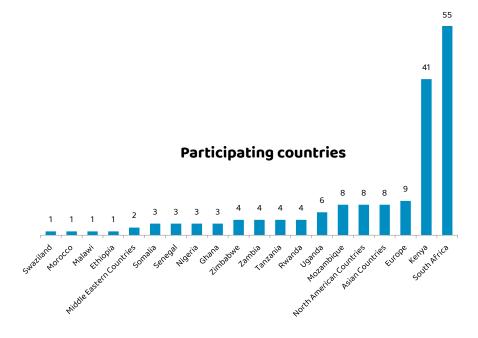# Event Report Back

HOW TO CONDUCT DIGITAL MERL IN THE TIME OF COVID-19

The COVID-19 pandemic has devastated the globe with exponential growth of affected persons, crashing economies, and dwindling medical supplies. Travel restrictions, quarantine, and social distancing orders from governments desperate to slow the spread of the virus and lessen its impact, have brought drastic changes to the ways in which organizations operate.

During the first week of June, **MERL Tech** and **CLEAR-Anglophone Africa** held three virtual events as part of **CLEAR's gLOCAL Evaluation Week**. A wide range of practitioners from African countries and beyond, representing academic institutions, multilateral development institutions, civil society organizations, private sector, and government, signed up to attend the three events.

Participating countries

KICKSTARTING A REGIONAL DISCUSSION

The overarching objective of the three events was to embark on a journey to understand how monitoring, evaluation, research, and learning (MERL) are changing as they digitize. For example, how is digital data being used for decision-making, for arriving at better outcomes, and for understanding impact? Can we create a framework for responsible data governance in the Anglophone Africa region? And what good practices for ethical and responsible use of data at various levels and for different processes and outcomes should we be following?

Share your experiences.
Make new connections.

JUNE 1–5, 2020

#gLocalEval2020

JUNE 2 EVENT:
RESPONSIBLE DATA USE DURING A CRISIS

Data is a necessary and critical part of COVID-19 prevention and response efforts. We need data to understand where the virus might appear next, who is most at risk, and where resources should be directed for prevention and response. However, we need to be sure that we are not putting people at risk of privacy violations or misuse of personal data and **ensure that we are managing data responsibly** so that we do not create unnecessary fear or panic.

At this first event, we discussed aspects of responsible data collection, use, visualization, and data management in a crisis, with **Korstiaan Wapenaar**, Genesis Analytics, **Jerusha Govender,** Data Innovators, and **Teki Akkueteh**, Africa Digital Rights Hub.

Korstiaan framed the discussion in data collection, storage, sharing, analysis and presentation cycle, and the need to protect personal and sensitive data along that full cycle. We have responsibilities as individuals in terms of how we share, present, consume and interpret data. COVID-19 has brought about tremendous uncertainty, and people are generally looking for guidance on how to manage it and how to behave to protect themselves, and this is where data and facts are being sought. There is also a tendency to scrape only the surface of the vast amounts of data, rather than dig deep for more nuanced interpretation.

In the current times we see three tiers:

- **Journalists** try to interpret data, but often cherry-pick for a particular article.
- The **research and academic community**, which we assume are objective and unbiased, however, as we've seen, their data models are often flawed.
- The **public sector** which is mandated to inform the public and to justify decisions.
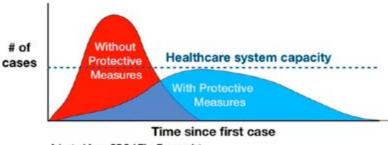
When we think about how data is used, we need to remember that individuals or institutions may be biased or incentivised to present data in a way that allows them to gain prestige. Information might also be communicated to justify a particular government decision. Data quality is critical for informing these decisions, but we know that there are often gaps in information or it may not be up to standard. This creates risks of misinformation and flawed understanding. Data also requires context for it to be interpreted correctly.

Some principles to help be more responsible with data:

- Embrace uncertainty and the limitations of the science – we might not be seeing the whole truth.
- Provide context and definitions so that sources are clear.
- Be upfront about limitations in the numbers and the assumptions that underpin the numbers.

We need to also help people to be more data literate so that they are more aware of which data and data visualizations are high quality, and we need to consider how to empower society to interpret data.

Jerusha focused on responsible data visualization and communication in the context of COVID-19, and approached the discussion from two angles: What is responsible data visualization? and How do we think about the human and ethical angles? First, we need to think about data quality so that we are presenting a full picture. Second, we need contextual information and guidance to interpret the data so that users can make sense of it in the right way.

Adapted from CDC / The Economist

The "flatten the curve" diagram for COVID-19, for example, is probably the most shared chart ever. It was a single data model shared globally to inform national level strategies. But it was missing things like the definition of a case, how to use it the chart for national strategies, and which comorbidity data to present alongside the chart.

