics and practitioners aiming to improve health, accountability, and citizen participation.[23]

Measuring transparency and accountability for better outcomes

The T4D program

The Transparency for Development (T4D) program – a mixed-method, multi-country impact evaluation – seeks to understand:[24]

- whether community-led transparency and accountability interventions can improve maternal and newborn health (MNCH) outcomes;
- in what contexts these improvements are possible; and
- through what mechanisms MNCH improvements are realized.

The data collection for T4D is primarily designed to contribute to a large-scale impact evaluation.[25] However, the program also involves data collection at the hyper-local (community) level. These data were used to

[23] See https://www.r4d.org/projects/transparency-development-transparency-accountability-interventions-improve-health-outcomes/.
[24] See https://ash.harvard.edu/transparency-development.
[25] See https://ash.harvard.edu/evaluation.

monitor two outcomes critical to enabling local accountability, but are traditionally challenging to measure: individual empowerment and target response to community action.

Our theory of change for T4D is built in part on the assumption that:

- Community members have to be empowered to actively participate in a program that does not provide additional resources to participants; and
- Community participation is essential to see changes in health service quality, utilization, and ultimate outcomes.

As such, part of our local data collection strategy is to measure the empowerment of individual community members before and after their involvement in the T4D intervention, through an adapted community scorecard.

To achieve this measurement, we developed a short survey that included three core questions.

1. The first question measured self-perception of empowerment. It asked whether the participant felt they had the power to make important decisions and take actions that improve life in the village. This was measured using a likert scale (a response with standardized answers ranging from most- to least-likely).
2. The second question used a series of three vignettes to measure perceptions of what level of ability a fictional person had to improve life in the village. The vignettes highlighted a fictional service delivery problem in a sector other than health; described an action (or lack thereof) a fictional community member sought to take; and provided a response (or lack thereof) from the target of that action. This question also used a likert scale.
3. Finally, to provide a more objective measure of empowerment and self-efficacy, the third question asked the interviewee which of the second question's three vignettes best reflected their ability to improve life in the village.

By collecting and analyzing this data before and after the completion of the T4D intervention, we are able to estimate changes in empowerment of those involved in the program.

> A second challenge we faced was in assessing target response to community action: *Will government officials, service providers, and other leaders respond to community demands for policy or behavior change?*

While we hope to see positive and statistically significant impacts on health outcomes as a result of the T4D intervention, a non-constructive response from a target decision-maker could limit T4D impact.

To assess the extent to which this response breakdown occurs, we developed an action tracing tool built on several different data collection tools:

- First, we used the social action plans developed by communities and collected by civil society facilitators. These mapped out plans by community participants for overcoming a problem with health service delivery, policy, or behavior.
- Next, we developed a set of simple questions that researchers could use to trace whether each step occurred, and capture the response to that step.
- Tracing questions were then asked of several individuals, including community participants; civil society facilitators; the target of the action; and, if appropriate, external but related parties to provide a different viewpoint.
- Finally, we developed a triangulated map of how community actions and target responses unfolded.

While this data collection method is relatively resource-intensive, we can envision building this tracing into a more consolidated tool to assess where and how T/A responses unfold or bottleneck. As the T4D program continues, we look forward to sharing more results and lessons learned.[26]

[26] See the Results for Development T4D one-pager here: https://www.r4d.org/resources/transparency-development-initiative/

D. Measuring subnational data use

Annie Kilroy, Development Gateway, and Sydney Garfinkel, Millennium Challenge Corporation

National M&E systems depend on a reliable supply of health data at local service delivery level; however, many data use interventions are built to improve national M&E systems. Evidence generated on successful data use is typically based on national, rather than local, needs. Therefore, local decision makers often lack data relevant to their constituencies. The local data that do exist are often focused more on federal reporting than on community decision making.

In response to this gap between local and national data collection, the MCC-PEPFAR Data Collaboratives for Local Impact (DCLI) partnership and the Des Chiffres et des Jeunes (DCDJ) initiative in Côte d'Ivoire **seek to carry out locally-relevant data use interventions**. A primary component of the initiative, the DCDJ Data Fellows, focuses on using data to help local communities address HIV/AIDS, gender, and economic development challenges. Their assignment is clear: **leverage data use at local facilities to both understand and resolve community health problems related to HIV/AIDS.**

Instead of generic interventions, Fellows worked within their communities to identify specific problems and design custom solutions.

For example, one Fellow identified slow data processing times that meant that HIV/AIDS prevalence data was six or nine months old by the time it was analyzed. Now that a new tool has automated the process, data is from the previous one or two months.

Data Fellows' work is driven by the specific needs of each facility and community, meaning that:

- Each facility has different data collection and management practices, with varying degrees of availability and quality; and
- Not all facilities have the same access to the internet, a critical component for supporting data use.

DCDJ set out to generate learning and evidence on our unique, localized approach to data use. Part one of the challenge to measure the Fellowship's impact was to develop twelve indicators of data use at each placement site.[27] Part two was figuring out how to assess impacts specific to each community or health facility.

> Because placement sites can include a well-funded university or research hospital in Abidjan or a rural health clinic, one M&E framework could not reasonably evaluate the impact of data use interventions, since the types of facilities have varying baseline capacities.

Consider an indicator that seeks to assess the change in perceived value of data as a proxy measure for data use. A university likely employs staff familiar with why health data is important, while a rural health outpost might not even have access to data at all. After working with a DCDJ Data Fellow, one can reasonably expect that a change in the perceived value of data at a research hospital would be much smaller than the change in a rural health outpost. However, we cannot *assume* that to be true. Given these different facilities, how could we monitor the real impact of the DCDJ Fellowship as a whole if every intervention is context-specific, and every facility has varying data use capabilities?

Our Methodology: Measure from where they are, not where you want them to be.

Instead of issuing identical surveys to each facility and trying to measure each data use indicator uniformly, the framework would be tailored to accommodate each facility's different "starting lines" for data use. Facilities were categorized into three tiers of capacity for data use:

Tier	Metric, Assumption, and Adjustment to Measuring Impact
Tier 1: High Capacity	*Metric*: do patients have access to their own data (upon request)? *Assumption*: the facility has sufficient data infrastructure and management practices to support patients accessing their own health data *Adjustment to Measuring Impact*: lower weights for all data for decision-making indicators in lower-capacity facilities, and higher weights in high-capacity facilities
Tier 2: Medium Capacity	*Metric*: patients do not have access to their own data, but data collected by the medical staff are recorded daily

[27] Our data use survey and indicators were informed by learnings from the Results Data Initiative, and MEASURE Evaluation's Performance of Routine Information System Management Series (PRISM) framework and their Assessing Barriers to Data Demand and Use in the Health Sector Toolkit.

	Assumption: data management practices are not sufficient enough for patients to access their own health data, but some critical infrastructure and management practices are in place *Adjustment to Measuring Impact*: higher weights for data management, analysis, and use; lower weights for data collection
Tier 3: Low Capacity	*Metric*: patients do not have access to their own data. Patient data are digitized by a dedicated staff once a month, at most *Assumption*: if data are only being uploaded once a month, the facility does not have sufficient data infrastructure *Adjustment to Measuring Impact*: higher weights for data availability and collection; lower weights for data use culture and data use capacity

After the 46 PEPFAR priority facilities were divided into three tiers, each facility was randomly assigned to a control or experimental group. Those randomly selected into the experimental group received a DCDJ Data Fellow. By identifying categorically similar sites and randomly assigning treatment to half of the sample size, this tiered approach to randomization ensures that incremental improvements in data use can be captured, regardless of a site's resources, infrastructure, or management processes.

The program has just completed the first round of data collection and analysis for the baseline survey. Data Fellows are helping to compile, clean, and analyze the survey data as an extension of their training. This also means that Fellows will have insights into their own facilities, to better target and brainstorm data use interventions to meet the needs and gaps of their communities. These interventions are meant to be custom products and trainings that address individual sites' constraints to using health data for improved community health outcomes.

DCLI and PEPFAR will be able to compare baseline and endline scores for each of the twelve indicators of data use to learn how the presence of an active Data Fellow influences the local health data ecosystem.

III. Build Local Skills

Data transparency efforts should be paired with interventions that increase awareness of the value of data, and with skills needed to transform data into useful information.

A. Designing for the local user

Kathryn Alexander, Development Gateway

We know that feedback is a great idea. So why isn't it more common in practice? By "opening the door" to stakeholder feedback and iteration throughout the tool design process, we increased opportunities for dialogue between different stakeholders in Tanzania.

In Tanzania, like in many countries, responsibility for health planning and service delivery has been devolved to the subnational level. Yet health management information systems like DHIS2 aggregate data at the district level and above. How can we facilitate the development of decision-support products that meet the information needs of facility and community leaders?

Through its Results Data Initiative (RDI), supported by the Bill & Melinda Gates Foundation, Development Gateway (DG) – with partners DataVision International and the Results for Development Institute – took a Problem-Driven Iterative Adaptation (PDIA) approach to addressing the data use gap at local level by utilizing the co-design approach detailed in this case study.[28] By leveraging collective knowledge, capacity, and data from across ministries, DG was able to design a more holistic, needs-based solution to visualizing relevant health data for facility-level and community stakeholders.

In June 2017, RDI convened its first cross-ministerial co-design workshop, chaired by the President's Office of Regional Administration and Local Government (PORALG).[29] This workshop focused on identifying where the opportunities are for making better decisions in Tanzania's health sector.

[28] See more information on RDI here: https://www.developmentgateway.org/expertise/results.
[29] See more information: https://www.developmentgateway.org/blog/aligning-technical-solutions-institutional-constraints-lessons-tanzania.

Designing for the local user

Determining Project Focus

Through facilitated discussions among senior-level decision-makers and their technical staff, two key priorities emerged that defined the focus of the project:

- How do we best present relevant *facility*- and *ward-level health data* to improve local understanding of the information being collected?, and
- How do we improve local capacity to prioritize and respond to critical health issues?

