

# Impact of the COVID-19 Pandemic and Emergency Protocols in a Census

## *Select Topics in International Censuses*<sup>1</sup>

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### INTRODUCTION

The COVID-19 pandemic continues to present unique challenges for national statistical offices (NSOs) and the statistical community around the world. This is particularly true in the field of data collection. One of the principal recommendations of the United Nations (UN) to enhance international comparability of statistics calls for the undertaking of population and housing censuses (PHCs) every 10 years in the years ending in zero, or as near to those years as possible. Unfortunately, with the onset of the pandemic in early 2020, many NSOs had to delay their census.

COVID-19 has made conducting the 2020 round of censuses challenging. Traditional field operations during the pandemic have resulted in extraordinary monetary and nonmonetary costs for NSOs. For example, to minimize the risk of infection and nonresponse, NSOs have had to procure and distribute personal protection equipment (PPE) for their staff or set up emergency call centers to reduce the number of interviews collected in the field. Such measures have been costly in terms of time and resources. Moreover, the pandemic has been particularly challenging for low- and middle-income countries, where traditional face-to-face enumeration is the norm and NSOs are less likely to have access to emergency funds to mitigate contingencies. Providing NSOs in developing countries with access to emergency funds has been especially problematic because governments have had to reallocate their budgets to finance emergency health programs or to counter the economic effects of the pandemic.

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<sup>1</sup> This technical note is part of a series on Select Topics in International Censuses (STIC) that explores matters of interest to the international statistical community. The U.S. Census Bureau helps countries improve their national statistical systems by engaging in capacity building to enhance statistical competencies in sustainable ways.

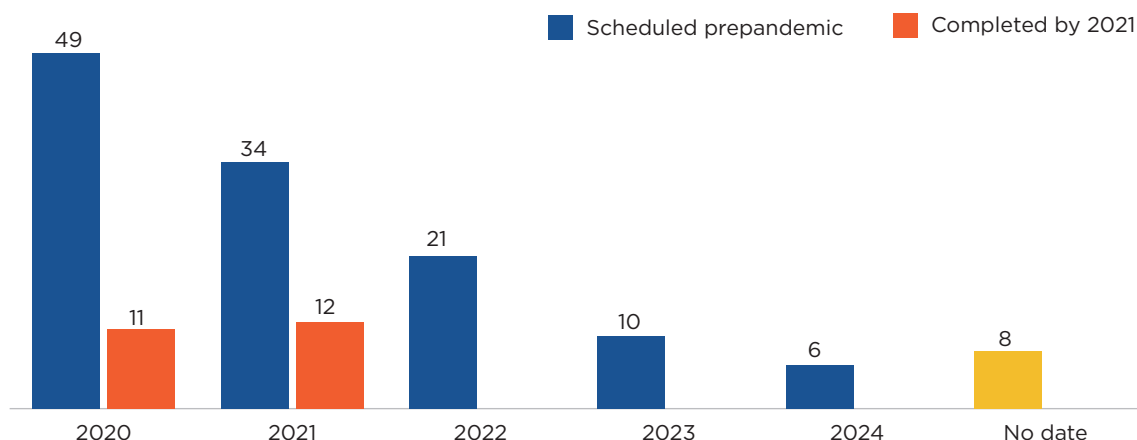
At the time of publication, the statistical community is still grappling with the COVID-19 pandemic and strategizing how best to approach extraordinary events like this. It is impossible to predict if, or when, such an event will repeat, but NSOs can prepare for similar contingencies. This technical note presents lessons learned and recommendations to complete a census or survey during a health emergency in a timely manner.

### IMPACT OF THE COVID-19 PANDEMIC ON GLOBAL CENSUSES

On March 11, 2020, the World Health Organization (WHO) declared COVID-19 a global pandemic. By the time of the WHO's declaration, more than 118,000 positive cases and 4,291 COVID-19 related deaths had been confirmed in 114 countries. Of these cases, more than 90 percent were in only four countries. However, the number of cases increased exponentially around the world and disrupted nearly all human activities, including the collection, analysis, and dissemination of population statistics (World Health Organization, 2020).

More than 100 countries were scheduled to conduct censuses when the COVID-19 pandemic first hit. But the United Nations Population Fund (UNFPA) reports that only 23 of the 83 countries in its portfolio successfully conducted a census by 2021. The remaining postponed their once-a-decade population counts to a later or "yet to be determined" date. Figure 1 shows a tally of pre-pandemic scheduled census years in UNFPA countries.

