

# Solutions for Building Resilient Gender Data Systems

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## Introduction

The COVID-19 pandemic has stagnated—and in some areas reversed—hard-won progress on gender equality. Nearly two years after the virus first emerged, we still struggle to answer basic questions about the status and welfare of women and girls. This crisis has spotlighted what the global community has long known: there continue to be major gaps in gender data<sup>1</sup> and shortfalls in the financing<sup>2</sup> needed to enable countries to fill those gaps. These gaps have enormous implications for our capacity to support women and girls, creating a pertinent case for addressing shortfalls at the local, national, and global levels.

Overcoming disparities and improving women's health, economic opportunities, and human capital<sup>3</sup> are particularly important for charting a path out of the current crisis. As the international community continues to assess, address, and attempt to recover from the pandemic, we cannot neglect the unique needs of women and girls. Nor can we allow these same gaps and shortfalls to persist, stymieing our response to future crises.

Closing these gaps and responding to new demands with limited budgets requires new methods and technologies. Throughout 2021, Data2X and Open Data Watch will examine the existing literature and consult stakeholders

on promising solutions for building stronger gender data systems. Such systems with strong data collection and dissemination mechanisms are needed to recover from the COVID-19 pandemic and prepare for future crises.

## Our Approach

To map out the available solutions, we assembled an inventory of projects, methods, and tools to improve the measurement or availability of gender data from academia, civil society organizations, and inter-governmental organizations. Each solution was categorized along the six domains identified in previous gap assessments<sup>4,5</sup>: economic opportunities, education, environment, health, human security, and public participation. We evaluated solutions by their scalability, replicability, cross-country-relevance, peer review, and evidence of costs and benefits, where available.

From this inventory, we identified solutions ranging from small-scale projects to established initiatives that are relevant to emergency or disaster contexts, including COVID-19. In this brief, we organize selected solutions into four broad categories based on the COVID-19 framework of Buvinic et al. (2020): health, economic wellbeing, human capital, and cross-sectoral.

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1. Wahabzada, Tawheeda. June 18, 2021. "Improving Gender Data to Advance Gender Equality: Lessons Learned from Data2X and Open Data Watch's Bridging the Gap Studies." Data2X. <https://data2x.org/improving-gender-data-to-advance-gender-equality-lessons-learned-from-data2x-and-open-data-watches-bridging-the-gap-studies/>.

2. Data2X and Open Data Watch. 2021, May. State of Gender Data Financing. Data2X. <https://data2x.org/resource-center/state-of-gender-data-financing-2021/>.

3. Buvinic, Mayra; Noe, Lorenz and Eric Swanson. 2020, November. Understanding Women's and Girls Vulnerabilities to the COVID-19 Pandemic: A Gender Analysis and Data Dashboard of Low- and Lower-Middle Income Countries. Data2X. <https://data2x.org/resource-center/understanding-womens-and-girls-vulnerabilities-to-the-covid-19-pandemic-a-gender-analysis-and-data-dashboard-of-low-and-lower-middle-income-countries/>.

4. Buvinic, Mayra; Furst-Nichols, Rebecca and Gayatri Koolwal. 2014, March. Mapping Gender Data Gaps. Data2X. <https://data2x.org/resource-center/mapping-gender-data-gaps/>.

5. Grantham, Kathleen. 2020, February. Mapping Gender Data Gaps: An SDG Era Update. Data2X. <https://data2x.org/resource-center/mappinggenderdatagaps/>.

# Solutions for Gender-Sensitive Emergency Preparedness and Response

## HEALTH

### *Civil registration and vital statistics: Improving cause of death data and standardization of femicide data*

In public health emergencies such as COVID-19, low-income countries that lack adequate civil registration and vital statistics (CRVS) capacity face substantial obstacles in recording and registering deaths.

Information gaps about where the disease is deadliest and for whom hamstrings efforts to combat the virus on the frontlines. In addition, proper registration of deaths is a prerequisite for death certificates, which are important documents for survivors to access social protection and education, among other services.

The present state of many death registration systems around the world is poor; a BBC investigation reports that only eight countries in Africa have a compulsory death registration system and most countries have incomplete systems and do not properly record all deaths. Weaknesses in these systems are exacerbated by the pandemic, making data gaps inevitable.<sup>6</sup>

If countries lack the capacity to record cause of death data through CRVS systems, verbal autopsies can fill the gap in mortality statistics. Verbal autopsies help ensure a record of the deceased's name, age, and gender, which contribute to an informed picture of leading causes of women's and girls' deaths.