Because workshop participants wanted to develop one flexible tool that could be used across the target audiences and decisions identified, we designed monthly, quarterly, and annual report mockups. These reports could be accessed anytime from an online dashboard, or generated as two-page printouts in preparation for routine supervisory visits.

After reviewing potential data sources that could meet these decision-making needs, we designed a series of initial mockups for simple health data reports. Our goal was that these reports would be useful for facility- and community-level users during planning meetings. We designed mockups using simulated data on prevalent diseases, human resource shortages, and common causes of death at both facility and ward levels.

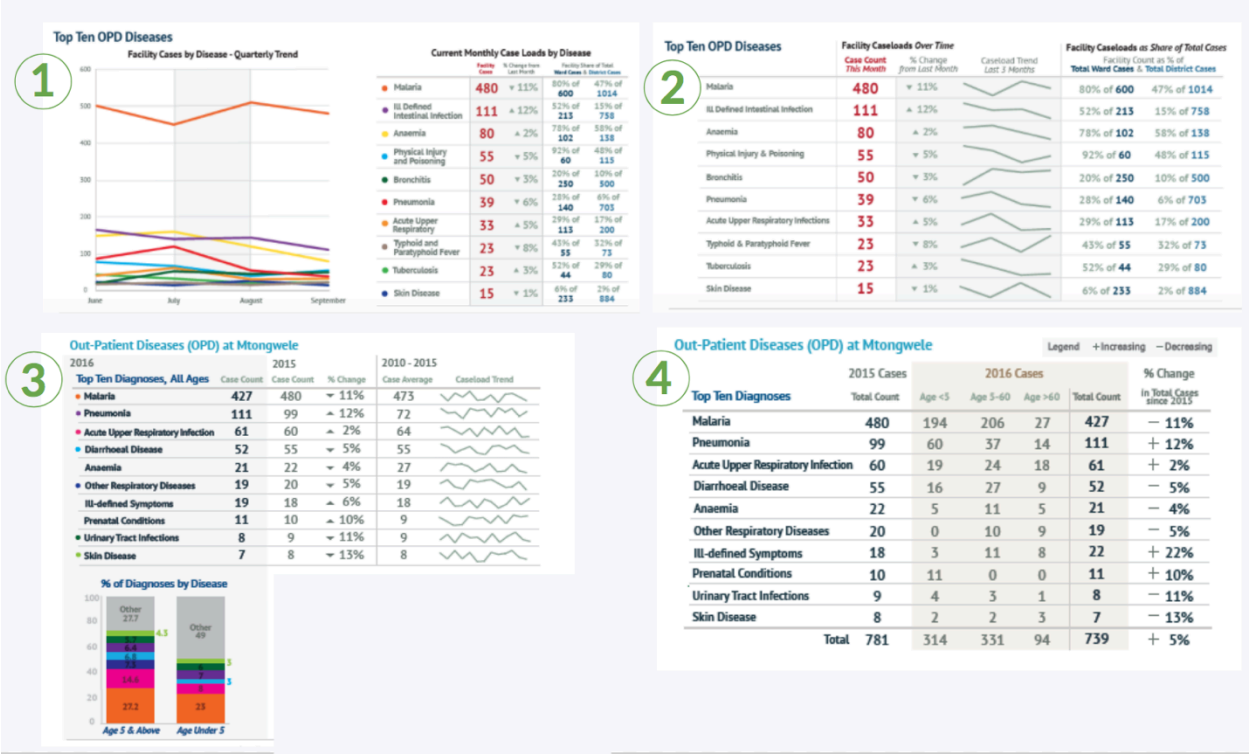
To avoid creating "just another data tool" that would fade out of use, we iterated on our initial designs several times. In November 2017, RDI reconvened the stakeholders in a second co-design workshop to present tool designs for feedback.[30] This next iteration of mockup designs were then taken to subnational levels for usability testing, to better understand the analytical capacity, IT constraints, and specific local monitoring/planning decisions made by our seven target user groups across district (Council Health Management Team); community (Ward Development Committee, Ward Executive Officer, Village Executive Officer); and facility (Health Facility Governing Committee, Facility In-Charge, Health Facility Management Team) levels.

A team of officials from PORALG and the Ministry of Health, Community Development, Gender, Elderly, and Children (MoHCDGEC) conducted the user testing in a mix of urban and rural councils in Tanga, Morogoro,

[30] See https://www.developmentgateway.org/blog/define-co-design-and-repeat-putting-usability-testing-test-tanzania.

and Mbeya regions. This local usability testing provided critical feedback on the difficulty of interpreting trend data and comparing performance across facilities, and resulted in significant design changes. **Most notably, in the final mockups, line charts, bar graphs, and benchmarked values were replaced with simple tables and percent change calculations**.

By iterating these working designs based on feedback from facility, community, and national government-level future users before beginning dashboard development, **we were able to ensure that the final user interface requirements represented the actual information needs of the target user groups.** The final dashboard was developed based on the DHIS2 data made available to DG; and handover and IT training for PORALG staff was completed in January 2019.[31]



Iteration of visualizations for out-patient disease data: (1) and (2) from the initial monthly facility report mockups presented at the second co-design workshop in November 2017; (3) from the annual facility report tested on users in the field in December 2017; (4) from the final annual facility report that informed dashboard development.

As a nonprofit with two decades of experience in data and digital for international development, DG is no stranger to conducting assessments and translating user needs into technical requirements. But this hyper-local focus required us to **question our own assumptions** about user design principles. The process

[31] Access the demo of the Tanzania Health Data dashboard here: https://rdi-tanzania.dgstg.org/index.html#/en.

outlined above is time and budget intensive, but we believe that the following principles are generalizable to others looking to promote subnational data use:

- **Lay the groundwork for understanding institutional constraints to data-driven decision-making.** DG had previously conducted more than 140 in-depth qualitative interviews with data producers and users across Tanzania's health and agriculture sectors through the first phase of RDI.[32] Technical solutions should be aligned with the ability of planners or implementers to act on evidence and information, and this requires first understanding the constraints to meaningful data use: where do (i) inflection points for influence exist (e.g., budget cycles, new policies, evaluations) and (ii) policymakers agree that data/evidence are needed to inform these decisions?

- **Collaboration and iteration is critical to the co-design process.** Engage data users in the development of a tool like a dashboard to ensure its relevance, and leave plenty of time for iteration. For example, the government officials who participated in the co-design workshops were able to see how their feedback directly informed the development of the dashboard. We believe that investing this time upfront is crucial, and pays off substantially in terms of building buy-in for, and ultimately sustained use of, a truly co-designed tool.

- **Remain flexible to participant needs and priorities when diving into the uncertain space between PDIA theory and practice.** We learned a lot about our own ability to go into a project without any defined outputs – a scary concept for both project managers and government counterparts! As implementers, we can and should take on the risks of trying out (and potentially failing at) using new methodologies.

- **Question your assumptions on what data visualizations are intuitive.** Interpreting a chart or map may be difficult for local-level users. Instead of relying on national-level officials to know what visualizations are most appropriate, get out to the field and test designs on your target users. Ensure they are able to draw conclusions like high or low performance and indicate how this would inform specific actions or interventions. Identify additional opportunities or challenges to data use, capture their recommendations for design changes, and iterate again.

[32] See from Phase I of RDI – "Results Data Initiative: Findings from Tanzania": https://www.developmentgateway.org/sites/default/files/2017-02/RDI-Tanzania.pdf.

B. Subnational data in action: Improving data access and use in Malawi

Andrea Fletcher, Cooper/Smith

Taking a data-based approach to increasing data use can support greater uptake and sustainability.

Getting the right data, in the right hands, at the right time to make critical decisions on health treatment, resources, and program performance has been a consistent challenge in Malawi. National data systems are fragmented and incomplete, and data quality is often cited as a key challenge to data use.

The Kuunika Data for Action Project aims to establish a strong base of high-quality, routinely-available data and an ingrained culture of data use among technicians and policymakers in the health sector, using HIV/AIDS as a first use case.[33] Kuunika is a 4-year program funded by the Bill & Melinda Gates Foundation (BMGF) and implemented through the Government of Malawi (GoM) and partners.

As part of the Kuunika project, Cooper/Smith conducted (i) three assessments, (ii) a data user study, (iii) a discrete choice experiment, and (iv) a national mHealth landscape analysis.

From the assessments and data use study, we found that key health data users – doctors, nurses, and health workers at subnational levels – identified data visualization technology as a key opportunity for improving the national health system. We also found that 65% of Malawian nurses and clinicians had smartphones – 85% if we include the population of district staff.[34]

Following the data use study, we conducted a discrete choice experiment to better understand what would incentivize healthcare workers to improve their use of data in decision-making.[35] We found that individuals preferred viewing data through a smart phone application 1.5 times more than other options – even when individuals had to provide their own smartphones and pay their own data costs.

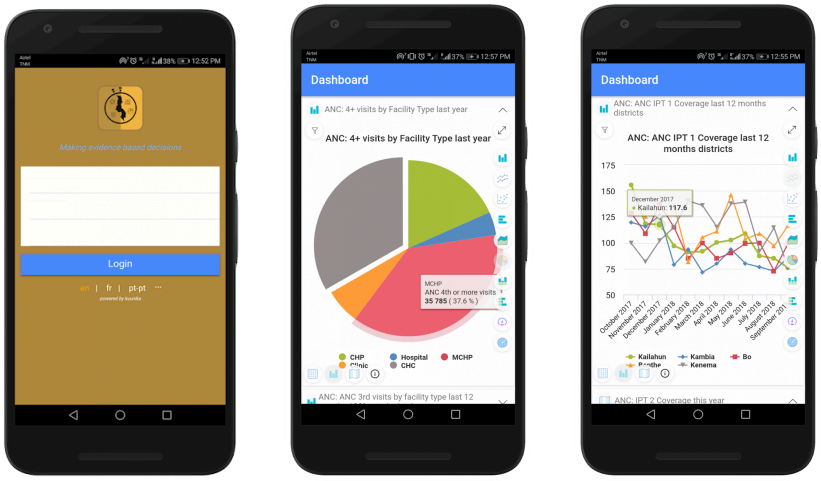
Finally, at the request of the Ministry of Health and Population and the National mHealth Working Group, we completed a national mHealth ecosystem analysis.[36] One key finding was that the mHealth ecosystem faces high hardware, software development, and training costs – increasing barriers to entry for new applications. We also found few DHIS2-compatible applications, and no visualization apps for DHIS2 data.

