

Digital Revolution in Algerian Public Health: Towards Optimized Management of Resources and Care

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Abstract:

This intervention aims to highlight successful experiences of digitalization in the health sector in Algeria and shows how it affects the reduction of social expenditures and the improvement of the quality of health care. Concrete examples of digital transformation projects are examined in Algerian public health institutions, with a focus on electronic medical records applications, health information systems and telemedicine. The intervention synthesizes the results of a survey conducted among citizens and health facility managers to know their perspectives on digitalization in this sector. The results suggest that digitalization plays a vital role in improving operational efficiency and reducing administrative and medical costs, while improving the quality of care. However, more efforts are still needed to develop digitalization in the health sector and take full advantage of its potential to improve health services in Algeria.

Keywords: Digital transformation, Public health institutions, Reducing social expenditure, Improving the quality of health care, Operational efficiency.

Jel classification codes : H51, H61, I18.

1. Introduction

The information revolution is one of the most salient events in contemporary history, as it has brought about changes and developments in various fields through investments in information and communication technologies. The latter have increased in demand and have become the most important resource compared to traditional resources. Information technology and digital transformation have become major concerns for companies and institutions, the use of which is no longer optional but urgent to keep pace with the progress made by the technological revolution.

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Digital transformation has been reflected in the service sectors, especially the healthcare sector, due to its major importance and its economic, social and organizational impact.

Despite the interest of the subject, few studies have been devoted to it, or at least, are not available or accessible. Only two studies were used for our literature review. The first is that of B. Kouadja (2014), entitled "The role of information and communication technologies in improving communication in Algerian public hospitals". This study aims to identify the extent to which advanced ICT contribute to improving internal communication with Algerian public hospitals. The second, more recent, study is that of Fanny Roy (2019), entitled "Digitization in the health service". This study aims to explore the role of digital technologies in improving the French health system, which faces multiple challenges such as high costs, unequal access to care and the decline of innovation in the pharmaceutical industry.

In Algeria, efforts to digitalize this sector have begun to be felt in recent years. In this context, our problem is posed as follows: **To what extent can the digital transformation of the health sector in Algeria contribute to reducing social expenditure and improving the quality of care, and what challenges must be addressed to ensure effective adoption of this transformation?**

The main objective of this study is to help guide digital policies and strategies in the sector.

In order to better understand the impact of digitalization on the Algerian health sector, a survey via an electronic questionnaire was conducted to collect the views of citizens and health facility managers on the use of digital technology in health services. The aim of this survey is to assess the level of acceptance and the contribution of digital solutions, such as electronic medical records, telemedicine, to improving the quality of health care and reducing social expenditure. This intervention also addresses the challenges faced by health facilities in their journey towards digital transformation. In the absence of being able to use a probabilistic sampling method (due to the lack of knowledge of the parent population, as well as limited resources in time and means), we were forced to use empirical sampling. We therefore do not claim to generalize the results obtained from this survey. Our modest contribution is therefore an attempt to have an idea, even a rough one, with a view to furthering research in this area. Our sample includes 160 people, contacted via the Facebook platform and by Gmail as well as on the pages of hospital establishments.

2. Digital transformation of health

The digital transformation of health is revolutionizing the way care is delivered, integrating innovative technologies to improve access, efficiency and quality of services. This change is emerging as a key lever for modernizing health systems and meeting the needs of populations.

2.1. Defining digitalization in healthcare.

Digitization is defined as an electronic process of producing electronic or digital symbols, whether through a document or any physical thing, or through analog electronic signals (Encyclopedic dictionary & documentary, 2021, p431).

Definition of Digitalization in Healthcare: Digitalization in healthcare refers to “the process by which health information and services are converted into digital formats to improve their access, accuracy, and efficiency.”

From these two definitions we understand that digitalization in the healthcare sector is the process by which data is converted into digital form by applying digital technologies, such as electronic health records, telemedicine, to improve the management and quality of healthcare and reduce operational costs.

2.2. The importance of digital transformation to improve healthcare quality and reduce costs.

The table below illustrates the importance and impact of digital transformation in healthcare, highlighting key benefits such as improved quality of care, easier access to data and reduced operational costs.

Table 1. The importance and impact of digital transformation

Importance	Impact
Helps provide accurate and complete information through electronic medical records, reducing diagnostic and treatment errors.	These records provide immediate access to patient historical data, helping physicians make informed and timely treatment decisions.
With telemedicine techniques, patients can obtain medical consultations without having to go to a hospital or clinic.	Contributing to the availability of time and resources for patients and care providers, and increasing access to care in remote areas.
Reduces paper and bureaucratic processes, Health information management systems facilitate the processing of medical and administrative data.	Contributing to administrative and reducing operational costs. The efficiency of internal operations of hospitals and clinics.
Improving the accuracy of diagnosis and treatment and reducing the number of unnecessary repetitions. Also makes data sharing easier.	Reduces costs associated with medical errors and inappropriate treatments. Reduces costs associated with frequent examinations and improves continuity of care.
Wearable applications and digital platforms make it easy for patients to track their health status and receive necessary advice.	Improving the patient care experience and satisfaction.

Source: by the authors from (N.Hadj Mohamed & M. Zerouti, 2024)

2.3. Successful international experiences in the digitalization of the healthcare sector.

The following table presents a summary of the impact of digital technologies on health systems in various countries, illustrating the experiences of digital transformation, the years of adoption, as well as the concrete effects of these innovations on health systems.

Table 2. Impact of Digital Technologies on Health Systems in Various Countries

Country	Experience	Year	Impact	Reference
United States of America	Electronic Medical Records System	Since 2009 ("HITECH Act")	Improved coordination of care, reduced medical errors, reduced costs and redundant tests.	The official (website of the US Department of US of health and human services)
	Telemedicine	2020 (COVID-19 Pandemic)	Reducing the costs of emergency visits and improving access to care in remote areas.	
Estonia	National Digital Health System	Since 2008	Better coordination of care, reduced costs and easier access to medical information.	E-Estonia (Health care web site)
	Digital healthcare services	Since 2015	Reduced in-person visits, lower care costs and improved access to care.	
India	Health Monitoring Apps	Since 2015	Improved treatment efficiency and reduced emergency visits, leading to savings in healthcare.	The official website of the Ministry of Health ¹
Canada	Health information system	Since 2006	Improved exchange of medical information, faster diagnosis and treatment, reduced costs.	Canada Health Infoway (Canada health care website)
	Digital medical consultation	Since 2018	Reducing waiting times and improving access to health services.	

Source: by the author after studies and reports on the adoption of digital technologies in the health systems of the United States, Estonia, India and Canada.