The information was shared with technical researchers as well as with lay persons. What does it mean for the lay person? In this model, there was little regard for the impracticality of some of the COVID-19 prevention measures. A narrative of social distancing was advanced in communities where a significant number of people reside in densely populated spaces such as shacks and townships and cannot social distance. This highlights a missed opportunity to explore other forms of responses to counter the COVID-19 pandemic.

We need to create ways for the general public to engage with data so that we can really impact behavior change. As data producers we need to be more sensitive about how we put our information on social media so that it is not aimed only at technical sectors.

We can use color, shapes, scale, and headlines to guide an individual to a particular behavior. We should avoid creating fear. For example, the color red can invoke alarm and stress, and as a data community we should think more carefully about how we use data to inform and promote behavior change.

Teki made a strong call for responsible collection and use of data in the pandemic. There is clear evidence of the possibility that COVID-related stigmatization can affect human dignity. We need information, but we need to pay attention to the fact that the need for data cannot override ethical and legal principles of how data is collected and handled. We should ask ourselves if we are being transparent about our processes of collection and use of data and our intention of what we will use data for. Are we collecting just what we need or are we over collecting data? Are we taking advantage of the situation to amass large amounts of data?

During COVID times, for example, there is a move toward contact tracing which involves collecting highly sensitive health data which should be handled with care and consent of data subjects. However, we are seeing that some are using health and safety reasons as an excuse for collecting a lot of data and not adhering to protocols to keep the data secure. Because people are scared of the pandemic, they are willing to hand over their data, so we need to be even more careful about the kind of data we are collecting. Are we providing enough oversight over how data is collected and used? Who is watching over government entities and health facilities? Is there oversight to ensure that there is no prejudice after the fact?

We all have a huge role in this – as individuals providing information or as third-party data processors or as government agencies. We all have a responsibility to make sure that we are collecting the least amount of information necessary. We should make sure we are putting in place the necessary protocols around the retention and security of that data so that it does not get into the wrong hands. If data is to be shared with third parties, we must make sure we are only sharing what is necessary.

Governments and third parties need introduce checks and balances and transparency about these different data processes. We should also have a data protection regulator, or some other type of oversight. It is not enough to just say that we are doing things right. We should be able to clearly open our books to an objective entity that can verify how we are managing data. Individuals who are sharing their data also have a right to ask what their data will be used for, and to raise questions if they feel uncomfortable about it.

KEY POINTS FROM THE DISCUSSIONS

Challenges with data responsibility

- Consent and confidentiality.
- Governments and community leaders acting as gatekeepers around data collection, leading to biased results.
- Fatigue on behalf of communities due to repeated collection of data.
- Data integrity violations (e.g., the release of COVID-19 location data).
- Bias of researchers who may distort the meaning of original messages from research participants.
- Disaggregation of data that can lead to re-identification of individuals.
- Data storage and protection, exacerbated by the dynamic nature of COVID-19 which makes it difficult to maintain data integrity.
- Need for encryption on devices and protection of identities.
- Data quality issues, and challenges with data reliability and validity.
- Lack of preparation of organizations for digital data collection and management.
- Lack of communication and data sharing across different government levels (national, provincial and municipal) with acceptable access levels to protect data while also enabling its use.

Good practices

- Data governance office/ethical clearance offices should be established as data assurance structures in all organisations in the data space.
- Adopt a multi-stakeholder approach to data collection (collect data from multiple sources).
- Consider digital principles for data collection (such as using rigorous data collection methods to address possible issues of data bias).
- Data should be audited by internal or external persons or bodies before dissemination to the general public and/or decision-makers.
- Data from donors needs to be contextualized to suit local realities.
- Instruments need to be redesigned to fit the context of the pandemic.
- Verification needs to be re-thought for real-time data to assure accuracy.
- Consider literacy rates and technology know-how.
- Incorporate the "do-no-harm" mentality to ensure that people are protected, and confidentiality is maintained.
- Ensure that data is protected throughout the entire data lifecycle.
- Minimize the amount of data that is collected.

JUNE 3 EVENT:
REMOTE MONITORING IN THE TIME OF CORONAVIRUS

As the world moves into "work from home" and quarantine lockdowns, reduced mobility makes it difficult for evaluators to do their jobs. **Remote operations** are an alternative to face-to-face settings. For example, researchers can use phone calls instead of in-person interviews. However, as with any technology substitute, virtual monitoring brings **a new set of challenges.** Researchers and those conducting remote M&E need to **think carefully about research ethics**.

At our second event, we heard from **Ignacio Del Busto**, IDInsight, **Janna Rous**, Humanitarian Data, and **Ayanda Mtanyana**, New Leaders on this topic.