[33] See the Kuunika Data for Action Project: https://www.kuunika.org.
[34] A full description of the 2016 study methods, including examples of instruments and key findings, can be found in this presentation. Data dashboards and tools are available on this site.
[35] A description of the study can be found in this ebook.
[36] The full Malawi mHealth Landscape Analysis is available online here. Through a national registration process, 31 mobile applications were registered.

These analyses provided evidence that there was a strong, unmet demand for mHealth visualization tools by subnational health data users. Based on this need, we introduced a health information management system (HMIS) application that would allow healthcare workers across five districts to visualize health data, in order to test whether such an application would lead to increased engagement. We also created new dashboards in DHIS2 based on District Implementation Planning (DIP) meetings' needs, findings from our data user study, and consultations with departments at the Ministry of Health and Population.

Subnational data in action: Improving data access and use in Malawi

The HMIS Mobile Application



The HMIS mobile application was built by adopting the Government of Tanzania's DHIS2 interactive dashboard application. As a result, the application took less than 2 months to develop and is openly available on the app store to download. Anyone with Malawi DHIS2 login credentials is able to view the data. We also set up a support team to provide phone and WhatsApp support, and help create logins for healthcare workers.

The implementation team then developed a data use campaign: a communications and outreach effort geared at opening access to the HMIS mobile app. As part of this campaign, a team of two consultants visits each facility to help download the application onto mobile phones, and provide a brief orientation to the

mobile application. Facility staff are also walked through case studies on how other healthcare workers are using data for decision-making.[37]

In Zomba – the first "launch" district – we reached 420 participants across 42 facilities, achieving 229 downloads of the mobile application. Over fifty percent of facility staff were able to download the application, log in, and view data.[38] Sixty percent of application users reported not having access to a computer – indicating that the application succeeded in increasing access to health data.

To date, the application has been rolled out across 3 districts (Zomba, Blantyre, and Thyolo). By the end of March 2019, we will have reached two more districts, Mangochi, and Lilongwe. We are also conducting the data use campaign with all departments in the Ministry of Health and Population, and rolling it out to partners and district staff beyond these 5 districts.

Anyone with a smartphone can download the application, and anyone with a DHIS2 account can log in. As a result, there has also been "organic" uptake beyond the data use campaign.

For example, at one recent facility supervision visit, the clinician-in-charge was not present during the data use campaign. However, the facility staff was later able to help them download and become familiar with using the application.

Using Google Analytics, we are able to track new and returning users, the amount of time spent on the application and visualizations, and other key indicators. This allows us to better understand profiles of who uses the application, and what those users are most interested in. Because we have expressly targeted subnational data users, these analytics are helping us apply adaptive learning techniques to improve the usefulness of the application.

Through initial assessment research, we have been better able to understand the data for decision-making needs of our intended users. By taking an iterative, analytical approach to rolling out the platform nationally, we are able to further understand data use – by tracking which data users are viewing, and how users are interacting with the application.

[37] You can learn more about the campaign and application on the Kuunika blog.
[38] Note: Several users were unable to download the application due to smartphone specifications.

C. DREAMS South Africa dashboards for improved HIV outcomes

Manyobvo Machipanda, Lipontseng Matsaseng, Hilda Manzana, JSI Research & Training Institute, Inc.

Tailoring technical solutions to the needs and constraints of national and subnational actors supports sustainable data use; the more frequent review and adaptation of health implementation strategies; and ultimately better service delivery.

Collecting and reporting high-quality data is a key strategy for reducing the incidence of HIV infections in adolescent girls and young women (AGYW). In South Africa, government and implementing partner access to these data was severely limited: key stakeholders could not secure timely national health information system data.

As a partner on the Determined, Resilient, Empowered, AIDS-Free, Mentored and Safe (DREAMS) Core Package of Interventions activity, JSI Research & Training Institute, Inc. (JSI) sought to address this need. JSI developed dashboards to extract and visualize national health data to meet the needs of key stakeholders, to drive focused analysis and action for improving AGYW services at the sub-national level.

DREAMS South Africa dashboards for improved HIV outcomes

Determined, Resilient, Empowered, AIDS-Free, Mentored and Safe (DREAMS)

DREAMS is a two-year global initiative funded by the United States President's Emergency Plan for AIDS Relief (PEPFAR) to reduce new HIV infections and teenage pregnancies in AGYW aged 10-24 years.[39] In South Africa, DREAMS is implemented in 19 sub-districts in two provinces, which were selected based on population size, disease burden and need and the guidance of provincial governments. To monitor the DREAMS interventions, sub-district, district, and provincial DREAMS management teams utilized routine data to discuss shortcomings in implementation with their district support partners and to take corrective action.

Through the MEASURE Evaluation project, JSI supported DREAMS stakeholders and partners in monitoring, evaluation and reporting for the period 2016-2018. In order to improve data use in planning implementation

[39] The DREAMS Partnership: https://www.pepfar.gov/partnerships/ppp/dreams/.

and strategic decision-making, MEASURE Evaluation Strategic Information for South Africa (MEval-SIFSA) developed a Data Sharing Protocol (DSP) and a customised Data Analysis Plan (DAP).[40] The DSP streamlined data sharing and data review processes amongst stakeholders, improving the effectiveness and efficiency of monitoring. To integrate data from multi-sectoral stakeholders in one monitoring tool, JSI developed the DREAMS Integrated Monitoring and Evaluation System (DIMES). The data in DIMES was used to monitor the implementation of the DREAMS Initiative in South Africa.

The DAP strategy included the development of dashboards that are updated monthly and were rolled out across stakeholders at provincial, district, and sub-district levels. Dashboards are also accessible to program managers at the national level. JSI customized these data use tools based on data use requirements and resource availability at each level designing Microsoft Excel-based dashboards for use primarily at the sub-national level, and advanced Tableau interactive dashboards for the national level.

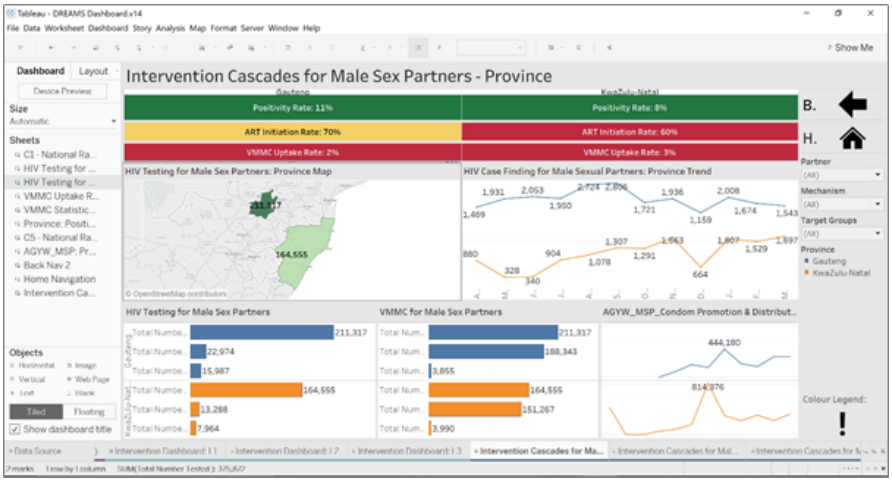
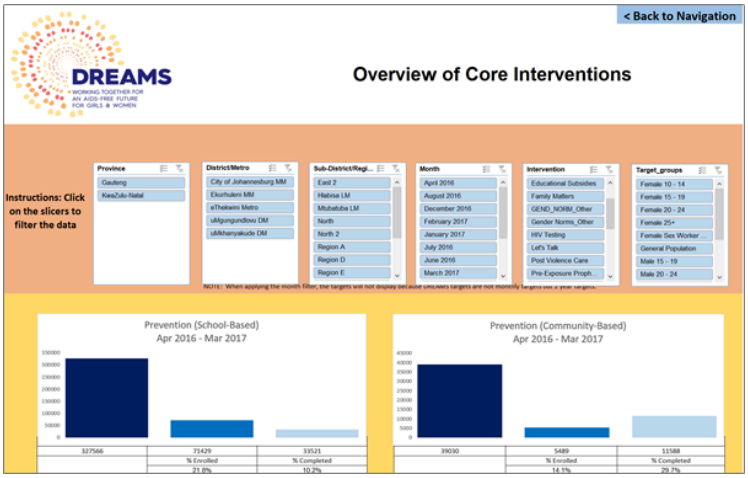


Tableau dashboards (pictured above) were developed for users who asked for more interactive data analysis, who had a more sophisticated understanding of the data structure, and who required a more granular look at the data. Excel-based dashboards (pictured below) were created to allow for easier distribution to users who did not require the additional functionality available in Tableau. Dissemination of these dashboards to different stakeholders/users was based on proficiency levels and availability of Tableau Reader or Excel.

The dashboards' data span geo-location levels, combine finer age disaggregations, and monitor results against targets. The more advanced Tableau dashboards allow for interactive menus, drilling down by location and age, manipulation of data and visualization of results through graphs and maps.

[40] See MEval-SIFSA: https://www.measureevaluation.org/sifsa.



