

Relationship between the categories of the global digital health monitor and the official regulations published in the Argentine Republic.



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Abstract

Knowing the level of progress in digital health and telehealth in countries with federal health systems is a challenge. The Global Digital Health Monitor attempts to reflect the degree of maturity of the countries of the world, however, it is necessary to consider the difficulty of representing all the experiences in a federal state such as Argentina. **Objective:** to relate the GDHM categories with the regulations published in the Official Gazette of the Argentine Republic (BORA), as a first step towards understanding the development of digital health and telehealth. **Methodology:** An exhaustive search of digital health and telehealth programs, plans and projects in the BORA was carried out. Then, a narrative relationship was sought between the regulations and the categories used by the Global Monitor. **Results:** All the GDHM categories and indicators are represented in the 12 published regulations. In terms of administrative acts issued by the central level, we can say that Argentina is above the development average of most of the countries evaluated by the Global Monitor. **Discussion:** The results of this study validate our hypotheses: there is a relationship between the regulations issued by BORA and the global monitor. **Conclusions:** This work allows us to move towards new studies that seek to capture the particularities of digital health and telehealth within the provinces. **Keywords:** Digital Health; Global Monitor; Telehealth.

Resumen

Relación entre las categorías del monitor global de salud digital y las normativas oficiales publicadas en la República Argentina. Conocer el grado de avance en materia de salud digital y telesalud en países con sistemas de salud federal es un desafío. El Monitor Global de Salud Digital intenta reflejar el grado de madurez de los países del mundo, sin embargo, es necesario reparar en la dificultad de representar todas las experiencias en un estado federal como la Argentina. **Objetivo:** relacionar las categorías del GDHM con las normativas publicadas en el Boletín Oficial de la República Argentina (BORA), como primer paso hacia el conocimiento del desarrollo de la salud digital y telesalud. **Metodología:** Se realizó una búsqueda exhaustiva de programas, planes y proyectos de salud digital y telesalud en el BORA. Luego se buscó una relación narrativa entre las normativas y las categorías que utiliza el Monitor Global. **Resultados:** Todas las categorías e indicadores del GDHM se encuentran representados en las 12 normativas publicadas. En términos de actos administrativos emanados por el nivel central podemos decir que Argentina se encuentra sobre el promedio de desarrollo de la mayoría de los países evaluados por el Monitor Global. **Discusión:** Los resultados del presente trabajo permiten validar nuestras hipótesis, existe relación entre las normativas emitidas por el BORA y el monitor global. **Conclusiones:** Este trabajo nos permite avanzar hacia nuevos estudios que busquen capturar las particularidades de la salud digital y telesalud hacia el interior de las provincias.

Palabras-clave: Salud digital; Monitor Global; Telesalud.

¹ GISD: Interdisciplinary Group of Digital Health: it is a working team formed between the Universidad Nacional Arturo Jauretche and the El Cruce High-Complexity Network Hospital to develop proposals and knowledge regarding the multiple possibilities that technology offers in the processes of health, illness, care, and treatment.

Relação entre as categorias do monitor global de saúde digital e as regulamentações oficiais publicadas na república argentina.

Conhecer o grau de avanço em matéria de saúde digital e telessaúde em países com sistemas de saúde federal é um desafio. O Global Digital Health Monitor tenta refletir o grau de maturidade dos países do mundo, porém, é necessário notar a dificuldade de representar todas as experiências em um estado federal como a Argentina. **Objetivo:** relacionar as categorias do GDHM com a normativa publicada no Diário Oficial da República Argentina (BORA), como um primeiro passo para a compreensão do desenvolvimento da saúde digital e da telessaúde. **Metodologia:** Foi realizada uma busca exaustiva de programas, planos e projetos de saúde digital e telessaúde no BORA. Logo, buscou-se uma relação narrativa entre as regulamentações e as categorias utilizadas pelo Global Monitor. **Resultados:** Todas as categorias e indicadores do GDHM estão representados nos 12 regulamentos publicados. Nos atos administrativos emitidos pelo nível central, podemos dizer que a Argentina está acima da média de desenvolvimento da maioria dos países avaliados pelo Global Monitor. **Discussão:** Os resultados do presente trabalho permitem validar nossas hipóteses: existe uma relação entre as normativas emitidas pelo BORA e o monitor global. **Conclusões:** Este trabalho permite avançar para novos estudos que procuram captar as particularidades da saúde digital e da telessaúde nas províncias.