Ignacio highlighted the importance of remote monitoring in the current times of COVID-19 and the importance of contextualized research, demand-driven research, and balancing of technical aspects with operational constraints. Data is not always available, and can be costly to produce, so the challenge is how to produce data cheaply and quickly to meet the needs of decision-makers within the operational constraints that enumerators face when actually collecting the data. IDInsight uses a "data-on-demand" approach whereby data is collected using smartphones. We have expanded this approach with the onset of COVID-19 given the constraints with data collection and the need for policy-makers and donors to have data in order to manage the crisis.

Lessons learned to date are related to collecting high quality data via phone surveys. For example, because of COVID, enumerators cannot be trained in person. Other challenges include connectivity and reach, networks capacity and access, and smartphone access. This reality affects sampling and validity.

Some things that IDInsight has learned are related to:

- **The importance of an experimental approach** – how can you get people to stay on the phone and provide information? We've found it useful to have a clear tracker to find out why some people are dropping off.
- **Developing protocols** to learn about the ideal time to call, the ideal length of a survey, how many times to call back, and what procedures keep people on the phone to answer a survey. These will be project specific and context specific.
- **Limitations** such as connectivity, access to phones, use of census data to know what percentage of the population can be reached to understand if there inferences are possible.
- **Confidentiality is important** – Are there questions that should not be asked on the phone because they can cause harm, for example questions about gender violence?
- **It's not only about phone surveys.** There are other tools. For example, in South Africa there is an initiative called **HealthAlert** that communicates good practices about COVID-19, but also allows people to report potential COVID-19 symptoms and this has enabled the government to collect data that it would not have had before.

Janna has been working with remote monitoring approaches for the past 6 years. She emphasized that the most critical part about remote monitoring is the humanity. Remote monitoring tends to be very tech heavy, but no matter what type of technology is being used, the humanity of the approach is the most important.

Some tips she provided on remote monitoring:

1. Whether using Zoom or WhatsApp or any tool, **the phone is going to be what we depend on**. We can just take what we were already doing and do it remotely, and that is fine. However, in the long-term, we should be asking our constituents how we can take more advantage of different digital devices and tools to find better ways of doing this monitoring. For example, could we incorporate sensors into the monitoring from the start?

2. **Normally we take a "snapshot" of a moment when we do monitoring.** When we are doing remote monitoring, we are forced to collect ongoing data. We need to consider that programs are remote as well as monitoring. So, our monitoring needs to capture the impact of this new delivery style of programs and monitoring the ongoing quality indicators of the shift in how we deliver programs. For COVID-19, we want to consider if we are keeping health and safety measures. We may need to also determine if an activity was carried out at all. GPS and photos and videos can help with that when you can't be present.

3. When we move from face-to-face to technology, **a simple conversation gets complicated because you are adding additional complexity**. We need to think about whether our teams have the skills to design technology-enabled monitoring approaches, and if not, how do we build the skills, or do we hire those skills in?

4. **Localization** is another aspect. We are looking from far away. The people who are delivering programs are "on the ground". We tend to transfer risks to local actors. How do we deliver aid well and how do we protect and monitor smaller agencies who are delivering programs?

5. **Access is another angle**. Who are we excluding when we move to remote monitoring? Children? Women? Elderly people? We might be introducing bias if we are going remote. We also cannot observe if vulnerable people are in a safe place to talk if we are doing remote monitoring. So, we might be exposing people to harm or they could be slipping through the cracks. Also, people self-select for phone surveys. Who is not answering the phone and thus left out of the survey?

6. **Ethics and doing no harm are key principles in all of our work**. If we are forced to deliver programs remotely, this involves experimentation. And we are experimenting with people's lives during a health crisis. Some countries are having better results than others. As aid agencies, how are we using monitoring to ensure we are not doing harm or experimenting in ways that are doing harm. Digital communications are also often private, so they have less oversight. So, we need a complaints hotline so that they can report it if they are not safe in a one-t-one conversation online. Also, our staff can be more exposed than normal in the crisis, and we also need to be aware of data protection.

Ayanda focused on a decentralized data collection and reporting approach that builds into a centralized platform. This system, South African School Administration and Management System (SASAMS) is used for different schools to upload data from their location into a consolidated and aggregated database. We have used a similar approach with civil society and private sector partners where different implementing agencies use a tool to track and monitor, and they report back to their stakeholders at the local level as well as the central level. This allows the task of data collection and reporting to be done across different sites, over 24,000 schools in South Africa. The owners of the data can use the data themselves to generate insight and for localized decision-making. This is part of our effort to build a data-driven culture in education.

With COVID-19, the sites are abandoned so as long as there is no one at the school, there is no data, and we don't know when people will be returning to school. When thinking about readiness to return to school, it was necessary to use a different approach to collect data at schools. In civil society, it was a bit different and people did continue working from home with their own devices. As schools re-open, the department of education will be using its own systems again.

