

Towards an integrated cardiovascular disease monitoring system in Colombia:

Challenges and Opportunities

Victoria Soto, Irieleth Gallo, Laura Romero, David Watkins, Kristen Danforth



Why an integrated system for monitoring cardiovascular diseases (CVD)?

1. Cardiovascular diseases (CVDs) are the leading cause of death in Colombia, and **their prevalence continues to rise.**
2. The country has data on these diseases, but it is scattered across multiple sources and stakeholders, which makes **it impossible to track patients' actual care pathways and limits evidence-based decision-making.**

How to move forward?

1. Recognize and consolidate existing data by **defining common indicators and integrating information systems.**
2. Build **governance mechanisms** that bring stakeholders together and create incentives for collaborative work.

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Towards an integrated cardiovascular disease monitoring system in Colombia: Challenges and Opportunities

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Introduction

Cardiovascular diseases (CVDs) are the leading cause of death in Colombia and worldwide. In 2025, ischemic heart disease was the leading cause of death in the country, with 92.7 deaths per 100,000 inhabitants (DANE, 2026). At the same time, hypertension, one of the main precursors of CVD, has shown a sustained increase in prevalence, rising from 7.6% in 2017 to 11.9% in 2024 (CAC, 2025).

This public health concern has been recognized on Colombia's policy agenda, particularly in the Comprehensive Health Care Policy (PAIS, for its Spanish acronym) (Ministry of Health and Social Protection, 2016) and the 2022–2031 Ten-Year Public Health Plan (Ministry of Health and Social Protection, 2022). Both instruments assigned health-system stakeholders' responsibility for collecting data and monitoring progress according to their institutional roles, and established specific targets for CVDs. Despite this recognition, the country still lacks specific regulations or an integrated monitoring system for these diseases.

This Policy Brief summarizes the process carried out under the project "Methods and Tools for Tracking Cardiovascular Health Policy Implementation in Low- and Middle-Income Countries: A Colombia Case Study," developed by PROESA – Universidad Icesi together with researchers from the University of Washington. The document presents the key lessons learned and outlines strategic elements to guide the development of an integrated CVD monitoring system in Colombia.

Stage 1.

Mapping existing sources of information

As a first step, the main regulations, information systems, and reporting mechanisms related to CVDs in Colombia were identified and mapped. Table 1 presents the inventory of information sources provided and organized by health-system stakeholders.

Table 1. Inventory of information sources for CVD monitoring in Colombia

Content	Legislation	Data producer	Data organizer	Decision maker	Period-Frequency	Analysis unit
Report of preventing activities – R202	Resolution 202 of 2021	Providers	Insurers	Ministry of Health	2021 Quarterly	Individuals
Report of CKD, the arterial hypertension and DM – CKD-CAC	Resolution 2463 of 2014	Providers	Insurers	High Cost Patients fund	Yearly	Individuals
Report of service utilizations to establish per capita payment – UPC*	Resolution 2364 of 2023	Insurers		Ministry of Health	2014 -2021 Yearly	Type of health service
Individual Registry of Health Service Provision – RIPS*	Resolution 1036 of 2022	Providers	Insurers	Ministry of Health	2009 - 2022 Monthly	Type of health service
Vitals Statistics: births and deaths – DEATHS*	Circular 081 of 2007	Providers	Territorial entities	DANE	2005 -2023 Yearly	Individuals

Source: PROESA, based on desk review.

Notes: R202: Resolution 202 of 2021 (Ministry of Health and Social Protection, 2021); CKD: chronic kidney disease; UPC: capitation payment unit; RIPS: individual health service records.

This review showed that the country has multiple sources for tracking CVDs, including clinical, administrative, and epidemiological records, as well as reporting mechanisms related to hypertension, diabetes mellitus, chronic kidney disease (CKD), service utilization, and mortality (Soto et al., 2026A).

These findings confirm that an important data foundation already exists for CVD monitoring. However, the different sources were developed for varied purposes, are managed by different stakeholders, and operate relatively independently—which limits their coordinated use within an integrated monitoring system.

Stage 2.

Identifying barriers to integrated monitoring: Key stakeholder perspectives

Semi-structured interviews were conducted with 29 health-system stakeholders. Participants were currently or previously affiliated with national government, territorial entities, insurers, providers, academia, and clinical practice. While they recognized the value of existing data, they identified several barriers to its effective use (Soto et al., 2026B):

- The information system is fragmented according to each stakeholder's specific practices, generating multiple, disjointed reports and limiting integration.
- Available indicators are concentrated in the clinical stage; those related to risk factors and primary prevention are scarce.
- Available data are incomplete and do not allow for longitudinal tracking of patients.
- Responsibilities are fragmented across stakeholders, with insufficient use of information for decision-making.