This table highlights how different countries have integrated digital technologies to improve their health systems. The United States, Estonia, India, and Canada have each adopted digital solutions, such as electronic health records and telemedicine, to facilitate access to care, reduce costs, and improve the quality of services. For example, Estonia rolled out a national digital health system as early as 2008, enabling efficient coordination and timely access to medical information. In India, health-monitoring apps have improved the effectiveness of treatments, while in Canada, digital medical consultation has helped reduce wait times and

improve access to care. These innovations demonstrate the positive impact of digital technologies on public health globally.

3. The digital transformation of health in Algeria.

The digital transformation of healthcare in Algeria represents a major milestone, aiming to modernize health services and improve access to care. By integrating digital technologies, the sector seeks more management that is efficient and enhanced service quality.

3.1. Algerian context of digitalization in the health sector

The digitalization of the health sector in Algeria has been gradually implemented to meet urgent needs and adapt to global technological advances. Thus, digital transformation can improve the capacity of the Algerian health system to respond to health crises such as the COVID-19 pandemic, by immediately analyzing data and providing logistical support for the distribution of health resources (Mebarki, R, 2022, P97). On February 26, 2024, as part of the sectoral digitalization project, the Minister of Health, Prof. Abdelhak Saihi, led a meeting on the electronic patient record (EMR). This system, regularly updated, allows patients to easily access various health institutions and the best services. It contains all the patient's medical, personal and administrative information, accessible to health professionals through a unique medical numbering, thus facilitating procedures and medical follow-up (Facebook, Healthcare Algerian ministry).

Table 3. Evolution of the Digitalization of the Health Sector in Algeria

Period	Evolution
Getting started and preparing (2000-2010)	Introduction of simple information systems such as hospital management, electronic recording of certain records, appointment scheduling and billing systems. These systems were limited and rarely integrated with each other.
Transition to national strategies (2011-2015)	Launch of the "National Health Development Plan 2011-2015". Digitization of medical records in some large hospitals (Algiers, Oran), implementation of Electronic Health Records (EHR) and Health Information Systems (HIS). Efforts hampered by a lack of infrastructure and resistance to change.
Expansion of digitalization projects (2016-2019)	Strengthening digitalization efforts with the "Electronic Medical Record" project aimed at establishing a national health database. Development of telemedicine projects to improve access to care in remote areas.
Acceleration during COVID-19 (2020-2021)	Acceleration of digitalization following the pandemic. Development of digital platforms for telehealth, medical consultations via smartphones

	and electronic portals. Improvement of health data management for monitoring COVID-19 cases.
Continue development (2022-present)	Development of a digital health infrastructure, with the introduction of artificial intelligence, the Internet of Things (IoT) and big data analysis. Adoption of the electronic medical record, allowing centralized access to patient medical information. Updated and used in various health institutions.

Source: by the author based on (Benyoucef, A & Mekideche, L, 2023)

This chart illustrates the gradual evolution of digital transformation in the Algerian healthcare sector, highlighting key milestones from the introduction of early information systems to the recent adoption of advanced technologies such as artificial intelligence and IoT. Each period reflects significant progress, although often marked by challenges related to infrastructure and adoption. These initiatives have improved the efficiency of care, particularly through telemedicine and centralized monitoring of medical records, while preparing the sector to meet the future challenges of increasingly connected healthcare.

3.2.Experiences of digitalization in the health sector in Algeria.

Minister Abderrahmane Ben Bouzid during a meeting the activities undertaken by the ministry to digitize the health sector announced the launch of seven (7) digital projects, which are (Ayad, M, 2023) :

- a) **Digital Hospital Project:** Digital platform that includes a database containing the patient's electronic medical record, including diagnoses, treatments, analyses, and information from public and private practitioners. Through it, data and information are exchanged electronically.
- b) **Project for the digitalization of contractual relations with social security organizations:** This is done by activating the Shifa card in coordination with the Social Security Authority. And health management through a digital space dedicated to this contractual relationship.
- c) **A project to approve the integration of biometric identification card information into the electronic medical record:** Facilitates access to patient medical information for practitioners and allows for quick retrieval of records. It also allows the patient to view their information.
- d) **Central administration digitalization and liaison with health institutions project:** This project ensures a rapid awareness process in the health sector and improves the coupling of medical records and their linkage to the central database of the health network (Binbouzid ,A, 2020).

- e) **Activity plans of the Health Structures Digitization Project:** This project allows us to accurately assess the physical and human aspects of health facilities quickly, which will increase the efficiency of the facilities and provide the necessary data that will determine the quality of health services in the future.
- f) **Electronic Pharmacy Project :** Database on drugs consumed to better manage the needs of hospitals, rationalize expenses and encourage competitiveness in the pharmaceutical industry, These projects are part of the Electronic Algeria 2013 project, where the Minister of Health mentioned the acceleration of the pace of realization and optimal use of this digital platform.
- g) **Health Information System in Algeria: (SIS DZ) :** It is composed of six systems: The human resources information system, linked to the mandatory declaration of diseases, linked to the interview, Linked to the electronic vaccination record and the application linked to health activities, linked to scorpion poisoning(Messar, K, 2018).

The table below presents the mobile health applications developed in Algeria, as well as their impact on social spending and health care. These applications aim to facilitate access to medical services, improve care management and reduce costs for users and the health system.

Table 4. Mobile Health Applications in Algeria

Mobile application	Year of launch	Impact on social spending and health care
E-Tbib	2020	Reduced travel costs thanks to remote medical consultations, improved access to care
COVID-19 Algeria	2020	Tracking coronavirus cases, providing advice and locating health centers. Improving health emergency management and public awareness.
SIHATI	2018	Simplified access to health services without the need for prior registration.
Medicines in Algeria	2017	Improve the availability of medicines and vaccines, reduce losses and reduce logistics costs.

Source :by the author on my platform information base

4. Methodology and results of the study

The methodology and results of this study highlight the impact of digital transformation in the healthcare sector, analyzing its progress, challenges and contributions to improving care and management of healthcare services.

4.1.Survey design.

Let us recall that it was not possible for us to use a probabilistic sampling method, which would have provided better results, thanks to its superiority in terms of representativeness

of the sample drawn; and therefore, in terms of generation of the results obtained. Failing this, we resorted to empirical sampling, the results of which cannot be generalized. Our study is therefore a modest contribution whose sole objective is to clear the ground for research in this area, with a view to further in-depth study.

