Digital Health in Brazil
Achievements and Challenges

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Initial Statement

- I am not a civil servant, nor do I represent any area of government.
- I prepared the first version of WHO's Global Strategy for Digital Health in 2018;
- I worked on elaborating the Digital Health Strategy for Brazil 2020 – 2028 (ESD28) as a Hospital Alemão Oswaldo Cruz team member.
- I am a Brazilian National Health Systems firm supporter and have dedicated my life to Health Informatics to improve Health.
- The information presented here is in the public domain. Any opinion will be my responsibility and a reflection of my experience.

About Brazil

- 5th largest country in the world. Larger than the continental US.
- 6th largest by population and 4th largest democracy.
- Population of over 212 million as of 2020.
- SUS provides universal health coverage but faces challenges.
- The country is ethnically and culturally diverse.
- Over 150 million internet users, penetration around 75%.
- Brazilians spend an average of 9 hours daily online
- Brazil uses fully electronic voting for general elections, with final results in a few hours. Over 150 million voters in 2022.
- Brazilians have enthusiastically adopted digital technologies.

Brazil and Denmark

Indicator	Denmark	Brazil
Surface Area	43,000 km²	8,500,000 km²
Population	5.8 million	212 million
GDP	$ 352 Billion	$ 1.3 Trillion
GDP per capita	$ 61,000	$ 8,920
Number of Cities	98	5,570
Number of Hospitals	100	6,43

Denmark and Brazil have vastly different scales, but both leverage Digital Health advancements for better population health outcomes.

Summary

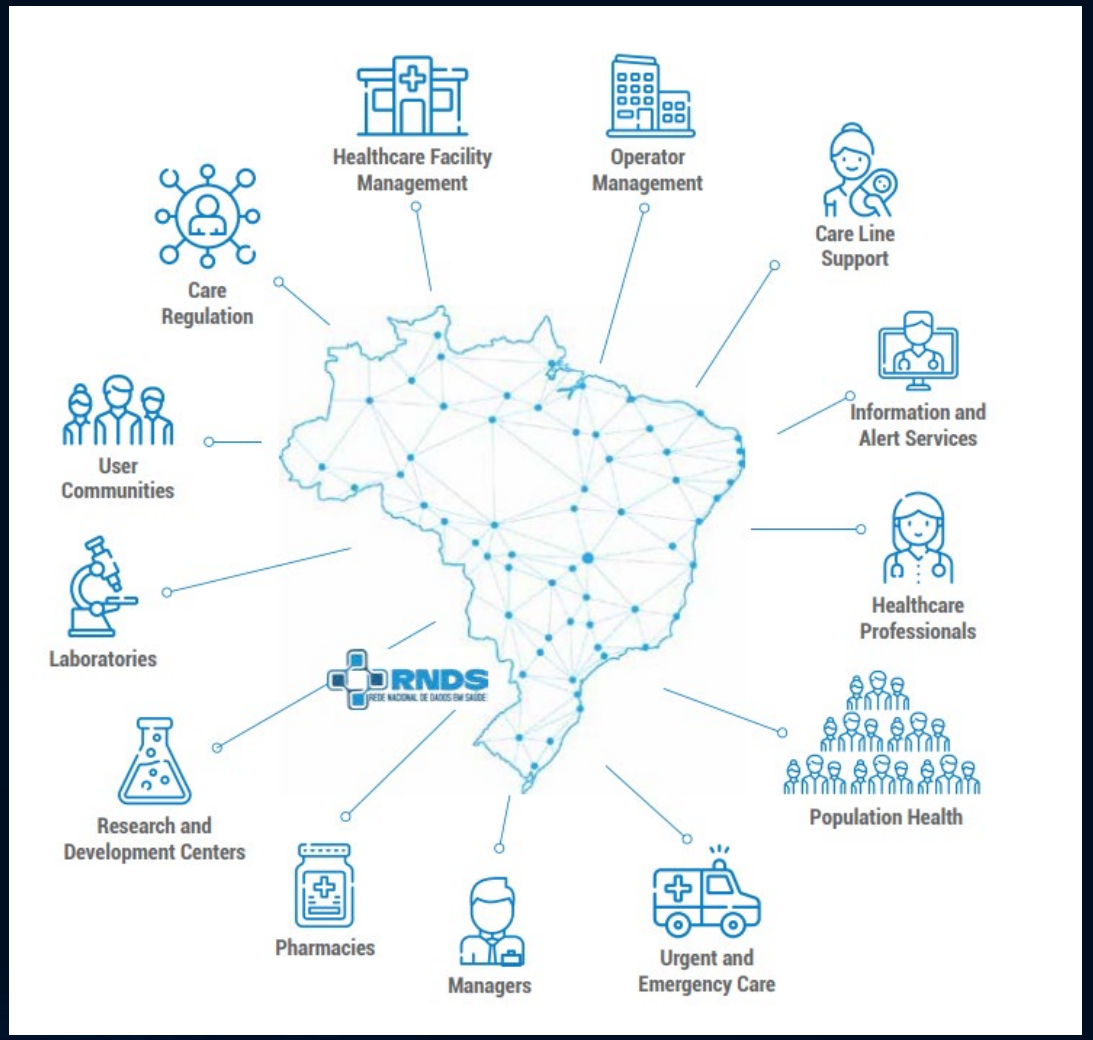
- Brazil has a much larger population and land area than Denmark.
- Denmark has over six times greater GDP per capita.
- Brazil has many more cities and hospitals.
- Denmark has an advanced universal healthcare system.
- Brazil's SUS has a robust conception but faces challenges.
- Brazil and Denmark have been implementing National Digital Health Strategies to improve services, though Denmark's digital systems are currently much more mature.
- Denmark is among the most innovative countries in the world.
- Brazil has the proven ability to deploy large-scale systems.

