RD4C CASE STUDY:

THE GOVLAB Unicef



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I. Abstract

UNICEF and its partners collect and use large amounts of data to support their operations, emergency response efforts, and partnerships. In an effort to address significant disparities in how different offices within UNICEF handle this data to support their activities, UNICEF launched a pilot and engaged with partners to develop a platform that would allow for data centralization and standardization. The result was InForm, an Open Data Kit-based data collection and management tool that centralizes dispersed data streams, secures collected data in a common platform, and enables data analysis and visualization. Deployments of InForm in Mozambigue to respond to Cyclone Idai and Kenneth demonstrate how InForm captures the RD4C Principles of being purposedriven (by having a user-centric design approach); participatory (by both relying on and enabling collaborative engagements); proportional (by allowing agencies to centralize data instead of conducting duplicative collections); and prevention of harms across the data life cycle and professionally accountable (by centering data protection). To further advance its responsible data approach, standard operating procedures for handling sensitive data could prove useful. Personnel might also seek to remain cognizant of the time and resource constraints on implementing parties and the need to engage partners early in deployment.

Tags: Participatory; Prevention of Harms across the Data Life Cycle; Professionally Accountable

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II. THE ISSUE AT HAND

The United Nations and its partners collect a large amount of data to support their operations, programmes, emergency response efforts. and partnerships. This data, often gathered by disparate personnel around the globe, can be used to promote better decision-making at agency headquarters, regional, country and field offices, and partner organizations; enable tracking of progress toward achieving development goals; and support those providing services to at-need populations. UNICEF is a large user and producer of data in its work to understand and support the needs of children and their families worldwide.

Data has historically been collected by many different teams and offices within UNICEF, each with different standards and practices in how they collect, represent, store, analyze, and act upon it. These policies can also be fragmented within offices themselves, with different parts of a country office pursuing their practices. This issue is further exacerbated by UNICEF only possessing Enterprise Architecture for internal, corporate platforms and lacking similar architecture for data collection, management, and visualization that can be used by country offices.

These facts have contributed to a lack of overall strategy, processes, and tools for data management and use in the field. This absence, in turn, resulted in duplication of work and data fragmentation.¹ The tools that country offices used often missed Software as a service and support contracts. As a result, headquarters and regional offices were often asked to provide technical support with little-to-no lead time.²

Faced with these challenges, the agency realized the status quo created problems related to data security and neglected "an opportunity to guarantee reliability of the platforms through a centralized engineering team." Moreover, "disparate data collection and monitoring systems limit[ed] the use of data for learning and decision-making in humanitarian settings, and weaken[ed] the evidence base for programming, advocacy, innovation and resource mobilization."³

In 2016, UNICEF began exploring ways to standardize databases according to common processes and tools to address these challenges. UNICEF elected to pilot a platform, which would become the basis of InForm, in Somalia starting in 2016.⁴ The pilot deployment coordinated humanitarian response to a drought that had left 40% of the country's population

¹ Blaschke, Sean. 2022. "RD4C Case Study Review," January 25, 2022.

² Niccolo Cirone and Benjamin Grubb. "INFORM — COVID-19 Common System for Data Collection." Presentation.

³ UNICEF/2020/EB/7 - Midterm review of the UNICEF Strategic Plan, 2018–2021: Lessons learned

⁴ Benjamin Grubb. Interview by Andrew J. Zahuranec. October 20, 2021.

on the brink of famine.⁵ With national response capacities overwhelmed and development aid not easily available, UNICEF deployed InForm to support local authorities and donors.⁶

The success of this effort (discussed below) led to further development and ideation. In 2020, UNICEF began reviewing how partner agencies such as the World Food Program (WFP) and United Nations High Commissioner for Refugees (UNHCR) managed their data. Both agencies centralized their data tools, creating increased efficiencies in how the data was used. This practice pushed UNICEF to develop a centralized data platform that could be used by any country office for various purposes. Prioritizing the notion of "One UN," UNICEF also aimed to create a platform that contained tools that could supplement and communicate with existing data platforms used by headquarters, such as eTools.⁷ These efforts developed into InForm.