The questionnaire consists of 28 closed and open-ended questions targeting different aspects. It was administered via social media platforms and email in order to access a diverse sample of the community. From August 25 to September 20, we received 160 responses and validated 159 questionnaires. The sections of the questionnaire are as follows:

- Demographic information
- Digital experiences in the healthcare sector
- Level of adoption of digital transformation in the public health sector
- Impact of transformation on resource management
- Importance of digital transformation to ensure quality public service and to rationalize costs
- Open proposals

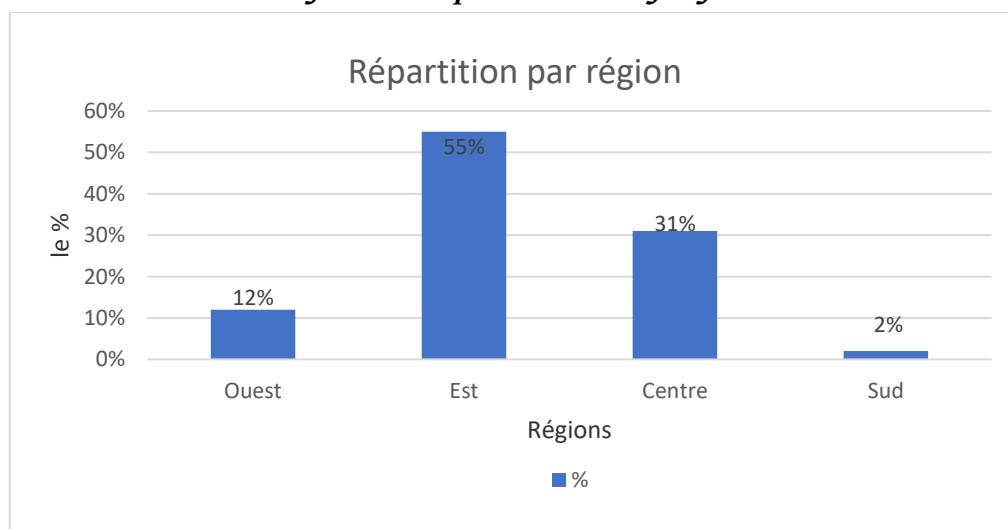
4.2.Data processing and analysis

We begin the exploitation of the questionnaires by presenting the results according to the first section (Demographic characteristics of the respondents).

A) Respondents'profile:

In this part of the intervention, we begin by characterizing the profile of the respondents in our sample. The following figure shows the results:

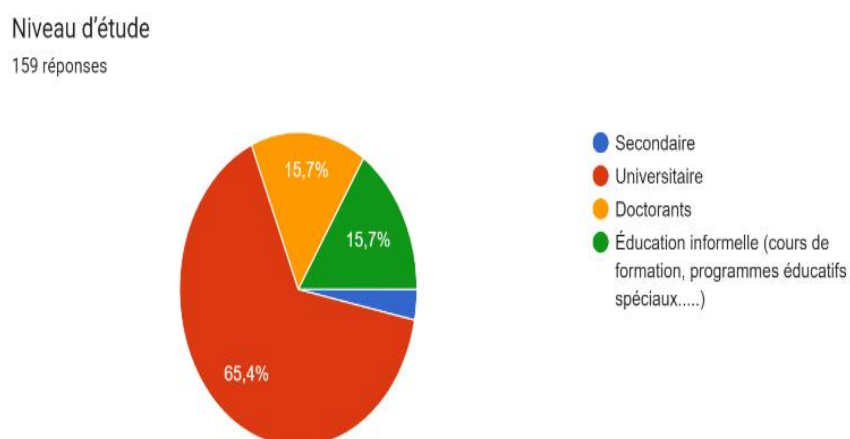
Figure 1. Sample structure by region



Source: SPSS Outputs

The distribution between the different regions, a slight predominance in the east (55%), followed closely by the center (31%) and the west (12%). On the other hand, the South is less well represented, with only (2%) of the sample.

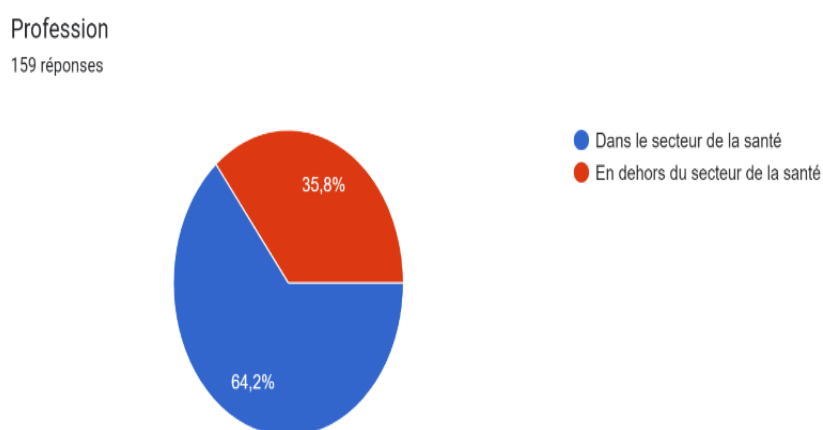
Figure 2. Sample structure by education level



Source: SPSS Outputs

Most of the respondents have a university education (65.4%), followed by those with a doctorate and informal education (15.7%). And a slightly lower proportion of secondary education (3.1%).

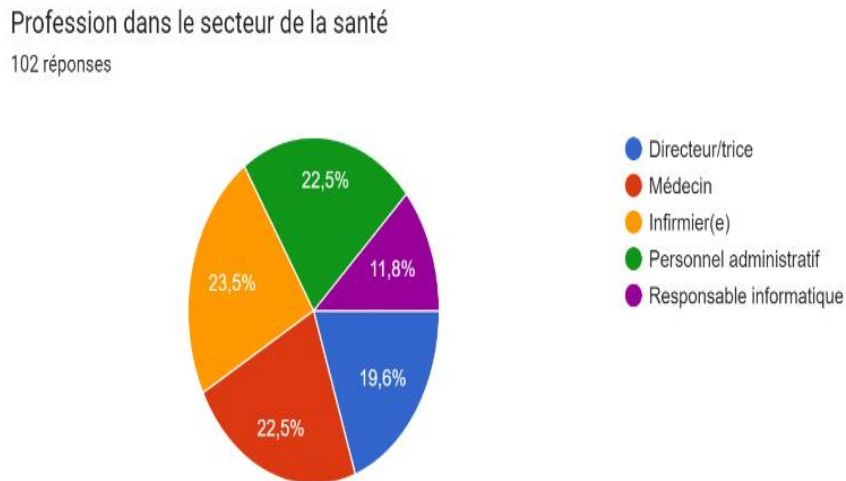
Figure 3. Sample structure by health sector



Source: SPSS Outputs

The majority of respondents (64.2%) were healthcare professionals, and a significant percentage of people (35.8%) from outside this sector also participated, providing a more diverse perspective.

