



CENTRAL AMERICAN HEALTH  
INFORMATICS NETWORK

*Analysis of The Situation  
of Digital Health in Central  
America: The Experience  
of RECAINSA*

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# Content

- About RECAINSA
- Overview of Central American Region
- Digital Health in Central America
- Conclusions

# About The Central American Health Informatics Network

Presented by Joseline Carias, Coordinator of Communication and Digital Strategy of  
RECAINSA

# What is RECAINSA?

- The Central American Health Informatics Network, RECAINSA, is a network formed by Central American volunteers, mostly technicians and professionals working in the health sector and information technologies, which emerged in 2013 with the intention of support national strategies for digital health and generate spaces for the exchange of experiences and good practices in both, the public and private sectors.

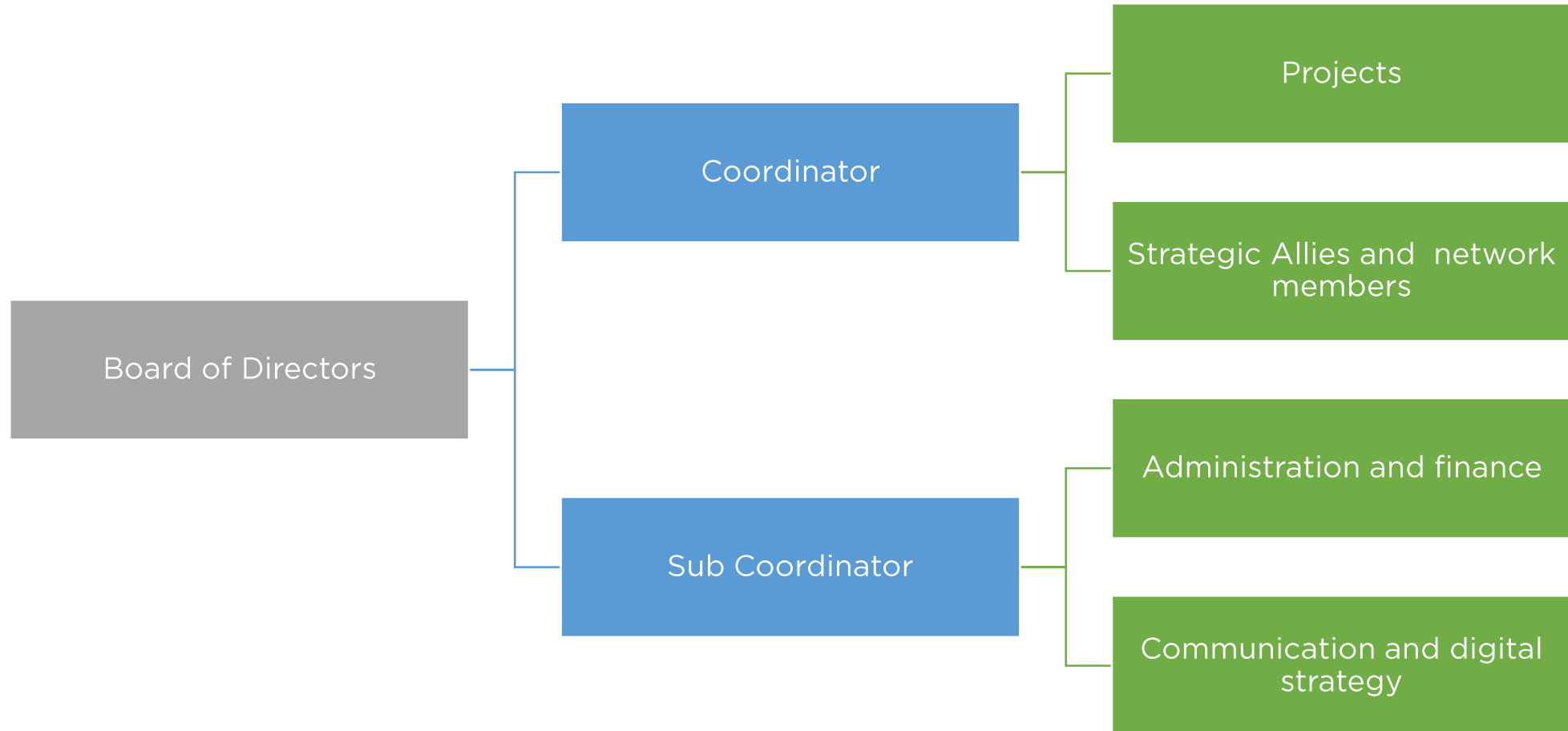
# Purpose

- The Central American Health Informatics Network, RECAINSA, joins the global effort led by the World Health Organization (WHO) to promote and to boost universal access and coverage in health, through the digital transformation in health, which allows implementation of national strategies that have a significant impact on efficiency and quality of health systems, contributing decisively to reduce inequities affecting the countries of Central American region and Latin America in general.

# Strategic Framework

- **Mission Statement:** Actively promote the strengthening of eHealth governance, training of leaders, creation of spaces for exchange of experiences, best practices and the dissemination of knowledge in digital health in Central American countries and other regions.
- **Vision:** To be a reference entity for digital health in Central America and other regions, promoting the strengthening of eHealth governance, training of leaders and generation of spaces for the exchange of experiences, best practices and the dissemination of knowledge.

