

Epidemiological Report

Central Division – CIEVS

Historic Series 2010 – 2021

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INTRODUCTION

The Central Division of the Epidemiological Surveillance Center “Prof. Alexandre Vranjac” (CVE) has as its primary mission the early and timely identification of epidemiological emergencies, with the aim of promoting the adoption of adequate control measures and reducing the risks for the population.^{1,2}

It was created in 1985 as a post for receiving notification of diseases and clinical and epidemiological guidance for infectious diseases in the state of São Paulo (SSP), by Law nº 839, of 12/31/1997. CENTRAL regularized the medical shifts, and in 1998 it started to work in the form of 24-hour shifts, seven days a week. By being configured as an institutional means of full and free access for the general population and for health professionals from public and private networks, it facilitated the notification of events or diseases of relevance in public health and epidemiological guidance for their prevention, control, diagnosis and follow-up. The on-call staff is made up of medical and nursing professionals, trained in public health, who receive regular face-to-face and remote training. To meet the demands, the division has the following communication channels: a telephone line (08000-555466), two institutional telephones, FAX, institutional e-mails (notifica@saude.sp.gov.br; central@saude.sp.gov.br) and online forms for individual or outbreak notification (www.cve.saude.gov.br).^{1,2}

In 2009, CENTRAL became part of the National CIEVS Network - Network of Strategic Information and Responses in Health Surveillance, adopting, from there, the name of CENTRAL Division - CIEVS2, a movement that began with the approval of the International Health Regulations (IHR) at the 58th Assembly of the World Health Organization (WHO) in 2005. The Health Surveillance Secretariat of the Ministry of Health (SVS/MS) was designated by the WHO as the national focal point for the purposes of IHR: monitoring readiness and in the timely response to risk situations for the spread of diseases, as well as in the occurrence of other events that imply public health emergencies of national and international importance. Since then, an integrated network of alert and response units in the different spheres of management in the Brazilian territory has been constituted, the CIEVS Network, and the SSP has the CENTRAL – CIEVS as its focal point of reference.

After joining this network, the division expanded its activities in the detection of epidemiological surveillance actions in epidemics and pandemics, traveler’s health and unusual and mass events, with the need, on some occasions, of managing several and simultaneous diseases. A list of the main challenges faced by the division in the last decade is shown in [Table 1](#).

Table 1. Main events and grievances of greater impact that involved the work of CENTRAL-CIEVS, 2009-2021.

Grievances Transmissible	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
H1N1 influenza pandemic	■												
Dengue epidemic		■					■						
Suspected anthrax						■							
Ebola investigation						■							
Zika virus microcephaly							■	■					
Yellow fever epidemic									■	■			
Measles epidemic										■			
Conjunctivitis outbreak											■		
Toxoplasmosis outbreak											■		
Mockingbird investigation											■		
Covid-19 pandemic												■	■
Mass events	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Feast of Our Lady of Aparecida							■	■					
Youth Day/Pope Visit				■	■								
18th LGBTQIA+ Pride Parade						■							
Soccer World Cup						■							
Worldskills Competition						■	■						
Olympic Games								■					
Copa America Football											■		

Source: authors.

In addition to monitoring, the work of the CENTRAL Division – CIEVS in national and international public health emergencies involves the notification and follow-up of cases; interlocution with the federal level (MS, CIEVS Nacional); continuous updating and dissemination of information on the network; facilitating access to data among institutional partners; dialogue with technical divisions of CVE-SP, epidemiological surveillance groups (ESG) and CIEVS in the state of São Paulo; laboratory surveillance; dialogue with actors linked to the area, such as Instituto Adolfo Lutz and Instituto Butantan; the dialogue with the media; the construction of a task force with specific areas; and support for the field work of municipal surveillance.

TOOLS AND INSTRUMENTS DEVELOPED AND/OR OPERATIONAL

In more than three decades of operation, CENTRAL – CIEVS has continuously developed and/or incorporated tools and instruments to improve its function.

a. CeVeSP

It is (<https://cevesp.saude.sp.gov.br/>) a dynamic web platform for the notification of events and grievances of interest in public health at SSP, created by the division's information technology team in 2012. At first, it was structured to respond to the need for answers in the face of serious cases and deaths from dengue, as it allowed for quick notification, as well as its epidemiological analysis, in addition to having features that allowed the issuance of reports in real time, mainly for monitor mass events.