The DREAMS dashboards significantly improved the capability of key partners, district-level government program managers, and USAID's South Africa Mission's ability to monitor DREAMS activities, and adapt and improve interventions and services. Prior to the development of these dashboards, key stakeholders did not have access to essential HIV program implementation data. Dashboard use increased the frequency of data review for assessing the effectiveness of implementation strategies to reduce gaps in service availability and coverage. Data use at subnational level improved following the rollout and adoption of the dashboards by the government at provincial, district, and local levels.

DREAMS South Africa dashboards for improved HIV outcomes

Findings from the Dashboards

After interacting with the dashboards, two implementing districts realized that their initial service-mapping was flawed. This led to the reallocation of implementing partners to another district, in order to address service saturation.

In a separate instance, dashboard-based data reviews revealed under-reporting against a gender-based violence indicator. MEval-SIFSA and USAID co-presented a two-day seminar in which they discussed this issue with stakeholders. As a result, the quality of reporting on this indicator improved by the next reporting period.

Finally – due to their effectiveness – the Government of South Africa adopted the dashboards to monitor She Conquers, the national program for adolescent girls and young women's health.[41]

[41] See *She Conquers* program: http://sheconquerssa.co.za.

Continuity, and sustained support and use of the dashboards, depends on adaptation of their design to users at different levels of the health system. To ensure buy-in, adoption, and use by the wide range of stakeholders, dashboard designers held regular and lively consultations in the planning and implementation phase, and refined the dashboards based on regular feedback to adapt them for different monitoring requirements.

Although funders and national-level government have embraced Tableau as a flexible tool for improving data visualization and use, two major barriers impede the use of Tableau at the sub-national level: cost of licences and technical capacity to use the platform. At the sub-national level, partners reported that Excel is a more accessible and effective tool for engaging with data.

The use of Tableau and Excel dashboards within an increased environment of discussion have signalled improved collaboration between sectors to enhance the successes around HIV and AIDS program implementation and performance. Sustainability of these dashboards have contributed to a more robust culture of data use in South Africa.

IV. Bridge Levels

Engaging with communities can help ensure a program is sustainable and fit-for-purpose. This buy-in is particularly important, as local institutions may have higher turnover rates – so a broader base of support can help create demand for sustaining a program. What are some ways to engage communities?

A. How we can make all voices count

Jorge Florez, Global Integrity

Listening to local communities, fostering peer learning, and greater programmatic flexibility can facilitate lasting governance reform.

Governance reform – one of the key enablers for better development outcomes – is inherently complex. There is an emerging consensus that local leadership and learning are key to successful governance reform efforts. Yet the evidence on whether and how adaptive approaches can facilitate lasting reform – and whether external actors such as the Open Government Partnership (OGP) can support such processes – remains limited.

The Learning to Make All Voices Count (L-MAVC) initiative, a program funded by Making All Voices Count and implemented by Global Integrity, explored the relationship between local ownership, learning, and reform.[42] Global Integrity worked with MAVC staff and six MAVC grantees in Tanzania, Kenya, South Africa, Indonesia, and the Philippines.[43]

[42] See *Making All Voices Count*: http://www.makingallvoicescount.org.
[43] See highlights of 6 grantees in 5 countries through *MAVC* at https://www.globalintegrity.org/resource/lmavc-video/.

Together, we designed and operationalized a participatory, learning-centered, adaptive program management methodology that aimed to:

- help grantees strengthen citizen engagement with governance and OGP processes; and
- generate evidence on how external actors might accelerate governance reforms.

To accomplish these goals, we facilitated the efforts of individual grantees to (i) iteratively analyze complex problems; (ii) develop and implement strategies for addressing those problems; (iii) gather and reflect on data on how things were going; and (iv) regularly make strategic course corrections. We also fostered a reflective peer learning community across all six grantee organizations, designing and leading 4 in-person learning workshops featuring grantees, MAVC staff, and others.

Over the 18 month program, five of the six grantees we worked with either achieved or made significant progress towards achieving their intended outcomes. This encompassed things as varied as:

- successfully supporting the implementation of e-government policy (Indonesia);
- driving out corrupt local politicians (Mbogwe, Tanzania); and
- developing subnational commitments, with participation from thousands of citizens, that were included in the National OGP Action Plan (Philippines).

Partners also emerged from the project with enhanced practical skills in areas such as power analysis; the development and use of complexity-aware monitoring, evaluation, and learning (MEL) systems; and adaptive management. In many cases, partners took forward skills developed during L-MAVC and applied them to other organizational processes and projects.

Over the course of this 18 month program, we also learned a significant amount – about how domestic and external actors can support citizen engagement, learning, and adaptation. These findings are particularly relevant for local practitioners; the OGP secretariat; and donors and multilateral institutions supporting governance reform.

- For practitioners, we found that listening to citizens; fostering a space for local participation in project design and implementation; and communicating frankly with donors about emerging challenges, lessons, and course corrections, is important for making progress towards lasting reform;
- For donors and multilateral institutions, we found that an emphasis on learning; operationalizing flexibility in projects and funding models; and reducing the prevalence of technical requests for proposals can contribute to greater local ownership and adaptation;

- For OGP, we found that greater learning and adaptation support, and more opportunities for structured peer learning, can further empower local OGP champions.

These lessons are relevant for others exploring whether and how adaptive approaches can add value to governance work.[44]

[44] See https://www.globalintegrity.org/wp-content/uploads/2018/11/MAVC_SynthesisReport.pdf.

B. You are the key to data use

Breese McIlvaine and Emily Carnahan, PATH

Better data collection, quality, and use can accelerate the achievement of health outcomes.

You are the key to data use

Oliver's Story

Long queues of mothers and anxious babies wind around a health facility in Tanzania. Once children are immunized, nurse-in-charge Oliver and her team work nights and weekends to complete reporting to the district. The tools she has to cover her catchment area's immunization needs are painstaking to use, and she receives little feedback on her reports from district managers.

The world has made incredible progress in providing access to lifesaving vaccines. Yet immunization coverage is stalling, leaving children vulnerable to preventable diseases.

Led by PATH, the Better Immunization Data (BID) Initiative is grounded in the belief that better data, plus better decisions, will lead to better health outcomes.[45] Supported by the Bill & Melinda Gates Foundation, since 2013 BID has partnered with the governments of Tanzania and Zambia to enhance immunization and overall health service delivery through improved data collection, quality, and use.

With country partners, BID has designed, tested, and rolled out a suite of interventions aimed at supporting people who know patients, communities, and their needs. These interventions included electronic

[45] See http://bidinitiative.org.

immunization registries and child health cards; facility dashboards and data visualizations; and peer support networks and data use campaigns.[46]

But achieving better health outcomes requires behavior change – and fostering a culture of data use starts with the individual. Through BID, we have found that inspiring data use requires strengthening four interconnected elements of the data use context:

- **People** that provide the trust, support, motivation, and feedback to succeed and sustain improvements.
- **Policies** that set the course and institutionalize data use, transparency, and results.
- **Practices**, such as guidelines and workflows that embed data use in routine activities.
- **Products** to enable and enhance data-driven action.

Innovations that work across the "four Ps" behavior change framework can **expose** richer, more granular, more operational data; **explore** the insights to understand the present, learn from the past, and predict the future; and **empower** people to achieve greater impact. A comprehensive understanding and adaptive approach that can be applied across a health sector workforce is essential for ensuring a strong health system that can achieve health sector goals.[47]

You are the key to data use

A new day for Oliver

Now, Oliver simply scans or enters a child's electronic health card ID, and updates vaccine records in an electronic immunization registry. At weekly team meetings, Oliver projects how many children will be seen at the clinic; what vaccines the children will need; and which children should have follow-up appointments scheduled. With automated reporting, Oliver has more time to focus on her patients, and can make more informed decisions around how to deliver services to more children.

[46] See https://bidinitiative.org/resource-library/posts/bid-initiative-generic-tools/.
[47] See https://bidinitiative.org/story/; http://bidinitiative.org/wp-content/uploads/PATH_Building-Data-Use-Culture_R1.pdf; https://bidinitiative.org/wp-content/uploads/VAD_BID_LessonsLearned_DATAUSE_v1_rev06.pdf.

C. Visualizing quality to achieve use

Sarie Podges and Yazabantu Soldati, JSI Research & Training Institute, Inc. (JSI)

How did JSI achieve a statistical analysis that allows us to visualize data quality to improve programming? Through visualizing quality, we can drive better use of data, to address challenges in reaching targets for data timeliness and completeness, and to identify areas for program correction.

In South Africa and elsewhere, achieving district-level data quality and use has been an ongoing challenge. To improve low data use, the government enacted the South African District Health Management Information System (DHMIS) Policy in 2011. This policy stipulates that the National Department of Health (NDoH), Provincial Departments of Health (PDoH) and districts shall provide formal quarterly feedback on data quality and program performance based on routine aggregated data.

Standard operating procedures were developed to operationalize the DHMIS policy at all reporting levels (national, provincial, district, sub-district and facility). Data flow timelines for these procedures defined requirements for data flow from facility to national level, per the DHMIS policy. The NDoH in South Africa implemented a routine health information system through the District Health Information Software (DHIS), where data is collected and reported monthly by all public health facilities according to a National Indicator Data Set. In spite of these investments, additional efforts were needed to scale up the practices of data quality review and data use, and ensure the flow of information to the sub-national levels.

John Snow, Inc. (JSI), through the Enhancing Strategic Information project, developed data quality (DQ) pivot tables that health managers and providers could use to visually report on timeliness and completeness of data in the DHIS. The reports generated helped to drive better use of data, to address challenges in reaching targets for data timeliness and completeness, and to identify program areas and actual facilities where corrective action was required. The MEASURE Evaluation Strategic Information for South Africa (MEval-SIFSA) Project continued to support these data use improvement interventions throughout the transition to DHIS2.