III. ACTION

InForm is "an internally hosted ODK-based Data [Open Kit] data collection and management platform for UNICEF [used] to consolidate fragmented investments, improve data security, and access specialized support."8 The goal of this system is "to introduce a common approach to country-level primary data collection (e.g. surveys, assessments, CATIS, and monitoring tools) and relative processing, management, and visualization for improved Results-Based Evidence-Based Management and Programming."9

InForm allows country offices to collect data onto a centralized, secure platform. Once centralized, survey data can be analyzed to support long-term planning and programming and shorter term response to humanitarian crises. Data from previously fractured ecosystems can be mapped or visualized to promote better decision-making among UNICEF country offices, field offices, and partners. InForm also allows UNICEF headquarters to provide targeted technical support, something previously impossible due to the variety of platforms used.¹⁰

These aspects of the platform came to the fore in the pilot deployment in Somalia.

⁵ World Bank. "Preventing Famine in Somalia by Supporting Sustainable and Resilient Drought Recovery." https://www.worldbank.org/ en/results/2019/11/11/preventing-famine-in-somalia-by-supporting-sustainable-and-resilient-drought-recovery.

⁶ Ibid.

⁷ Blaschke, Sean. 2022. "RD4C Case Study Review," January 25, 2022.

⁸ Cirone, Niccolo and Grubb, Benjamin. "INFORM — COVID-19 Common System for Data Collection." Presentation.

⁹ Ibid

¹⁰ Niccolo Cirone, Interview by AndrewYoung and Andrew J. Zahuranec. September 17, 2021.

Faced with dynamic security challenges that included active conflict and terrorism, humanitarian issues relating to drought, and a need to improve service delivery broadly, UNICEF's Somalia Office began developing "a whole-of-office platform that was designed to ingest data, record service delivery, and visualize it." ¹¹In particular, officials started exploring ways to consolidate data about important aspects of the environment (e.g. WASH, health, and education facilities and accessible roads), reduce inefficiencies from different partners collecting data in non-interoperable formats, and promote common cybersecurity practices to guard against data breaches or misuse.

Leaders focused on mapping WASH, health, and education facilities and "overlaying that with other critical data sources, such as [conflict] incidents" to see how the drought crisis was evolving and which areas most needed service delivery.¹² Given UNICEF's mandate to respond to nutrition in emergency contexts, special attention went toward monitoring nutrition-related issues. In 2017, UNICEF reported that its overall response to the drought, of which InForm was a part, led to 270,000 children with severe acute malnutrition receiving treatment, 1.3 million women and children receiving emergency health services, and 1.8 million receiving at least temporary access to

sustainable water sources.13 The use of the platform itself and feedback received through workshops with implementing partners on how InForm compiled and displayed information allowed staff to revise the platform to adopt a more " user-centric design approach."¹⁴ Staff were able to add better data visualization and reporting tools to the front end.¹⁵

After this initial pilot in Somalia, the platform developed through a two-phase approach. The first approach was bottom-up, informed by the needs of regional country offices and their actions. The second was led by UNICEF headquarters and the UNICEF Office of Innovation, both of which decided on which vendor to approach for a solution and how to implement the eventual solution. Contracting with the vendor began November 2020, with installation of it occurring in March 2021 and production beginning June 2021.

15 lbid.

- 11 Grubb supra note 2. Ibid.
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[&]quot;UNICEF Helps Avert a Famine in Soma-13 lia in 2017." https://www.unicef.org/somalia/stories/unicef-helps-avert-famine-somalia-2017.

¹⁴ Grubb supra note 4.

A. SERVICE



Figure 1: InForm's data life cycle simplified diagram

After deciding to move forward with the platform in November 2020, UNICEF engaged Ona Systems¹⁶ to develop a platform to address coordination issues. The contractors developed the InForm platform, which bundles a customized toolkit of software, including ONA Data and Canopy Analytics (developed by ONA), "the first data management solutions platform designed specifically o meet the demanding needs of social impact and international development

organizations."¹⁷ It is an ODK-based software used at scale "in 27 UNICEF country offices across 4 regions (plus four global and regional offices)" across all development and humanitarian areas.¹⁸

Collecting information from mobile and web forms, call centers, task-based data collection platforms, and citizen information feedback, the platform works even without internet connection.

¹⁶ Ona. "Ona - Where Need Is Greatest, Using Data to Transform Lives." https://ona.io/ home/.

¹⁷ Canopy. "Canopy | The first data management solutions platform designed specifically to meet the demanding needs of social impact and international development organizations." https://ona.io/home/products/canopy-analytics/ features/.

¹⁸ Cirone and Grubb supra note 2.