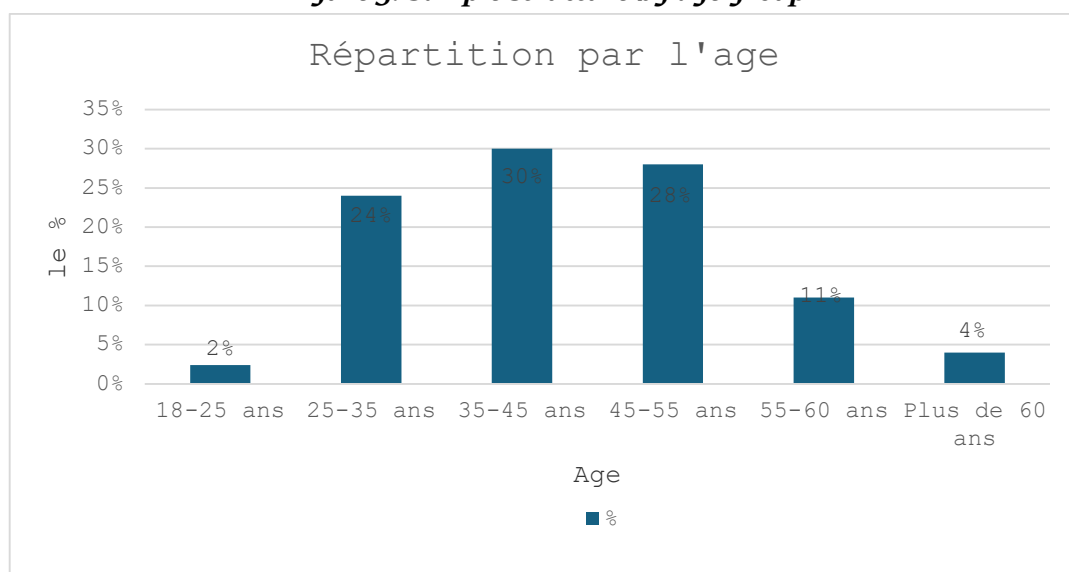
Figure 4. Sample structure by occupation in the health sector



Source: SPSS Outputs

The distribution is fairly balanced, with a slight predominance of nurses (23.5%), followed by doctors and administrative staff (22.5%), and a slightly lower proportion of directors (19.6%) and IT managers (11.8%).

Figure 5. Sample structure by age group



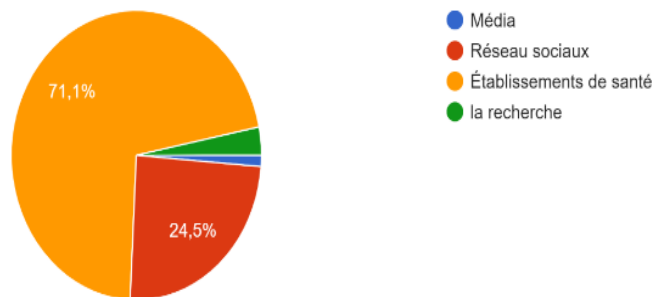
Source: SPSS Outputs

The largest age group is 35-45 years (29.7%), followed closely by 45-55 years (28.3%), 25-35 years (24.2%), and 55-60 (11.3%). A lower proportion is observed among people over 60 years (4.1%) and in the 18-25 age group (2.4%).

A) Digital experiences in the healthcare sector

Figure 6. Knowledge of digitalization

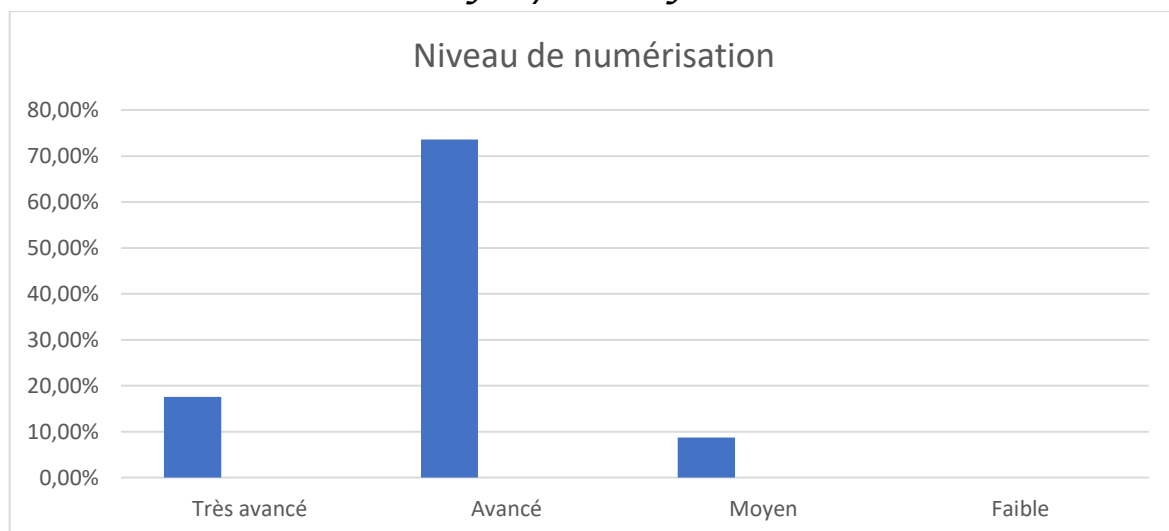
Ou Avez-vous entendu parler de la numérisation des services de santé?
159 réponses



Source: SPSS Outputs

The majority of respondents (71.1%) heard about the digitalization of healthcare services through healthcare institutions, followed by social media (24.5%), followed by search (3.1%) and a slightly lower proportion from media (1.3%).

Figure 7. Scanning level

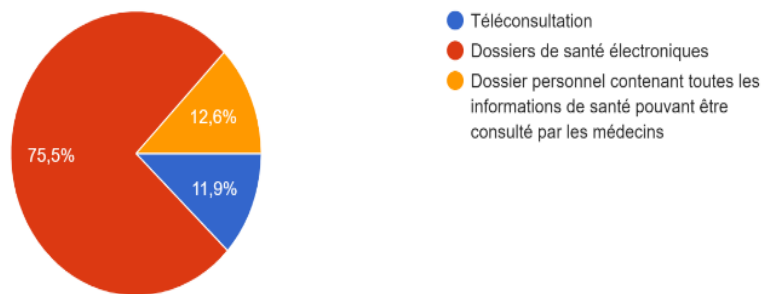


Source: SPSS Outputs

Regarding the level of digitalization, (73.6%) consider it advanced, and (17.6%) consider it very advanced, and only (8.8%) consider it average.