Visualizing quality to achieve use

The DQ Pivot Tables

The DQ pivot tables provide rapid feedback on DHIS (and later DHIS2) data quality in terms of:

- **Timeliness** of data submitted to the NDoH at the end of the last reporting month on the specified timeline in the policy;
- **Completeness** of data for the last 12 reporting months (all facilities for whom data elements are activated, reported on them);
- **Reporting rates** and potential reasons for high and low rates; and
- **Recommendations** to optimize reporting rates.

The indicator **reporting rate** was developed as a proxy for the use of existing DHIS/DHIS2 data, tracking progress in data timeliness and completeness.

Indicator	Reporting rate (%)
Numerator:	Number of facilities which reported/captured data on a specific element
Denominator:	Number of facilities for which this data element is activated for **capturing into the DHIS/DHIS2**

The target for both data timeliness and completeness is 95%. We used the following ranges for achieving the target of 95% to assess performance at a glance. The early table prototypes employed conditional formatting to color code the ranges as follows:

- **Less than 69.4 % - critical**
- **Between 69.5 % and 94.4 - improvement needed**
- **Above 94.5% - target met**

Reporting rate %	Province									
Data Element Name	A	B	C	D	E	F	G	H	I	Ave

Diarrhea with dehydration under 5 years - death	29	27	31	31	36	27	32	20	2	25
Inpatient death under 1 year	56	66	70	80	79	72	62	50	42	64
Inpatient death under 5 years	50	67	64	83	85	65	69	61	44	65
Inpatient deaths - total	99	100	100	99	100	99	93	99	94	98
Maternal death in facility	13	18	34	29	31	24	23	10		23
Pneumonia under 5 years - death	22	27	40	34	46	37	33	18	4	28
Severe malnutrition under 5 years - death	27	24	32	34	40	29	42	16	2	27
Average	42	47	56	56	60	51	51	40	31	48

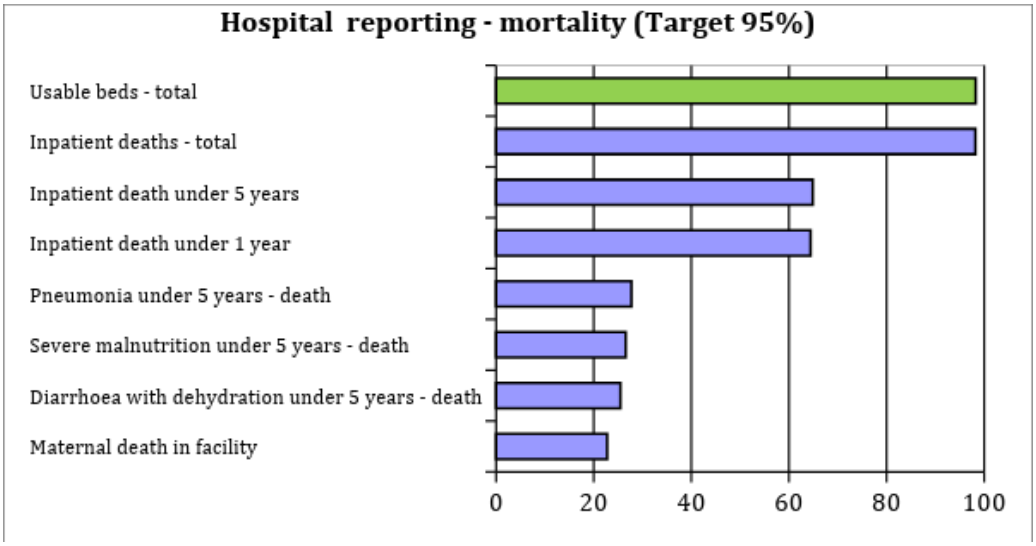
To determine whether public Primary Health Care (PHC) facilities and hospitals reported into the DHIS/DHIS2, we used the following three proxy data elements from the National Indicator Data Set:

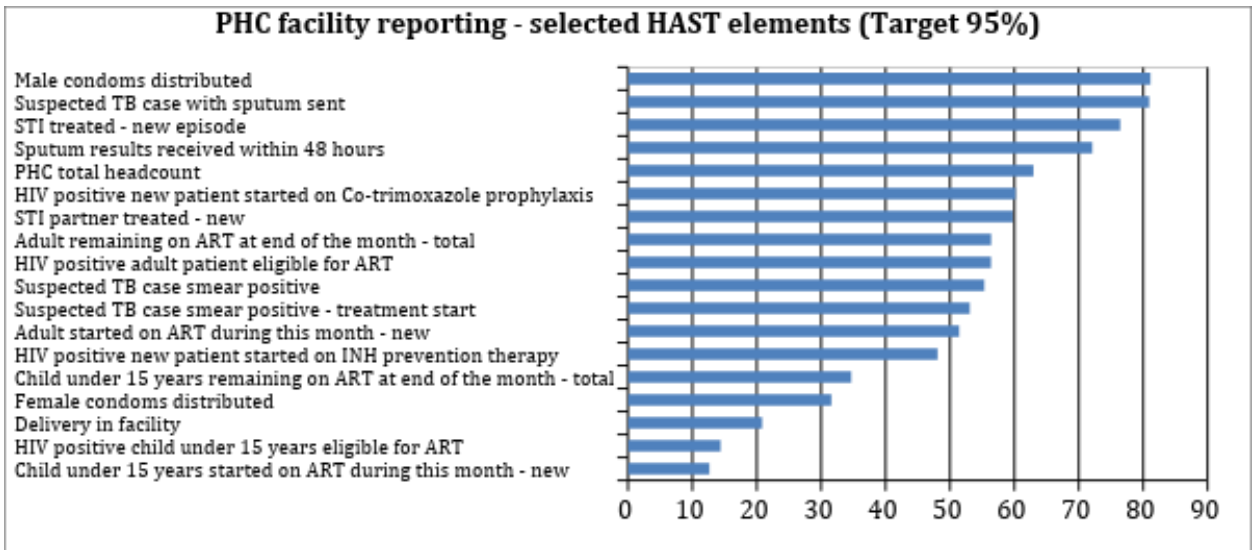
- **PHC headcount 5 years and older** was used to calculate the facility reporting rate of fixed PHC facilities (clinics, community health centers, community day centers, satellite clinics, and health posts);
- **Usable beds** was used to calculate the reporting rates of hospitals (district, regional, provincial tertiary, and national central hospitals); and
- **Deliveries in facility** was used to calculate the reporting rates of all facilities (hospitals and community health centers) in which deliveries are supposed to take place.

We developed DQ pivots for each indicator group (according to health programs) to increase the relevance of the data. Reporting was also split between PHC facilities and hospitals, and by type of facilities in each group. Provinces also developed their own data quality pivots on DHIS Data Files and Data Mart Files (from both DHIS and DHIS2).

The following tools were used to develop the DQ pivots:

- **Microsoft Access**: Used for the DHIS (Data Mart Files) and source data from DHIS1.4;
- **MySQL**: Open-source relational database management system which virtually runs on all platforms, used to process huge amounts of data;
- **Microsoft Excel**: Enables working with pivot tables and use of Visual Basic for Applications (VBA) to perform analysis on the pivot tables, linking with different data sources and work with enormous sets of data;
- **Tableau**: Licence-based program that provides more visual analytics on timeliness and completeness and added comparison of different reporting levels' achievements and parameters of data. Developed based on the same principles as the Excel dashboards, these dashboards are used at National level since there is a higher level of complexity and cost involved in it.





The regular use of the DQ pivot tables enabled stakeholders such as PEPFAR, implementing organizations, and government institutions to identify and address gaps and challenges in their health data, track progress towards achieving targets, and improve the use data to guide program implementation. These stakeholders also come together routinely to discuss and analyze data in quarterly data review meetings at district level.

Further, the NDoH increased its capacity to report on the timeliness and completeness of data using the data quality pivot tables at quarterly National Health Information Systems of South Africa committee meetings. The same process of data sharing is prescribed for every sub-national level down to health facilities. They also employ this process to identify sites that face challenges and follow up with support to improve reporting rates and service delivery, e.g. where facilities did not report on certain services because it was not rendered according to required service packages.

The data quality pivots also highlight areas that needed to be corrected in the Master Facility List as part of basic system maintenance. Data quality pivot tables allow for a desktop review of facilities, identification of provinces, districts, facilities and types of facilities with excellent performance and those which require additional support.

> With limited human resources and effort, the new data use practices helped focus supervisory activities on low performing facilities and extracted learning from sites that were performing well.

In the South African context, access to health data has not been the main challenge of the last few decades. The larger challenge has been reviewing and improving the quality of data, as well as increasing the overall use of data. With the introduction of the data quality pivot tables, and the dissemination and wide use of these processes at the sub-national level, stakeholders gained easy access to tools that enable better data monitoring. But perhaps more critically, the new data quality and use tools have created an environment for stakeholders to come together to discuss and analyze the data, encouraging a widespread culture of data use.

V. Be Intentionally Inclusive

Social inclusion and gender sensitivity are critical to achieving development progress. Sensitivity means more than generating disaggregated data: it also means equipping youth, women, and other underrepresented communities with the skills, incentives, and support to use that data.

A. Empowering women and youth with skills for the digital economy

Mitch Blaser and Agnieszka Rawa, MCC-PEPFAR Data Collaboratives for Local Impact

Common emphasis lies on disaggregated gender data to make a difference for women. But in reality, a practical approach of equipping women with the skills they need to succeed professionally, follow their ideal career paths, and access and use information, exponentially increases impact.