For example, Chad and Liberia have asked community health workers to notify authorities about deaths that occur outside of hospitals using verbal autopsies.<sup>7</sup> This approach has been used prior to the pandemic; in 2019, USAID funded case studies about verbal autopsies to understand and estimate causes and determinants of neonatal and childhood deaths. These autopsies also collected detailed information about pregnancy-related complications,<sup>8</sup> which can help policymakers make more informed decisions regarding maternal mortality.

Standardizing femicide data can also strengthen CRVS systems. Since the outbreak of COVID-19, reports show that all types of gender-based violence (GBV), particularly intimate partner violence, have become more prevalent.<sup>9</sup> A methodology for standardizing data in the public sector is necessary for ensuring that femicide data are collected and used to develop policies to protect and support women and girls.

In partnership with the International Development Research Centre, the Inter-American Development Bank, and the Avina Foundation, the Latin American Open Data Initiative (ILDA) designed the Femicide Data Standardization project, which offers a research methodology to assess femicide data. ILDA has created a guide for identifying femicides and providing cross-country standardization of such data. As part of the initiative, ILDA has worked with the Inter-American Development Bank to hold country workshops in Central and South America to offer targeted initiatives.<sup>10</sup> Efforts like this can help make visible the most vulnerable in society and inform better policies for addressing femicide.

### *Hotlines and helplines for public health data collection*

During public health crises like COVID-19, in-person data collection can be risky for both health professionals and households due to health and privacy concerns. Mobile phones can be a crucial tool for citizens to share critical information with health professionals during crises, and they can also be used by governments to send public health messages to citizens. Hotlines can also help monitor the spread of viruses.

A few years prior to the pandemic, Cambodia launched a toll-free public health hotline to track the spread of diseases such as the bird flu. Now the hotline has shifted to tracking the spread of COVID-19.<sup>11</sup> Although it is not clear whether the hotline collects basic demographic data on people experiencing potential COVID-19 symptoms, training hotline workers to collect age and sex data could help public officials to further understand how and where women and girls are affected.

6 BBC. 2021, February 22. "Measuring Africa's Data Gap: The cost of not counting the dead." <https://www.bbc.com/news/world-africa-55674139>

7 Ibid

8 USAID. 2020. Nigeria: 2019 Verbal and Social Autopsy Study Main Report. <https://www.harponet.org/wp-content/uploads/2020/12/2019-VASA-Main-Report-Nov.-2020.pdf>

9 UN Women. N.d. The Shadow Pandemic: Violence against women during COVID-19. <https://www.unwomen.org/en/news/in-focus/in-focus-gender-equality-in-covid-19-response/violence-against-women-during-covid-19>

10 Latin American Open Data Initiative (ILDA). N.d. Femicide Data Standardization. <https://datosabiertos.org/en/proyectos/estandarizacion-de-datos-de-femicidios/>

11 Cheney, Catherine. 2021, May 17. "This nonprofit is helping communities stop pandemics in their tracks." Devex. <https://www.devex.com/news/this-nonprofit-is-helping-communities-stop-pandemics-in-their-tracks-99890>

Data about calls to women's helplines have also been used to track GBV. During the COVID-19 pandemic, the United Nations Office of Drugs and Crime (UNODC) collected data from helplines, statistics of gender-based killings, and sexual violence reports from over 30 countries. Harmonizing these different sources of data helped fill gaps in crime statistics from administrative records.<sup>12</sup> This replaced traditional survey methods that could not be used due to safety concerns because women were often at home with their abusers. The helpline data in particular were regularly available and comparable over time, making it feasible to identify trends of GBV during stay-at-home orders.

## ECONOMIC WELLBEING

### Rapid Gender Assessments

Environmental and public health crises inevitably pause many people's lives. People may not be able to return to work or they may have to juggle both paid and unpaid work. Adequate and timely data are crucial in understanding how the economic wellbeing of women and girls is impacted. However, countries may not have the capacity to regularly conduct traditional surveys. In such instances, partnerships with inter-governmental and civil society organizations can fill the gap with rapid gender assessments.