# Governance



# Strategic Objectives

- Objective 1: Strengthen eHealth governance in Central American countries through the formation of a National Commission and creation or updating of legal, regulatory and strategic frameworks.
- Objective 2: To promote the academic training of human resources in the area of digital health, through universities and specialized and certified centers.
- Objective 3: To strengthen virtual and face-to-face spaces for the exchange of experiences and best practice, and the production and dissemination of digital health knowledge.



# Overview of Central America Region

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# Population

- Guatemala: 15 millions
- Belize: 375,000
- El Salvador: 6 millions
- Honduras: 9 millions
- Nicaragua: 6 millions
- Costa Rica: 5 millions
- Panama: 4 millions
- Total: 45 ± millions

*Source: National census and World Bank*



# Central America in Numbers

- Guatemala has the biggest economy (GDP 75.62 USD billions) and Belize has the smallest economy (GDP 1.8 USD billions).
- Panama has the highest per capita (15,087.68 USD) and Nicaragua the smallest (2,221.81 USD).
- According to Global Study on Homicide 2019 of United Nations, El Salvador is the most violent country in the world with a rate of 61.80 murders per 100,000 people. In this ranking Honduras (41.7) is 3th, Belize (37.9) 4th and Guatemala (26.1) 9th.
- In 2018, 45,000 people was deported from USA to North Triangle of Central America (Guatemala, El Salvador and Honduras), 51% of them were Guatemalans. (IOM, 2018)

# Health Systems

- The ministry of health of each country is responsible for leading the health sector and only in Costa Rica the MoH doesn't deliver public healthcare services (Social Security Fund is responsible for this function)
- All countries have Social Security Fund responsible to deliver healthcare to workers, with exception of Belize. All countries have healthcare private sector including private insurance companies.
- Costa Rica and El Salvador have Integrated health care networks (IHN) model implemented, and Guatemala is currently in this process.

# Health Systems

- Costa Rica is the country with the highest investment in health (GDP 6%) followed by Panama (GDP 5.9%) and Nicaragua (GDP 5.1%).
- The average of life expectancy is 73 years in women and 68 years in men. The highest average is in Panama (76.4 years women, 70.1 years men) and the lowest is in Honduras (70.5 years women, 65.8 years men)
- The first death cause is Ischemic heart diseases with exception of Guatemala (Respiratory infections).

# Digital Health in Central America

Presented by Daniel Otzoy, Coordinator of RECAINSA

# Overview

- All countries have an official national health information system based on vital statistics, health facilities production and epidemiological surveillance.
- Belize, Costa Rica, El Salvador and Panama have projects in implementation phase for a National Electronic Health Record (EHR) and they have legal frameworks implemented or in process of reform to have the eHealth national governance.
- Only Panama has an official national project of Telemedicine and Costa Rica is in the process of implementation.
- There are not certified training offer for health informatics or another field related to digital health.

# Overview

- The countries with highest public funds investment in digital health are Costa Rica and Panama.
- There are not implemented national experiences of innovation in health like artificial intelligence, robotics, big data, deep learning, etc.
- There are not exploitation of non-structured data for health interventions. This topic is expected to change in middle-term with new information systems for health (IS4H) framework launched by PAHO/WHO.



# Best Practices and Experiences

- Country: Costa Rica
- Name: Unique Digital Health Record (EDUS in Spanish)
- Digital health strategy: EHR/EMR
- Status: National implementation finished.
- Key topics
  - Political support from highest level
  - National investment (\$30 millions USD)
  - Legal framework and governance
  - Digital transformation of human resources
- Challenges:
  - Interoperability with private sector and other health providers



# Best Practices and Experiences

- Country: El Salvador
- Name: System of Integral Attention of Patients (SIAP)
- Digital health strategy: EHR/EMR
- Status: National implementation in process.
- Key topics
  - Political support from highest level
  - Free and open Source software policy
  - Leadership of Ministry of Health and the Directorate of Information and Communications Technologies (DTIC in Spanish)
  - Final users' empowerment
- Challenges:
  - National investment and sustainability
  - Interoperability with Social Security Fund, private sector and other health providers



# Best Practices and Experiences

- Country: Belize
- Name: Belize Health Information System (BHIS)
- Digital health strategy: EHR / EMR
- Status: National implementation finished and planning interoperability phase.
- Key topics
  - Political support from highest level
  - Public and private partnership
  - Governance and leadership
  - Final users' empowerment
- Challenges:
  - Interoperability with National Health Insurance and other health providers
  - Lack of health professionals and health informatics professionals.



# Best Practices and Experiences

- Country: Guatemala
- Name: TulaSalud Project
- Digital health strategy: Telehealth / mHealth
- Status: Sub-national level implementation finished and in expansion.
- Key topics
  - Local health authorities support
  - Public and private partnership
  - Local (community) levels empowerment
  - Evidence based intervention
- Challenges:
  - Capacity transfer to Ministry of Health
  - Legal framework
  - Interoperability



# Conclusions

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# Learned lessons of successful experiences

- Good governance and sectorial leadership
- Planning and national investment
- Integral vision of health information systems: Processes, human resources and ICTs.
- Free and open source software
- Digital transformation of the organizations
- Public and private partnership
- Evidence based interventions

# Main Challenges

- National eHealth Strategies and strengthen the governance (legal and strategic frameworks)
- Information Systems for Health (IS4H) framework implementation
- Health informatics standards and interoperability
- Boost the health innovation through low used technologies
- Scientific evidence related to digital health interventions
- Accelerate digital health transformation in all sectors.
- Increase the digital health training offer according to our needs and countries profiles.
- Increase the national investment.



<https://recainsa.org>



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