Collaboration Brazil-Denmark in Digital Health

- Exchange of best practices in electronic health record systems and interoperability standards.
- Health data analytics, AI, and precision medicine to improve care delivery.
- Indicators: Digital Health Maturity indexes.
- Monitoring and Evaluation of Health Systems and the impact of Digital Solutions.
- Sharing best practices in public health policies, prevention campaigns, and promoting healthy lifestyles to vulnerable groups.
- Many problems are the same all-over the world: e.g. collaboration and information sharing across levels of care and organizations.

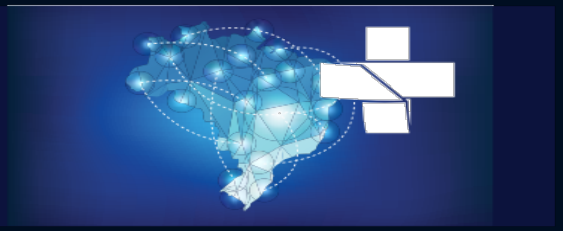
Brazilian Digital Health Strategy
Strategic Vision

By 2028, RNDS will be established and recognized as the digital platform for innovation, information and healthcare services for all Brazil, for the benefit of users, citizens, patients, communities, managers, healthcare professionals and healthcare organizations.



Brazilian Digital Health Strategy
Three Axes of Action

1. MS actions for the Brazilian NHS (SUS)



2. Definition of Regulations for Collaboration

3. Implementation of the Collaboration Space

The three axes of action have as a foundational concept the notion that the MoH needs to guide all activities in Digital Health but needs partners within the federal government and with civil society to deliver it to the whole country.

Brazilian Digital Health Strategy
Action Plan

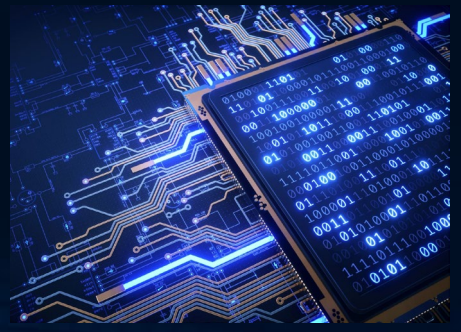
brazilian_digital_health_strategy.pdf (saude.gov.br)

GREAT WAVES
Great Opportunities

These are obvious reasons to review, update, and reenergize the Digital Health Strategy to align with other government actions to promote innovation, research and development, science, and competitiveness.

The pandemic propelled RNDS as a vital instrument for the electronic vaccination card and COVID diagnosis. Deployment was quickly redefined to answer the emergency.

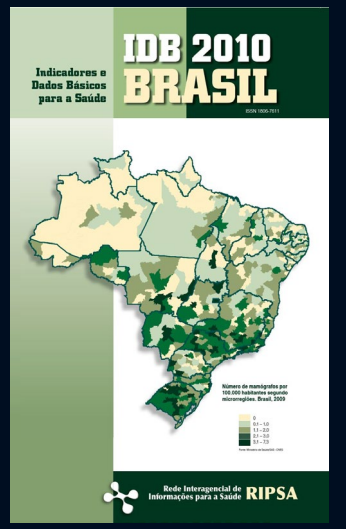
National elections brought new hopes and a science drive to Health. The creation of a Digital Health Secretariat within the MoH is an important landmark.

