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ORIGINAL ARTICLE

# Operationalization of serological surveys in Goiânia: an experience report during the COVID-19 pandemic, 2020

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## Abstract

**Objective:** To present the experience report of the Health Surveillance Department of Goiânia, Goiás, in conducting four seroepidemiological surveys aimed at estimating the seroprevalence of SARS-CoV-2 infection in 2020, describing the operational and methodological stages as well as the challenges encountered. **Methods:** This is an experience report on the organization and implementation of four household-based seroepidemiological surveys conducted amid the rising COVID-19 transmission in 2020. The municipal health surveillance team conducted the activities by administering standardized questionnaires and collecting venous blood samples for serological testing. **Results:** In each survey, approximately 300 public health professionals visited around 2,500 households in a single day. In total, 10,147 individuals aged 5 years and older were recruited. The main challenges involved resource and field team organization, methodological design, laboratory support, and community participation. These obstacles were overcome through external partnerships, method standardization, and a systematized organizational structure. **Conclusion:** The experience demonstrated that, despite operational constraints, municipal health surveillance can conduct large-scale seroepidemiological surveys within a short time frame. Intersectoral mobilization and process systematization facilitated the overcoming of challenges, resulting in a replicable strategy for other communicable diseases in emergency contexts.

**Keywords:** COVID-19; Public Health Surveillance; Disease Outbreaks; Seroepidemiological Studies; Health Surveys.

## Ethical aspects

This research used public domain anonymized databases.



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## Introduction

The emergence of infectious diseases poses an increasing challenge to global public health, with the Coronavirus Disease 2019 (COVID-19) pandemic representing the most significant event in this context (1). Epidemics caused by emerging infectious diseases have risen in recent decades due to environmental changes driven by human activity, international mobility, deficiencies in health systems, and rapid microbial adaptation (2). This scenario underscores the importance of surveillance systems capable of responding promptly to such emergencies, aiming to mitigate their economic and public health impacts (1).

In the face of epidemics, especially those caused by novel agents, population-based seroepidemiological surveys are a fundamental tool for surveillance, supporting the adoption of more appropriate strategies for disease control based on: understanding transmission dynamics and their associated factors; monitoring the evolution of the epidemiological scenario at different periods; assessing social impacts; and providing data to calibrate mathematical models (3,4). Given this context, the implementation of these surveys was a strategy recommended by the World Health Organization (WHO) in 2020 during the COVID-19 pandemic. It was widely used in countries such as Switzerland, Denmark, and Brazil (5-7).

During the COVID-19 pandemic, faced with the need for rapid and accurate information on immunity and transmission, the State Public Health Emergency Operations Centers of Goiás (*Centros de Operações de Emergência em Saúde Pública Estadual de Goiás*), including that of Goiânia, suggested the swift implementation of seroprevalence surveys in the municipality (8,9). However, conducting seroepidemiological surveys presents challenges, particularly in emergency contexts. Epidemiological surveillance systems operated by local health services face significant limitations, such as shortages of human and technological resources and logistical barriers, which hinder the collection of biological samples representative of the population (1).

In view of these challenges, this article aims to report the experience of the Health Surveillance Department of Goiânia (*Vigilância em Saúde de Goiânia*), Goiás, in organizing and conducting four seroepidemiological surveys during the COVID-19 transmission period in 2020. The operational stages adopted, the challenges faced in the context of the health emergency, and the strategies implemented by the service to enable the execution of the surveys are described.

## Methods

### Study design

This is an institutional experience report from the Health Surveillance Department of Goiânia, Goiás, on the organization and implementation of four seroepidemiological surveys conducted in 2020 to detect antibodies against SARS-CoV-2. The initiative emerged as a recommendation from the State Public Health Emergency Operations Center of Goiás. It was incorporated into the local surveillance routine with technical support from the Federal University of Goiás (*Universidade Federal de Goiás*, UFG).

### Study location, period, and sampling

Goiânia, the capital of Goiás, has a population aged 5 years and older estimated at 1,491,000 inhabitants and is administratively divided into seven health districts: Campinas Center, East, West, North, Northwest, South, and Southeast, as illustrated in Figure 1.

The methodological strategy of this study was designed to ensure representativeness in each health district of the municipality, with a sample of 400 participants per district. The sample size was estimated considering: (1) a minimum population of 200,000 inhabitants per district; (2) an estimated SARS-CoV-2 infection prevalence of 15%; and (3) a precision of ±3.5% (7).

