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ICT in Health Survey 2024

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Executive Summary ICT in Health 2024

The ICT in Health survey, carried out since 2013, investigates the adoption and use of information and communication technologies (ICT) in Brazilian healthcare facilities. In its 11th edition, it presents data collected from managers and professionals in healthcare facilities (physicians and nurses), highlighting unprecedented indicators on training in health informatics, the use of generative Artificial Intelligence (AI), and the provision of electronic devices by facilities. Among the main results are the universalization of Internet access in healthcare facilities and by physicians and nurses, progress in the use of electronic devices, the adoption of electronic systems, and telehealth services. However, the use of AI is still limited, with adoption restricted to a few facilities and a small number of professionals.

More details on the results of this edition can be found in the survey's "Analysis of Results".

ICT INFRASTRUCTURE

Digitization in the health sector advanced in 2024. Internet and computer access was universalized in healthcare facilities. Compared to 2023, the main increases were in the country's public facilities (96% to 99%) and those in the North region (90% to 99%).

Physicians and nurses also now have universal access to the Internet and devices in the facilities where they work. The provision of portable devices such as laptops, tablets, and mobile phones was present in 75% of facilities, with a higher prevalence among private ones, those in the Northeast and Southeast regions, and inpatient facilities with more than 50 beds (about 8 out of 10). A new indicator showed the origin of the mobile equipment used by professionals. A higher percentage of nurses used the facilities' portable equipment—79% for laptops, 71% for tablets, and 26% for mobile phones—compared to physicians—60% for laptops, 24% for tablets, and 10% for mobile phones.

99% OF PHU HAVE ACCESS TO COMPUTERS AND THE INTERNET

ELECTRONIC HEALTH SYSTEMS

The adoption of electronic patient information systems has also increased in the period. As shown in Chart 1, 92% of healthcare facilities in 2024 had some kind of electronic system (compared to 87% in 2023). The growth occurred mainly in public facilities (85% in 2023 to 90% in 2024), private facilities (90% to 93%), outpatient facilities (87% to 92%) and Primary Health Units (PHU) (89% to 97%).

This computerization is reflected in the work of healthcare professionals, indicating more frequent access to patient data in electronic format, since more than half of them always consulted a large part of the data electronically. Among physicians, more than 70% always consulted information about the main reasons that led the patient to the medical service or appointment, patients' diagnoses, health problems or conditions, and lab test results. Among nurses, the most accessed data was diagnoses, health problems or conditions, the main reasons that led the patient to the medical service or appointment, and nursing notes.

TELEHEALTH

The ICT in Health survey monitors the adoption of telehealth in facilities and its use by

professionals. In 2024, 30% of facilities offered teleconsulting services, which were more common in public units (38%) than in private ones (23%). Teleconsultation was present in 23% of facilities, with little variation between administrative jurisdictions. Telediagnosis services were offered in 23% of facilities and were slightly more common in private ones. Distance learning in health was made available by 20% of facilities (28% public and 13% private), while telemonitoring, offered by 16% of facilities, increased in public ones (from 19% to 24%). Teleconsultation services were most commonly offered by PHU (25%) and outpatient facilities (26%).

With regard to access to telehealth services by healthcare professionals, the results showed that distance education played an important role in the training and qualification of nurses and physicians, and that telediagnosis is a tool that has been gaining ground in their work. Chart 2 shows the frequency of use of telehealth services by professionals, indicating that constant use (always) is still low.

40% OF MANAGERS TOOK A COURSE IN HEALTH INFORMATICS

CAPACITY-BUILDING AND TRAINING OF MANAGERS AND PROFESSIONALS IN HEALTH INFORMATICS

In view of the growing digitization of health, the ICT in Health 2024 survey delved deeper into the training of managers and professionals in the area of health informatics. In the 12 months prior to the survey, around half of the managers underwent some training in the area, of which 37% underwent training or capacity building, 10% took specialization courses, 1% obtained master's degrees, and 3% took part in other types of training.

Among the managers of public facilities, 41% underwent training or capacity building in health informatics, compared to 33% of those in private facilities. The main topics covered included the organization of health services (67%), interdisciplinary team management (65%), resource (53%) and risk (52%) management, and health policies and regulatory frameworks (49%). More technical subjects, such as network architectures (26%) and business alignment (23%), were less explored.

As for professionals in the field, 23% of physicians and nurses were trained in health informatics in 2024. Among nurses, participation was higher in the private sector (26%) than in the public sector (21%), while among physicians, training was more common among those working in the public sector (29%) compared to the private sector (19%).

The topics most frequently covered by nurses included patient safety, person-centered care, ethics, security, and privacy, which were studied by around 80% of the professionals. Precision medicine (17%) and AI (20%) were the least explored topics. Among physicians, the most frequent topics were patient safety (95%), ethics, security, and privacy (85%), and data and information analysis (84%). Even though they were less mentioned, AI (48%) and precision medicine (35%) were more popular among physicians than among nurses. Training in health informatics is essential for the adoption of new technologies, and a significant proportion of managers and professionals sought training in this area.