Figure 8. Services to be digitized

Quels sont les services de santé les plus importants que vous aimeriez mieux numériser?
159 réponses



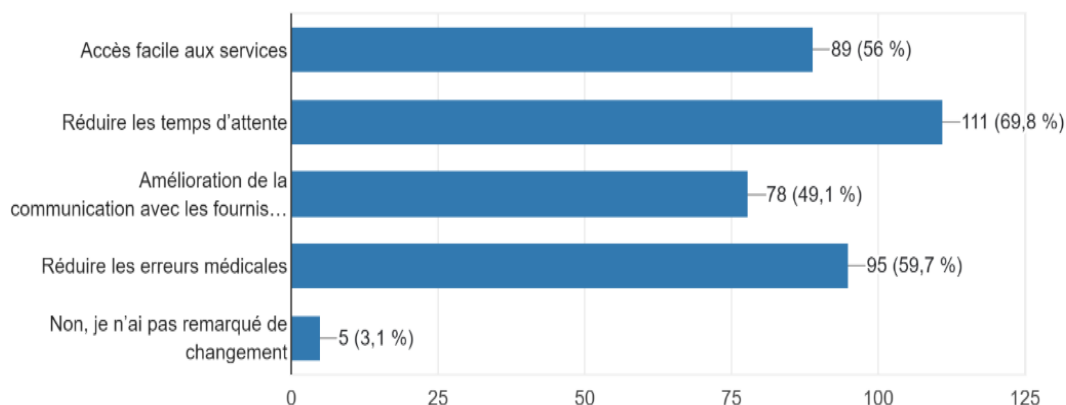
Source: SPSS Outputs

The most important services that respondents would like to see digitized are electronic health records (75.5%), followed by personal records containing all health information accessible by doctors (12.6%) and teleconsultation services (11.9%).

Figure 9. Improvements after scanning

Quelles améliorations avez-vous remarquées de la qualité des soins de santé après l'application de la numérisation dans vos établissements de santé?

159 réponses

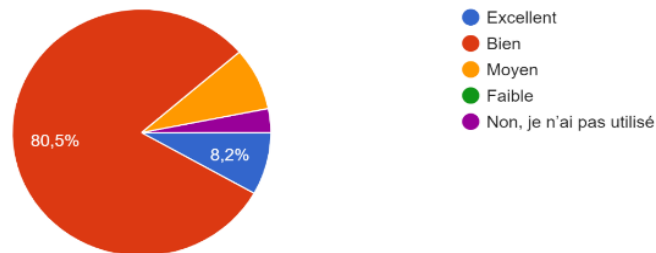


Source: SPSS Outputs

The majority of respondents (69.8%) saw a reduction in wait times as a result of digitalization. Others noted easier access to services (56%), reduced medical errors (59.7%), and improved communication with providers (49.1%). Very few (3.1%) did not notice a change.

Figure 10. Use of digital applications

Avez-vous utilisé des applications ou plateformes numériques pour recevoir des services de santé en Algérie ? Si la réponse est oui, comment décrivez-vous votre expérience?
159 réponses

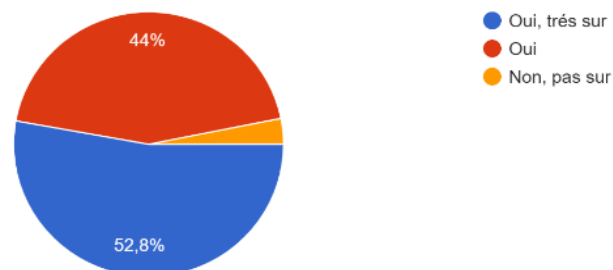


Source: SPSS Outputs

A small minority of respondents (8.2%) rated their experience as 'Average' and (3.1%) rated their experience as 'Poor', suggesting that there are still areas for improvement, particularly in the quality and accessibility of services. And (80.5%) rated their experience as 'Good'. The responses show that (3.1%) found their experience to be 'Excellent', showing a high level of satisfaction. And (5%) of respondents indicated 'No, I have not used'.

Figure 11. Health data security

Pensez-vous que vos données de santé personnelles sont sécurisées grâce à l'utilisation de la technologie numérique dans les établissements de santé?
159 réponses



Source: SPSS Outputs

The majority of respondents (52.8%) feel very secure, while (44%) feel secure. However, a small minority (3.2%) are unsure about data security. The results show that although

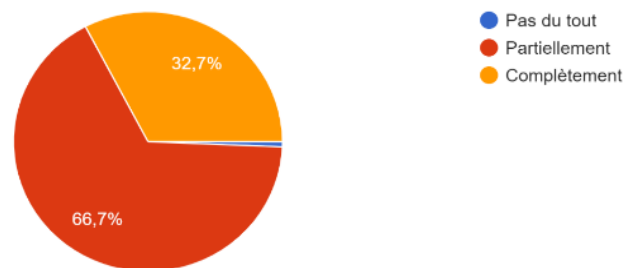
improvements were noted following digitalization as with easier access to care, reduced costs and better management of resources, there remains a need for awareness raising and improvement of the level of digitalization of health services in Algeria, particularly to strengthen data security and promote the use of digital applications.

A) Level of adoption of digital transformation in the public health sector

Figure 12. Adoption of digital tools

Dans quelle mesure votre établissement a-t-il adopté les outils numériques dans ses pratiques quotidiennes ?

159 réponses



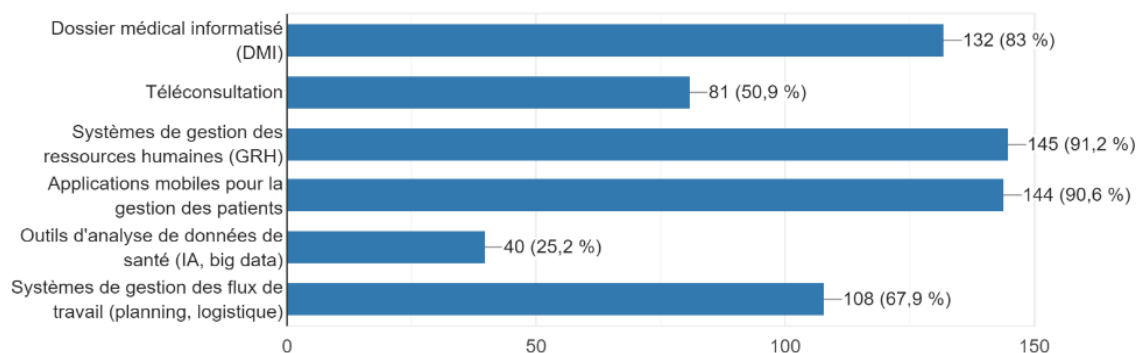
Source: SPSS Outputs

A majority of respondents (66.7%) indicate that their institution has partially adopted digital tools, while (32.7%) indicate that they have partially adopted them, and (0.6%) have not adopted these tools at all, perhaps in the neglected rural areas. This shows that there are still challenges for a complete adoption of digital solutions in the sector.

Figure 13. Digital systems currently deployed

Quels systèmes numériques sont actuellement déployés ?