Over time, CeVeSP made it possible to measure the production of the shift, provide tools to identify and follow up on events and monitor contacts. It became an essential means for investigations of emergency injuries and events that needed a quick and effective response, such as:

- surveillance of pregnant women with exanthema in the Zika virus epidemic;
- mass events, since 2012;
- surveillance of conjunctivitis – support to the technical area of ophthalmology;
- surveillance of hepatitis A – support to the technical area of the Division of Waterborne and Foodborne Diseases;
- telephone and e-mail records of occurrences attended on the CENTRAL – CIEVS shift; and
- surveillance of covid-19.

b. Rumor checking tools

The division has procedures aimed at detecting, receiving, verifying, evaluating, monitoring and recording rumors (information originating from unofficial sources) related to diseases or injuries and events of relevance to public health.

For this, some support tools are used. Among them, search queries, which can be automated, such as ProMED mail, HealthMap, Google Trends/alert, Outbreak News Today; the EIOS Platform, made available by the Ministry of Health; and monitoring of national and international traditional media and social networks. This process results in a clipping, a document that is sent electronically to all health surveillance departments and groups in São Paulo and to the National CIEVS. The shipment is daily and includes all the information captured. Rumors that characterize a public health emergency are immediately checked for veracity with the ESG or CIEVS at the place of interest.

c. Public Health Emergency Checklist

LVE⁴ is an instrument adopted by the CIEVS network that aims to record notifications of public health emergencies of interest according to the administrative level (municipal, state and federal).

In São Paulo, since 2009, it has sought to portray the situation of events or grievances of state interest, updated by the technical area involved and by CENTRAL – CIEVS. The reported situations are accompanied by the description of the monitoring or follow-up actions, and the official document is generated by the division for weekly disclosure and according to the current epidemiological week. Its circulation is restricted to professionals involved with public health surveillance.

d. Methodologies for measuring on-call production

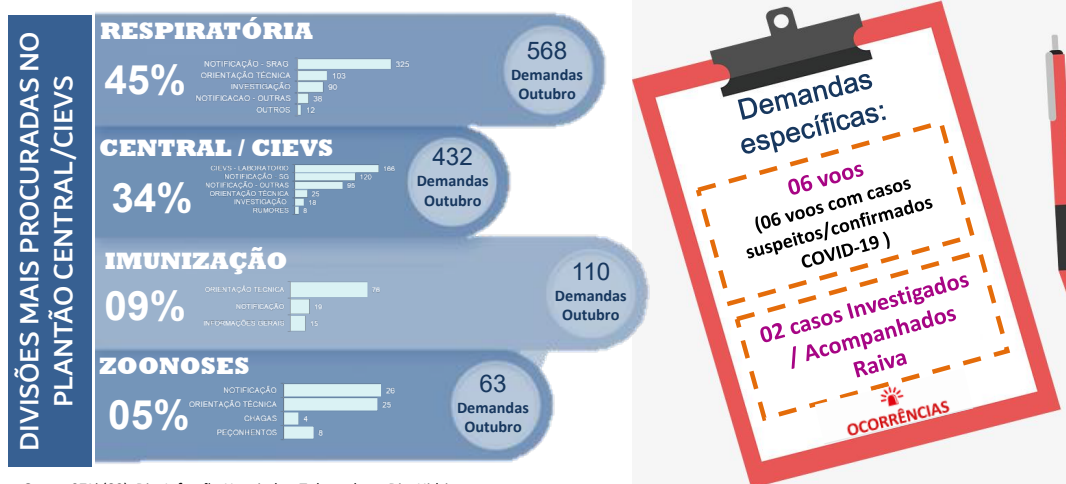
On a monthly basis, the assistance provided during the shift, whether by e-mail or telephone call, is compiled according to the subject, the technical division involved, the actions taken and the outcome. The data recorded during the shift are entered into CeVeSP, which generates the final report and allows for the preparation of monthly newsletters, as exemplified in [Figure 1](#).

e. Standard operating procedures and protocols

CENTRAL-CIEVS has a database of protocols on injuries within its scope, regularly updated, as well as standard operating procedures to standardize the performance of the team on duty and in communication with other institutional actors. These procedures are created whenever a demand is observed.

All documents generated by the division, technical notes, scientific articles, LVE and legislation are stored on an intranet site created by the division and made available to the team and on-duty personnel ([Figure 2](#)).

Figure 1. Infographic with the production of the shift in the month of November 2020.