The XLSForm standard—which is a standard¹⁹ that allows for easy creation of questionnaires in spreadsheet programs such as Microsoft Excel or Apple Numbers—is used for creating questionnaires. These questionnaires can be accessed over the web or offline, but enumerators can also use the ODK Collect App—a mobile application which allows the creation of forms to collect data (see Figure 1)—for mobile collection. Enketo is a widely used open-source web application that uses an open-source form format. Besides other advantages, Enketo works offline and "can be combined with other tools to flexibly create a full-fledged information management system."²⁰ When there is no internet connection, data is securely saved and encrypted in the browser of the device. Encryption is also used during data transmission, when internet connection is available again, as well as in data storage at UNICEF's servers hosted by Microsoft Azure.²¹

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Figure 2: ODK Collect App screenshots²²

^{19 &}quot;XLSForm Docs." XLS Form. Accessed February 2, 2022. https://xlsform.org/en/.

²⁰ Enketo. "Enketo." https://enketo.org.

²¹ Niccolo Cirone, Ben Grubb, Anthony Mockler, and Marc Rubin. "Data Technologies for Humanitarian Response." Presentation.

^{22 &}quot;ODK Collect - Apps on Google Play." https://play.google.com/store/apps/details?id=org.odK. collect.android&hl=en&gl=US.

Data management and integration is made possible by Canopy, which is used for instance when country offices want to integrate data inside InForm with other internal or open data systems such as Rapid Pro. The technology used for analysis and visualization is called Apache Superset, a drag-and-drop interface which enables the creation of charts, visualizations, and dashboards.²³ At the data visualization level, it is also possible to generate reports for stakeholders, such as governments, with a variety of third-party software, including Tableau and Microsoft Power Bl.²⁴

In terms of data protection policies, InForm officials claim the platform is compliant with the highest and strictest rules for data protection in UNICEF,²⁵ though the research team was not able to verify this claim independently. Interviewees indicated that any time a country office embarks on data collection, they are informed of specific requirements as it relates to collecting PII and other legally sensitive information.²⁶ In coordination with UNICEF's Data Protection Officer, staff also signed a data breach protocol with the technical vendor.²⁷

B. DEPLOYMENT

One notable application of the InForm platform was in Mozambique and Zimbabwe for emergency response. In March 2019, Cyclone Idai made landfall near Beira City, Sofala Province in central Mozambique. The resulting high winds and torrential rain destroyed lives, livelihoods, and property.²⁸ The disaster killed hundreds across the region and left 2.2 million people in need of urgent assistance in Mozambique alone.²⁹

Officials in Mozambique and Zimbabwe contacted UN staff shortly after the cyclone made landfall to seek support for disaster response. Led by the body for disaster and coordination emergencies in Mozambique-Instituto Nacional de Gestão e Redução do Risco de Desastres-government authorities requested UNICEF support in applying data-driven tools that could potentially be used to give national leaders in the capital Maputo "a full idea of what was going on and what [action] could be necessary in the field,"³⁰ particularly using data visualization tools. Based on prior experience that the government had with InForm-supported tools for mapping WASH facilities and

²³ Niccolo Cirone, Interview by AndrewYoung and Andrew J. Zahuranec. September 17,2021.

²⁴ Benjamin Grubb. Interview by Andrew J. Zahuranec. October 20, 2021.

^{25 &}quot;UNICEF Policy on Personal Data Protection."https://www.unicef.org/supply/documents/ unicef-policy-personal-data-protection.

²⁶ Cirone supra note 22.

²⁷ Ibid.

²⁸ OCHA. "Cyclones Idai and Kenneth," March 18, 2019. https://www.unocha.org/ southern-and-eastern-africa-rosea/cyclones-idai-and-kenneth.

²⁹ Ibid.

Nelson Rodrigues. Interview by AndrewYoung and Andrew J. Zahuranec. December 14, 2021.

after showing government officials some dashboards and data collection tools available through InForm, the government greenlit an effort to build a Cyclone Idai Rapid Response Platform enabled by InForm.³¹

Headquartered at the emergency response effort at the national airport in Beira City, UNICEF personnel subsequently began compiling information that could be used for disaster response. Relying on well-developed local and institutional partnerships-e.g. with the International Organization for Migration (IOM), the World Bank, WFP, and the United Nations Office for the Coordination of Humanitarian Affairs (OCHA)—UNICEF staff were able to gather information on key infrastructure services—such as schools. health facilities and power plants—as well as "population census data (gathered from the government) to help emergency response teams assess how many people were affected, and in which areas" (see Figure 3).³² By aggregating different data sources, the UNICEF team was also able to assess "road access conditions (based on WFP data), and visualize data from rapid and aerial assessments."33