For example, UN Women conducted rapid gender assessments (RGA) to understand the global socio-economic impact of the COVID-19 pandemic on women and girls; to help track the impact the pandemic has had on inclusive, sustainable development; and to ensure that no one is left behind in recovery efforts. While cross-sectoral, the assessments all collected data on work and found that in 38 countries, the "available data overwhelmingly confirm that both women and men have increased their unpaid workloads, but women are still doing the lion's share. Women are also taking on a greater intensity of care-related tasks than men. Meanwhile, parents are getting more help from daughters than sons. Worryingly, more women than

men are leaving the workforce, perhaps as a result of these increased workloads."<sup>13</sup> These RGAs build on previous assessments in emergency settings, including by CARE International, where these assessments have been implemented in natural disaster, domestic conflict, refugee, food insecurity, and public health settings.<sup>14</sup> CARE International uses these RGAs to address the gaps and needs of women, men, and children; provide better development and programmatic support; and share the findings with other key development and humanitarian actors.<sup>15</sup> As seen in both examples, RGAs are able to meet immediate and long-term needs to produce actionable gender data.

## HUMAN CAPITAL

### Data collected by women, for women

To properly collect data where women and girls are impacted across all sectors, the gender of surveyors makes a difference. Even in a survey of financial inclusion, "...the gender of survey enumerators can play a critical role in the quality of data collected."<sup>16</sup> Having enumerators of the same gender, together with their knowledge about the topic at hand, can build rapport with the interviewee. This simple feature of survey implementation is particularly relevant during crises, when the stress of the situation tests the trust between enumerators and respondents.

Though not new,<sup>17</sup> many survey instruments can still benefit from this solution. During the COVID-19 pandemic, CGIAR and Self-Employed Women's Association conducted phone surveys in several districts in Gujarat, India to understand the impacts of COVID-19 on women's household income and expenditure, food insecurity, household conflict, and participation in household decision making. For this survey, "to ensure that respondents felt comfortable answering questions over the phone, the survey team was made up almost entirely of female enumerators...having enumerators familiar with the workings of the organization helped build rapport with the respondents."<sup>18</sup>

12 UNODC. 2020. Research brief: What crime and helpline data say about the impact of the COVID-19 pandemic on reported violence against women and girls. [https://www.unodc.org/documents/data-and-analysis/covid/Violence\\_against\\_women\\_24Nov.pdf](https://www.unodc.org/documents/data-and-analysis/covid/Violence_against_women_24Nov.pdf)

13 UN Women. 2020. Whose time to care: Unpaid care and domestic work during COVID-19. <https://data.unwomen.org/publications/whose-time-care-unpaid-care-and-domestic-work-during-covid-19>.

14 CARE Evaluations. N.d. Rapid Gender Analysis. <https://careevaluations.org/homepage/care-evaluations-rapid-gender-analysis/>.

15 CARE Insights. N.d. Rapid Gender Analysis. <https://insights.careinternational.org.uk/in-practice/rapid-gender-analysis>.

16 Arandara, Rathnija and Shanuki Gunasekera. 2019, November 19. "Ensuring women's voices are heard in financial inclusion." World Bank. <https://blogs.worldbank.org/psd/ensuring-womens-voices-are-heard-financial-inclusion>.

17 DHS and MICS already have protocols for this in place. See USAID. 2009. Training Field Staff for DHS Surveys. [https://www.dhsprogram.com/pubs/pdf/DHSM3/Training\\_Field\\_Staff\\_for\\_DHS\\_Surveys\\_Oct2009.pdf](https://www.dhsprogram.com/pubs/pdf/DHSM3/Training_Field_Staff_for_DHS_Surveys_Oct2009.pdf); UNICEF MICS. 2017. Main Fieldwork Training: Recommendations and Template Agenda. <https://mics.unicef.org/files?job=W1siZiIsIjIwMTcvMDk0MjAvMjAvMzlvMTMvOTgzL01haW5fRmlibGR3b3JrX1RyYWluaW5nX1JlY29tWVUuZGF0aW9uc19hbmRlVGVtcGxhdGVfQWdlbmlhXzIwMTcwOTIwXzFfLmRvY3giXV06sha=e40f2b35e94a05f3>.

18 Alvi, Muzna, Shweta Gupta, Ruth Meinzen-Dick and Claudia Ringler. 2020, July 14. "Phone surveys to understand gendered impacts of COVID-19: a cautionary note." CGIAR. <https://pim.cgiar.org/2020/07/14/phone-surveys-to-understand-gendered-impacts-of-covid-19-a-cautionary-note/>.

