

Dear All,
CEDIA – Transform Health Ecuador
Cuenca, Ecuador

Please accept our cordial greetings from CEDIA CONSULTORES & CAPITALES CEDIACONSULTORES SAS. We are sending you the report regarding Deliverable 2 of Phase 1 in accordance with contract JLE-CO-2024-0044 CONSULTING CONTRACT FOR THE CREATION OF “PROPOSAL FOR A NEW CURRICULAR MESH TO RENEW THE EDUCATIONAL OFFER IN HEALTH AREAS” FOR TRANSFORM HEALTH ECUADOR.

Deliverable 2. Analysis of the educational landscape in areas competent in digital health as well as administrative and management processes

Report Structure:

- 1) Introduction
- 2) Objectives of theandstudio
- 3) Methodology
- 4) Results
 - a. Perception of preparation and relevance
 - b. Emerging technologies and use
 - c. Challenges for integrating digital health
- 5) Conclusions and recommendations
- 6) Literature.

1. Introduction:

On the threshold of a new era in higher education, the project "Proposal for a New Curriculum to Renew the Educational Offering in Health Areas" emerges as an initiative aimed at aligning academic programs with the rapid transformations in the health sector, driven by the digital revolution. This project was born from the urgent need to close the gap between traditional curricula in the health areas and the emerging demands of the sector, marked by the incorporation of advanced digital technologies in medical care, health management, data governance and analytics, and biomedical research.

In the current context, where digitalization is transforming all aspects of life, healthcare is no exception. Digital health, defined as the application of information and communication technologies to treat patients, conduct research, educate healthcare professionals, track diseases, and monitor public health, has established itself as an essential component of modern medicine. Its impact on improving the efficiency, accessibility, and quality of

healthcare is indisputable, highlighting the urgent need to incorporate specific digital skills, analytics, and data governance as part of the training of future healthcare professionals. Given this scenario, the project proposes a comprehensive review and a bold update of the curricula, with the aim of preparing students not only to face current challenges in the healthcare field but also to be protagonists of healthcare innovation. The proposal emphasizes the need for a multidisciplinary approach that combines technical knowledge in digital health with clinical, ethical, and communication skills, thus preparing professionals to operate effectively in an increasingly technological healthcare environment.

The path toward integrating digital health into higher education requires a firm commitment to educational quality, innovation, and intersectoral collaboration. This project seeks to be a catalyst for this change, inviting academics, health professionals, technologists, and policymakers to join forces in a joint effort to redefine health education for the 21st century. Through a rigorous methodology, including needs analysis, the design of new courses and innovative teaching methodologies, and ongoing impact assessment, this initiative is expected to mark the beginning of a new era in the training of health professionals, equipped to lead the digital transformation in the sector and improve people's lives through the use of new technologies.

2. Objective of the diagnosis:

The objective of this assessment is to analyze the current health education landscape of health-related degree programs at higher education institutions in Ecuador at the university level. This study focuses on the field of digital health and digital transformation processes in academia. This will allow us to present a proposal for curricular updates based on current trends in digital health.

To achieve this objective, it is necessary to analyze Ecuador's educational landscape, focusing on the areas of health and digital transformation processes in the academic sector. We will also evaluate the integration and perception of digital health in higher education institutions, identifying challenges, opportunities, and recommendations to strengthen the training of future health professionals in the digital context.

2.1. Report description.

The report comprehensively addresses the pressing need and challenges associated with updating curricula at higher education institutions focused on health in Ecuador, with a special emphasis on the integration of digital health competencies. Through a detailed analysis that includes surveys and curriculum reviews, it reveals an overview of the current preparation of future health professionals in the face of technological advances and the demands of the sector.

Highlighting both the existing gaps and the opportunities to improve teaching and learning in digital health, the report proposes a series of recommendations aimed at fostering interinstitutional collaboration, increasing investment in technological resources, and providing ongoing faculty training. This proposal not only seeks to align academic programs with labor market needs and the expectations of the health sector, but also to enhance the innovative and adaptable capacity of future professionals in the context of a constantly evolving industry.

3. Methodology

This diagnostic study focuses on describing and analyzing the current characteristics of digital health in Ecuadorian higher education institutions that are members of CEDIA. The cross-sectional nature of the study allows for the collection of data at a single point in time to reflect the current status.

3.1. Based on UNE:

As recommended by UNE 166000:2018, we include the 5 steps described in the stage of adding value to the collected information:

- Data integration
- Interpretation of theYoinformation.
- Representationgraphic.
- Extraction of the facts.
- Action recommendations.