Figure 1.  
**2020–2024 Census Schedule and Censuses Completed by 2021: Countries With an United Nations Population Fund Program**



Note: Countries that conducted their censuses before 2020 are not included in this graph.  
 Source: United Nations, 2022.

## IMPACT ON CENSUS DATA COLLECTION

During March and April 2020, the United Nations Statistical Division (UNSD) surveyed 40 countries that were planning to conduct a PHC that year to measure the impact of the pandemic on their census operations. Only a few NSOs reported that COVID-19 had no impact on their census operations. These NSOs were unaffected either because census fieldwork had been completed prior to the onset of the pandemic in their countries (such as in Mongolia) or because their censuses were based on

administrative registers (such as in Turkey, Bahrain, and multiple European countries).<sup>2</sup>

Of the 40 countries surveyed by the UNSD that were conducting a census in 2020, only four reported not having to postpone or extend fieldwork due to the pandemic. Fourteen countries reported that they had to either extend fieldwork or postpone it to a later date in 2020. The remaining 22 countries reported that they had to postpone their census fieldwork to 2021 or beyond. Of the 29 countries surveyed that were scheduled to conduct a census

<sup>2</sup> UNSD surveyed many countries on their censuses after the pandemic. More information is available at <https://unstats.un.org/unsd/demographic-social/census/COVID-19-SurveyT2-1/>.

### Box 1.

#### **México National Statistical Office's Measures to Reduce Viral Transmission During Census Enumeration**

- Mandatory use of masks and antibacterial gel (in offices and in the field) provided by the national statistical offices (NSOs).
- Prohibited physical contact (e.g., shaking hands) between NSO and field staffs and census respondents.
- Prohibited entry into housing units to collect interviews. Interviews had to be conducted in an outdoor location or through the housing unit's street-facing window or door.
- Required enumerators to provide at least 1.5 meters between them and the respondents.
- Required staff in the field with COVID-19 symptoms to report to health services and stop conducting any field activities.
- Required staff over the age of 60 or pregnant to discontinue field work that required contact with respondents.
- Required limit of 10 people in the same physical space while conducting meetings.
- Delivered letters (1.6 million) inviting people to answer the census questionnaire by phone or internet.

Source: Instituto Nacional de Geografía y Estadística, 2021.

in 2021, only 10 completed data collection as scheduled (almost all were Western European countries that use administrative registers as their source of census data).<sup>3</sup>

## Additional Challenges

The challenges experienced by NSOs went beyond the need to provide personal protective equipment (PPE) to their staff or to reduce face-to-face interaction during fieldwork operations (Box 1). Some NSOs interviewed by the UNSD reported to have experienced difficulties hiring temporary field staff because large segments of the population were ill or believed fieldwork was too risky. The impacts of labor shortages on the census budget were twofold. First, the census field personnel shortages pressured NSOs to increase compensation for field staff for the additional health risks taken. Second, NSOs had to furnish field workers with PPE, something that was not considered in original census budgets. The situation was exacerbated by higher-than-expected attrition among field personnel due to illness or fear of infection.

NSOs interviewed by the UNSD reported that mobility restrictions and pandemic travel protocols further hindered census field operations. Additionally, the closure of commercial establishments and educational institutions caused a shift in the geographic distribution of the population. For example, students or workers were not present at their usual locations during fieldwork. The disruption in field operations caused delays and budgetary shortfalls.

Problems in the global economy and supply chain issues because of the pandemic also disrupted national censuses and their budgets. Some NSOs reported that they faced unexpected difficulties with procurement of census materials. One country reported that the cost of tablet computers—necessary for electronic censuses—increased because of the global pandemic. Procurement and distribution of PPE was also affected by the global shortage of these materials at the beginning of the pandemic.

<sup>3</sup> Many European countries use administrative registers for their census data. More information is available at <<https://unstats.un.org/unsd/demographic-social/census/COVID-19/>>.

## Adaptations

Most NSOs in countries that conducted or are preparing to conduct a census during the pandemic reported that they had to change or adapt their plans and operations. They used a series of changes or adaptations to minimize physical contact between enumerators and respondents or used nontraditional data sources, such as administrative registers, to supplement fieldwork. Several NSOs also adapted or enhanced their existing internet (CAWI) and telephone (CAPI) collection systems to reduce the share of interviews completed by face-to-face methods. Few NSOs also promoted paper self-enumeration either by mail-out/mail-back or drop-off/pick-up (DOPU) methods.