General challenges that are faced with decentralized approaches are related to buy in for use of the tools. When the department of education rolled out SASAMS, schools were not using it to report. Also, people do not understand the change that is required of them to produce this data. Often solutions are developed and rolled out and people don't understand how the data process feeds into a wider objective. A third issue is that there is insufficient capacity. When working cultures are hierarchical, these tools are just handed down and people are told to use them, but there is no training and no support provided. Early adopters will take these up, but others will just tick a box to comply without giving much thought to whether the data they are collecting is true, and this creates data quality challenges. When people don't understand why and for what they are collecting data, the quality will be lower. It's important for the data to be useful for those who are collecting it, and this will improve quality of the data.

Good practices:

- Solutions need to be developed with the users and take into account what data local users need, not only what the centralized system demands.
- Systems need to be interoperable so that the data can overlap, and the data can be integrated with other data for better insights or can be automatically updated (for example, phone numbers).
- Data standards need to be established so that different systems can capture data in the same way or the same format.
- Whenever one is rolling out a solution, it's important to have a well-designed change management program to bring people on board and support them. Role modeling by leaders can help to promote new behaviors.

QUESTIONS AND ANSWERS

How do you conduct remote training for enumerators?

Ignacio: We work with enumerators we've worked with previously. We also use prerecorded videos and Skype sessions to build on the videos. The new reality required re-emphasis on some aspects, for example, consent processes and debriefing after a day of data collection. We also track when and why respondents are discontinuing with surveys. Sometimes ad-hoc training is required, so we do spot checks by recording calls and reviewing a sub-set of the calls. We masked phone numbers of enumerators and respondents to protect their information.

How do we ensure that the data collected is complete if we don't have other context cues?

Janna: You do miss out on context. A lot of remote data comes back as quantitative data. Make sure you know what you want to observe and see if there is a way to capture it. Audio? Video? How can you design for that in your approach? Also, don't just think about data collection, think about how you can visualize and interact with data in charts or graphs so that you can start asking yourself some questions about the data and then go back to the enumerator or the individual if there is data that doesn't seem to make sense.

What is meant by data interoperability and systems speaking to each other?

Ayanda: Different systems are collecting different data. But you might want to use data that comes from other sources rather than re-collecting that data. Unique identifiers can help with identifying an individual across a number of systems, for example a teacher across systems. However unique identifiers can be a problem if you are working with a national ID, for example, and some people would be left out if they do not have an ID. Another point is that you must be careful that you are not combining data sets if there is not consent for that.

How can we deal with issues of inclusion such as literacy, language, technology access, data access?

Ignacio: We have made appointments with people and that has helped to improve the number of people responding to surveys. We also try to understand aspects of literacy and language. This has increased response rates. We triangulate the data we are getting and try to understand the demographic data. To get the right insights we need to know who we are reaching out to in any case. Who are we reaching and who are we leaving out? We need to know that for data quality.

Janna: Are we considering different program styles? We don't normally run internet accessibility programs alongside our remote monitoring. But this is something to consider. Could you get funding to provide people with smart phones or internet? Coronavirus has decreased travel, but we do still have a variety of kinds of meet ups. In some countries, people can still meet in groups of 5, for example. So, we might think about working in small groups in places where that is still possible.

Ayanda: We need to think about whether there are other manners to respond. You can use a community-based response where one person in the community can articulate the needs of the wider community. To a certain extent, in these times, you might be able to do that, if we are careful about representation.

Other thoughts: This could also be combined with secondary methods if there are people who we assume are left out. WhatsApp voice recordings can be used also. There are several experiences of doing that.

Is providing airtime a good idea? Is it ethical? Can it skew the data or create perverse incentives?

Janna: It is definitely one approach to provide airtime, but this will be almost like a cash program. They may or may not use the airtime to answer your survey. Is it "restricted" airtime or "unrestricted" airtime.

It's not totally clear how providing incentives might affect an individual MERL effort, or how it could impact on wider MERL if some programs provide incentives and others don't. This is an area for additional research.

In the current context of great stress are we burdening people by pushing remote monitoring? Is this causing harm?

Ignacio: Getting an idea of what questions are feasible to ask over the phone is important. We've been piloting that. A lot of these efforts need to be experimental and we need to see what is working. There is always a cost to data collection, financial and time. It's not uncommon to compensate respondents. We can also check what amount of time is optimal for these kinds of surveys and efforts.

How can we be more mindful about the entire program and potential issue of extractive data collection?

Ayanda: It depends on the methods being used, If the data is collected in ways that individuals providing the data are more informed or gaining insights and benefiting from it, then the method is enabling or supportive. If a method is just getting information from them, and if all they get is "thank you for your time" then that would be extractive. Sometimes that is part of a community initiative meant to benefit a whole community, but are we really circling back with those feedback loops? We normally just take data away and don't go back to communities.

WHAT FURTHER RESEARCH QUESTIONS ON REMOTE MONITORING SHOULD THE SECTOR EXPLORE?