The results of the ICT in Health 2024 survey indicated advances in the computerization of healthcare facilities and the work of professionals. However, many challenges remain, especially when it comes to expanding the use of AI and universalizing digital health training. The results of this edition reinforce the importance of drawing up public policies and making continuous investments to consolidate the digital transformation in the sector.

CHART 1

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Healthcare facilities by availability of electronic systems to record patient information (2024)

Total number of healthcare facilities that used the Internet in the last 12 months (%)

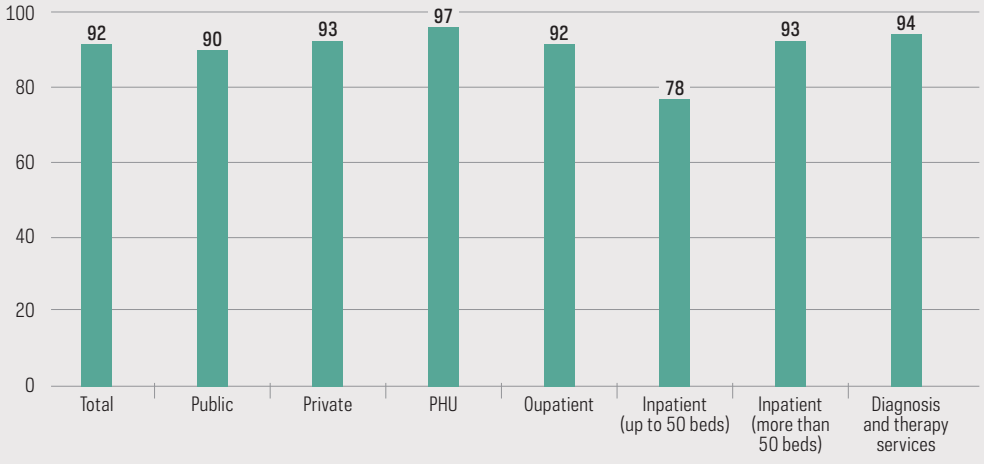

CHART 2

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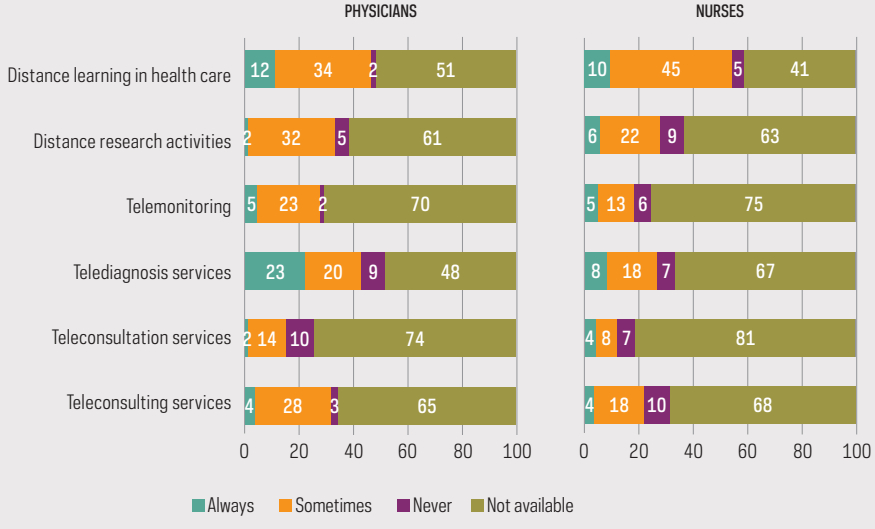
Physicians and nurses by how often they used telehealth services (2024)

Total number of physicians and nurses with computer access in the healthcare facilities (%)



Survey methodology and access to data

The eleventh edition of the ICT in Health survey collected data about healthcare facilities and professionals (physicians and nurses). Data was collected using telephone interviews and a web questionnaire with 2,057 managers and 2,021 professionals between February and August 2024. The results of the survey, including the tables of estimates, totals, and margins of error, are available on the website of the Regional Center for Studies on the Development of the Information Society (Cetic.br)—http://www.cetic.br. The methodological and data collection reports are available in both book format and on the website.

BOX 1

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AI IN HEALTH

The use of AI in Brazilian healthcare facilities is still limited, being present in only 4%. Adoption was higher in inpatient facilities with more than 50 beds (16%) and in those with diagnosis and therapy services (SADT) (7%). In addition, the use of AI was higher in private facilities (6%) compared to public ones (1%).

For the first time, the survey investigated the appropriation of generative AI by healthcare professionals, indicating that 17% of physicians and 16% of nurses used it at work (Charts 3 and 4). Use varied according to administrative jurisdiction, and was more frequent in the private sector. Among physicians, 20% in the private sector and 14% in the public sector reported having used generative AI. For nurses, the difference was 15 percentage points, with 26% of private sector nurses and 11% of public sector nurses having used generative AI.

In terms of age group, for physicians, the highest uptake was among those 36 to 50 years old (29%), while among nurses, the highest adherence was among professionals 41 years old or older (21%). Among physicians and nurses who used generative AI, the primary use was for research, as shown in Chart 5.