3.1.1 Data integration.

- Approach:cMultidisciplinary collaboration with digital health experts, teachers andYoresearchers.
- Data Collection:scurrent situation of theYo institutions ofandeducationssuperior in Ecuador at the leveloruniversity in the field of digital health.

3.1.2 Interpretation of theYoInformation:tofinalize and understand the meaning of the integrated data.

3.1.3 Graphic representation: visualize the interpreted information using graphs or diagrams to facilitate its understanding.

3.1.4 Extraction of the facts: Identify and summarize key points and conclusions derived from the information represented graphically.

Action recommendations: Provide practical suggestions based on the facts gathered to guide future decisions.

3.2. Type of research:

Quantitative. The research relies on the collection and analysis of quantitative data derived from surveys to objectively assess the data collected, the level of inclusion, and the challenges faced by institutions and participants regarding digital health.

3.3. Methods for data collection:

Surveys: Designed to collect specific information from a representative sample of higher education institutions. These surveys contain closed-ended questions for quantitative analysis, enabling data on the integration of digital health into programs to be identified.

Statistical and numerical analysis:

Descriptive analysis: to summarize the general characteristics of the sample and the survey responses. Includes frequency and percentage calculations.

Additional relevant aspects that were applied in data collection:

Survey validation: Describe the process used to validate the data collection instrument, including pilot testing and review by academic experts involved in digital health and research methodologies.

Ethical considerations: detail informed consent, participant confidentiality, and the ethical handling of collected data.

3.4. Research design:

This study adopts a descriptive and cross-sectional research design to evaluate the integration and perception of digital health in higher education institutions in Ecuador. Descriptive research was selected due to its effectiveness in detailing and characterizing the current state of digital health within a specific context, allowing for a deep understanding of the situation without intervening or modifying the studied environment. This approach provides a solid foundation for the quantitative analysis of data collected through structured surveys, facilitating the identification of trends, patterns, and potential areas for improvement in digital health education.

The cross-sectional nature of this study involves collecting data at a single point in time, providing a snapshot of participants' experiences, knowledge, and attitudes toward digital health. This methodology is especially useful for research that seeks to assess a wide variety

of variables without the need to follow subjects over time, which is ideal given the intention to analyze the current state of digital health in educational institutions.

The type of research applied in this study is purely quantitative, given that it focuses on the collection and analysis of numerical data on the variables to evaluate the integration of digital health.

In this study, structured surveys were used as the primary data collection tool, designed to capture specific information on the preparation, perceptions, and challenges faced by educators and researchers in relation to digital health. The survey includes only closed-ended questions, which facilitate quantitative analysis through the application of descriptive statistics.

The choice of this research design is directly aligned with the study's objectives, allowing for a comprehensive and detailed analysis of the current status of digital health in higher education. The proposed methodology ensures a comprehensive understanding of the incorporation of digital health in institutions, highlighting both achievements and challenges, weaknesses that become areas of opportunity for future educational interventions and policies.

4. Results

Analysis of the results obtained on digital health in the educational environment. Formation and characteristics of institutions (questions 1-5).

Acceptance of the processing of personal data

The complete acceptance of personal data processing in this study reflects a high level of awareness of the importance of privacy and data security in academic research. This result demonstrates the participants' commitment to fundamental ethical principles in research.



Chart 1. Declaration of use of personal data.

Institutional diversity

The participation of a wide variety of educational institutions, with more than 21 universities, both public and private, representing 65% of the institutions offering health programs in higher education institutions, underscores the universal relevance of digital health in Ecuador's education system. This institutional diversity ensures that the diagnostic findings reflect a broad and varied perspective on the state of digital health education.

P5 Su institución se clasifica como:

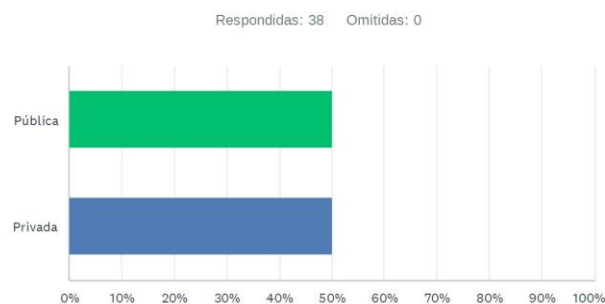


Chart 2. Classification of Institutions.

What teachers and researchers perceive about knowledge in digital health.