- Remote data by design – how can we design monitoring to be remote from the very start? What new gaps could we fill and what kinds of mixed methods could we use?

- What quality of data are we getting from remote processes? How does it differ from in person data collection?

- What kinds of two-way platforms are the most useful? For example, WhatsApp and its voice recording features are gaining in popularity for remote monitoring. Is there documentation on how WhatsApp can be used effectively and ethically?

- Can we create a simple overview of opportunities and threats of remote monitoring?

- How much data actually gets analysed and reported....versus data that is never used after being collected?

- How do we ensure no one is left behind in our evaluations if we move to device-based monitoring

- How important is the presentation of the survey itself and the premises we make before initiating the survey? How does it affect the quality of data collected?

- When adapting or shortening a questionnaire for remote data collection, how do we balance among prioritizing retrieval of the information we need and asking the questions that would guarantee higher data quality?

- What other ways can qualitative data, such as that which you would normally obtain from focus groups and in-depth interviews be collected? How can we engage those who are marginalized in this process, especially those without access to digital tools such as mobile phones, computers, etc.?

- What are some ways to ensure the safety of the respondent (in cases where we are collecting sensitive information?) for example, information about gender-based violence from someone who is on lockdown with their abusive partner? What are the repercussions of asking sensitive questions?

- What kind of data standards do we need to have in place to improve interoperability?

- How can we create data continuity plans during the pandemic?

RESOURCES:

Video: 12 Tips for Reporting to Communities (created since coronavirus occurred)

8 ways to check your data quality

How to adapt your M&E during the COVID-19 Pandemic

Phone surveys in developing countries need an abundance of caution

The impact of COVID-19 on Research Ethics

Monitoring and accountability practices for remotely managed projects implemented in volatile operating environments

Digital and remote monitoring

Remote monitoring in fragile states

Humanitarian Programming and Monitoring in Inaccessible Conflict Settings: A literature review

Use of mobile phones for evaluations in Fragile or Conflict Affected contexts

Evaluation in hard-to-reach-areas

JUNE 4 EVENT:
USE OF ADMINISTRATIVE DATA FOR THE COVID-19 RESPONSE

Administrative data is that which is collected as part of regular activities that occur during program implementation by governments, development agencies, or service providers. It has not been tapped sufficiently for learning and research purposes by the public sector or by MERL Practitioners. As the COVID-19 pandemic advances, the question arises of **how might administrative data be used to help with the COVID response**, and other national or global pandemics or crises that may occur in the future.

At this third event, we were joined by **Kwabena Boakye**, Ministry of Monitoring and Evaluation, Ghana; **Bosco Okumu**, National Treasury and Planning, Kenya; **Stephen Taylor**, Department of Basic Education, South Africa; and **Andrea Fletcher**, Cooper-Smith.

Kwabena kicked off the conversations by providing background and context on administrative data and how to optimize its use. M&E thrives on quality data and evidence to under whether policies are fit for purpose. There is also a huge component of learning – this means that we gather data in the right form so that we can learn from it. Every institution continuously generates data in their work. This operational data manifests in the form of registers, documentation on who is benefiting form a project, insurance claims, and the like. All kinds of significant data is available that we could use. This day-to-day data has huge potential. It's already integrated into our working architecture, so it becomes handy and cheaper than commissioning a survey because there is no need for a new process to create it. Challenges are related to how it's structured, however.

Administrative data is updated frequently, and in some cases it can be more relevant than data from a survey since the data covers almost the whole population, so you may have data of greater quality and timeliness, that is also cheaper. These are the potential benefits that come from administrative data. It's an untapped goldmine waiting for governments and institutions to exploit for decision-making. At the same time, there are some challenges. For example, administrative data only covers those who are benefiting from a program, and others will be left out. It will also be time-bound to the life of a project which can mean there are gaps in the data. Administrative data sits in silos and there is currently no interoperability across systems.

As we look to the horizon, we need to think about how we can leverage the potential of relevant, user-friendly data that can enable evidence-informed decisions. We need proper policies and institutional arrangements, tools, and processes to make sure that this data is organized. Normally a government will define activities and indicators, and this helps understand if you are on track. But we need these different kinds of data to be interoperable so that we can understand the convergence of program impacts rather than just the results of individual programs. We can automate with digital tools to make the process more seamless. For example, color-coded dashboards can help different ministries to see how they are doing and to zoom deeper into the data to see what is happening in more detail.

Bosco talked about how data collected for programming purposes or administration of programs, and national surveys are being used in Kenya during the COVID-19 crisis for program monitoring and evaluation. Some examples of administrative data being tapped include educational records, client information from financial institutions, hospital records of patients, and health outcomes. Local examples of administrative data in Kenya include the Kenya Demographic and Health Survey (KDHS), the Kenya Integrated Household Budget Survey (KIHBS), census data, administration records from Chiefs and County Commissioners.