Nota Metodológica: Na contabilização dos e-mails dos meses de julho, agosto e setembro foi utilizado exportador do banco via VBA EXCEL. Essa metodologia difere da utilizada nos meses anteriores onde aplicava-se a classificação manual dos e-mails no CEVESP.

Source: CENTRAL-CIEVS/CVE-SP/CeVeSP.

Figure 2. CENTRAL Division – CIEVS intranet screen.



Source: CENTRAL-CIEVS/CVE-SP/CeVeSP.

METHODOLOGY FOR STRUCTURED RESPONSE TO UNUSUAL DISEASES

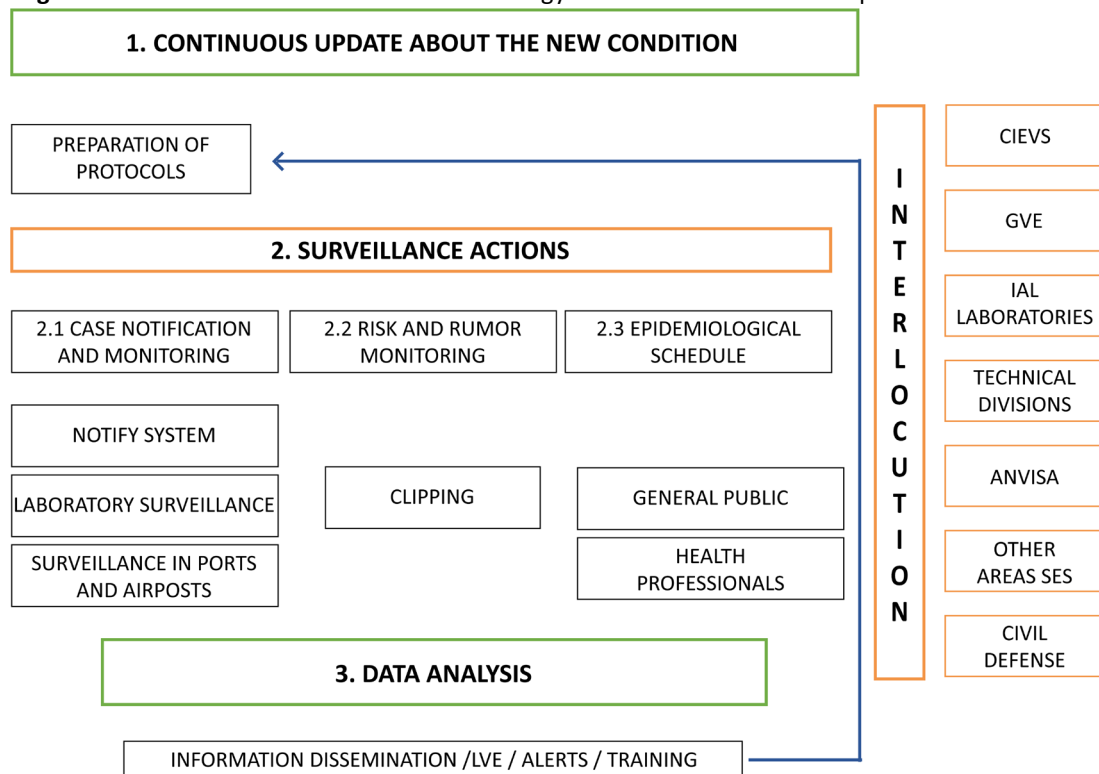
A structured set of activities developed by CENTRAL – CIEVS can be understood as a systematic and reproducible work methodology in the face of a new problem.

This methodology is based on three main axes: 1) continuous updating of information about the new disease; 2) surveillance actions; and 3) data analysis, which allows the elaboration of updated guidelines and protocols that improve surveillance actions in a feedback flow ([Figure 3](#)).

The declaration of the new coronavirus as an international public health emergency (ESPII) by the WHO on January 30, 2020 - accompanied by Brazil, which on February 3 of the same year, through the SVS-MS, declared the event an emergency of Public Health of National Importance (ESPIN) – is an example of this applied methodology. The first Brazilian case of covid-19 was confirmed on February 26 of that year, in the city of São Paulo, triggering a flow of epidemiological surveillance at different levels.

The first protocols, prepared with the initial information about the disease, were followed by surveillance actions using notification systems and laboratory and port and airport surveillance. Rumors were monitored, evaluated and communicated via clipping. The shift offered support to the demands and doubts of health professionals, other surveillance actors and the general public. Access to the notification bases was facilitated through the CeVeSP platform to ESG and municipal surveillance, in addition to the issuance of LVE.