While the number of women completing primary education has significantly improved in the last couple of decades, the fraction of women finishing secondary education is still lagging in many MCC (and PEPFAR) partner countries. Of the women that do graduate, an even smaller fraction pursue careers in STEM or are exposed to the broad and increasingly more complex spectrum of skills needed for numeracy, data literacy, data analytics, machine learning, artificial intelligence, and data science. This is concerning when by 2040, 90% of the jobs globally will require some level of data and digital skills[48] – and the rate of change is extremely rapid, which means that social and gender divides are at risk of widening as data use and technologies get more sophisticated. At the same time it is also this exponential rate of change that presents a unique opportunity for excluded communities, including youth and women, to get "on the curve" and become empowered with the skills they need to access and use information. Data and digital skills and tools are sought after and will prepare individuals and communities to access opportunities within the growing global digital economy.

So while significant emphasis is being placed by funders on generating more disaggregated data which is beginning to provide a clearer picture about women – their specific challenges, access to services, digital tools, finance, ways to lower their HIV/AIDS risk, and their participation in the economy – it is concurrently important to equip a larger fraction of women with the skills they need to analyze and use this data to help solve their most pressing problems and support upcoming development decisions. We have taken this

[48] Job Market fails to unleash ICT potential. Science Hub, the European Commission's science and knowledge service.

challenge head on across all aspects of the DCLI program, from the composition of our partner teams through to targets and metrics associated with our different data training and other data-related activities. Our initial lessons are that:

- **Women are interested in acquiring data skills**. Young women and girls are not only interested in developing their data skills, but once provided access to training and the support they need, they are really good at solving important problems.
- **Thoughtful processes, iterative consultation, and persistence can shift the balance**. At the onset of our activities in Tanzania, participation of women was routinely lower (ranging from 15 to 20% depending on the activity. Numerous adjustments were made from changing the times of particular programs, including more female mentors, and even coordinating with parents. By the third year, participation increased to nearly 50%.

Empowering women and youth with skills for the digital economy

Locally-rooted Innovation in Tanzania

A young female DCLI grantee in Tanzania used existing data and analytics to predict the likelihood that young girls might drop out of school based on school performance, pupil/teacher ratio, pupil/classroom ratio, pupil/latrine ratio, school health advisor access, and school dropout rates. Now decision-makers can determine how and which resources should be allocated among schools to decrease dropout rates among adolescent girls and young women.

For both MCC and PEPFAR, this kind of locally-rooted innovation matters because in Tanzania, 30% of girl students drop out before reaching Form Four, compared to 15% of boy students, and that makes them less likely to earn an income – and 2.5 times more likely to contract HIV/AIDS.

Trainings such as GirlsinICT and/or CodeLikeaGirl, routinely draw a full house of participants at the Tanzania dLab.

B. DCDJ Fellows answer local needs in Côte d'Ivoire

Marie-Claude Zando, Vanessa Goas, and Emily Fung, Development Gateway

Stories from the DCDJ program in Abidjan and four districts across Côte d'Ivoire, from assessing how current data ecosystems do – or do not – meet the community's needs. How have DCDJ's Data Fellows integrated skills from the Fellowship to work through community priority challenges?

Des Chiffres et Des Jeunes (DCDJ) is a program led by Development Gateway (DG) and funded by the MCC-PEPFAR Data Collaboratives for Local Impact (DCLI) Program.[49] DCLI is designed and managed by MCC and funded by PEPFAR, and aims to empower individuals, communities, and organizations, including stakeholders in subnational areas, to use data to improve lives, contribute to ending HIV/AIDS, and help address local development needs and priorities.[50]

DCDJ aims to bolster the subnational supply and use of data for Ivorian citizens, engage youth as champions of these services, and fuel innovation to address rising data needs. The program's mainstay is the DCDJ Fellowship program, implemented together with one of our local partners SEJEN.[51] The Fellowship program trains cohorts of young individuals equipped with different skill sets – unique perspectives, different backgrounds, and valuable expertise – in data science. After 8 weeks of training at the Ecole Nationale Supérieure de Statistique et d'Economie Appliquée d'Abidjan (ENSEA) campus, the Fellows either return to their home organizations to apply lessons learned, or are placed within government and non-governmental organizations key to DCLI program objectives. Together, the group reaches across Côte d'Ivoire's data ecosystem – from three cohorts of DCDJ Fellows, about 86 young men and women are working within organizations to improve data supply, analysis, and use.[52]

DCDJ project leadership and women leaders of local organizations in Daloa meeting to collaborate.

Because a key DCDJ objective is to have an impact at subnational level, where much of the HIV/AIDS prevention and treatment "action" takes place, we train fellows to support specific priorities of subnational communities. In addition to data science, the Fellowship curriculum includes a focus on the HIV/AIDS

[49] See the Des Chiffres et Des Jeunes project: https://www.dcdj.ci/
[50] See the DCLI Partnership: https://www.mcc.gov/initiatives/initiative/mcc-pepfar-partnership
[51] See: https://www.sejen.ci/
[52] See: https://ensea.ed.ci/en/. Fellowship cohort numbers reflect when this case study was written (June 2019).

context in Côte d'Ivoire – and is both developed and facilitated by Ivorians. We are working with priority stakeholders in six focus areas (Man, Daloa, Boake, San Pedro, and two neighborhoods in Abidjan) to assess how current data ecosystems do – or do not – meet the community's needs. In each focus region, our goal is the same: to break down what makes data understandable and useful to everyone in that community, and to build processes that support the productive use of data.

Christian Arra is a young data scientist and DCDJ Technical Fellow. After graduating from his fellowship, he was placed with APROSAM (Association pour la Promotion de la Santé de la femme, de la mère, de l'enfant et de la famille or Association for the Promotion of the Health of Women, Mothers, Children, and Families) – an Ivorian NGO focused on HIV/AIDS support and prevention in San Pedro, a port city in southwest Côte d'Ivoire. At the APROSAM clinic, Christian's main task is to collaborate with the organization to identify what challenges it is facing, and then apply data science and technical skills attained during his fellowship to help solve those priority challenges. In San Pedro and other areas outside of Abidjan, level of education and data literacy can be lower than within the large city – making fellows like Christian, equipped with training and applicable data science skills, especially valuable. Within APROSAM, Christian quickly found that data inconsistencies, including duplicates and input errors, were a major challenge. Additionally, APROSAM was finding it difficult to stick to M&E reporting timelines for its funders. Using skills gained through the DCDJ program, Christian is developing a dynamic website for APROSAM – which contains a data management application as well as a dashboard to optimize analyzes. Although Christian's work with APROSAM is ongoing, the organization will use the new tools to reduce data entry errors, receive and send timely reports, and conduct better data analysis.

Flore, 24, is another successful Technical Fellow in DCDJ's first graduate cohort. Through DCDJ, we are continuing to address challenges in promoting women's leadership and encouraging women's participation in high-impact decision-making processes.

> "I hold a degree in mathematics and applications, and I am passionate about data science. This is what motivated my candidacy for the DCDJ project. And at the end of the program, I would like to continue to bring my knowledge for the improvement of the data ecosystem in Côte d'Ivoire."
>
> **– Flore, DCDJ Fellow**

Importantly, DCDJ's subnational work takes an inclusive approach to data collaboration. Together with SEJEN, we have shaped DCDJ's Fellowship program and subnational work with the knowledge that the digital revolution offers clear opportunities for individuals trained to use digital technologies, but it also presents new challenges for less educated populations and marginalized groups, including youth and women. In bolstering data access for young women in subnational communities, we are reinforcing that

data is useful to everyone. Data should be understood as information that can help community leaders, women, and youth connect with one another and ease processes. Widely applicable key points gathered so far across subnational work include:

Former leader of a small women's group, who now leads a co-op that owns over 7 hectares of land in the community, explaining that data is essential to her despite not being able to read – it allows her to connect with buyers and expand her business.

- Data should be accessible and useful to everyone. Through DCDJ subnational work, we are looking to break down the myth that data must mean statistics, and that statistics must mean inaccessible, difficult-to-understand information.
- To be successful subnationally, communities and local leaders must hold strong programmatic understanding. At the end of community meetings, community members, and local leaders understood DCDJ, its objectives, and the impact it could have on overall development of the region. Specifically, local leaders (including the Prefet, the highest regional government representative) were confident in the project, and can clearly communicate DCDJ's impact themselves.
- Priorities of NGOs and CSOs in the region differ, and will be addressed individually. In conducting a DCDJ "deep dive" with local CSOs and NGOs, we were able to understand their priorities – and how they are similar to and different from the priorities of government officials.
- Challenges exist in attaining data. National Statistics Office representatives present shared challenges on getting data from the local statistics office, and how we can help address it.
- Within a group of NGOs, different organizations have different priorities. For example, some women's organizations expressed that many of their members are illiterate, and had previously operated with the belief that they might not benefit as strongly from data use as other organizations. However, DCDJ demonstrates the subnational benefit for all education levels.

In taking an inclusive look at data collaboration, the DCDJ Fellows are not only bringing data science capabilities to communities, but reinforcing that data should be understood as information that can help community leaders, women, and youth connect with one another and ease existing processes.

C. Surpassing participation targets – women of the DCDJ Data Fellowship

Lina Djolo, Fondation Performances Sociétales, Marie-Claude Zando, Development Gateway

On how the DCDJ Fellowship went from 17% female participation in the first cohort to 47% in the third – and how Data and Fellows Manager, Lina Djolo of local Ivorian youth-focused organization *Fondation Performances Sociétales*, provided strategic direction to get there.

The 2016-2020 National Employment Policy Report for Côte d'Ivoire estimates that the share of women in the labor force declined from 2014 to 2015 – and at present, the female unemployment rate is significantly higher than the male unemployment rate. The Ivorian government has taken some action to ensure progress increasing womens' access to resources – opportunities previously reserved for men; however, the rate of girls' participation in scientific fields is still low.

To reduce these gaps, the DCDJ program through DCLI aims to enable young women and girls to excel in science and data-focused careers, through recruiting young Ivorians to be trained in data science, and placing them in data science fellowships across health initiatives in Côte d'Ivoire. To meet the needs of these young people, DCDJ's Data and Fellows Manager oversees recruitment, program guidance, and matching Fellows with the most fitting host organizations whose needs can be best met through specific Fellows' strengths.