While the platform included capability for data collection and the government built

forms that could be deployed through InForm, UNICEF personnel opted not to independently collect new data for the Cyclone Idai Rapid Response Platform. Instead, the team opted to ingest and reuse datasets that had already been collected bv the government and aforementioned partners. Data had to be processed and cleaned before integration into the platform, where it could be displayed as a map overlay, graphic, or other resource by disaster responders.³⁴ Children's data was not explicitly targeted. However, most partners who fed data into the system did provide some level of disaggregation according to gender and age (though this did generate some challenges later). Information was not deemed to be sensitive and was, for the large part, already aggregated.

IV. IMPACT

The use of inForm for disaster response to Cyclone Idai yielded several societal and organizational outcomes.

A. SOCIETAL OUTCOMES

The Cyclone Idai Rapid Response Platform facilitated the immediate response to the disaster and, later, proved useful in the response to Cyclone Kenneth, which struck approximately one month after Idai. The aggregated information enabled, among other services, a way for personnel to map and visualize the

³¹ Ibid.

³² Sean Blaschke, Shepherd Mutsiwegota and Nelson Rodrigues. "Saving Lives and Livelihoods through Multi-Agency Data Systems," October 1, 2020. https://ona.io/home/case-study/ saving-lives-and-livelihoods-through-comprehensive-multi-agency-data-systems-and-design/ 33 lbid.

³⁴ Rodrigues supra note 30.

location of key infrastructure services, including energy posts, water points, and other essential infrastructure on top of maps of known flooding.³⁵ This information helped analysts across agencies to identify that an energy plant was in the path of the cyclone and there would likely be a disruption of electricity as a result.³⁶ Rapid Assessments, similarly, used aerial data collected by OCHA and ICRC to represent the conditions of roads in near-real time on the dashboard.



Figure 3: The Cyclone Idai Rapid Response Platform's Infrastructure Service Mapping³⁷

The InForm-based platform also allowed for mapping of populations. Using census data (gathered from the government), emergency responders could assess how many people were affected by the cyclone and where they moved. In the words of one participant, "as soon as the first datasets came, we were within hours able to plot how many people there were in terms of those displaced."³⁸

³⁵ Sean Blaschke, Shepherd Mutsiwegota and Nelson Rodrigues. "Saving Lives and Livelihoods through Multi-Agency Data Systems," October 1, 2020. https://ona.io/home/case-study/saving-lives-and-live

lihoods-through-comprehensive-multi-agency-data-systems-and-design/

³⁶ Rodrigues supra note 30.

³⁷ Blaschke, et al. supra note 35.

³⁸ Ibid



Figure 4: The Cyclone Idai Rapid Response Platform's Population Mapping³⁹

Documentation from UN OCHA credits the InForm-supported response efforts as providing 1.6 million people with safe water, 467,000 people with access to sanitation, 80,000 children with psychosocial support, and 265,000 people with cash-based assistance.⁴⁰

B. ORGANIZATIONAL OUTCOMES

Interviews, documents, and other sources of information emphasized that the Cyclone Idai response and InForm deployment occurred in real-time as conditions emerged.⁴¹ Changes and improvements to the deployment had to be done rapidly—without a full feedback or assessment cycle. No metrics were collected beyond the number of site visitors and staff were unable to track which pages users most frequently visited.

Understanding these limitations, sources suggest that the tool proved useful in improving situational awareness. By allowing UN agencies and partners to "ingest as much [data] as possible" and represent it in a visual, coherent manner, first responders

³⁹ Ibid

⁴⁰ Ibid

⁴¹ Rodrigues supra note 30.

were able to act and react to circumstances as they arose. Disparate data sources from organizations as different as the WFP, World Bank, and Ministry of Health Somalia, as well as platforms such as the Humanitarian Data Exchange (HDX) could be processed and compiled to spur action on the ground. As one interviewee stated:

"We'd have the maps and we'd click on the resettlement camp and immediately see the latest available data and how many children they have washed [and] did not have washed. That allows for better planning. And the other example [was] we had a dataset that showed an energy plant right in the second path [of Cyclone Kenneth]. We knew that the northern part [of the country] would be going dark.. It would be very unlikely that there would be no disruption to electricity so we could convey that information to the government and then to relocation sites."⁴²

Ultimately, however, there were several challenges related to the context that limited organizational and societal outcomes, most of them related to coordination. While InForm provided a way to manage data, all of it had to be cleaned and processed into a common format.