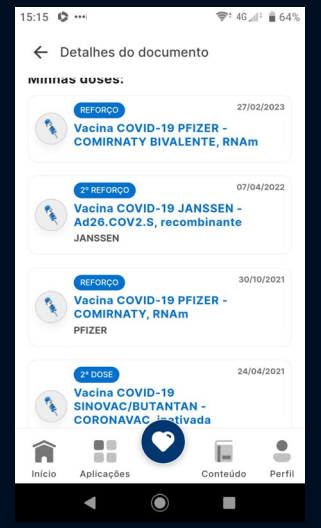


The Generative Pretrained Transformer (GPT) boom has turned all warning lights on. The use of AI in Healthcare and its Regulation are at the top of everyone's agenda.

Some Results and Developments

- RNDS-enabled Solutions for Primary Care are evolving quickly
- Advances in the adoption of standards (Mind Share growing)
- Redesign of RNDS to be federated
- RNDS: few services but very beneficial (> 1.4 billion shots)
- Conecte-SUS is solid as an app for users, doctors, and managers
- Workshops for strengthening M&A, including with Denmark.
- Revival of RIPSA, a network of agencies that curates national Health indicators.
- The 1st International Symposium on the Digital Transformation of SUS with more than 3,000 participants in a hybrid environment.
- Successful projects to showcase competencies and capabilities
- The International Patient Summary: Sirio-Libanês Hospital with HL7 and CEN251.





Going On Now

Lisbeth Nielsen, Nisia Trindade and Ana Estela Haddad
October 2023

- The newly created Secretariat of Digital Health and Innovation (SEIDIGI) organized on October 2 and 3 the International Symposium on Digital Health, attended by Ms. Lisbeth Nielsen of the Danish Health Data Authority, representing the Brazil-Denmark collaboration in Digital Health.
- The new Digital Health Strategy was announced.
- The federal government announced an investment of USD 8 billion for Science and Technology in Health.

Welcome the Strategy for the Digital Transformation

- **Vision:** A digital, integrated, innovative, and people-centered health system that promotes equity, quality, and efficiency in health care in Brazil.
- **Governance**: define the responsibilities, competencies, and attributions of the different levels of SUS management in the implementation of digital transformation.
- **Infrastructure**: ensuring the availability, quality, and security of the technological resources needed for digital transformation, such as networks, equipment, systems, and data.
- **Digital services**: develop and make available digital services that facilitate access to and quality health care, such as applications, portals, platforms, and information systems.
- **Innovation**: stimulate and support digital health innovation initiatives, such as pilot projects, public-private partnerships, startup incubators, and accelerators.
- **Capacity Building**: promote training and continuing education of SUS managers, professionals, and users on digital transformation, such as courses, workshops, and webinars.

The Opportunity

- **Define** Impactful Use Cases that **catalyze** collaboration in Digital Health.
- **Respond** to the opportunities opened up by **start-ups/health techs.**
- **Anticipate responses** to regulatory and data-sharing demands.
- **Improve** user experience and **complete journeys.**
- **Adherence** to GDPR and regulation by **design** and as **differentiation.**
- **Interoperability by design** for operational efficiency in the **Healthcare Sector.**
- Analytics and Big Data for **knowledge generation feed the operation engine.**
- Building **the Digital Health Strategy >>** Digital Health as the **Engine of Operation.**

Virtual Health enabled by Digital Health

- **Telehealth** as the Entry Point to the **Hybrid** Health System
- **Remote** Home Care, Consultations, and Procedures
- **Hybrid** Referral and Counter-Referral:
  from Virtual / Face-to-face to Virtual / Face-to-face
- Population Health **as a result of** the delivery of care.
- Ability to **zoom from patient to population** and vice versa
- Operational **efficiency**
- **New models** for attracting and retaining quality human resources

Governance Requirements

- More widespread knowledge of the Digital Health potential.
- Governance that induces collaboration.
- Ability to foster the needs of ALL stakeholders yet define priorities.
- Explore the availability of open and universal common goods, such as standards and best practices.
- Propose **mission projects** that impact Health and favor collaboration among diverse stakeholders.
- This can lead to an **ALL-WIN** (or almost) **collaboration and adoption**.

Obrigado!

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