Palavras-chave: Saúde Digital; Monitor Global; Telessaúde

INTRODUCTION

Telehealth and telemedicine are one of the greatest innovations in health services, not only from a technological point of view but also from a cultural and social point of view, by facilitating access to health care services, improving the quality of care and organizational efficiency¹.

The COVID-19 pandemic highlighted the importance and utility of telehealth in providing care and enabling contact between patients and healthcare professionals when a physical, in-person meeting was not possible². It also underlined the effectiveness and rapid deployment of digital public health interventions, particularly digital proximity tracing applications, which leverage Bluetooth capabilities to track and notify users about potential exposures to infections. The pandemic enabled to the implementation of telehealth as a public policy, generating new projects and regulations^{3,4}. Knowing what digital health or telehealth policies, resources, and services are is central to strengthening and integrating solutions at the national level.

Different strategies and tools measure the maturity level of digital health or telehealth. The Global Digital Health Monitor (GDHM)⁵, as described on the official website, "is an interactive resource that aims to track, monitor, and assess the enabling environment for digital health around the world."

The monitor assesses seven core dimensions or categories of policies aimed at digitalizing the health system (leadership and governance, strategy and investment, legislation, policy and compliance, human resources, standards, and interoperability, infrastructure, services, and applications), and is the basis for assessing the maturity of telehealth as part of digital health.

According to the GDHM, Argentina is in Phase 4 of maturity, higher than the general average of countries (Phase 3). The data that place Argentina in this phase are derived from average indicators at the national level and leave out particularities inherent to its form of federal organization the system in Argentina.

The Argentine health system faces a major integration challenge, in which digital health and telehealth can play an important role.

Argentina is a federal country, which means that the health of the population in Argentina is the responsibility of each jurisdiction or province where the people are located. Added to this is the fragmentation of the health system due to the different types of coverage. The public system

covers just over a third of the population without coverage, social security covers two-thirds, and private medicine covers approximately 10%^{6,7}. The federalization of health and the system fragmentation hinder obtaining complete information and the characterization of provincial and institutional regulations and implementations.

In this context, knowing different digital health or telehealth initiatives is a challenge. The Official Gazette of the Argentine Republic⁸ (BORA-Boletín Oficial de la República Argentina) is the official medium in which the acts issued by the National Executive Branch and the laws sanctioned by the National Congress are published. The publication of a regulation in the Official Gazette is a necessary step for this regulation to come into force.

In Argentina, no records disaggregated by province and type of coverage reflect the level of maturity of telehealth services considering the dimensions of the GDHM.

This work aims to relate the categories of the GDHM indicators with the regulations issued by the Official Gazette of the Argentine Republic (BORA) between 2000 and 2022.

The working hypothesis is that the regulations issued by BORA can account for the global monitor result for Argentina (Phase 4).

For the working group, verifying this finding should be the first argument to start a more comprehensive survey of federal experiences on digital health and telehealth.

METHODOLOGY

A search was conducted in the Official Gazette of the Argentine Republic (BORA) to identify and analyze the different administrative acts. A time period between 2000 and 2022 was established.

The search terms used were the combination of "digital health, telehealth, telemedicine, teleassistance, cyberhealth, e-health, electronic health and tele- education, information and communication technologies", together with "Argentina, national plan, program, project and strategy".

The inclusion criteria were: a) to contain the search terms and b) administrative acts that express aspects related to the design, planning, implementation, monitoring or evaluation of digital health or telehealth.

A double-entry chart was created to relate the different aspects evaluated by the GDHM indicators to the regulations issued by the BORA. On the one hand, the purpose and brief description of the regulation are mentioned and on the other, the number of the GDHM category is selected.

There are seven (7) categories and they express the following dimensions: Leadership and governance, strategy and investment, legislation, policies and compliance, personnel, standards and interoperability, infrastructure and services and applications.