COVID-19 has made it difficult to collect survey data, so administrative data is an important alternative source of information to continue making data and statistics available to the public and for evidence-based decision making. For example, the Kenyan Ministry of Health database has the exact number of health facilities by different levels, staff capacity, bed capacity, and existing ventilators in the country. This information was used by the Kenyan government to plan for a potential a surge in the number of COVID-19 related patients and to purchase test kits, masks, ventilators and recruit key medical staff.

The Ministry of Health administrative data on the execution and outcome of Covid-19 tests in the population has been used to inform which international and inter-county and township borders and lockdowns were needed to stem the spread of the virus. Patterns of infection with COVID-19 have been used to guide the manufacture and distribution of masks and sanitizers, allocation of testing kits and ventilators, as well as policy decisions on which areas to be put under cessation, curfew times, and areas to conduct mass testing. Administrative data is also being used to design strategies on how businesses and employees can be cushioned during this period. Lastly, administrative data from Kenya National Bureau of Statistics (KNBS), the KIHBS, the 2019 Census, and data from chiefs and ward administrators has also assisted the government with identifying needy households in Mombasa and Nairobi counties where there was cessation of movement. This information was used to estimate the approximate cost of distributing food and cash transfers to vulnerable families whose fate was rendered worse by the lockdowns.

Administrative data therefore holds untapped potential for M&E, and Kenya's M&E directorate is looking at possibilities of assessing the impact of various interventions on the economy, including:

- Impact of the public service staff rationalization program on service delivery to the public
- Curfew (restriction of movement between 7 p.m. and 5 a.m.)
- Lock down of certain sections of city i.e., targeted lockdowns
- Social distancing
- Face-mask wearing
- Hand sanitization
- Closure of schools

Stephen covered how COVID-19 is exposing gaps in South Africa's administrative data in the basic education sector. Because of the coronavirus, schools are closed and there is a lot of work being done to determine how and when to re-open them. Closing schools was the safe and cautious thing to do, but we are balancing the impact of the virus spreading in schools and the impact of keeping schools closed and children out of school, which may lead to massive education, nutritional, health and psychological damage to children, The pandemic is going to be around for a year or two years and we can't keep children out of school indefinitely. The system needs to make huge adjustments, and there is a role for M&E and research there. We need to assess the quality of data that we have from various studies in order to make decisions about the safety of opening schools. As of now, studies appear to show that school closings have a limited impact on virus spread. But communicating that point is a challenge. As we look towards opening schools there is a need for instant, real-time information about schools and we are under pressure to verify that schools are ready to open. We need quick data systems to tell us where school are ready or not. The urgency around this is exposing the weaknesses in our administrative data systems.

When schools re-open, compliance with new standard operating procedures such as hygiene and social distancing will need to be monitored. We'll need to evaluate the impact of school re-opening on the virus. We have a staged opening process with certain grades returning at certain times. We'll need to understand the impact of the first round of school openings on the virus to determine whether to continue opening. We'll need to be able to compare the impacts of reopening schools on the virus spread and the effects on children of being out of school to see how to move forward. Unfortunately, our current administrative data systems are not real-time, so we are doing school-based surveys, telephone surveys of school principals, but that has again exposed weaknesses in our system because oftentimes we do not have updated contact information and cannot reach them. We're also doing a nationally representative household survey with a third-party company to do a telephonic survey of households to gain more information about what is happening in homes and how children are participating in homebased learning. Do they have access to the internet? Are they using online content? Are they watching television or listening to educational programs on the radio? What is the nutritional impact of staying at home when there is no access to school-based

meals? The challenges we are experiencing are symptomatic of the chronic and pre-existing weaknesses in our administrative data systems.

Some issues are that there is a demand for beautiful dashboards and maps but there is insufficient attention to the underlying data processes that would be needed to produce this information. Having a nice IT system doesn't help if you don't have underlying reliable data. People want real-time data but we are missing critical things like internet connectivity in schools and accountability for uploading data, and data quality. We have questions about accountability here – who is accountable for the quality of the information? The people designing the system or principals, district officials, provincial officials who need to provide correct information on a regular basis. Getting schools ready to open raise issues about accountability in the system. The Minister is being held accountable for the system but there needs decentralized accountability across the whole system.

When we get partial responses from the system, there is insufficient attention to which parts of the system are providing data and which are not. How is that biasing the results? What can sample based surveys give us and what can't they? There is also confusion about what is a representative sample. Something positive that will come out of this is an urgency and focus given to information. This will help us improve how we generate and use data throughout the system. And hopefully we'll end up with a more modernized, school- based management system. However, a better system will not just be about the end product of a nice dashboard. It will rest on accountability for correct and updated information being produced across the school system.