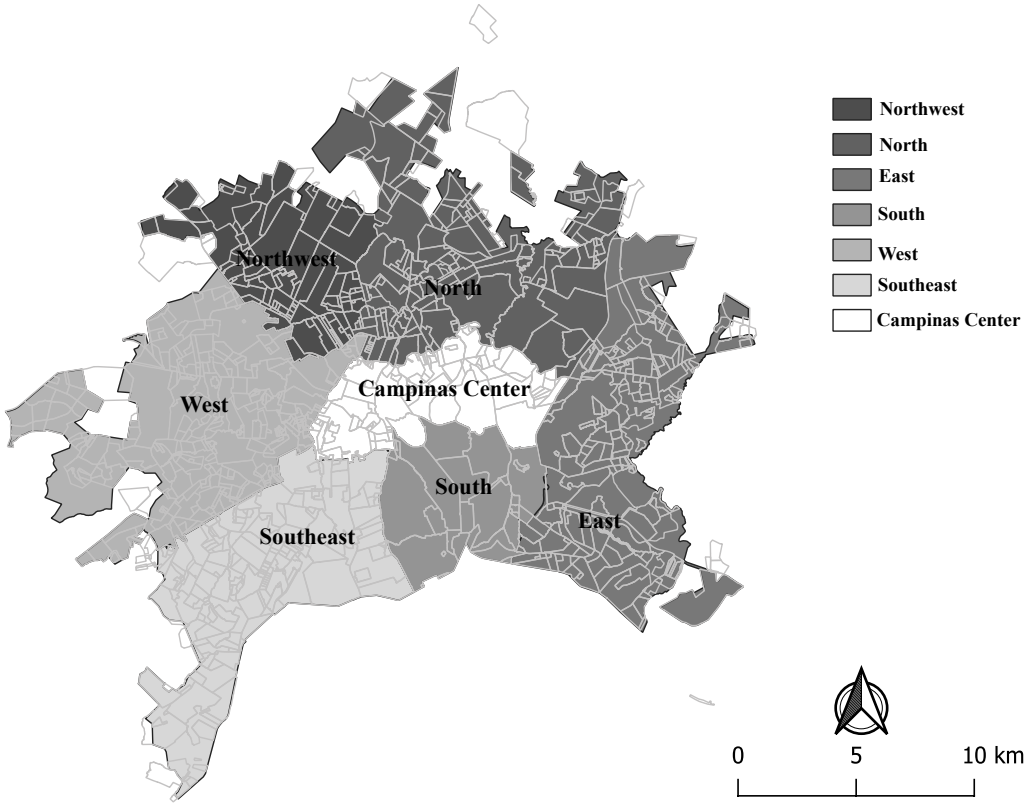


**Figure 1.** The municipality by health districts. Goiânia, 2025

The surveys were conducted at different time points during the first transmission cycle of the COVID-19 pandemic: on 10 May, 20 June, 11 July, and 19 September. The dates were strategically selected to capture different phases of the local epidemiological curve, enabling monitoring of virus spread over time (Figure 2).

### Data collection

Data collection was carried out by field pairs comprising endemic disease control agents and health professionals trained in blood collection. After obtaining consent, a standardized questionnaire was administered, including sociodemographic variables, symptoms compatible with COVID-19, reported comorbidities, history of contact with suspected or confirmed cases, and adherence to preventive measures. Subsequently, venous blood was collected for serological testing.

The tests were processed on the same day for the first three surveys, thanks to partnerships with the Clinical Laboratory of the Pontifical Catholic University of Goiás (*Laboratório Clínico da Pontifícia Universidade Católica de Goiás*) and the Rômulo Rocha Clinical Analysis Laboratory of the Federal University of Goiás (*Laboratório de Análises Clínicas Rômulo Rocha da Universidade Federal de Goiás)*. In the fourth survey, due to technical limitations, the tests were processed one week after collection. The assays used were immunochromatographic tests for total antibody detection (IgG and IgM), with the first three provided by the Ministry of Health and the fourth made possible through a partnership with the Health for All Institute (*Instituto Todos pela Saúde*, ITpS).