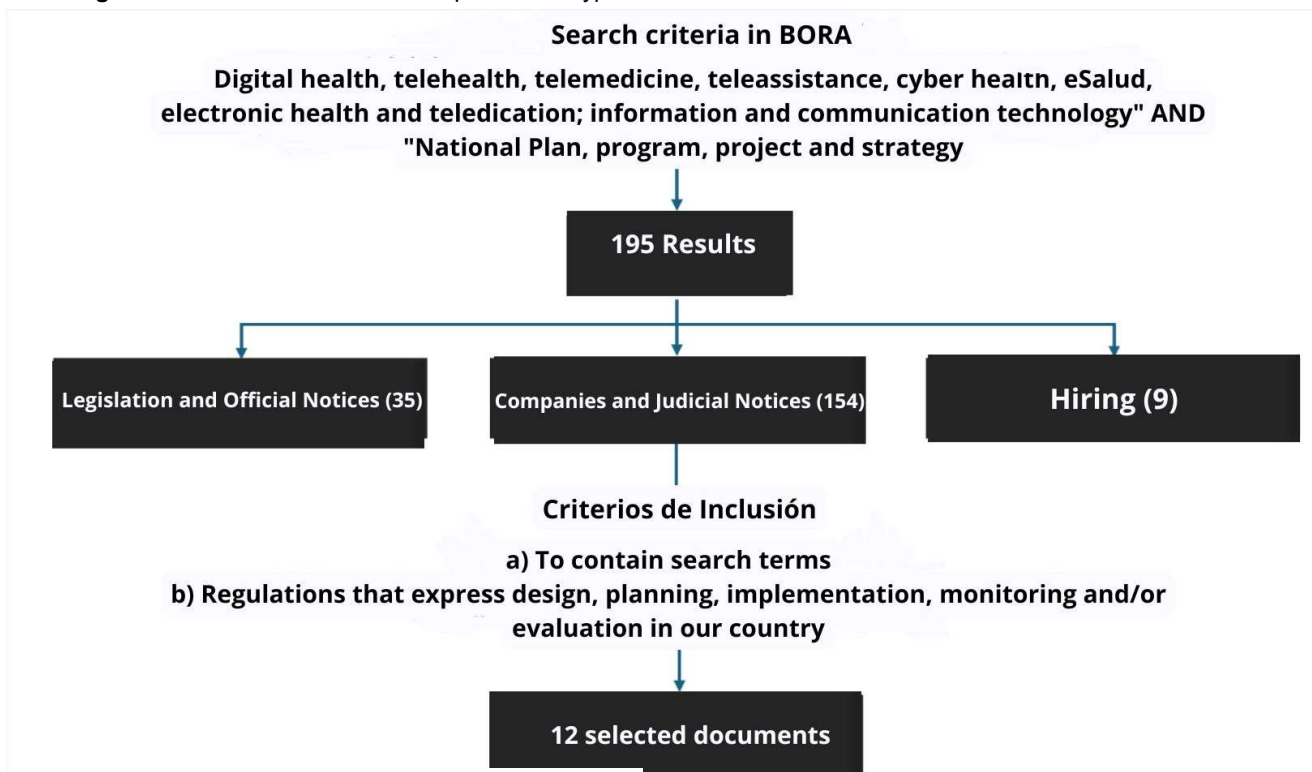
To find the central aspects of the GDHM categories and indicators disaggregated⁹ in the regulations issued by the BORA, a narrative analysis of them was carried out.

RESULTS

The results obtained were 198 publications. Among the different publications, 35 Legislative documents and Official Notices were found; 154 Corporate Notices and Judicial Notices; and 9 Public Contracts (Figure 1).

Based on the inclusion criteria, only 12 documents contained topics related to the design, planning, implementation, monitoring, or evaluation of digital health or telemedicine.

Figure 1 - Search results based on publication types



Source: Our elaboration. (2024)

Location of the dimensions evaluated by the Global Digital Health Monitor in the regulations issued by the Official Gazette of the Argentine Republic.

Chart 1 shows that all GDHM indicators are represented in the 12 published regulations. In all the regulations, there is more than one topic related to a GDHM indicator.

Chart 1: It locates the aspects evaluated by the GDHM indicators in the regulations surveyed in the BORA.