Andrea spoke about improving the use of what she termed "routine data" based on her experience supporting the Ministry of Health in Malawi, a new digital health division, and the Public Health Institute of Malawi. Within the project, a key focus has been on interoperability of data systems and supporting technical capacities. The project had been focusing on HIV and pivoted over to COVID earlier this year.

A first step in the project was understanding the data needs of decision-makers in government. Who are our decision-makers? What decisions are they making? What data do they need to make those decisions? What data are they currently using? Secondly, it was important to take stock of existing data sources and systems. This meant leveraging existing public data sources for risk modeling and epidemiological modeling, world population data, economic vulnerability, and other epidemiological models. Challenges were that Malawi's census data was not updated and did not take into consideration things like migration patterns. There are also growing seasons for tobacco where people migrate during rainy and dry seasons. We worked with different modelers to put this all together. Additionally, we looked at mobile network operator data that the Digital Impact Alliance (DIAL) had access to that offered an understanding of migration patterns. We were able to understand if people were staying at home or going to markets. That helped us model how the disease might spread. We also used **Google mobility data.**

In addition to the data we had, we needed to think about what new data we needed. Our routine data did not have COVID-19 data, so we needed to build that in. We worked with the one health surveillance platform for COVID-19 to build out three mobile apps – one at facilities, one at district level, and one for contact tracing. This was a priority to understand how the virus would spread. If you had 100 cases and each had 10 contacts, you needed to manage the number of contacts required follow up on a daily basis. We worked with lab testing data and supply chain data as well. COVIID exposed weaknesses in supply chain management data around personal protective equipment and other medical supplies. Those data sets are often in siloes and are not interconnected and that is a problem. We worked with public health emergency centers to determine what their digital and data needs are. They are making fast decisions using real-time data. These are systems that normally take months to rollout, and we are trying to do it very quickly. How do you present clear and meaningful visualizations to the right people at the right time? Do they need a map? An epidemiological curve? Different scenario options to review? What are mitigation scenarios? What does flatten the curve really look like in Malawi? We had some issues with presenting data to the local level as we only have it at the district level, it's not disaggregated, or its out of date. Routine administrative data has often not been updated. Rolling out training programs in low connectivity context to people who have not used a mobile app before has also been a challenge. Operational issues are really key here, as we are often struggling with things like server capacity.

QUESTIONS AND ANSWERS

How could we bridge the sophistication gap between what the public sector has and what a private sector company would have access to in terms of data?

Andrea: In the health sector we deal with privacy and security on a daily basis. The health sector is already aware of data privacy, as sensitive health data often has a national ID attached. Mobile tech has been a game changer. We've been able to put a lot of data visualizations on a mobile phone or a tablet. When people see their own data visualized on a regular basis and that data is useful to them, they are able to also see the gaps in their own data and to improve the quality of their data. In routine data systems for health, when we started moving to a higher tech rollout of systems, we saw a reduction in errors. This was not possible when we were using paper systems. We know data quality and data use go hand in hand, but we still don't have a good way to measure whether people are using data locally to make better decisions. This is an area for more research – that is still a big unknown.

Kwabena: We are talking about M&E here, but the first important question is why? Data is only relevant if it answers the right question or responds to a need. State actors don't spend enough time identifying opportunities coming out of the work they are doing. Governments don't often clearly articulate a data architecture or identify where the evidence will come from so that the decisions can be made. A lot of data is generated but it's not useful for those who actually need it. There is a lot of SDG reporting, but some of the data needed for this is purely administrative data, but the entity that is generating the report has to get the data from others. You have to structure the data you need, the quality, the kind of data. The private sector knows what they want and so they generate it in that form, but in the public sector you spent a lot of time tweaking the data. The one generating the data doesn't know why it is being collected. What we need to do is to identify our story lines and then design our systems so that we are collecting the right data for the decisions that need to be made. The better your data is structured, the easier it will be to understand who is left out. Our data is not organized in the right way to allow us to use to for the decisions we need to make. We've tried to step back to see what decisions need to be made and work backwards to refine our instruments so that they are responsive to the need. So yes, there are challenges, but these are surmountable.

Stephen: One difference between Facebook's data and government data is that Facebook's data is somewhat "accidental" whereas our data requires people to report. It's not side effect data that comes from using a tablet. It's a different data collection process and there is a burden on those who need to produce it. This is one way it differs from big data in the private sector. In terms of value to the user, in education, there might be data that helps teachers or administrators manage the school and the students' needs, but I have not yet seen a system that is actually useful to teachers, it's mainly been systems that create an additional burden for teachers and administrators. So, we need to find a way to create a system that helps teachers.

What are some of the barriers in improving administrative data at all levels?

