Using big data and AI to support the Ukraine refugee response.

A collaboration between IMPACT Initiatives and Data for Good at Meta

Context

Since the onset of the war in Ukraine in February 2022, over 6 million Ukrainian refugees have been registered worldwide.[1] According to the United Nations, 90% of refugees who have fled the war in Ukraine are women and children.

The humanitarian impact of this crisis has been extraordinary. To address the scale of the crisis and the needs of both populations inside and outside of Ukraine, the humanitarian community has scaled up response efforts inside the country, at border points, as well as across Europe to support refugee populations. This response spans activities within the country, at border crossing points, and across Europe to support those displaced by the conflict.

Partners on the ground

Reliable information is critical for the effective coordination and planning of large-scale humanitarian response. IMPACT Initiatives is a Geneva-based nonprofit that conducts assessments and monitoring and evaluation activities to support aid organizations that plan and respond to crises. The IMPACT team is dedicated to enhancing the effectiveness of humanitarian, stabilization, and development initiatives through data-driven approaches, strategic partnerships, and capacity-building programs.

To support a better understanding of the crisis from the start, IMPACT began authoring daily information products with the humanitarian community. In the days and weeks that followed, IMPACT launched a number of new data collection activities to continue providing response partners with timely analysis of evolving humanitarian needs.

In the early days of the Ukraine response, IMPACT Initiatives assembled a variety of reports to inform the work of UN agencies including the United Nations High Commissioner for Refugees (UNHCR), United Nations Children's Fund (UNICEF), the International Organization for Migration
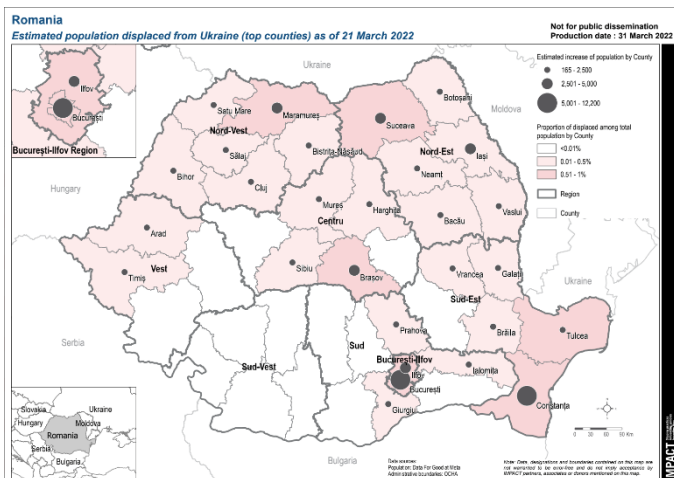
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[1] https://data.unhcr.org/en/documents/details/104052

(IOM) and other agencies operating in neighboring countries of Ukraine such as Poland, Slovakia, Moldova, Hungary and Romania.

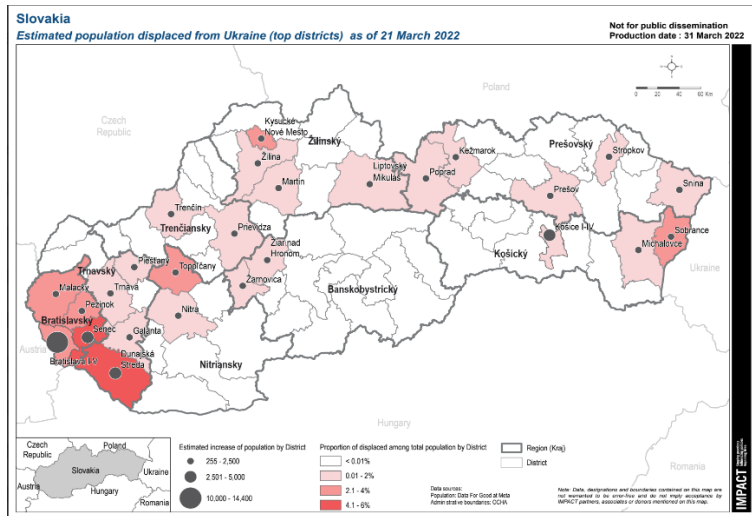## Gaps in information on displacement trends

In the early days of the crisis, one of the many gaps in information needed to offer effective response were close to real-time insights on the volume of people leaving Ukraine and the countries they were headed to over the weeks and months that followed. While data from border crossings provides an initial window into these trends, many displaced by large scale conflicts leave their homes and perform an initial border crossing only to then move onward to another location where either family and friends are located or where economic opportunities are better.

The Data for Good at Meta team started work to model displacement in 2018 with a focus on displacement caused by weather-based events in a collaboration with the Internal Displacement Monitoring Centre. Leveraging these methods as an input into their modeling, the Meta team worked to compile custom displacement reports during the early months of the war in Ukraine to better estimate the total number of people leaving the country, the gender and age breakdowns of those displaced, and the countries and regions where they were resettling. Data for Good partners such as CrisisReady also leveraged datasets such as Facebook Population to develop daily situation reports and maps of population increases in neighboring countries and partners at the European Commission and Harvard University used datasets from Meta on social connectedness to forecast refugee outflows.

Impact Initiatives report on people displaced in Romania.

To inform their response, IMPACT Initiatives was able to leverage a range of these insights from Meta and its partners to develop a number of information products on the volume of people displaced to places like Romania and Slovakia. For example, in the early days of the war, they found that the populations of Bucharest and Constanta in Romania had grown by many thousands and that all regions across

Slovakia
Estimated population displaced from Ukraine (top districts) as of 21 March 2022

Not for public dissemination
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the north of the country experienced sizable increases in people. Meanwhile, the southwest regions of Slovakia, despite being furthest from Ukraine, all experienced tremendous increases in population by virtue of being proximate to the capital city of Bratislava.

Impact Initiatives report on people displaced in Slovakia.

From insights to on-the-ground impact

The early reports from both IMPACT Initiatives itself, as well as those authored by CrisisReady using information from Data for Good at Meta were critical to gain a subnational understanding of where refugees went after having crossed the border. In the early stages of the crisis, it is not important to know whether you have 7,000 or 8,000 refugees in a city; however, it is critical to know whether you have 7,000 or 70,000 to plan a response.

Based on displacement patterns from 2014-2022, it was expected that most displaced people would go to large cities to seek refuge with friends and families. In the first few days following the onset of the war, IMPACT teams in towns close to the Ukrainian border witnessed large-scale arrivals; however, getting a clear understanding of population distribution at the subnational level was impossible due to the lag time between arrivals and registration processes implemented by state-level and UN-agencies. As a result, any rapid insights available on where refugees were to support operational planning was critical. Using insights from Data for Good at Meta, IMPACT was able to inform responders with initial estimates of where refugees were.

These early insights were shared in information management coordination meetings organized by UNHCR to better estimate caseloads at the city level. UNHCR's response has focused on ensuring that refugees have access to protection and assistance, including helping provide legal assistance, counseling and information on refugee rights and access to services; supporting the capacity of national child protection systems; and strengthening access to quality gender-based violence services. In turn, UNHCR's partner interventions and advocacy initiatives have also worked to ensure that refugees have access to quality health services and that refugee children

are enrolled in national school systems and have access to pre-school and tertiary education. Insights on where people are arriving have proven a critical input into a variety of these services.

Next Steps

As the situation in Ukraine evolves, partners like IMPACT Initiatives, UNHCR, and others will continue to need real time insights on population changes and mobility to better inform the delivery of their services. To meet this need, teams like Data for Good at Meta will continue to leverage the power of big data and Artificial Intelligence to improve humanitarian response.

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