## **Making education administrative data more accessible**

Given the pressure COVID-19 has placed on education systems, it is important to ensure that education leaders have accurate data to help determine when to reopen schools, how to prevent learning loss, and encourage re-enrollment. Yet as ministries of education plan their recovery, many rely on data systems that fail to provide the information needed. To overcome this, we need to make data from education management and information systems (EMIS) readily available. With this data, there is the potential to study the impacts of policy interventions in aggregate and across diverse groups of individuals, including women and girls. Allowing greater access to education data could allow greater use of the data, especially among government officials and practitioners.<sup>19</sup>

UNESCO's OpenEMIS is an open source, royalty free software initiative that member states can use to strengthen their EMIS and data collection practices.<sup>20</sup> It can be customized to national contexts and used in different settings. For example, Jordan's Ministry of Education (MoE) uses OpenEMIS to strengthen data use, build capacity, and automate reporting, all in support of monitoring and evaluation.<sup>21</sup> The OpenEMIS tool also supports collecting, managing, and analyzing data on gender equality to support policymaking.<sup>22</sup> An EMIS is an important tool for improving data use and real-time policy interventions.

## **CROSS-SECTORAL Use of geospatial data**

For countries without censuses due to accessibility issues, war, or natural disasters, newly available high-resolution satellite data can be used to estimate population densities.<sup>23</sup>

Afghanistan's last census was conducted in 1979 and due to security and conflict issues, the country has been

unable to conduct a traditional census since. In 2015, Afghanistan, with the support of several organizations, conducted its first hybrid census. The hybrid census uses existing data, high-resolution satellite imagery, and computer-vision-based approaches to estimate populations in areas where no direct data are available. These include estimates by age and sex. While it is not a replacement for a traditional population and housing census, it can fill data gaps during periods of instability.<sup>24</sup>

Beyond censuses, geospatial data can also be used to improve education policies. Sierra Leone's Ministry of Basic and Senior Secondary Education, in partnership with GRID3, collected and analyzed geospatial data to assess school access for vulnerable children, including girls, children with disabilities, and children living in rural areas. Using annual school censuses and geospatial data on population settlements, gaps in education access were identified "based on the number of school-age children who were not living within a three-mile radius of a school." The data collected through this partnership will be used for policy and planning purposes, including the construction of more schools.<sup>25</sup>

## **Use of community and citizen generated data**

Communities and civil society groups can fill gender data gaps in areas where governments lack the capacity to collect data themselves. During crises and emergency contexts, such groups can play a role in developing a community-based survey to measure how women and girls are at risk in disaster-affected areas.<sup>26</sup>

UN Women developed guidelines on how to collect and report citizen-generated gender data for the SDGs. Although these are SDG-focused, they provide general guidance for communities and civil society organizations to better collect data so that no woman or girl is left behind. In the context of COVID-19, SDSN TRenDS highlights the importance of filling gender data gaps with the use of citizen-generated data, where "it would foster greater participation by women and

19 Rossiter, Jack. 2020, September 14. "Link It, Open It, Use It: Changing How Education Data Are Used to Generate Ideas." Center for Global Development. <https://www.cgdev.org/publication/link-it-open-it-use-it-changing-how-education-data-are-used-generate-ideas>.

20 UNESCO. 2020. OpenEMIS in Jordan. [https://en.unesco.org/sites/default/files/final\\_emis\\_faq\\_en.pdf](https://en.unesco.org/sites/default/files/final_emis_faq_en.pdf).

21 OpenEMIS. N.d. "Improving Monitoring and Evaluation in the Jordanian Education Sector with OpenEMIS Monitoring." <https://news.openemis.org/2019-JO-Improving-Monitoring-and-Evaluation-in-the-Jordanian-Education-Sector-with-OpenEMIS-Monitoring>.