As Data and Fellows Manager, Lina Djolo creates the Fellowship selection criteria and ensures that the program is reaching bright, engaged, and driven young people ready to learn more about how to utilize data for decision making. DCDJ uses a litany of recruiting platforms, websites, and groups to recruit its Fellows – across NGOs, universities, graduate level schools, and womens' networks and associations.

Lina then organizes classroom tests and a series of interviews with candidates, supporting them throughout the selection process over phone, SMS text, and email, participates in Fellow selection, and tracks their performance over time.

The Beijing Agreements recommend a rate of 30% as an appropriate average of women's participation in national events. In Côte d'Ivoire, female participation in national events hovers around 13%. To align with national objectives and the Beijing Agreement, DCDJ has a target of 30% female participation across all its activities. Achieving this percentage proved challenging at first – our female participation rate was 17% for the first cohort, and 29% for the second cohort. With 29%, we got close to the initial target – but with the knowledge that our team could – and must – do even better. Lina and the team got thinking on strategies to boost participation. One partner, the Council of NGOs fighting AIDS and other pandemics in Côte d'Ivoire (COSCI) was particularly helpful. We met with additional NGOs, women's associations, and members of

COSCI's network, increased our social engagement with women and girls interested in the sciences, and reached a 47% female participation rate in our 3rd cohort – bringing us up to 31% across all cohorts. Encouraging more women to participate in the Fellowship further proved just how valuable it is to provide girls with opportunities to acquire and develop skills to empower them. Further, with almost 50% of our DCDJ Fellowship cohort being women, others are encouraged to participate not only in the program itself, but across data analysis work. These "Ambassadors" help clear the path, spread data use awareness, and motivate other women to participate.

Increasing Fellowship gender parity is not just about boosting DCDJ's numbers. It also furthers the program's overall goals, including generating overarching community interest in data use and data science, and raising community awareness of HIV/AIDS. And women Fellows have been just as successful as men in post-Fellowship placements.

Importantly in Côte d'Ivoire, the feminization of HIV/AIDS relates to the fact that the rate of infected women is higher than that of men. Through their Fellowship placements, more women serve as trusted community intermediaries in a position to raise awareness among other women about risks and protection measures from HIV/AIDS.

> "The women in each Fellowship cohort are amazing and each class is full of success stories. However, a few stand out in earnest."
>
> **– Lina Djolo, Fondation Performances Sociétales**

The first story is of a young woman Fellow who in her final year of high school, had to stop school due to a lack of financial resources. She ran commercial activities in the market in Abobo Municipality. She passed the baccalaureate as a free candidate, took a training course in computer science and mobile application development, then applied and became a DCDJ Fellow. After training, she was deployed to the Bouaké health district to coach staff on data science and analysis methods. With her training on DHIS2 software at The Directorate of Health Informatics and Information (DIIS) of the Ministry of Health and Public Hygiene, Côte d'Ivoire, she worked with four other fellows to improve data quality, completeness, promptness, and consistency of the Ministry of Health and Public Hygiene's central reporting data. She then did the same for Bouaké's health district reporting data extracted from DHIS2, and trained 5 people to enter data into the Ministry of Health's system for avoiding errors.

Another woman Fellow, a dynamic self-starter, started several small businesses to fund her Master's degree. She then joined the first cohort of DCDJ, passed the training brilliantly, and was assigned to the Programme National de Lutte contre le Sida (PNLS), the National AIDS Control Program. At PNLS, she noticed that no indicator existed to measure systematic management – so essential data such as the number of patients screened and systematically treated did not exist. To remedy this, she set up an indicator to enable

systematic tracking of health management to decision-making. This indicator was ultimately adopted at the national-level, and is now used to speed the decision making progress within PNLS.

> Though we have successfully recruited many talented young women, many remain less experienced in the sciences – having been discouraged by the stigma of science being inaccessible and difficult. To "make up for lost time," we provide specialized coaching to the women in the Fellowship Program.

We look forward to seeing how this work continues to contribute to the creation of networks and expansion of women's participation in future. To begin this focus on sustainability beyond the length of the program, we set up WhatsApp focus groups for fellows to share recruitment information. This allows each fellow to exchange information on recruitment but also to share this information in their own personal networks.

D. Digitizing the Procurement Process in Makueni County, Kenya

Alex Mutuku, Department Of Finance And Social Economic Planning of the Government of Makueni County, and Charlene Migwe, Development Gateway

It's not every day in the open technology space that the opportunity to be the very first at something arises. In late 2019, DG helped launch the Government of Makueni County's Open Contracting Portal – Kenya's first subnational open contracting portal.

Throughout DG's 20-year history, we have worked closely with country governments to build tools, systems, and dashboards that make development data easier to gather, use, and understand. Also, since the inception of the open contracting (OC) movement, we have worked in over a dozen countries, and built a reputation among the global OC community as implementers. When it comes to OC, DG takes a holistic approach that helps governments and community members leverage data to inform procurement decisions.

However, what makes DG's approach to open contracting unique is not the number of implementations or assessments we have conducted – it's that our approach is also informed by supporting open contracting locally. Working with county, instead of country, governments, allows for an eye-opening level of granularity and the ability to track local government goals. We can then meet communities' practical, everyday needs. For example, the OC platform DG recently built for Makueni County is different from our other Aid Management Platforms (AMPs) or OC portals in that it displays county-level, not national-level data.

Celebrating at the launch of the Makueni County OC Portal

In 2018, DG began working with the Government of Makueni County (GMC) to understand and assess country and government priorities in increasing transparency – holding conversations with communities, media, private sector, and CSOs to develop an approach to sustainable procurement processes in Makueni. Together, we collaborated to identify areas of opportunity for the GMC to record and publish its procurement data.

To meet the GMC's specific needs identified in the assessment, DG developed an Open Contracting portal for Makueni County[53] that allows for

[53] The Open Contracting portal for Makueni County: https://opencontracting.makueni.go.ke/ui/index.html

government staff to directly enter data, upload approved documents, and complete high quality data validation.

Working at the subnational level meant that our client's needs were different from OC needs we'd heard during other national-level assessments. For example, the ability to review procurement activities across different wards and sub-counties was a priority for GMC – while country governments partners are often looking for aggregated, wide-reaching information. National governments often prioritize the ability to make country-wide insights, while subnational governments prioritize local specificity.

Charlene and the team in Makueni County, Kenya

Additionally, working with GMC to tailor a procurement system to its specific needs has forged strong partnership between DG, GMC, and local stakeholders. These relationships have become stronger as we built and launched the portal as one.

In developing a granular system, the challenges faced have different levels of complexity. Just as working at the county level opens up new opportunities for innovation and thinking through what a fit-for-purpose, county-level system would look like, it also meant that DG faced new challenges specific to the subnational open contracting context.

For example, the portal is built to encourage data use by enabling sub-national users to enter and analyze the data. However, county level procurement processes have been largely paper-based until this point, making it challenging to draw useful insights for procurement decision making. Therefore, a challenge that DG faced was how to take the paper-based system online: allowing government staff to directly enter data, upload approved documents, and complete data validation in-portal to support high-quality data entry.

Moving forward, DG has also found that there is a need to integrate subnational and national systems, especially as more counties in Kenya begin to use the country's Integrated Financial Management Information System (IFMIS).

Through working towards sustainable procurement processes, we hope to not only reform and open these processes, but to deliver better quality goods and services to communities.

VI. Fund Local Organizations

Investing in and working through local institutions should be the default practice. Programs benefit from local know-how, and local organizations gain additional capacity through involvement with international partners and funders – thereby optimizing development impact.

A. Investing in Local Institutions Builds Stronger, Lasting Ecosystems

Dara Lipton, IREX

The idea of designing a local program with local actors is not a novel concept – but putting that practice into action is often easier said than done. Nonetheless, INGOs must be fiercely committed to supporting local organizations, and must develop and apply skills to listen to others, facilitate dialogue, and cultivate compromise.

Critics of foreign aid point to the disproportionate amount of aid invested in non-local actors.[54] Large international NGOs receive significant funding – of which a non-trivial amount goes towards administrative overhead – and the interventions administered by these organizations often lack the critical linkages and trust within communities to create meaningful impact and sustained, systemic change.[55]

USAID's investment in USAID Forward from 2010-2016 and later their promotion of the Journey to Self-Reliance framework are efforts that reflect a conscious shift across the development sector towards increasing direct funding to and focus on local institutions in order to achieve "locally-sustained results".[56] The Millennium Challenge Corporation similarly aims to "change the conversation" around foreign aid by focusing on country-led solutions and implementation, recognizing that sustainable investment requires investment into local institutions.[57]

The Data Zetu program, which helped public and civic actors increase their uptake and usage of data in subnational communities in Tanzania, embodied this shift by working closely with local partners to design, build, implement, and adapt the Data Zetu program based on their **local expertise, learning, and trusted linkages.** This local partner-led approach not only enabled the program to achieve meaningful impact but also further empowered these local partners to **sustain and grow the innovative approaches** developed

[54] See the USAID Policy Framework: Ending the Need for Foreign Assistance https://www.usaid.gov/sites/default/files/documents/1870/WEB_PF_Full_Report_FINAL_10Apr2019.pdf.
[55] Five reasons funding should go directly to NGOS, The Guardian, November 2015: https://www.cfr.org/backgrounder/how-does-us-spend-its-foreign-aid.
[56] The Journey to Self-Reliance, USAID: https://www.usaid.gov/selfreliance.
[57] Millennium Challenge Corporation Website. About page. https://www.mcc.gov/about.

during the program, **expand their technical and operational expertise**, and **build new funding and partnerships** long after the Data Zetu program concluded.