Figure 3. CENTRAL-CIEVS - SP work methodology in the face of an unusual problem.



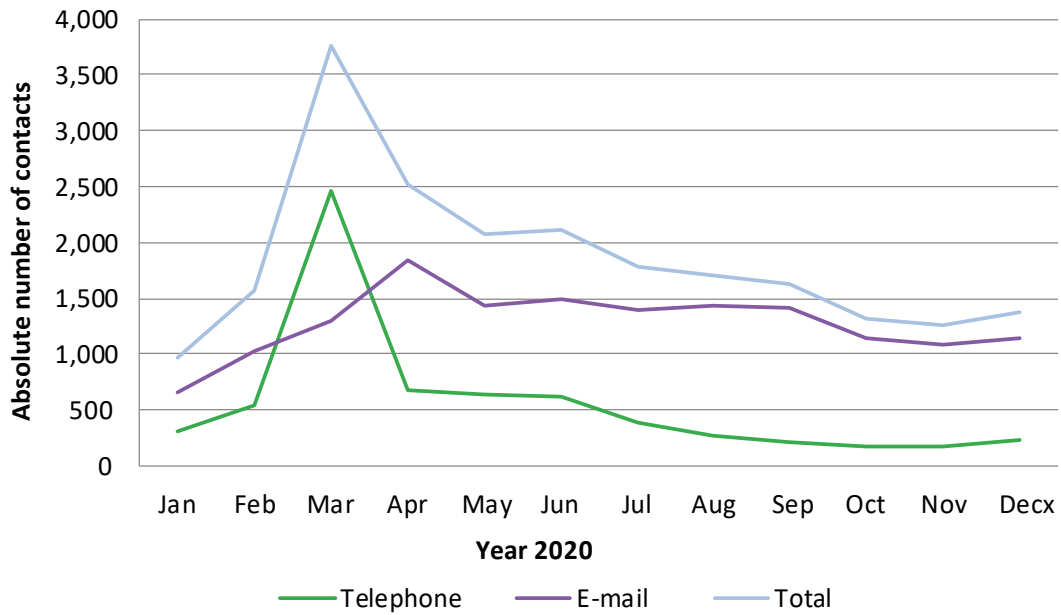
Source: elaboration of the authors.

As new knowledge about the pathophysiology of the disease was incorporated (ways of transmission, treatment and vaccine development), the protocols were revised and updated in order to guide both the actions and the response of the 24-hour shift. In addition to genomic surveillance, reinfection protocols, monitoring of contacts and imported cases, new guidelines were implemented for travelers and on immunizations. This cycle repeated itself continuously during the years 2020 and 2021.

[Figure 4](#) shows the volume of contacts received by the epidemiological shift in the first year of the pandemic. It represents the effort necessary to maintain the quality of surveillance in the face of the great health challenge imposed by the pandemic on CVE.

For the coming years and for the coming challenges, the CENTRAL Division – CIEVS will remain committed to providing surveillance of public health emergencies in the state of São Paulo, as described here and as can be seen in [Figures 5 to 10](#): with commitment, knowledge, capacity for innovation and collaboration.

Figure 4. Phone and email contacts received by the epidemiological duty of the CENTRAL Division – CIEVS/SP in absolute numbers, 2020.



Source: CeVeSP.

Figure 5. Real-time data collection. XXVIII World Catholic Youth Day, 2013. Aparecida do Norte/SP.



Source: CENTRAL Archive – CIEVS/CVE/SP.

Figure 6. Fieldwork. Yellow fever epizootic outbreak, 2017, Campinas/SP region.



Source: CENTRAL Archive – CIEVS/CVE/SP.

Figure 7. Real-time data analysis, 2014, São Paulo/SP.



Source: CENTRAL Archive – CIEVS/CVE/SP.

Figure 8. Monitoring of mass event at the World Cup in 2014, São Paulo/SP.



Source: CENTRAL Archive – CIEVS/CVE/SP.

Figure 9. LGBTQIA+ parade. Real-time mass event monitoring, 2014, São Paulo/SP.



Source: CENTRAL Archive – CIEVS/CVE/SP.

Figure 10. Technician dressed to investigate suspected Ebola, 2014, São Paulo/SP.



Source: CENTRAL/CIEVS/CVE/SP Archive.

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