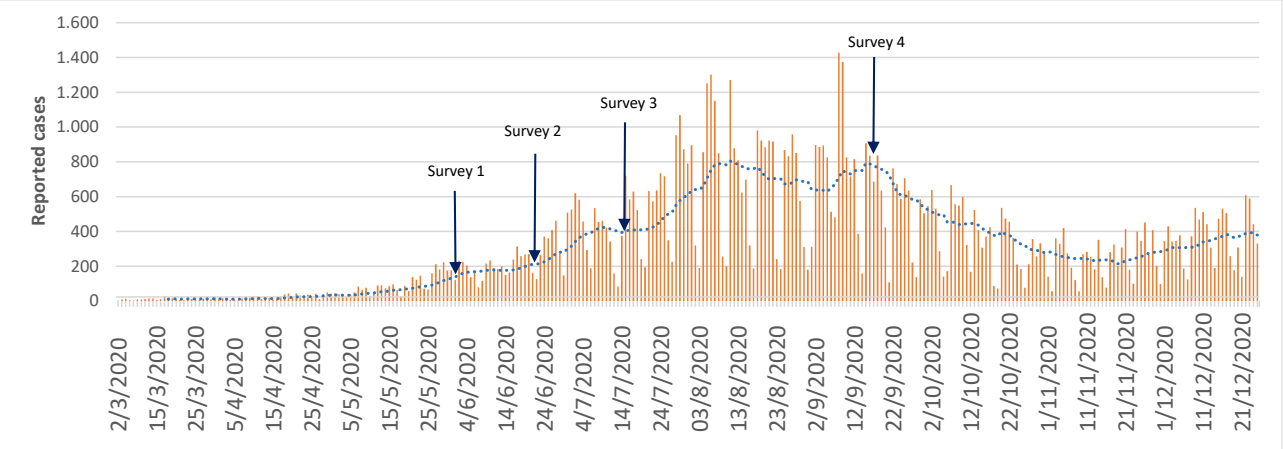


**Figure 2.** Reported COVID-19 cases among municipal residents, 14-day moving average, and dates of seroepidemiological survey implementation. Goiânia, 2020

Individual results were made available via the Municipal Health Department's (*Secretaria Municipal de Saúde*) digital platform, accessible with a code provided to the participant at the time of the interview. Reactive cases were notified by telephone and reported to the surveillance systems. Prevalence estimates by district and for the municipality were disclosed on the same day or the following day, according to the operational schedule.

The information used in this report was extracted from institutional documents, including operational minutes, technical reports, and records produced by municipal surveillance during the surveys.

## Results

Four serological surveys were conducted at different points in the first transmission cycle of the COVID-19 pandemic in the municipality (Figure 2). Each survey was carried out on a single day (Saturdays) in 2020, on 30 May, 20 June, 11 July, and 19 September.

In total, 10,147 individuals aged 5 years or older participated in the four surveys, with 2,510, 2,663, 2,529, and 2,445 participants in each, respectively. The mean age was 45 years (range: 5-103 years). Among participants, 43.4% had completed high school, 55.1% were female, and approximately 43.1% reported having a comorbidity or living with someone who did. The proportional distribution by district was similar across surveys, maintaining sample representativeness. There were no reports of refusal to participate. Table 1 presents the sociodemographic characteristics of participants in the four serological surveys conducted in Goiânia in 2020.

Implementing seroepidemiological surveys required overcoming several operational, organizational, and technical challenges inherent to municipal surveillance during an emergency. These challenges can be grouped into five main areas: (1) field logistics, (2) laboratory structure, (3) community engagement and acceptability, (4) communication of results, and (5) data management and strategic use of information. Table 2 presents this categorization and the solutions developed for each aspect. The systematized information was compiled from internal reports from the Health Surveillance Department, operational meeting minutes, and records produced at the time by the professionals involved.

Although local epidemiological surveillance systems have extensive experience in field investigations, these activities are usually focused on individuals or small population groups. However, conducting large population-based surveys by surveillance services is not routine. It has, as one of its critical points, the operational component, including field logistics and limited resources.