159 réponses

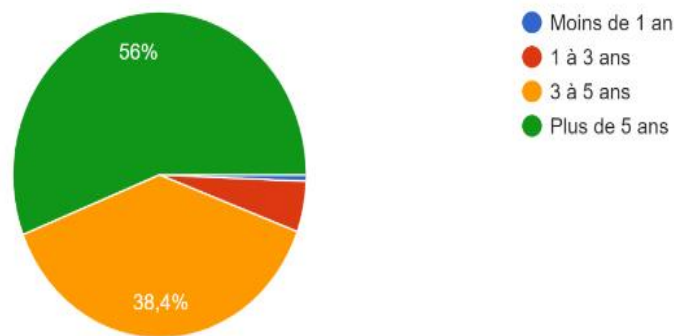


Source: SPSS Outputs

The results show that Human Resources Management Systems are the most deployed (91.2%), followed by Mobile Applications for Patients with (90.6%) are the most widespread. On the other hand, Electronic Medical Records (EMR) are widely used (83%). Workflow Management Systems (scheduling, logistics) have significant use (67.9%), while Teleconsultation is adopted by about half of the respondents (50.9%). Finally, Health Data Analytics Tools (AI, big data) are the least deployed (25.2%), suggesting challenges or additional infrastructure needs for advanced data analytics.

Figure 14. Duration of use of digital technologies

Depuis combien de temps l'établissement utilise-t-il des technologies numériques ?
159 réponses

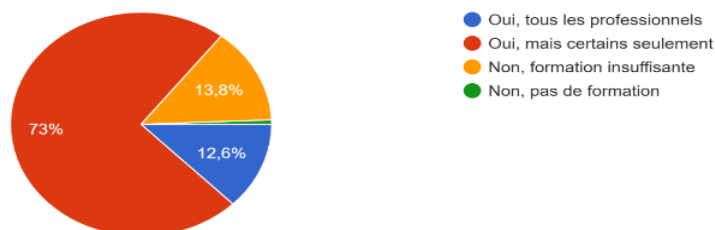


Source: SPSS Outputs

The majority (56%) have been using digital technologies for more than 5 years, indicating some experience in this area. However, (38.4%) have been using them for only 3-5 years, and a small minority (8%) have been using them for 3-1 years, and (0.6%) have been using them for less than 1 year which shows variation in digital adoption across institutions.

Figure 15. Training of health professionals

Les professionnels de santé ont-ils reçu une formation adéquate pour utiliser les outils numériques ?
159 réponses



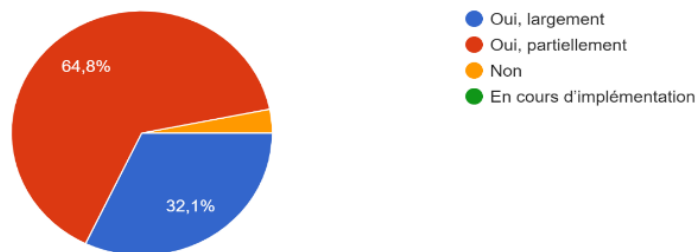
Source: SPSS Outputs

The majority (73%) of respondents say that only a part of the professionals have been trained, while 13.8% believe that the training is insufficient, and 12.6% say that training has been given to all, and 0.6% say that there is no training. Therefore, it is crucial to invest in comprehensive training programs to ensure that all professionals can keep up with technological developments, and thus improve the efficiency and quality of care.

4- Impact of the transformation on resource management (human, financial, material)

Figure 16. Use of digital tools for HRM

Votre établissement utilise-t-il des outils numériques pour la gestion des ressources humaines (GRH) ?
159 réponses

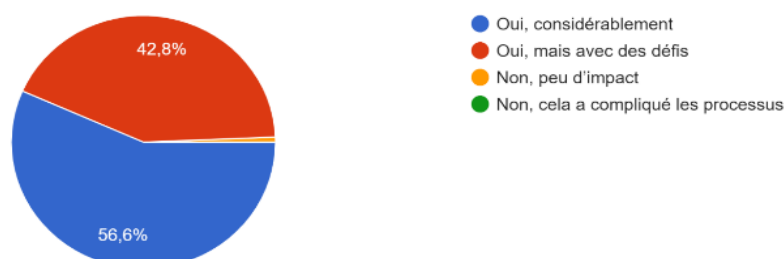


Source: SPSS Outputs

A majority of respondents (64.8%) say that these tools are used partially, while (32.1%) say that they are widely used. Only a small fraction (3.1%) indicate that their institution does not use these tools, which may indicate a lack of resources, training or suitable infrastructure. This highlights the need to further support this transformation to improve the effectiveness of HRM in all institutions.

Figure 17. The impact of digital transformation on planning and HR management

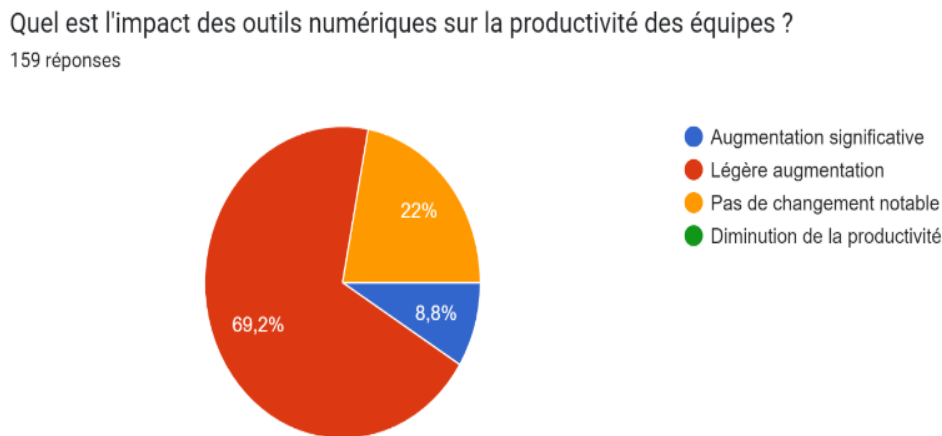
La transformation numérique a-t-elle facilité la gestion des plannings et des ressources humaines dans votre établissement ?
159 réponses



Source: SPSS Outputs

Half of the respondents (56.6%) believe that the transformation has made management considerably easier, while (42.8%) say that it has brought facilities, but with challenges. Only (0.6%) believe that it has had little impact, and none indicated that it has complicated processes. This shows that the majority of institutions benefit from digitalization, but that there are still challenges related to training, adaptation or technical problems.

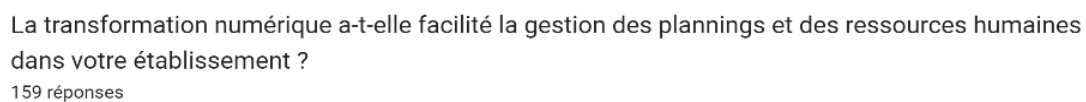
Figure 18. The impact of digital tools on team productivity



Source: SPSS Outputs

A majority of respondents (69.2%) see a slight increase in productivity, (22%) do not perceive a significant change, and (8.8%) observe a significant increase. This shows that digital tools generally contribute to improving productivity, but this increase is often perceived as modest. This indicates that the integration of digital tools is not yet optimized.