Data Zetu nurtured this local partner-led approach through the following steps:

Design together: The Data Zetu program was designed not in a cubicle in Washington DC, but rather sitting around small desks in partners' offices in Dar es Salaam. In person and online, representatives from Tanzania Bora Initiative, Sahara Sparks, Code for Tanzania, and IREX co-designed the foundations of what would become the Data Zetu program. This ensured not only that local input informed the vision of the program, but also that ambitions were adapted to work within real-world constraints, known to no one more than the local partners, to ensure we design a truly implementable program. How could we effectively gather community pain points in a way that would garner trust and honest sharing? What digital tools would truly be relevant for subnational communities, particularly those in Mbeya District, where digital literacy was low? How do we work with young people to understand the relevance of data in their lives?

> Sitting together and testing assumptions from the outset ensured that the Data Zetu approach was embedded in local realities and that partners **were not simply handed a workplan to implement but rather designed their scope from scratch.**

International NGOs, who often have the capacity, connections, and capital to pursue large-scale funding opportunities more than their local counterparts, must grapple with the complex role of intermediating large-scale visions with the individual interests and specialties of local partners. They must develop and apply skills to listen to others, facilitate dialogue, and cultivate compromise. And they need to be fiercely committed to supporting local organizations—even, or especially, if those local institutions could one day put INGOs out of business.

Build upon existing tools: Many of the more successful interventions within the Data Zetu program were iterations on our partners' existing successful approaches and tools. Tanzania Bora Initiative (TBI) already had deep experience engaging youth through multimedia like radio and TV. Through Data Zetu, TBI expanded their programming to publish radio and TV shows about how data can help us understand and address issues pertaining to health and gender equality. This approach enabled the program to **build off of a foundation of tried and tested work, while also honoring our partners' core capabilities** and thus increasing the likelihood that they would continue to build upon and use those tools beyond the life of the program, and share them with others within the Tanzanian data ecosystem.

Share administrative best practices: In addition to providing technical support to Data Zetu partners, IREX's primary role on Data Zetu was to ensure consistent reporting, sound management of funds,

alignment with local and USG compliance and legal requirements, and effective coordination across the consortium. Data Zetu's commitment to effective management led to one of the most lasting impacts of the program: **locally relevant and reusable management tools and acumen.** Many of the templates and tools used across the consortium (i.e., financial reporting templates, work planning tools, team coordination tools, and communication guidance) are now fully integrated into the local partners' institutional best practice, resulting in improved systems, increased confidence, and new funding opportunities. For example, Sahara Sparks successfully received funding from the Embassy of Switzerland in 2018 by demonstrating that they had certain financial management and human resources safeguards that they developed during the Data Zetu program. These peripheral outcomes of local-centric development projects are rarely included in monitoring and evaluation frameworks but cannot be understated.

Ensure credit is given where credit is due. Global development actors are committed to their work and proud when that work leads to real impact. Understandably, these actors share and communicate about their successes and lessons with other organizations. Often, this knowledge sharing – crucial to making collective progress towards sustainable development – is done primarily by international organizations, donors, and other actors who, through no bad intentions, can lose sight of the local people and organizations that implemented the work that they're proud of.

Building in systems for all actors to give credit to the work of local organizations is an important simple way to amplify the name, brand, and work of local partners who make our impact possible. Simple steps can be taken to achieve this. For instance, Data Zetu made a commitment early on to capture the names and affiliations of local photographers who documented, through beautiful images and videos, the story of our program. This made it easy for other actors, like communications officers in Washington, DC, to give institutional credit to the local partners who committed themselves to this work day-in and day-out. Ascribing credit builds trust among local and international actors, builds networks among those who are interested in learning more about the work, and reinforces the local ownership and sustainability of these investments.

These four tactics – designing together, building on proven tools and approaches, strengthening administrative capacity, and giving credit where it's due – are only some of the ways international development actors can fulfill their missions of supporting lasting and local communities. We have a responsibility not just to "change the conversation" but to amplify those conversations that are already happening, perhaps just outside of earshot.

The Data Zetu program was made possible by the tireless and humbling efforts of Tanzania Bora Initiative, Sahara Sparks, TehamaLab, Code for Tanzania, Humanitarian OpenStreetMap, SBC4D, and IREX. The program was funded through the Data Collaboratives for Local Impact Initiative, a unique partnership between MCC and PEPFAR.

B. Local Partnerships, Local Strategy

Frida Seka, Council of NGOs fighting AIDS and other pandemics in Côte d'Ivoire (COSCI), Marie-Claude Zando, Development Gateway

To get truly local, the DCDJ program is catalyzing partner networks, like the Council of NGOs fighting AIDS and other pandemics in Côte d'Ivoire (COSCI), to reach communities and articulate data priorities.

Focused on long-term sustainability and broad contributions to a data ecosystem, effective programs require deep understanding of the skills, roles, and opportunities that unique partners bring – and how to *maximize* the value-add of each one. Programs are imperfect, and partner roles shift as program needs evolve. We have found this co-evolution to be particularly essential in larger-scale and longer-term programming, with lasting partnerships that steer us towards objectives and allow for course changes without losing sight of overarching goals.

The Des Chiffres et Des Jeunes (DCDJ) program, led by DG and funded by the MCC-PEPFAR DCLI program, aims to use data to improve lives. The key to impacting subnational health outcomes is **getting truly local**, to understand ongoing HIV/AIDS prevention and treatment work. Within DCDJ, we have not stopped at *getting* local – but we focus on harnessing and prioritizing the specific value-adds of these partnerships. Key local partners in DCDJ include SEJEN, Fondation Performances Societales (FPS), and the Council of NGOs fighting AIDS and other pandemics in Côte d'Ivoire (COSCI) – as well as Ecole Nationale Supérieure de Statistique et d'Economie Appliquée d'Abidjan (ENSEA). Local partners are not simply dropped in without the space or opportunity to have true impact – instead, they are essential to DCDJ outcomes. Prioritizing local partnerships allows DCDJ to enable local actors to build data systems and ecosystems, to achieve sustainable, long term health outcomes. To ensure local leadership and leverage civil society resources, COSCI is essential.

Created in October 1992 in Côte d'Ivoire, COSCI aims to provide sustainable health interventions for HIV/AIDS. Its decentralized structure includes 145 member NGOs, across 16 sections in Abidjan and subnationally. Through the linkages that COSCI has opened up for the DCDJ team, DCDJ can adapt more quickly and effectively to local contexts, addressing the specific health and HIV/AIDS challenges faced in each focus area. Within DCDJ, COSCI operates with the unique task of increasing data use in Abidjan and in local strategic areas, and enables DCDJ to build on subnational organizations' existing local expertise, foster community relationships, and more quickly and directly get involvement and buy-in from local communities.

COSCI's expertise facilitates access to communities and local authorities, and builds trust between the community and the program. COSCI's decentralized nature and widespread presence across diverse areas afford it valuable relationships and expertise that extend far beyond Abidjan. For example, it brings partnerships and memberships in civil society platforms at national and regional levels, including bodies

such as the National AIDS Council and the Country Coordination of the Global Fund to Fight AIDS, Tuberculosis, and Malaria. COSCI also collaborates with the public sector and development partners – allowing DCDJ to benefit from those partnerships, widening the net of organizations and individuals who push for our objectives. COSCI's network has made it possible to select and quickly access health-based NGOs, where DCDJ Fellows are placed after training. It has also been instrumental in developing strategies to increase women's participation across DCDJ activities.

Additionally, COSCI has led local communication and developed strategy around the DCDJ Data Inventory tool, mapping different organizations that could share key information, potentially getting these organizations interested and engaged in the open data agenda. It worked to collect disparate data sources and bring them under one platform. Due to effective local partnerships, the fellows management team, COSCI, and beneficiary communities have been able to work in synergy to achieve results. The Data Inventory tool[58] is a data collection and exchange platform where organizations can record data. Since April 2020, 523 datasets have been collected from 86 organizations across health fields.

Collaboration with COSCI has been successful through finding a balance across well-developed and specific strategies, tested field expertise, and establishing operational focal points. We've also been reinforcing local ownership and sustainability in responsive communities, working with local authorities ready to support our process. We can separate COSCI's work into stages:

1. **Project Start and Initial Phases:** As DCDJ began, COSCI and the project team completed prospecting missions to Abidjan as well as trips to subnational communities to present DCDJ. COSCI also participated in workshops with womens' networks to discuss how more women's organizations can get involved. In interacting with women's groups, we developed strategies to genuinely increase women's participation in data use.

2. **Ongoing Activities:** COSCI's role continues to be essential across programming and PEPFAR goals. Among other activities, it ensures the data inventory tool is tailored appropriately to subnational and community needs, and follows up on data inventory trainings.

3. **Future Activities:** Together, COSCI and DCDJ are building a sustainable data use framework to enable communities to improve their daily lives with data. COSCI will continue supporting local ownership and fostering partnerships, shifting the norm towards more equitable programs.

During outreach in Daloa, we held meetings to present DCDJ to local authorities and communities. **During one of these community meetings, the Director of the National Institute of Statistics explained, simply and understandably, the importance of having reliable data for good decision-making. He demonstrated the importance of using data at all levels, using a relatable example from citizens' daily lives. As a result,**

[58] The Data Inventory tool: https://inventory.dcdj.ci/

data use has multiplied in Daloa, especially among women. This result shows just how much DCDJ's objective resonates with the community.

To further develop strategies to improve data use and availability, the Regional Director of the Ministry of Women, Family and Children set up a committee tasked with proposing a plan to raise awareness by sector. Because this approach has been successful so far, we see it as fitting to duplicate across other localities.

It is a challenge to adapt beneficiaries to the concept of open data and build understanding around useful tools. However, the successes that have emerged from the COSCI/DCDJ partnership so far are clear and powerful. Going forward, we look forward to building on what has worked so far to help COSCI reach across its network and reinforce lasting community level change.