Standard No.	No. of GDHM categories	General information on regulations	Purpose of the regulation and description	Link
1	3	22/09/2015, Ministry of Health. Resolution 1638/2015	It creates the Coordinating Unit of the National Cyberhealth Plan, with the responsibility of planning, managing, proposing contracts, executing and supervising the objectives and actions of the plan.	https://www.boletinoficial.gob.ar/detalleAvisos/primera/133379/20150925

2	1,3,4	08/22/2016, Ministry of Health. Resolution 1200 - E/2016	It establishes the tasks of the Cyberhealth management: to promote consultations and assistance and teaching activities among health professionals throughout the country through information technologies, as well as to promote applications and software that facilitate the interconnection and interaction between institutions and professionals.	https://www.boletinoficial.gob.ar/detalleAvisos/primera/149985/20160826
3	1,3,4,5,6	24/10/2016, Ministry of Health and Ministry of Modernization. Joint Resolution 3 - E/2016	It mentions Telehealth and states that "Telehealth integrates health facilities and professionals at all levels through modern technologies to improve care, diagnosis and treatment. It facilitates virtual consultations for rare diseases, promoting collaboration and universal access to health. It modernizes the Superintendency of Health Services with new technologies to streamline and make processes transparent."	https://www.boletinoficial.gob.ar/detalleAvisos/primera/152837/20161027
4	1,3,4	05/10/2017, Ministry of Health. Administrative Decision 858/2017	It appoints the national director of Telehealth.	https://www.boletinoficial.gob.ar/detalleAvisos/primera/171984/20171006
5	1,2,3,4,5,6	10/25/2018, Ministry of Health Resolution 189 / 2018	National Digital Health Strategy. It shows the way towards obtaining interoperable information systems that facilitate the recording of information during contact with the patient and allow information to be shared between the different levels of care and jurisdictions.	https://www.argentina.gob.ar/normativa/nacional/resoluci%C3%B3n-189-2018-315832
6	3,5	07/12/2018, Ministry of Health and Social Development. Resolution 680 / 2018	Standards. This regulation establishes SNOMED for the terminology of the recording of information in clinical documents, and HL7 standards for the structuring and communication of information. In the case of standards for statistical analysis in health, ICD- 10/ICD- 11 is proposed.	https://www.argentina.gob.ar/normativa/nacional/resoluci%C3%B3n-680-2018-317230/texto
7	3,5,6,7	01/21/2019, Ministry of Health and Social Development. Resolution 85 / 2019	Inventory of statistics and catalogue of strategic health indicators. Its objectives include: identifying health statistics records under the Government Secretariat of Health, the implementation of a decentralized and standardized survey of health information to generate a database. The creation of a catalogue of health indicators and metadata is also proposed, along with a coordinated process for the generation of statistical information, prioritizing strategic indicators.	https://www.boletinoficial.gob.ar/detalleAvisos/primera/200398/20190121
8	1,3,5	01/28/2019, Secretary of State for Health. Resolution 115/2019	It creates the national health interoperability network. The objective is for the network to enable the integration of information systems from all jurisdictions and sectors of the health system, including the public and private subsectors.	https://www.boletinoficial.gob.ar/detalleAvisos/primera/200811/20190128
9	1,2,3,4,5,6,7	07/01/2019, Secretary of State for Health. Resolution 21/2019	It approves the National Telehealth Plan. It creates the national registry of telehealth nodes and services, within the framework of the national telehealth plan to have an information system to monitor the network and provide the	https://www.argentina.gob.ar/normativa/nacional/resoluci%C3%B3n-21-2019-318632

Source: Our elaboration. (2024) ISSN: 2175_2990 | Latin Am J telehealth, Belo Horizonte, 2023;10(2): 202 - 208

Carrying out a narrative analysis of each of the regulations and administrative acts issued by the BORA, we have found the most important aspects that have been chosen by the Monitor to evaluate the degree of maturity based on the 7 categories mentioned.

Chart 2 describes the most important characteristics of the regulations that account for the relationship with the indicators of the Global Digital Health Monitor.

Chart 2: Characteristics of the regulations related to the Monitor categories and indicators.