NSOs conducting multimode censuses also had to react rapidly to adjust their operations. The U.S. Census Bureau was scheduled to conduct the self-response phase for their 2020 census from March 12 to July 31, 2020. This phase included CAPI, CAWI, and mail-out/mail-back self-responses. Due to the pandemic, the self-response phase was extended to October 15. By this date, all area census offices had completed face-to-face Nonresponse Followup (NRFU).<sup>4</sup> The Census Bureau took the following measures to reduce viral transmission among their staff: provided guidance on how to identify COVID-19 symptoms and what to do in case of potential infection, and ordered its headquarters staff to work from home until further notice. A sample of the measures that were distributed to field personnel is presented in Box 2.

## RECOMMENDATIONS FOR SURVEYS AND CENSUSES

This pandemic has shown us the importance of multimode data collection methods and NSO's preparedness. NSOs should enhance their alternative data collection systems to supplement face-to-face census interviews. In addition, they should prepare infrastructure and new protocols for emergency remote work for office staff.

<sup>4</sup> Operational adjustments made during the U.S. 2020 Census. More information is available at <[www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/operational-adjustments.html](https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/operational-adjustments.html)>.

Box 2.

### U.S. Census Bureau's "Protecting Yourself From COVID-19"

#### How can you protect yourself from COVID-19?

**You can protect yourself from COVID-19 by practicing healthy hygiene habits using the following procedures:**

- Do not attempt to make contact at structures. All canvassing work is to be conducted by observation.
- Allow a distance of 6 feet between you and other people.
- Avoid direct contact with other people. Avoid shaking hands and use other noncontact methods of greeting, such as waving your hand to say "Hello."
- Avoid touching your eyes, nose, and mouth with unwashed or unsanitized hands.
- Wash or sanitize your hands after touching surfaces in public places.

Source: U.S. Census Bureau, 2020.

Box 3.

### México's Approach to the Onset of the Global Pandemic During Census Enumeration

Enumeration for the census in Mexico was conducted between March 2 and March 27, 2020. A state of emergency was declared in the country on the last few days of enumeration, resulting in a partial disruption of fieldwork. Most census field operations were conducted as planned. However, the country's post-enumeration survey (PES) and other post-enumeration activities were either postponed or cancelled.

Among countries planning to conduct a census in 2020, México is a special case because the country's NSO was conducting a census when a national emergency was declared in the country. The NSO's swift response to health or other emergencies were crucial to minimize the negative effects of the unusual circumstances. Authorities in Mexico suspended nonessential services days before enumeration was scheduled to conclude and new sanitary measures prohibited face-to-face interviews. México's NSO reacted quickly by implementing a series of measures to reduce the transmission of COVID-19 during fieldwork and adapted their CAWI and CAPI systems to collect census data. Because of this, enumeration continued and was completed within the planned timeframe. Some of the measures taken by the NSO to reduce viral transmission and excess nonresponse caused by the pandemic are listed below:

- Masks and antibacterial gel were provided to staff by the NSO; their use was mandatory in field and office.
- Physical contact (e.g., shaking hands) between NSO staff or field staff and census respondents was prohibited.
- Entry to housing units to collect interviews was not authorized; interviews were conducted outdoors, or through a street-facing window or door.
- Enumerators had to always keep at least 1.5 meters distance from respondents.
- Field personnel with COVID-19 symptoms were required to report to health services and immediately stop conducting field activities.
- Staff over 60 years of age or pregnant were not allowed to continue with field work that required contact with respondents.
- Meetings were limited to 10 people in the same physical space (virtual meetings were encouraged).
- 1.6 million letters inviting people to answer the census questionnaire by phone (CAPI) or via the internet (CAWI) were delivered.

Source: Instituto Nacional de Estadística y Geografía, 2021.