**Table 1.** Distribution of the municipal sample by sociodemographic variables. Goiânia, 2020 (n=10,147)

| | Overall | Survey 1 | Survey 2 | Survey 3 | Survey 4 |
|---|---|---|---|---|---|
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| **Sex** | | | | | |
| Male | 4,551 (44.9) | 1,125 (44.8) | 1,258 (47.2) | 1,126 (44.5) | 1,042 (42.6) |
| Female | 5,596 (55.1) | 1,385 (55.2) | 1,405 (52.8) | 1,403 (55.5) | 1,403 (57.4) |
| Missing data (n) | | | | | |
| **Age group (years)** | | | | | |
| 5–9 | 25 (0.2) | 7 (0.3) | 5 (0.2) | 7 (0.3) | 6 (0.2) |
| 10–19 | 390 (3.9) | 84 (3.4) | 106 (4.0) | 104 (4.2) | 96 (4.0) |
| 20–49 | 5,552 (55.1) | 1,343 (54.0) | 1,463 (55.0) | 1,433 (57.3) | 1,313 (54.2) |
| 50–64 | 2,666 (26.5) | 691 (27.8) | 696 (26.2) | 637 (25.4) | 642 (26.5) |
| 65+ | 1,440 (14.3) | 363 (14.6) | 388 (14.6) | 322 (12.9) | 367 (15.1) |
| Missing data (n) | 74 | 22 | 5 | 26 | 21 |
| **Education level** | | | | | |
| None | 233 (2.3) | 44 (1.8) | 85 (3.2) | 47 (1.9) | 57 (2.4) |
| Incomplete elementary education | 1,246 (12.4) | 414 (16.7) | 73 (2.7) | 386 (15.4) | 373 (15.6) |
| Elementary education | 1,612 (16.0) | 357 (14.4) | 509 (19.1) | 354 (14.1) | 392 (16.4) |
| Secondary education | 4,360 (43.4) | 1,024 (41.2) | 1,207 (45.4) | 1,131 (45.1) | 998 (41.7) |
| Higher education | 2,599 (25.9) | 647 (26.0) | 784 (29.5) | 592 (23.6) | 576 (24.0) |
| Missing data (n) | 97 | 24 | 5 | 19 | 49 |
| **Professional category**[a] | | | | | |
| Health | 255 (3.7) | 91 (3.8) | | 87 (3.5) | 77 (3.7) |
| Security | 125 (1.8) | 46 (1.9) | | 39 (1.6) | 40 (1.9) |
| Commerce, industry, services, transportation | 3,109 (44.9) | 1,060 (44.2) | | 1,111 (45.2) | 938 (45.5) |
| Education | 536 (7.7) | 187 (7.8) | | 195 (7.9) | 154 (7.5) |
| Retired, unemployed, and homemakers | 1,985 (28.7) | 662 (27.6) | | 694 (28.2) | 629 (30.5) |
| Other | 908 (13.1) | 354 (14.8) | | 331 (13.5) | 223 (10.8) |
| Missing data (n) | 566 | 110 | | 72 | 384 |
| **Presence of comorbidity (self or household)** [b] | | | | | |
| Yes | 3,308 (43.1) | 1,132 (45.1) | 1,152 (43.6) | 1,024 (40.6) | |
| No | 4,370 (56.9) | 1,378 (54.9) | 1,491 (56.4) | 1,501 (59.4) | |
| Missing data (n) | 24 | 0 | 20 | 4 | |

[a]The questionnaire applied in survey 2 did not assess participants' occupation; [b]The questionnaire applied in survey 4 did not assess the presence of comorbidity among participants.

**Table 2.** Main challenges and strategies adopted in the implementation of seroepidemiological surveys in the municipality. Goiânia, 2020