CHART 3

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Physicians by use of generative AI resources (2024)

Total number of physicians with computer access in the healthcare facilities (%)

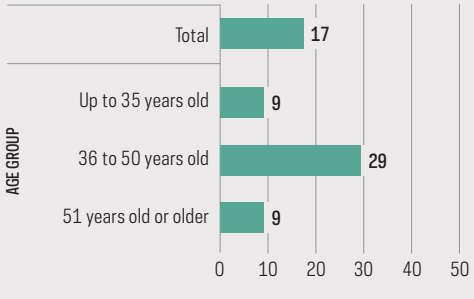

CHART 4

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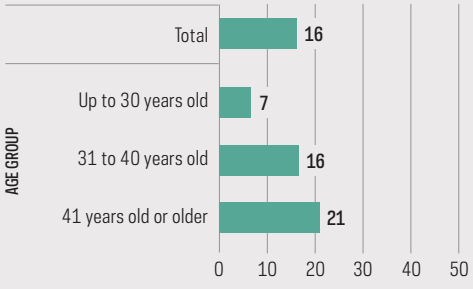
Nurses by use of generative AI resources (2024)

Total number of nurses with computer access in the healthcare facilities (%)



4%
of healthcare facilities used AI

16%
inpatient facilities with more than 50 beds used AI

7%
of SADT used AI

CHART 5

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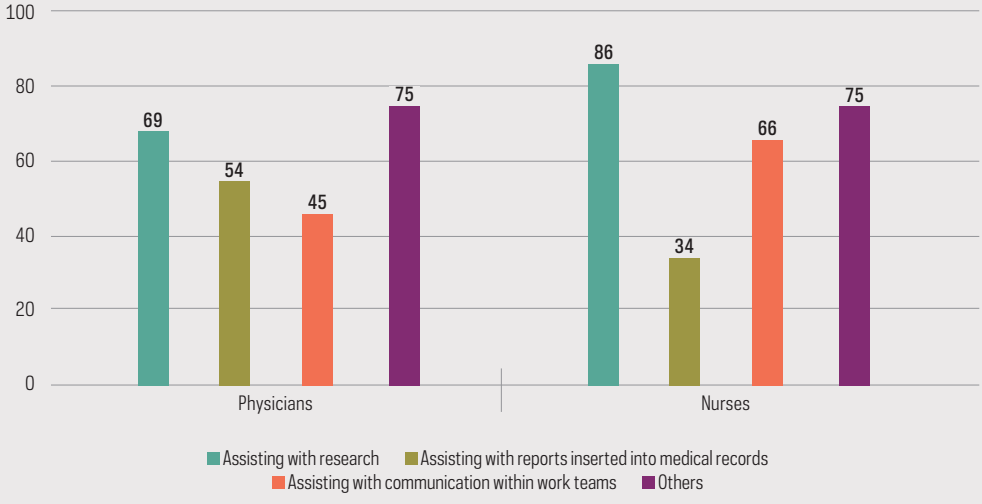
Physicians and nurses by types of use of generative AI (2024)

Total number of physicians and nurses with computer access in the healthcare facilities (%)



Access the full survey data!

In addition to the results presented in this publication, tables of indicators, questionnaires, information on how to access the microdata, and the presentation of the results of the launch event are available on the Cetic.br|NIC.br website, as well as other publications on the topic of the survey.

The tables of results (https://cetic.br/en/pesquisa/saude/indicadores/), available for download in Portuguese, English, and Spanish, present the statistics produced, including information on the data collected and cross-referencing for the variables investigated in the study. The information available in the tables follows the example below:

Code and indicator name

Population to which the results refer

B0 - HEALTHCARE FACILITIES BY AVAILABILITY OF AN ELECTRONIC SYSTEM TO RECORD PATIENT INFORMATION

Total number of healthcare facilities that used the Internet in the last 12 months

PERCENTAGE (%)		YES	NO	DOES NOT KNOW	DID NOT ANSWER	DOES NOT APPLY
TOTAL		92	8	0	0	1
ADMINISTRATIVE JURISDICTION	Public	90	9	0	0	0
	Private	93	7	0	0	1
REGION	North	89	10	0	0	1
	Northeast	89	11	0	0	1
	Southeast	93	6	0	0	0
	South	94	5	0	0	0
	Center-West	90	9	0	0	1
TYPE OF FACILITY	Outpatient	92	7	0	0	0
	Inpatient (up to 50 beds)	78	22	0	0	0
	Inpatient (more than 50 beds)	93	7	0	0	0
	Diagnosis and therapy services	94	4	0	0	1

Indicator responses

Results tabulation cut-outs: total (population as a whole) and characteristics of analysis (region, age group, etc.), different in each survey

Results: can be in % or totals

Source: Brazilian Network Information Center. (2024). *Survey on the use of information and communication technologies in Brazilian healthcare facilities: ICT in Health 2024* [Tables].

How to reference the tables of indicators

This publication is also available in Portuguese on the Cetic.br|NIC.br website.