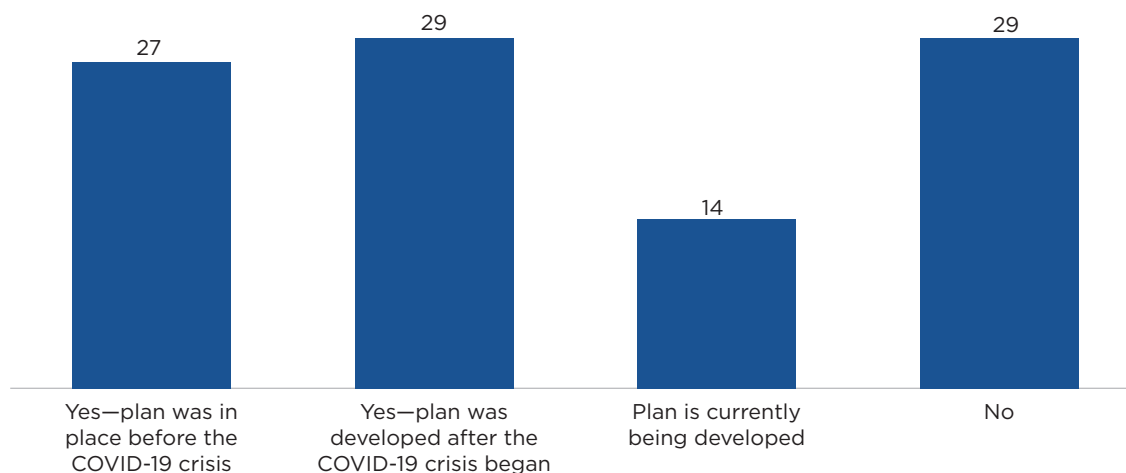
For household surveys, the International Labour Organization (2021) found that the COVID-19 pandemic caused changes in dissemination plans and reduced data quality, in addition to reductions and delays in the publication of data. However, countries that favored remote data collection—like CAPI and CAWI—were less impacted by the pandemic. The implementation of mixed-mode approaches that include remote data collection seem to be a good approach practiced in many countries (United Nations Statistics Division, 2021a; United Nations Statistics Division, 2021b).

The recommendations of the United Nations Intersecretariat Working Group on Household Surveys (IWGHS) are contained in three general principles:

1. Minimizing the risk of COVID-19 transmission among household survey field staff and survey respondents in order to prevent further contagion.
2. Limiting field data collection activities to the minimum necessary to reduce the risk of COVID-19 transmission.
3. Ensuring the continued availability of high quality, timely, and well-documented data for policymaking at the national and local level (IWGHS, 2020).

The UN IWGHS developed a reference checklist to guide decision-making around survey operations during a pandemic. A similar checklist can be developed by NSOs to be used in other types of contingencies. The checklist for planning and carrying out household surveys under COVID-19 can be found in Annex 1 of Planning and Implementing Household Surveys (United Nations, 2020).

Figure 2.  
**National Statistical Offices With a Crisis Management Plan**  
(In percent)



Source: United Nations and World Bank, 2020.

Even though many NSOs continue to gradually reopen their offices, working from home has become the new normal for many. According to the United Nations (United Nations and World Bank, 2020), 90 percent of the 122 NSOs surveyed in May 2020 instructed at least some of their staff to work from home. In addition, 96 percent of them stopped face-to-face data collection (at least partially). The need for permanent or temporary remote workers and of nontraditional collection methods—such as CAPI, CAWI, and DOPU—calls for new protocols to ensure more efficient work and training in a home office environment and for investing in adequate IT and communications infrastructure. Unfortunately, the NSOs that were most affected during the pandemic are those in low and middle-income countries, in part because of inadequate IT and communications infrastructure.

In July 2020, the United Nations surveyed 112 NSOs to ask if these offices had a crisis management plan. It seems that NSOs improved their emergency preparedness because of the COVID-19 pandemic. However, as of the time this survey was collected, 29 percent of NSOs did not have a crisis management plan (Figure 2).

## CONCLUSIONS

As of publication of this report, neither the COVID-19 pandemic nor the 2020 round of population and housing censuses have ended. Several countries are still planning to conduct a census, either this year or in the following years. Despite global efforts to adapt to current conditions, simultaneity and periodicity of censuses have already been affected around the world. In addition, there are legitimate concerns about the quality of censuses conducted under the pressure of the COVID-19 pandemic. However, whether the 2020 round of censuses

are of reasonably good quality is still up for debate. NSOs must produce quality assessments and report them to data users transparently, completely, and comprehensively. Producing and disseminating quality assessments can help to inform data users in terms of census accuracy, timeliness, and relevance, and help NSOs to preserve trust in official statistics (United Nations Statistics Division, 2021a).

While it is not possible to predict the next global pandemic, NSOs can plan to minimize negative effects on budget and data quality. Some recommendations to increase an NSO's emergency preparedness are:

1. Develop a crisis management plan for sanitary and other emergencies.
2. Invest in IT and communications technology.
3. Develop and deploy modern data collection methods like CAPI, CAWI, mail-out/mail-back or drop-off/pick-up (DOPU).
4. Be prepared to use alternative sources of data (like administrative records).

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