| Axes | Challenges | Mitigation strategies |
|---|---|---|
| Field logistics | 1. Sample size calculation by the health district | Conducted with technical support from an epidemiologist at the Federal University of Goiás, using statistical parameters and population data by district to ensure representativeness. |
| | 2. Selection of households | Use of the municipality's georeferenced database for digital random selection of addresses. Territorial dispersion rules were applied to ensure adequate coverage and avoid clustering of sample points, such as:<br>Unidirectional movement of field teams;<br>Avoid selection of neighboring households;<br>Limit of three households per block;<br>After this limit, a minimum displacement of three blocks is required before resuming the approach. |
| | 3. Execution of surveys in a single day | Institutional mobilization by municipal management, coordinating health sectors and intersectoral support, ensuring logistics, team allocation, and materials for concentrated implementation. |
| | 4. Choice of biological sample type | A pilot survey using capillary blood demonstrated low sensitivity. For the validated surveys, venous blood collection followed by serum centrifugation was adopted, thereby increasing test accuracy. |
| | 5. Provision of tests for the fourth survey | For the first three surveys, serological tests were provided by the Ministry of Health through the State Health Department. For the fourth survey, an interinstitutional partnership with the Health for All Institute ensured donation and distribution of serological tests at no cost to the municipality. |
| | 6. Operational supplies and materials | Mapping and rationalizing resources across the Municipal Health Department's various sectors, with the reuse of supplies and reorganization of the central warehouse. |
| | 7. Training of field teams | Approximately three collaborators from each district were trained in the local organization of surveys, including household selection criteria, participant approach, questionnaire administration, sample logistics, and biosafety. These professionals acted as multipliers within their respective territories. Each field team received a technical manual with instructions, guidelines, and activity schedules. Before each survey, field activities were preceded by a technical meeting at each district's concentration point to align operational procedures. |
| | 8. Development of the instrument and sampling plan | An academic partnership structured the questionnaire with interview logic, closed-ended questions, and thematic blocks. The sampling plan was defined with consideration of sociodemographic heterogeneity. |
| Laboratory structure | 9. Collection, storage, transport, and processing of samples | External partnership with academic laboratories for centrifugation and sample processing. Technical training is provided with support from students and faculty. Specific logistics were defined for each district: standardized collection, labeled tubes, thermal boxes, and immediate transport to partner laboratories, all to ensure sample integrity. |
| Population engagement and acceptability | 10. Ensuring trust and participation | To encourage participation and prevent refusals, a prior communication strategy was adopted via institutional social media, local press, and community channels, including television coverage on survey days. Messages explained the survey objectives, the random selection of households, and biosafety measures. Direct approach by surveillance professionals known to the community, particularly endemic disease control agents, reinforced trust in the process. Additionally, the use of personal protective equipment ensured a sense of health safety for the population. |
| | 11. Ethical aspects | Although conducting surveys by the health service does not require ethics committee approval, all participants were invited to sign an authorization form for the tests. |
| Ensuring communication of results | 12. Delivery of results to participants | Creation of a digital platform by the Municipal Health Department for individual access to results using a unique code, along with telephone contact for participants with reactive results. |
| Information management and strategic use of data | 13. Public dissemination of results | Press conferences and digital bulletins presenting the survey findings were widely distributed for local communication. |

From this perspective, the decision to conduct each survey in a single day required assembling a field team large enough to reach a sample of 400 participants per health district. Based on an estimate of ten households visited per team per period, a total of 20 teams, each composed of two people (40 professionals), were allocated to each health district. To this total of 280 professionals, 20 drivers were added, bringing the total to 300 health service professionals engaged in each survey.

Considering safety, reliability, and community acceptability, each field team included an endemic disease control agent whose primary area of work corresponded to the selected field site. Therefore, the approach at each household was carried out by a team member who was potentially recognized by the local population. The other team member was a health professional qualified to collect blood samples. Vehicles and supplies were provided by the municipal administration, with support from sectors beyond health.

Given the absence of a municipal public laboratory to perform the tests, a partnership was established with academic institutions—the Clinical Laboratory of the Pontifical Catholic University of Goiás and the Rômulo Rocha Clinical Analysis Laboratory of the Federal University of Goiás—for the reception and processing of samples. The tests were performed by both students and volunteer academics, allowing the presentation of results on the same day the survey was conducted.

Additionally, the timely delivery of laboratory results to participants was a critical step. The solution was to make them available online for consultation, using a registration number provided to each participant during the interview. Subsequently, it was necessary to publicly disseminate the survey results, which were done through press briefings and publications on digital media.

The surveys enabled estimating, in each round, the prevalence of SARS-CoV-2 infection in each district and in Goiânia as a whole. These results were systematically presented and discussed during meetings of the State Public Health Emergency Operations Center. In addition, the results were used to support mathematical modeling by a technical analysis group from the Federal University of Goiás. Projections of the epidemic curve and disease spread across the state were also adopted by the Public Health Emergency Operations Center as input for decision-making.

The municipal administration used this information to support key policies, such as directing COVID-19 testing sites and scheduling reopening activities, and to evaluate questionnaire responses as indicators of adherence to social isolation guidelines and preventive practices.

Furthermore, due to the regionalized survey design, it was possible to identify differing patterns of SARS-CoV-2 spread within the same municipality, compare health districts, and inform the targeting of prevention and control actions.

Based on the experience gained, a proposed workflow for the design and implementation of seroepidemiological surveys within public health services was systematized, as presented in Figure 3. This organizational proposal is grounded in the experience reported and has the potential to be replicated in similar contexts.