Regarding knowledge of digital health, it indicates a comprehensive perspective on digital health among those surveyed. The majority of teachers (78.13%) agree that digital health encompasses the use of information and communication technologies to improve healthcare, mobile applications and wearable devices that monitor personal health, and health information systems for managing electronic medical records. This broad acceptance suggests a widespread understanding that digital health is not limited to a single technology or application, but rather includes a diverse set of tools and practices aimed at optimizing healthcare. Recognition of this comprehensive definition reflects the evolving perception of digital health, positioning it as a crucial component in improving healthcare and health management, both at the individual and collective levels.

OPCIONES DE RESPUESTA	RESPUESTAS
El uso de tecnologías de la información y comunicación para mejorar la atención de la salud.	25.00% 8
Aplicaciones móviles y dispositivos wearables que monitorean la salud personal.	6.25% 2
Sistemas de información en salud para la gestión de historias clínicas electrónicas.	6.25% 2
Todas las anteriores.	78.13% 25
Ninguna de las anteriores.	0.00% 0
Total de encuestados: 32	

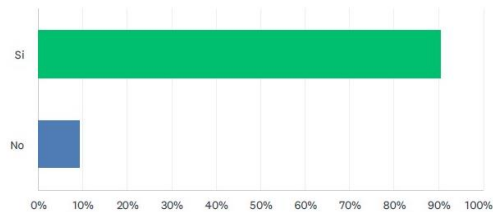
Table 1. Knowledge of digital health.

Digital health perception of academic staff (questions 6-7)

4.1. Perception and use of emerging technologies

P7 ¿ Conoce sobre tecnologías emergentes que apoyan a la Salud Digital?

Respondidas: 32 Omitidas: 6



OPCIONES DE RESPUESTA	RESPUESTAS	
Si	90.63%	29
No	9.38%	3
TOTAL		32

Chart 3. Perception and use of emerging technologies

It is important to note that more than 90% of academic staff report having knowledge of emerging technologies that support digital health. This high percentage indicates significant awareness and interest on the part of professionals and academics to explore and potentially integrate these technologies into their practices and educational curricula. This trend is positive, as knowledge is the first step toward the adoption and effective implementation of new technological solutions in health.

OPCIONES DE RESPUESTA	RESPUESTAS	
Telemedicina	71.88%	23
Inteligencia Artificial (IA)	62.50%	20
Dispositivos Wearables	31.25%	10
Plataformas de Datos de Salud	65.63%	21
Chatbots y Asistentes Virtuales en Salud	40.63%	13
Realidad Virtual (VR) y Realidad Aumentada (AR)	34.38%	11
Otro (Por favor especifique)	9.38%	3
Total de encuestados: 32		

Table 2. Knowledge of digital health.

This enthusiasm for new technologies is a promising indicator for the future integration of these tools into educational and clinical processes.

Use and expertise in emerging technologies (questions 8-9)

4.2. Level of expertise in emerging technologies.

P9 ¿Cuál es su nivel de experticia respecto a las Tecnologías Emergentes que usted conoce ?

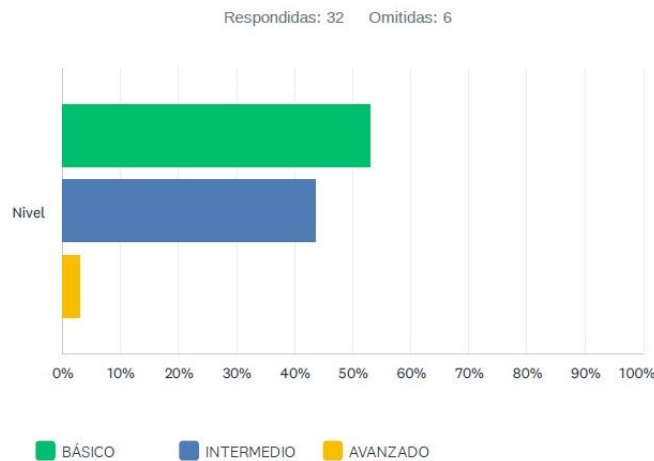


Chart 4. Perception and use of emerging technologies

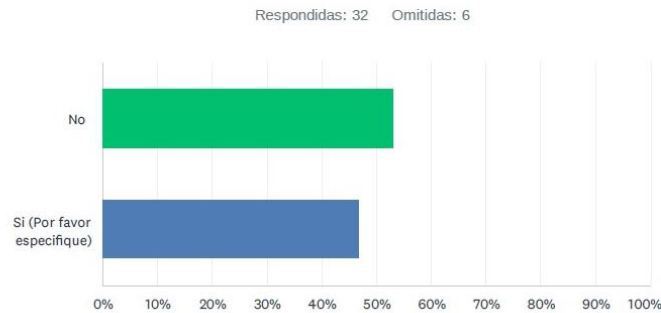
The analysis of the level of expertise in emerging technologies, based on information collected from the "Ecuador Healthcare Network Diagnostic Survey," shows an interesting trend among respondents regarding their familiarity and proficiency in using these technologies in the context of digital health. The results indicate a distribution of knowledge levels ranging from advanced to basic regarding emerging technologies, as follows:

- **Basic Level:** 54.84% of respondents rated themselves at a basic level. This indicates that more than half of the sample has a fundamental understanding of emerging technologies, which is a crucial starting point for incorporating and understanding these tools in digital health.
- **Intermediate Level:** 41.94% of participants classified themselves as intermediate. This group represents individuals who have likely had more interactions or hands-on experiences with emerging technologies compared to the basic group, possibly applying them in teaching, research, or clinical settings.
- **Advanced Level:** Only 3.23% of respondents consider themselves at an advanced level, highlighting a significant gap in the digital health ecosystem in terms of high-level expertise. This small percentage could reflect specialists who are deeply involved in the development, implementation, or advanced research of emerging technologies.

Resources and institutional support (questions 10-11).

4.3. Availability of resources for updating and innovating equipment for teaching digital health.

P10 ¿Su institución dispone de Recursos para la actualización e innovación en equipamiento para la Enseñanza en Salud Digital ?



OPCIONES DE RESPUESTA	RESPUESTAS
No	53.13% 17
Si (Por favor especifique)	46.88% 15
TOTAL	32

Chart 5. Equipment for teaching digital health.

Of these, 53.13% of respondents indicated that they do not have the necessary resources. This almost equal percentage of the results obtained in terms of resource availability points to a significant challenge in the educational landscape related to digital health in Ecuador.

The lack of resources to update and innovate equipment reflects limitations in institutions' ability to integrate cutting-edge technologies into their educational programs. This situation can hinder the development of digital skills among students and, consequently, affect the quality and relevance of digital health training. Up-to-date equipment is crucial for effective digital health education, as it allows students to interact with the latest technologies and prepare for the challenges of today's professional environment.

On the other hand, 46.88% of institutions that do have resources for innovation in educational equipment are well positioned to lead the digital transformation in healthcare. These institutions can offer training more aligned with the needs of the healthcare sector, thus enhancing the digital skills of their graduates.

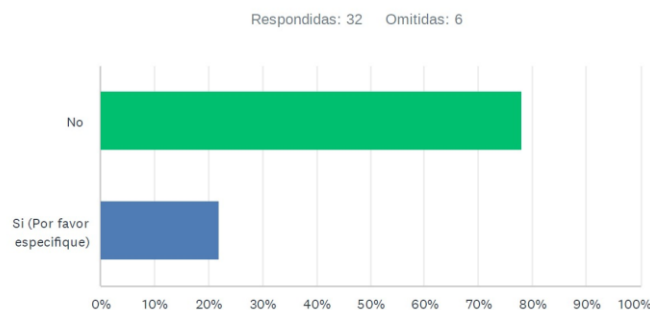
From the analysis of the results obtained in this variable, the following important information is detailed:

There is a budget allocated for technological support for teaching:

- Networks, laboratories
- Up to Date. Visual Body. Virtual Libraries. Simulators
- Networks, operating systems, internet, electronic devices
- High and medium fidelity simulators
- AI, augmented reality, advanced simulation
- Simulation equipment and anatomical table software
- Laboratories virtual
- Complete Anatomy Platform.
- Simulators, equipment telemedicine
- Virtual platforms, virtual classrooms, virtual libraries, trained human team

Institutions promote incentives for teachers to include topics or projects related to digital health.

P11 ¿Su institución promueve incentivos a los docentes para la inclusión de temáticas o proyectos vinculados a la Salud Digital?



Graphic 6. incentives for teachers to include topics or projects related to the digital health?

The results indicate that 78.13% of respondents stated that their institutions do not promote these incentives, while only 21.88% confirmed their existence. This imbalance underscores a notable lack of institutional encouragement toward the integration of digital health into the academic field, which could be a significant obstacle to the evolution and adaptation of curricula to meet the current needs of the health sector.

The incentives expected by academic staff are detailed:

- Recognition in research management and outreach.
- Access to Simulations using virtual reality.

- Research projects.
- Programming hours.