Figure 19. The impact of digitalization in the management of schedules in establishments



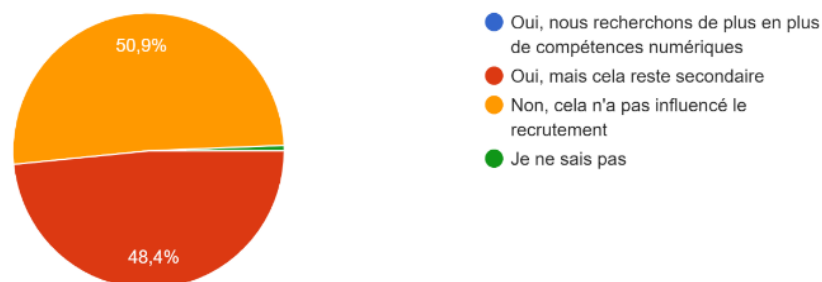
Source: SPSS Outputs

More than half of the respondents (56.6%) believe that digitalisation has made this management considerably easier, indicating a major positive impact on the internal organisation. (42.8%) believe that digitalisation has helped, but with challenges. An insignificant minority (0.6%) believe that there has been little impact or that it has complicated processes.

Figure 20. The impact of digitalization on skills profiles during recruitment

La transformation numérique a-t-elle changé les profils de compétences recherchés lors du recrutement ?

159 réponses



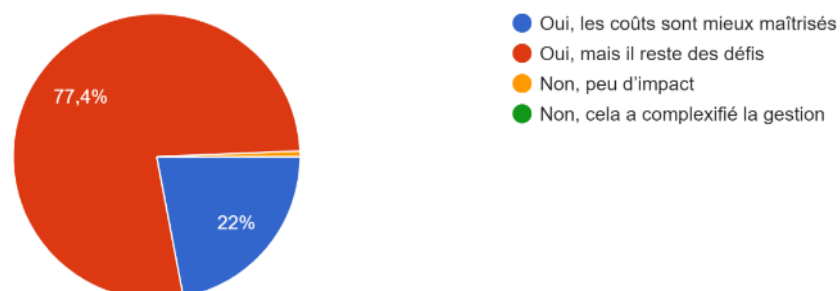
Source: SPSS Outputs

(50.9%) of respondents believe that they remain secondary in the recruitment process. This means that they are not yet considered a priority. 48.4% say that digital transformation has led to an increase in the demand for digital skills, which highlights a gradual evolution of qualifications. A marginal minority (0.6%) does not know. Digitalization is beginning to influence the skills profiles sought, it is not yet the main recruitment criterion in the sector.

Figure 21. The impact of digital transformation on cost and budget management

La transformation numérique a-t-elle permis une meilleure gestion des coûts et des budgets ?

159 réponses



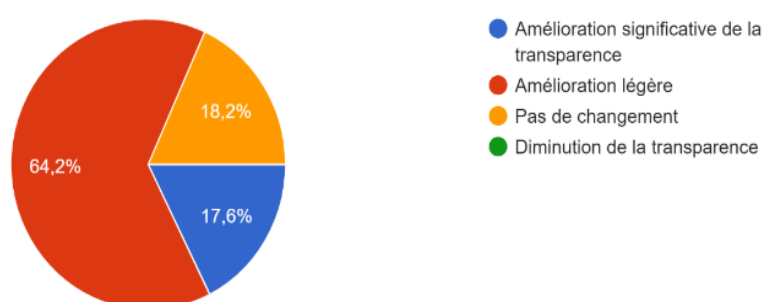
Source: SPSS Outputs

The majority of respondents (77.4%) believe that digital transformation has improved cost management, but still presents challenges for effective management. (22%) are satisfied with the progress made, while (0.6%) believe it has had little impact. No respondent chose the complexity option.

Figure 22. The impact of digital transformation on financial transparency in the healthcare institution

Quel est l'impact des outils numériques sur la transparence des finances dans votre établissement ?

159 réponses



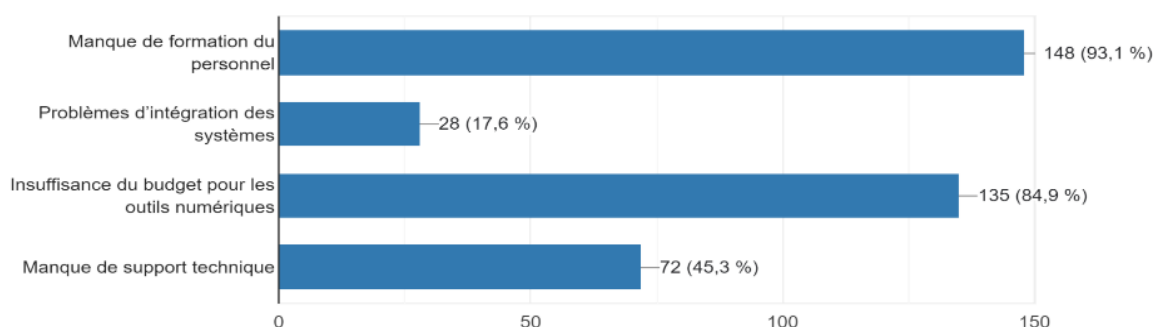
Source: SPSS Outputs

The majority of respondents (64.2%) acknowledge a slight improvement in transparency due to digital tools, suggesting a positive and moderate effect. A significant group (17.6%) highlight a notable improvement, suggesting a deeper impact. However, (18.2%) believe that there has been no change, suggesting greater financial transparency, but the extent of this impact varies across institutions or contexts.

Figure 23. Challenges encountered in digital management of material resources

Quels sont les principaux défis rencontrés dans la gestion numérique des ressources matérielles ?