22 OpenEMIS. N.d. Gender Equity. <https://www.openemis.org/solutions/ge/>.

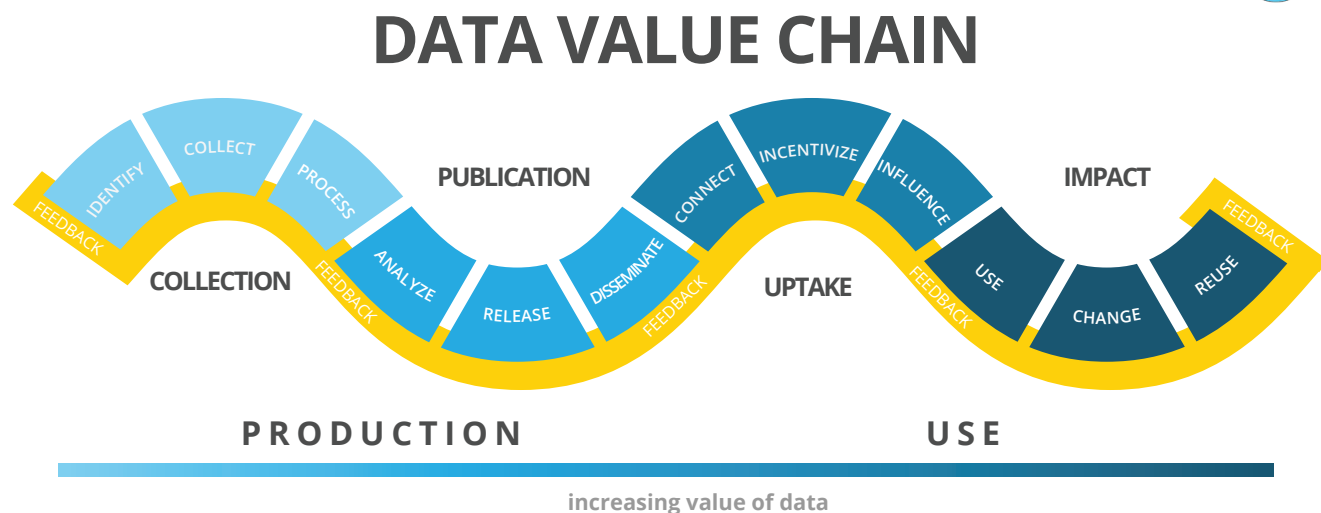
23 World Bank. 2020. Data Collection in Fragile States: Innovations from Africa and Beyond. <https://openknowledge.worldbank.org/bitstream/handle/10986/32576/9783030251208.pdf?sequence=1&isAllowed=y>.

24 Hellali, Bahadur. 2018, October 8. "Hybrid census to generate spatially-disaggregated population estimates." UN World Data Forum. <https://unstats.un.org/unsd/undataforum/blog/hybrid-census-to-generate-spatially-disaggregated-population-estimates/>.

25 Sengeh, David Moinina and Alina Game. 2021, March 4. "Transforming education in Sierra Leone continues with geospatial data." Global Partnership for Education. <https://www.globalpartnership.org/blog/transforming-education-sierra-leone-continues-geospatial-data>.

26 Sohrabzadeh, Sanaz, Hamid Reza Shabanikiya, Amir Kavousi and Hamid Safarpour. 2020. Developing a Valid and Reliable Gender Analysis Tool Applied in Disaster Management: A Community-Based Survey. Cambridge University Press. <https://www.cambridge.org/core/journals/disaster-medicine-and-public-health-preparedness/article/abs/developing-a-valid-and-reliable-gender-analysis-tool-applied-in-disaster-management-a-communitybased-survey/A15B4C0F8D6F106D3AC2CFBA9767559>.

Figure 1: Data Value Chain



transgender people in data collection efforts by enabling them to self-report positive COVID-19 tests, living conditions, or even instances of violence against them. This would likely provide a more accurate reflection of their experiences.<sup>27</sup> During a crisis as large as the COVID-19 pandemic, we need all hands on deck when it comes to gathering data that reflect people’s needs and experiences.

### Big data to monitor COVID-19

There have been several initiatives that use big data to conduct large-scale research. Some leverage digital technologies and use relatively new sources of data such as social media to gain real-time insight. With their extensive reach, social media platforms may provide a new vehicle for widely and rapidly deploying surveys, especially during a pandemic when face-to-face contact is a health risk.

For example, Facebook’s Data for Good team conducted the Survey on Gender Equality at Home with the support of the World Bank, UN Women, Equal Measures 2030, and Ladysmith to better understand gender dynamics during COVID-19.<sup>28</sup> Conducted between July 16th and July 25th, 2020, the survey provided a global snapshot of gender dynamics during the pandemic, reaching over 200 countries and translated into 80 languages. Topics such as decision-making power, income, household resources,

and unpaid care/domestic work were included to understand the challenges girls and women face. When coupled with strong data use measures, surveys like this can provide valuable insight for policy formulation and implementation during the COVID-19 pandemic and other crises.

### Linking data to policy

In this brief, we have mostly focused on the collection and publication of data, but there must be uptake of data to attain its full potential. Uptake is the process of integrating data into policymaking. In the context of building back better, if we use innovative data collection methods in times of crises, then the data should also be integrated into national strategies, plans, and policies on crisis prevention, preparation, and response.