Categories	Characteristics of the regulations related to the Monitor categories and indicators
Indicator 1, leadership and governance	Argentina has a ministerial-level structure, coordinating units, and has designated national directors and coordinators. At this point, the leadership of the Ministry of Health of the Nation is demonstrated through the creation of the Coordinating Unit of the National Plan for E-Health (Resolution 1638/2015) and the designation of a national director of Telehealth (Administrative Decision 858/2017). These are clear examples of efforts to centralize and strengthen leadership in Telehealth.
Indicator 2, strategy and investment	Argentina has national strategies and plans for digital health and telehealth, respectively. The National Digital Health Strategy (2018) marks a milestone in strategic planning to achieve interoperable information systems. Investments in technological infrastructure demonstrate a commitment to modernization. However, long-term financing and sustainability of these public policies remain concerns that must be addressed seriously and with the greatest political commitment, if health is understood as a right to be guaranteed.
Indicator 3, legislation, policies and compliance	Resolution 21/2019, which approves the National Telehealth Plan, and the approval of Law 27553 in 2020, which validates electronic prescription and telecare, are significant advances in the creation of a legal framework for telehealth. A gap is detected regarding the continuous monitoring of the implementation of these regulations and national plans. There is little information available in indexed journals on the success or failure of the programs.
Indicator 4, standards and interoperability	Argentina is implementing standards such as SNOMED and HL7, supported by resolutions that make this explicit. This ensures, to a certain extent, the consistency and quality of health information. The national health interoperability network (Resolution 115/2019) is also an important milestone. The most important challenge is to achieve interoperability between the public sector (national, provincial and municipal), social security and prepaid health insurance in the 24 jurisdictions.
Indicator 5, infrastructure	According to the findings, infrastructure has been prioritized in legislation and in the allocation of funds, but there is no evidence of where or under what criteria these funds were allocated. The score received in this item is lower than the average (2 out of 4). This highlights the need to continue planning and investing for the ongoing maintenance of digital health infrastructure throughout the national territory.
Indicator 6, services and applications	Virtual consultations and the integration of telehealth services into the system have been encouraged (Joint Resolution 3 - E/2016), however, there is a lack of evidence on the impact on access to clinical care, especially in rural and vulnerable areas. The approval of Law 27553 for electronic prescription facilitates the continuity of care. However, it is necessary to continue developing applications and services that respond to the changing needs of the population and to ensure that health professionals are trained to use these technologies effectively.

Source: Our elaboration. (2024)

DISCUSSION

The results of this work allow us to validate our hypothesis, confirming a relationship between the categories defined by the digital health monitor (GDHM) and the regulations surveyed by the BORA (charts 1 and 2).

As other authors have explored, reconstructing a panoramic view of the development of telehealth, whether from official publications or through the survey of indicators, allows us to understand the country's situation according to a certain level of maturity or development^{10,11,12}.

Although the implementation of digital health and telehealth plans, projects, and programs has increased substantially globally over the last decade, especially after the pandemic¹³, research on the different stages of maturation still needs to be deepened¹⁴.

One work characterized determinants that influence the future implementation of telemedicine interventions. The

authors define five dimensions that allow for long-lasting achievements¹⁵, (technology, acceptance, financing, organization, and policy and legislation). Other publications focus on the efforts for evaluating or measuring implementation by services or levels of care at different levels of care¹⁵.

The Global Digital Health Monitor allows countries to compare themselves with the global average or a particular category to contextualize digital health maturity.

While our work, following the Global Monitor, reflects Argentina's commitment to digital health and telehealth as a state policy, it also invites us to reflect on what other existing developments may go unnoticed due to the characteristics of the federal organization of the health system.

CONCLUSION

This study is the first work that recovers official regulations about telehealth and digital health and

compares it with the Global Monitor.

Although there is similar results of the Global Monitor and the regulations issued from the national level, in countries with a federal health organization such as ours, these results may not reflect the jurisdictional reality.

As a central contribution, this work allows us to move towards new studies that seek to capture the particularities of digital health and telehealth, within the provinces.

Finally, efforts to develop telehealth as a public policy in conjunction with ministries of health, universities, and other health institutions, must be guided by a thorough knowledge of the development and maturation of digital health and telehealth, not only at the national level but also at the jurisdictional or provincial level.

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