Three priorities for strengthening monitoring emerged from these interviews:

1. Build a common monitoring architecture.
2. Improve the quality, timeliness, and integration of data and information systems.
3. Consolidate governance and coordination mechanisms among the different stakeholders in the system.

Stage 3.

Towards a shared monitoring vision

Building on the findings from the previous stages, the project sought to advance towards a shared vision of CVD monitoring. To this end, territorial entities and health care providers were contacted to identify priority monitoring topics and explore opportunities for joint work. Table 2 summarizes the entities contacted and the topics identified.

Table 2. Topics prioritized by stakeholders for CVD monitoring

Institution	Topic	Level of interest	Products delivered	Follow-up conversations
Public provider Cali 1	Monitoring of hypertension (HTN) and diabetes mellitus (DM) control, with emphasis on pregnant patients	Medium	Tracking database for patients with chronic diseases	Yes
Public provider Cali 2	Monitoring of chronic disease control from an economic and cost-based approach	Low	Patient data on chronic diseases (incomplete)	No
Public provider Cali 3	Applied clinical research in patients with chronic and cardiovascular diseases	Low	No	No
Public provider Cali 4	Monitoring of HTN and DM control, with emphasis on factors limiting patients	High	Tracking database for chronic patients, administrative service delivery records, institutional documentation	Yes
Public provider Palmira	Monitoring of chronic diseases to strengthen the institutional data observatory	Low	No	No
Private provider Palmira	Applied clinical research in patients with chronic diseases	Low	No	No
Private provider Cali 1	Applied clinical research in patients with chronic and cardiovascular diseases	Low	No	No
Private provider Cali 2	Monitoring of chronic and cardiovascular disease control in advanced stages: transplants and complications	Low	No	No
National private provider	Monitoring of chronic and cardiovascular disease risk	Low	No	No
Health authority Bogotá	Monitoring of chronic disease control with emphasis on public health	Low	No	Yes
Health authority Cali	Monitoring of chronic disease control with emphasis on public health	Low	No	No

Source: prepared by the authors.

The results of this collaborative exercise show genuine interest in CVD monitoring, particularly for hypertension and diabetes. At the same time, they reflect a diversity of institutional priorities, including clinical research, risk management, cost analysis, and follow-up of patients with advanced disease.

Uneven participation across organizations was also observed: public providers showed greater willingness to share information and engage in follow-up conversations, while most private providers participated only minimally. As part of the exercise, a workshop was convened to build consensus around a proposal for integrated monitoring; however, only one stakeholder attended.

Although this outcome limited the development of a joint agenda, it did help identify collaboration opportunities with some interested providers—for example, around analyzing medication adherence among patients with hypertension and diabetes, as well as initiatives aimed at improving data quality and reporting. These opportunities emerged from a shared recognition of the importance of quality data and the potential of monitoring and evaluation to strengthen decision-making.

Finally, this experience revealed an important insight: the challenges to strengthening CVD monitoring are not purely technical. While there is genuine interest in these diseases and recognition of their importance, factors such as the availability of time and human resources, institutional incentives, organizational priorities, and the absence of formal coordination mechanisms also shape the possibility of building a shared vision among stakeholders.

Strategic elements for strengthening CVD monitoring

Based on these findings and lessons learned, four strategic dimensions were identified to guide future strengthening efforts. Table 3 describes each of these dimensions.

Table 3. Key dimensions for strengthening an integrated CVD monitoring system

Dimension	Description
Data and information systems	Identify immediate actions to improve data capture, integration, and quality, and prioritize the indicators needed for monitoring that is both useful and feasible.
Medications and continuity of care	Improve coordination among health insurers, providers, and logistics operators, strengthening follow-up practices that support treatment adherence.
Installed capacity (infrastructure, human resources, and management)	Strengthen institutional capacities for effective monitoring by identifying local solutions that can be replicated with a system-wide perspective.
Joint solution pathways	Move towards a unified CVD monitoring framework with concrete short-term commitments among stakeholders.

Source: prepared by the authors.

Conclusions and recommendations

An integrated CVD monitoring system represents a key opportunity in a context of sustained increases in the prevalence and mortality of these diseases. To advance in this direction, stakeholders must recognize it as an explicit priority—both strategic and operational—with clarity about its purpose, the parties responsible for its management, and the data underpinning it.

Colombia has the regulatory, institutional, and informational foundations needed to advance in this direction. The main challenge is not generating new sources of information, but rather coordinating existing technical, institutional, and operational capacities and developing mechanisms that translate data into evidence-based decisions.

As outlined in the strategic dimensions, this entails strengthening data integration and quality, ensuring continuity of care throughout the patient's care pathway, and consolidating governance mechanisms that define clear leadership, create permanent spaces for coordination, and generate incentives for collaborative work among stakeholders. In doing so, the country can progress towards an integrated system that leverages available data to improve prevention, care, and outcomes in cardiovascular health.

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