Bosco: Bureaucracy is a barrier - approvals and agreeing on what you're going to do and how you'll do it. There are also issues of access. In Kenya we tried and have improved our freedom of access to information. We are keen to look at this data for COVID. Everyone is asking who the patients are, but we have to keep it anonymized and not link personal health data to an individual. One of the major pillars of development is universal access to healthcare. There was a lot of confusion over quarantine and treatment at first, but we've been doing a better job now of using information to ensure universal health access.

Stephen: There are three areas that we can look at here: capacity, sensitivity, and complexity. In terms of capacity, we don't' have enough people working on data sets and quality control. That links to sensitivity in that there are privacy concerns and concerns about whether data might illuminate problems in the school system, and people may be worried about that information getting out. There are not enough people working with the data to create a feedback loop or to identify ways that we could improve on the data. Then in terms of complexity, it's very hard for anyone to get their head around the whole system. People don't understand all the different bits of the system at national, provincial and school levels. People often do things different at different parts of the system so it's a complex issue and there is little coherent understanding of how it all fits together.

Are any of you combining administrative data with other types of data sources?

Andrea: We've been tapping Google and Facebook to access large de-identified data sets. Google mobility data might look different in rural and urban areas. Google mobility data includes anonymized location data from people based on what their phones are tracking while they use Google maps. We used mobility data to look at what other countries are doing and seeing if different policies that other governments were doing were working to keep people home. In South Africa, Zambia, and Zimbabwe, there are certain policies, and we looked at whether those policies actually decreased mobility. These are proxy data sets and there is a lot of bias in them – people in rural Malawi and poorer people don't have smart phones. So, we used this data because we didn't have another option in the current context of limited face-to-face contact. We've also used cellphone data to see trends with population movement. There are lots of questions about the use of this kind of data, or about social media data, and for good reason.

Kwabena: Our administrative data is not going to be sufficient, so we are starting to look at other things. For example, you can see on Facebook how people are feeling about a particular thing and their perceptions of a certain government policy. If you can leverage trends, then this can help you to investigate more with other kinds of research.

Bosco: We've been combining data from county offices and national census data together.

Stephen: In terms of combining data sets, yes, we combine administrative data, but we also use it for monitoring, research and learning. When you can link data sets it's greatly enhanced. As a researcher I try to do that as often as possible. We do combine household data with our administrative data. We need to do more linking of different government administrative data systems together so that they are able to talk to one another. We do still have some challenges with data sharing across government departments, and we need to be careful when it's sensitive data.

What are the priority actions to improve the use of administrative data?

Andrea: There is a biproduct of digitizing systems: the metadata. How many users do you have and what data are users of an information system or a dashboard relying on, what are they looking at? When we create digital systems, all of that back-end data can be used to better understand how people are using these systems. One way to do that is to set up Google Analytics, for example. So, you need to plan how you will monitor the use of your administrative data system. We still don't have methods for analyzing real-time data on use of systems, however. As people building and using these systems we should be turning to the data to help us to improve the system. We can use human centered design or observation to see how people use a system.

Kwabena: There is potential, but how big is the potential? Let's pilot with a few and see how administrative data is generated, what are the gaps, what are the opportunities, and how can we leverage that? That would help us come out with priorities. I'd like to see a pragmatic approach so that by the time you have finished the chain it's been designed properly.

Bosco: I would like to see how the government and private sector can work together. Government works in silos, and that's a challenge, but in this area we also have capacity issues. It would be good to learn from other countries on how they are resolving these issues.

Stephen: Some research could help, but we have ha research already done. We know what the issues are and we need to get on with training of officials at various levels, training senior officials on interpreting the data, using it for decision making, training for data producers to turn it into tables, graphs and reports, international development agencies could fund local capacity building. It's not about lending a human resource to a department for a while but building cohorts of people in departments who can develop the skills and apply them in a particular setting. To build long-term institutional capacity and memory will take time, and we need to change the culture of data use, data thinking, and evaluative thinking. More analysis of existing data sets is also a good idea. Maybe existing data systems are underutilized and rather than build a whole new system, we can see how to make better use of our current data systems. This would be better than a compliance approach where there is a lot of data that people have to collect but there is less emphasis on data use.

CLOSE OUT AND NEXT STEPS

Dugan Fraser (Clear-AA) closed out the session by saying that these conversations have been incredibly helpful and useful and that we are trying to do different things in the public space. The intentions make the opportunities and challenges different. It is clear, however, that a vision of what success would look like needs to be outlined by those of us who want to improve the sector and those who see a role for technology.

We need to break up this body of work into some elements. We may want to adopt some standard practices. We may also want to think of innovative ways of doing things and different ways of combining datasets – and not just during emergency conditions. What are the things we can do now, what are the things we want to explore and innovative around, and what is a long-term agenda that we might pull together to work on jointly?

We will make up a mailing list of people interested in working on this agenda going forward. This will likely be an online process, and there are a number of priorities to discuss. Contact Talitha Hlaka on **talitha.hlaka@wits.ac.za** to become part of this agenda.