159 réponses

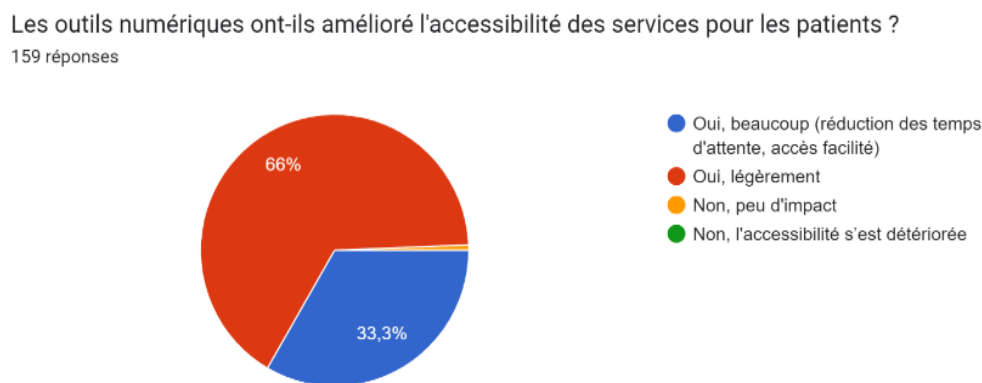


Source: SPSS Outputs

The most important challenge identified by (93.1%) of the participants is the lack of staff training, despite the digital tools available, and (84.9%) mention an insufficient budget for digital tools. This indicates that it is necessary to ensure a sufficient budget for the acquisition of the tools. In addition, (45.3%) mention a lack of support technology and (17.6%) system integration problems.

5- Importance of digital transformation to ensure quality public service and to rationalize costs

Figure 24. Accessibility of services for patients

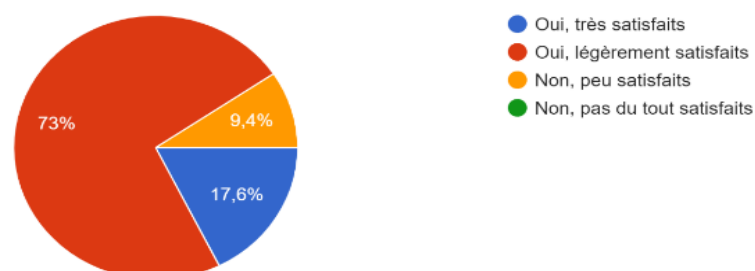


Source: SPSS Outputs

A third of respondents (33.3%) believe that digital tools have increased access to services, reducing time, and (66%) think that the impact is positive but slight, and (0.6%) have not impacted it. The absence of responses indicating a deterioration shows a general consensus around the positive impact, even if a large part of the respondents find this impact moderate. Which suggests additional efforts are needed to maximize their effectiveness.

Figure 25. Patient satisfaction with the use of digital services

Les patients ont-ils exprimé une satisfaction accrue grâce aux services numériques ?
159 réponses

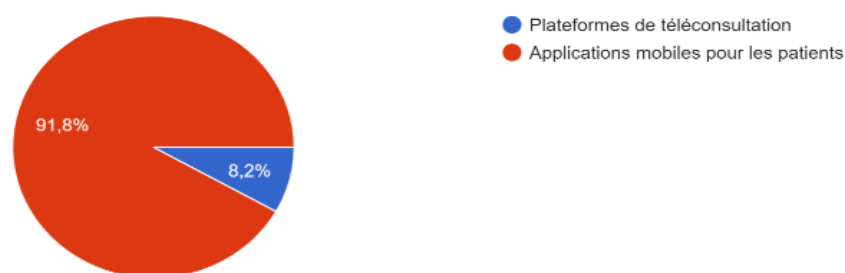


Source: SPSS Outputs

The majority of respondents (73%) are slightly satisfied with digital services, indicating that there is potential for improvement. And (18%) are very satisfied, while (9.4%) are less satisfied, suggesting that adjustments or improvements in digital services could better meet patients' expectations. No patients responded "No, not at all satisfied".

Figure 26. The digital service most used by patients

Quel est le service numérique le plus utilisé par les patients ?
159 réponses

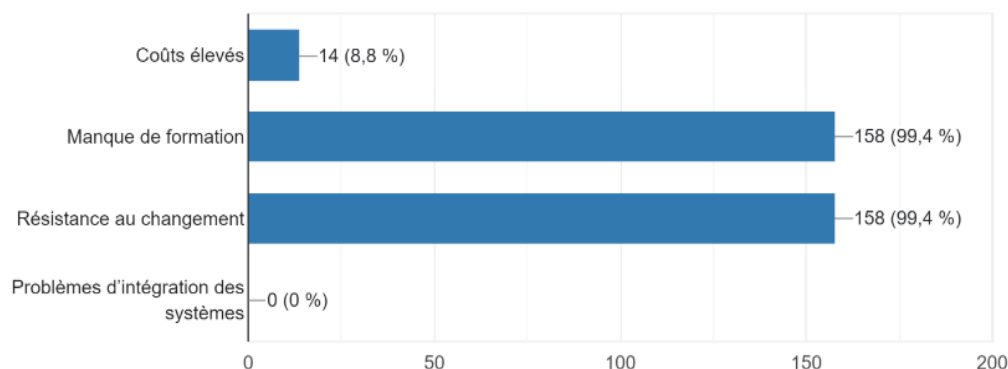


Source: SPSS Outputs

The majority of respondents (91.8%) use mobile applications due to their accessibility, ease of use and convenience. (8.2%) use teleconsultation platforms, less used due to technological barriers or minimal remote consultations. It would be interesting to explore ways to improve access to these platforms and encourage their use.

Figure 27. The main challenges encountered in the implementation of digital tools to improve public service

Quels sont les principaux défis rencontrés dans l'implémentation des outils numériques pour améliorer le service public ?
159 réponses



Source: SPSS Outputs

The results show that (90.4%) of respondents consider lack of training as a major challenge and resistance to change as a barrier, suggesting that employees or users are not sufficiently prepared to use new technologies. A small percentage (8.8%) consider high costs to be the main barrier to digital tools in the public sector, rather than human support. It is therefore crucial to focus on user training and change management.

5. Conclusion:

In the context of the growing challenges facing the health sector in Algeria, digital transformation is emerging as an innovative and necessary solution. Successful experiences have shown that the use of digital technology can significantly contribute to improving the efficiency of health services, which is positively reflected on the patient experience.

The results indicate that citizens welcome digital transformations and express satisfaction with improved services. However, the success of these initiatives depends on addressing current challenges, such as improving cybersecurity and user awareness. Therefore, continued efforts are needed to promote digital transformation by providing the necessary training to health workers and expanding the use of digital applications. Investing in these areas will not only help improve the quality of health care, but also increase the sustainability of the health system and bring broad social and economic benefits.

Overall, digital transformation represents a real opportunity to improve the Algerian healthcare system and must be fully exploited to achieve the desired objectives.

The study recommends the creation of a national digital health platform in Algeria, connected to the Ministry of Health and various accredited public and private hospitals, and managed by a company specializing in digital transformation. This platform would centralize health data through a national electronic file for each patient, allowing for the monitoring of care, data analysis for the management of health crises and the control of epidemics. It would guarantee secure and immediate access to medical information for patients and health professionals, while facilitating the secure exchange of data between providers to improve the quality of care and effectively respond to public health challenges. In addition, it would provide an integrated national database, useful for monitoring diseases, publishing accurate statistics, supporting scientific research and creating disease-specific registries, thus strengthening national and international collaborations.

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