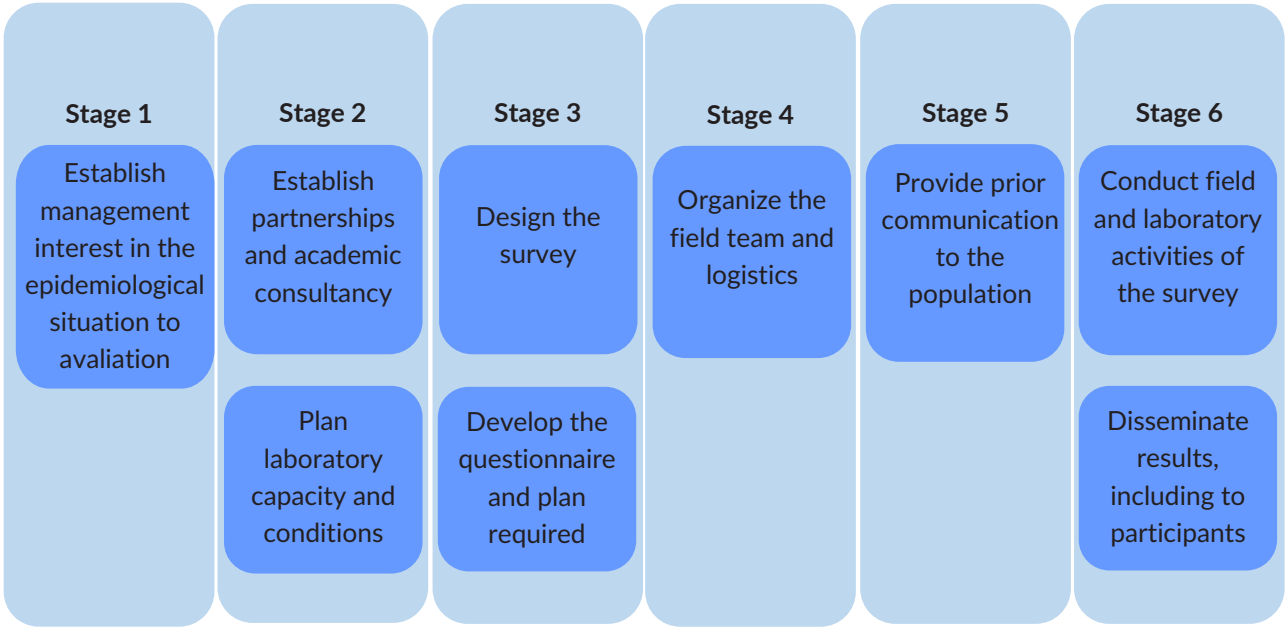


**Figure 3.** Proposed steps for the design and implementation of seroepidemiological surveys by health surveillance department. Goiânia, 2020

## Discussion

In this report, we present how Goiânia enabled and conducted large-scale population-based surveys with a substantial number of participants in a single day, in response to the demands imposed by the COVID-19 pandemic. During this period, many countries developed national population-based prevalence surveys. (5,10,11) However, the pandemic also challenged and encouraged states and municipalities to develop their own studies, such as those conducted in Espírito Santo and Rio Grande do Sul (6,12) and in São Paulo and Ribeirão Preto (7,13).

Nevertheless, conducting large population-based surveys poses challenges for epidemiological surveillance, as such surveys are not part of the routine activities of these services. The first challenge was the decision-making process required to operationalize these studies. Initially, it was necessary to make the case to managers and technical staff that seroepidemiological surveys, when combined with other sources of information, can contribute to understanding transmission dynamics, identifying population groups at higher risk of infection, estimating the extent of underreporting, and assessing population-level immunity. This knowledge is essential for defining more targeted and timely public health decisions (3).

Additionally, the pandemic moment led to the adoption of Emergency Operations Centers in states and municipalities, a practice that has been maintained for other events, such as arboviruses (14). The recommendation to conduct surveys issued by the Public Health Emergency Operations Center represented an additional support mechanism for decision-making by health managers. (8) During the pandemic, COVID-19 represented a new public health emergency—yet to be fully understood—and there was a scarcity of knowledge to support health surveillance in assessing its spread and in adopting effective prevention and control measures (8,15). Together,

these factors were decisive in securing managerial approval for the surveys.

In this context, the understanding that population-based surveys can be conducted with institutional support and strategic partnerships points to future research opportunities aligned with health priorities, such as assessing the prevalence of arboviral infections, measles immunity, and emerging diseases (16,17).

Subsequently, operational challenges were observed in executing a large-scale seroepidemiological survey, as these studies are costly, require efficient use of human resources, are constrained by limited time for implementation, and often face financial restrictions—representing a significant challenge for developing countries, especially when led by public health services (3). (3). This approach is supported by international studies on the design of serological surveys, which highlight efficiency gains from integrating multiple outcomes within a single population-based investigation (18).