Figure 5: InForm's dashboard screenshot with data about the humanitarian disaster caused by Cyclone Idai.⁴³ It shows the number of houses totally (197,514) or partially (251,081) destroyed; the number of flooded houses (128,755); and the total number of houses partially or totally destroyed or flooded (577,350). Finally, at the bottom right, there is a graph with the total number of houses partially or totally destroyed or flooded per city.

⁴² Rodrigues supra note 30.

⁴³ Blaschke, et al. supra note 35.

This meant that datasets where different age ranges were disaggregated had to be brought into uniformity in enormous, complicated spreadsheets. Different collection practices and standards had to be brought, to the extent possible, into harmony. Meanwhile, errors in compilation or collection (sometimes exacerbated by a lack of data expertise among various parties) had to be identified proactively. A single missing line (such as a mistakenly deleted column) could lead to hundreds of beneficiaries being missed. Duplicative or contradictory collection by multiple agencies of the same village or health facility could lead to inefficient use of limited resources. Unique identifiers could be absent. In short, data aggregation became more complex and it affected the efficiency of the response.

All of these efforts took time and resources in an environment where both were frequently lacking. Delays in one area tended to have cascading effects due to the number of competing needs. For instance, one interviewee noted that, because a rapid assessment of core commitments to children was not completed within 72 hours (and discussions instead continued through the fifth day of deployment), opportunities to better use the data were lost. Similarly, a desire to collect excessive information for assessment purposes (e.g. collecting information on the kinds of pumps each village had, how deep their water was, had it been assessed for safety) by partners complicated efforts to understand basic facts on the ground (e.g. was water even

accessible within one kilometer).

Nonetheless, the InForm-supported tool was seen as useful. Challenges identified during Cyclone Idai allowed for better response to Cyclone Kenneth. Since these experiences, the business ownership of InForm has now moved to the Chief Data Officer's Frontier Data and Tech team, in order to provide global support to the initiative.

V. Insights Relevant for Advancing RD4C Locally and Globally

A. ENABLING RD4C: PRINCIPLES AND PRACTICES

• **Purpose-Driven:** InForm was developed with a "user-centric design approach" to ensure that the tool would be useful for compiling and visualizing data.⁴⁴ This fact is evident not only from the platform's origins, which sought to respond to a clear, pressing need to compile data, but to the way UNICEF sought to respond to that need. Personnel launched a small, inter-agency pilot in Somalia with multi-stakeholder workshops to determine how to best operate the tool. InForm received revisions in response to feedback, adding new ways to visualize data. Interviewees involved in InForm's subsequent deployments for Cyclone Idai emphasized how versatile and flexible InForm is, allowing staff and partners to produce the assets they need when they need it. Moreover, stakeholders pointed to the existence of a survey library within InForm and dashboard templates (both within and outside InForm) that sped up the uptake, design, and deployment of data initiatives. This ability to fill a general need (data compilation and visualization) while matching local needs is one of InForm's greatest assets.

• **Participatory:** From the outset, UNCEF developed InForm with others in mind. An inter-agency needs assessment and collaboration led to the platform's creation. Those who would use the platform provided input on how it could be used. It is informed by continuous consultations with WFP and maintains single sign-on for WFP, UNHCR, and other UN email accounts.⁴⁵ More than that, InForm's model depends on willing engagement from multiple parties. Any deployment of the system requires connecting disparate sources held by various parties. Pushing against the "not-invented-here" syndrome that often afflicts data initiatives and building on the UN Secretary-General's Data Strategy, InForm calls on agencies to ingest and centralize many data sources instead of having them engage only with their own data systems and data collection processes.⁴⁶ This model requires multiple organizations be brought to the table, that their concerns are heard, and that all receive the same insights.

• Proportional: Related to the above point, InForm's approach focuses agencies not on

⁴⁴ Grubb supra note 4.

⁴⁵ Cirone, Niccolo. 2022. "RD4C Case Study Review," February 2, 2022.