The UN Economic and Social Commission for Asia and the Pacific (ESCAP) developed Every Policy is Connected (EPIC), a tool that “helps policymakers and data producers analyze complex policy content, identify the most vulnerable groups and their key issues, and develop a comprehensive indicator framework.” EPIC can be used in gender policy settings. For example, national workshops on integrating EPIC into gender policy sectors have been held in Armenia and in the Philippines.<sup>29</sup> Data-policy integration tools like EPIC have great potential to inform national strategies that are focused on the current pandemic, as well as

27 Kimura, Chisato and Alyson Marks. 2021, March 8. “Bridging the Divide: How Citizen Science Can Help Narrow the Gender Data Gap.” SDSN TReNDS. <https://www.sdsntrends.org/blog/citizenscienceandgenderdata>.

28 Facebook. 2020. A gender data snapshot of life during COVID-19 Survey on Gender Equality at Home Report. <https://dataforgood.fb.com/wp-content/uploads/2020/09/Survey-on-Gender-Equality-at-Home-Report-1.pdf>.

29 UN ESCAP. N.d. EPIC Tool. <https://www.unescap.org/our-work/statistics/EPIC>

emergency, humanitarian, and conflict situations, where data—especially gender relevant and disaggregated data—can be used to monitor major goals and objectives within these strategies.

## Takeaways: How to bolster gender data systems during COVID-19 and future crises

The lack of gender data relative to non-gender data in national statistical systems around the world—combined with the dearth of information about the sex-disaggregated impact of COVID-19, demonstrates the need to improve the availability and quality of gender data. The previous sections present a sample of the solutions found in the process of combing through academic literature and through dialogue with partners. But beyond specific interventions, what are guiding principles for solutions in gender data for resilience and beyond?

### 1. Build resilient foundational data systems:

Strong foundational systems will enable better tracking of disease and individuals in the event of a disaster, allowing for a speedier response and more inclusive recovery efforts. Such systems include robust CRVS systems that are augmented by integrating verbal autopsies with the death registration process and better utilization of the administrative data in health and education systems.

### 2. Create open and participatory data systems:

Open and participatory gender data systems will encourage use and create a virtuous cycle of data<sup>30</sup> to increase accountability and buy-in for policies. This will also improve communication and document official and civilian responses during disasters. Ensuring that data for or about women are collected by women, that gender bias is addressed in questionnaires, and that communities are central to data collection efforts are all examples that can help achieve a more participatory data system.

### 3. Establish a strong gender data to policy link:

Integrating gender into policies and targets will create demand for gender data and encourage policymakers to use it. It will also allow civil society organizations to use gender data to hold policymakers accountable. During non-crisis times, this will create support for gender data so that when disaster strikes, gender data are available to inform response and recovery efforts.

### 4. Ensure effective use of technologies:

The promise of new technologies to facilitate more and better data has been fulfilled in some sectors such as industrial production and consumer services, but for domains across women's wellbeing, the promise is still unfulfilled. Better use of technologies, such as hotlines, mobile phone surveys, and geospatial information can ensure adaptive gathering of gender data that facilitates a dynamic policy response to disasters and generates complementary gender data for official statistics during non-crisis times.

### 5. Forge inclusive partnerships:

No single entity, whether from the public or private sector or civil society, will be able to scale new approaches or solutions for more and better gender data on their own. What is needed are effective and inclusive partnerships that combine the complementary strengths of various actors. For example, the efforts to develop better ways of tracking femicide data involved a foundation, a research center, and a multilateral development bank, while the efforts to track attitudes and behaviors around COVID-19 involved a research university and one of the biggest technology companies in the world.

## Next Steps

Building back better from the COVID-19 pandemic and fostering effective policies for gender equality will require better gender data—now and as we look to 2030—for health, education, and every other sector. Open Data Watch and Data2X have compiled an extensive library of potential solutions for gender data systems. Over the coming months, we will publish these solutions in ways that will enable decision makers to adapt and improve gender data systems to ensure no one is left behind.

30 Jütting, Johannes and Ida McDonnell. 2017, October 17. "Figure 1.2 – The virtuous data cycle" in Development Co-operation Report 2017 Data for Development. OECD. [https://www.oecd-ilibrary.org/sites/dcr-2017-en/1/2/2/index.htm?itemId=/content/publication/dcr-2017-en6\\_csp\\_=fbc5c4b8752a4197425bcc9e4401a6336&itemGO=oe.cd&itemContentType=book](https://www.oecd-ilibrary.org/sites/dcr-2017-en/1/2/2/index.htm?itemId=/content/publication/dcr-2017-en6_csp_=fbc5c4b8752a4197425bcc9e4401a6336&itemGO=oe.cd&itemContentType=book).