We observed that several international surveys conducted data collection for an average of one to two weeks (10). In Switzerland, the survey involved 2,766 participants over 30 days (19). In Brazil, a large multicenter study encompassing all states and their capitals was conducted with 89,362 individuals across three surveys, each lasting four days and including approximately 250 participants per city (20).

At the state level, in Espírito Santo, four SARS-CoV-2 prevalence surveys were conducted, each lasting one week and including around 4,500 participants per round (a total of 18,791 individuals) (6). In Rio Grande do Sul, eight surveys were conducted, each lasting 4 days and covering a total of 35,611 participants, averaging 4,500 per survey (21). In São Paulo, each of the 11 surveys was conducted over four days with approximately 2,000 participants, totaling 23,397 individuals (7).

For this report, each survey was conducted in a single day. This decision was strategic, given the need to obtain timely data to guide municipal management actions in a public health emergency scenario. The concentrated execution enabled rapid, geographically detailed information acquisition, essential for responding to COVID-19. Given that the purpose of this type of study is to assess the health situation at a specific point in time, conducting fieldwork within the shortest possible time proved the most appropriate alternative (22).

However, it was the mobilization of all health departments—and even interinstitutional collaboration—during that pandemic moment that actively contributed to providing a sufficient field team, as well as the necessary materials, personal protective equipment, and vehicles for survey implementation. This intersectoral collaboration is strategic, as it enables the integration of technical, operational, and logistical resources essential to large-scale data collection and analysis (23).

In this context, given the surveillance service's prior inexperience in conducting large-scale serological studies, the need for specialized technical support was identified. To ensure the quality and reliability of results, partnerships were established with academic institutions that contributed to the methodological design, development of the data collection instrument, definition of the sampling plan, and analytical strategies. This collaboration mirrored international experiences, such as those in Spain, where public services conducted the national survey in partnership with academic institutions (11). In Brazil, most surveys were similarly developed by universities with public funding (6,7).

From this external collaboration emerged the questionnaire, featuring predefined questions and answers, multiple-choice items, and a logical sequence that engaged respondents and simplified data collection (24). Moreover, the sample size calculation by the health district, the target population group, participant eligibility criteria, and household selection were

scientifically grounded, enabling the generation of subgroup results that reflected the demographic and socioeconomic heterogeneity of the sample (25).

Another essential external collaboration was the use of laboratory facilities and technical teams from academic institutions. Several seroprevalence surveys support this strategy, highlighting the involvement of academic laboratories as both necessary and often fundamental to ensuring the reliability of the data obtained (19,23,26).

Another challenge was ensuring population participation. In a survey conducted in Ethiopia, 2,304 households were selected, of which 10.5% were inaccessible and another 9% refused to participate (27). In Brazil's national survey, the refusal rate was approximately 10% (20). In our study, there were no reports of refusal among residents. This may be related to the fact that fieldwork was carried out by public health professionals who were properly identified and, in some cases, already known to the community, such as endemic disease control agents. In addition, due to the scarcity of available tests, the population viewed the survey as an opportunity to learn their COVID-19 serological status.

From this perspective, the implementation of effective communication strategies also helps ensure population adherence and the reliability of results (23). In this report as well, the survey's operational success was supported by the use of communication channels that informed the public in advance about the study taking place in the municipality. Community engagement is essential to building trust and securing participant cooperation. Moreover, when results are shared, such engagement can help prevent unnecessary stigma (28).

Despite the success in conducting the surveys, it is important to acknowledge some limitations of this experience. Conducting each survey in a single day required intensive logistical mobilization, which may not be feasible in all settings. The lack of a structured municipal laboratory required external partnerships, which can lead to institutional dependence. Furthermore, the use of rapid tests may have influenced the accuracy of the results (29). Even so, the experience helped consolidate technical competencies, strengthen interinstitutional partnerships, and develop a replicable organizational model that can be applied by surveillance teams in other public health emergencies.

The experience reported here provides valuable insights for improving the response capacity of health surveillance services in public health emergencies, demonstrating the feasibility of implementing serological surveys through strategies adapted to local realities.

Finally, it was found that large-scale seroepidemiological surveys can indeed be conducted within surveillance activities, even in a short period of time. Although challenges exist, they can be overcome through partnerships, method standardization, and the use of a systematized organizational structure, with potential for replication in the surveillance of various communicable diseases.

### Conflict of interest

None to declare.