⁴⁶ Techopedia.com. "Not Invented Here Syndrome (NIHS) - Definition from Techopedia." http:// www.techopedia.com/definition/3848/not-invented-here-syndrome-nihs; United Nations Office of the Secretary-General. n.d. "UN Secretary-General's Data Strategy." UN.Org. Accessed February 2, 2022. https://www.un.org/en/content/datastrategy/index.shtml.

collecting new data but instead centralizing many extant data sources. This approach allows agencies to think about the breadth of additional data collection, letting them connect with partners in the field before they take on new obligations or risks. While there is nothing in InForm's model that prevents new collection of data, the collaborative approach does allow agencies to be more proportional with their work.

• Prevention of Harms across the Data Life Cycle and Professionally Accountable:

One of the many benefits presented by inForm was the single sign-on system that allows UNICEF officers to use their own account to connect to it. This feature is very important in order to track how data is being used and determine granular permissions to data access. The platform is also compliant with all UNICEF's rules for data protection and specific protocols were created so it can be used by country offices. In the case of proprietary technologies, vendors must also comply with UNICEF rules regarding data protection. Finally, although the platform is based on technologies already used by UNICEF staff, training was carried out for those who needed it.

B. BARRIERS TO RD4C: CHALLENGES TO NAVIGATE

• Lack of Specific Procedures for Age-Disaggregated and Child-Specific Data: InForm is a data aggregation and visualization tool and is not specifically designed to include sensitive data. Interviewees emphasized this point frequently, stating that deployments did not make use of sensitive, identifying data of any kind. Interviewees stated that, because they did not use sensitive data, they did not have specific procedures to handle it. While, on one hand, the absence of such data in deployments for Somalia, Mozambique and other contexts inherently precludes many data handling risks, personnel might still consider developing internal policies and procedures. There is nothing in InForm's design that would prevent a future actor from, for example, inputting sensitive data intentionally or unintentionally. A future deployment of the tool might include more direct guidance on handling potentially sensitive data and, in particular, establish guidelines for responsible handling of age-disaggregated or childspecific data. By developing these policies (or a framework for them) now, UNICEF can prepare itself for a future crisis and ensure that all deployments of the system recognize the distinct rights and requirements for helping children develop their full potential. Subsequent engagements with the InForm team suggest comprehensive standard operating procedures are in development.

• Time and Resource Constraints: In InForm's deployment following Cyclone Idai, interviewees emphasized that a major struggle was overcoming the time and resource constraints inherent in a natural disaster response context. Personnel had very few opportunities for pre-planning or the development of metrics that were specific to

the context that could guide deployment (though InForm does come with a survey library to speed the uptake, design, and deployment of data-driven initiatives and UNICEF itself fhas customized forms and templates for humanitarian/emergency rapid deployments). Each new task imposed on staff in terms of data collection or processing had the potential to distract from core disaster response activities. This challenge is unavoidable but could potentially be mitigated by establishing ties, infrastructure, and procedures with partner organizations who might be important in a disaster scenario. Personnel might consider working with peer institutions to develop common standards ahead of crises. They might also consider ways they can improve the data literacy of personnel, such as by working with universities, NGOs, and others to offer targeted skills training.

• Different Partner Priorities: The process through which InForm compiles and visualizes data is not automatic. Rather, data needs to be identified, accessed, cleaned, processed, and integrated into a common database before it can be used. This requires parties to have a common understanding of their roles and expectations, of which data is most important for the immediate context and how to integrate it into the system. In advance of disasters, UNICEF regional offices might host exercises and workshops to consider, with partners, which types of data are most valuable in certain crises. Staff might also, to the extent possible, seek to meet with the leaders of partner organizations immediately before a deployment of InForm to discuss major priorities to ensure all organizations are working toward the same goal.

VI. Conclusion

While InForm and the varied applications outlined here do not focus explicitly on children's data, it offers lessons on ways to support responsible data management. Notably, InForm highlights the value of multi-stakeholder engagement, particularly when those efforts can be coordinated through a common platform. It also shows the ways that time and resource restrictions can impact data-driven efforts.

In the coming months, UNICEF might consider ways it can improve InForm for future contexts. These improvements could be as simple as finding new ways to bolster data quality, whether that be designing backend protections to guard against input errors or bolstering existing training (and in-platform tutorials) to help those with low data literacy. It might also consider developing policies and procedures to address future risks, especially those related to ingesting children's data and other sensitive datasets. Regardless of which approach is taken, InForm provides a useful basis for agencies seeking to centralize their data. The tool offers many promising practices for those interested in children's data protection to consider.

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