### Data availability

The data supporting this experience report are derived from institutional administrative records containing sensitive individual health information and cannot be made available in a public repository. Aggregated tables and supplementary materials may be obtained from the corresponding author upon justified request.

### Use of generative artificial intelligence

Not used.

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### Authorship credit

ESA: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Supervision, Validation, Visualization, Writing - original draft, Writing - review & editing. FVSA: Conceptualization, Formal analysis, Funding acquisition, Investigation, Methodology, Validation, Visualization, Writing - original draft, Writing - review & editing. PAAS: Conceptualization, Investigation, Visualization, Writing - original draft, Writing - review & editing. GNA: Validation, Visualization, Writing - review & editing. FSC: Resources, Validation, Writing - review & editing.

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## Operacionalização dos Inquéritos Soroepidemiológicos em Goiânia: relato de experiência na pandemia de covid-19, 2020

### Resumo

**Objetivo:** Apresentar o relato da experiência da Vigilância em Saúde de Goiânia, Goiás, na condução de quatro inquéritos soroepidemiológicos para estimar a soroprevalência da infecção por SARS-CoV-2 em 2020, descrevendo as etapas operacionais, metodológicas e os desafios enfrentados. **Métodos:** Trata-se de um relato de experiência sobre a organização e a execução de quatro inquéritos soroepidemiológicos de base domiciliar no cenário crescente da transmissão de covid-19 em 2020. As atividades foram conduzidas pela vigilância em saúde municipal, com aplicação de questionários padronizados e coleta de sangue venoso para realização de testes sorológicos. **Resultados:** Em cada inquérito, cerca de 300 profissionais do serviço público de saúde visitaram aproximadamente 2.500 domicílios em um único dia. Ao todo, 10.147 indivíduos com 5 anos ou mais de idade foram recrutados. Os principais desafios foram: a organização de recursos e de equipe de campo, o desenho metodológico, o suporte laboratorial e a participação da população. Obstáculos superados por meio de parcerias externas, de padronização de métodos e de uma estrutura organizacional sistematizada. **Conclusão:** A experiência revelou que, mesmo diante de limitações operacionais, é viável a condução de grandes inquéritos soroepidemiológicos pela vigilância municipal em curto espaço de tempo. A mobilização intersetorial e a sistematização dos processos favoreceram a superação dos desafios, resultando em uma estratégia replicável para outras doenças transmissíveis em contextos emergenciais.

**Palavras-chave:** Covid-19; Vigilância em Saúde Pública; Surtos de Doenças; Estudos Soroepidemiológicos; Inquéritos Epidemiológicos.

## Operacionalización de encuestas serológicas en Goiânia: informe de experiencia durante la pandemia de COVID-19, 2020

**Objetivo:** Presentar el informe de experiencia de la Vigilancia en Salud de Goiânia, Goiás, en la realización de cuatro encuestas seroepidemiológicas para estimar la seroprevalencia de la infección por SARS-CoV-2 en 2020, describiendo las etapas operativas, metodológicas y los desafíos enfrentados. **Métodos:** Se trata de un informe de experiencia sobre la organización y ejecución de cuatro encuestas seroepidemiológicas de base domiciliaria en el contexto del aumento de la transmisión de COVID-19 en 2020. Las actividades fueron llevadas a cabo por la vigilancia municipal de salud, mediante la aplicación de cuestionarios estandarizados y la recolección de sangre venosa para la realización de pruebas serológicas. **Resultados:** En cada encuesta, aproximadamente 300 profesionales del servicio público de salud visitaron alrededor de 2.500 domicilios en un solo día. En total, se reclutaron 10.147 individuos de 5 años o más. Los principales desafíos fueron: la organización de recursos y del equipo de campo, el diseño metodológico, el soporte de laboratorio y la participación de la población. Estos obstáculos se superaron mediante asociaciones externas, estandarización de métodos y una estructura organizativa sistematizada. **Conclusión:** La experiencia demostró que, incluso frente a limitaciones operativas, es viable la realización de grandes encuestas seroepidemiológicas por parte de la vigilancia municipal en un corto período de tiempo. La movilización intersectorial y la sistematización de los procesos favorecieron la superación de los desafíos, resultando en una estrategia replicable para otras enfermedades transmisibles en contextos de emergencia.

**Palabras clave:** COVID-19; Vigilancia en Salud Pública; Brotes de Enfermedades; Estudios Seroepidemiológicos; Encuestas Epidemiológicas.