The results demonstrate a recognition of the importance of management, research, and engagement in the field of digital health, reflected in the inclusion of simulations using virtual reality, research projects, and programming hours within educational programs. However, this recognition still appears to be in its infancy, especially in programs such as the Master's in Health Management. This suggests that, although significant efforts are being made to incorporate innovative and relevant practices in digital health, there is still room to deepen and expand these integrations.

Curricular Integration of Digital Health (questions 12-14):

4.4. Curricular integration

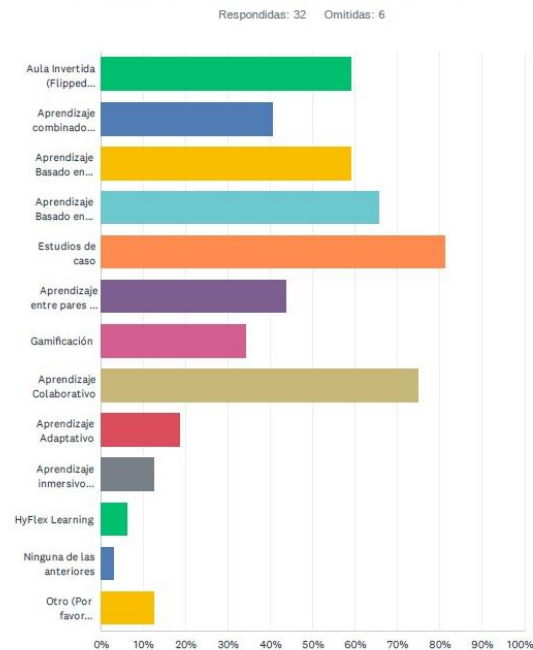
Digital health components that are currently integrated into your degree program.

OPCIONES DE RESPUESTA	RESPUESTAS	
Telemedicina y consultas virtuales.	25.00%	8
Uso de dispositivos wearables y aplicaciones móviles para el monitoreo de la salud.	31.25%	10
Aplicación de inteligencia artificial y análisis de datos en salud.	28.13%	9
Gestión de historias clínicas electrónicas y sistemas de información en salud.	21.88%	7
Formación en ciberseguridad y privacidad de datos en el contexto de salud digital.	6.25%	2
Realidad virtual y realidad aumentada para la educación en salud.	25.00%	8
Ninguno de los anteriores.	25.00%	8
Otro (Por favor especifique)	18.75%	6
Total de encuestados: 32		

Table 3. Components integrated into the curricular meshes of digital health careers.

Teaching/learning methodologies that are available for teachers to teach their classes:

P13 ¿Qué metodologías de enseñanza/aprendizaje están disponibles para que los docentes puedan impartir sus clases?



Graphic 7 Teaching/learning methodologies

ENCUESTA DIAGNÓSTICO DE LAS MALLAS DE SALUD DE ECUADOR

OPCIONES DE RESPUESTA	RESPUESTAS
Aula Invertida (Flipped Classroom)	59.38% 19
Aprendizaje combinado (b-learning)	40.63% 13
Aprendizaje Basado en Proyectos	59.38% 19
Aprendizaje Basado en Problemas	65.63% 21
Estudios de caso	81.25% 26
Aprendizaje entre pares o en equipo	43.75% 14
Gamificación	34.38% 11
Aprendizaje Colaborativo	75.00% 24
Aprendizaje Adaptativo	18.75% 6
Aprendizaje inmersivo (Immersive Learning)	12.50% 4
HyFlex Learning	6.25% 2
Ninguna de las anteriores	3.13% 1
Otro (Por favor especifique)	12.50% 4
Total de encuestados: 32	

Table 4. Teaching/learning methodologies

The adoption of these methodologies, which promote active student participation and context-based learning applied to real-life environments, reflects an adaptation toward more effective teaching methods for the digital age. At the same time, the recognition of the need for specific digital skills and the integration of digital tools throughout the

curriculum demonstrate a conscious effort to prepare students for the challenges and opportunities of digital health.

How digital competencies are addressed in the current degree curricula. Digital competency is understood as the ability to use information and communication technologies (ICT) effectively, critically, and safely to achieve professional and educational goals in a digital society.

OPCIONES DE RESPUESTA	RESPUESTAS	
A través de asignaturas específicas dedicadas a habilidades digitales y salud digital.	46.88%	15
Mediante la integración de módulos de competencias digitales en asignaturas existentes.	18.75%	6
Con la utilización de herramientas digitales en la enseñanza y el aprendizaje de todas las materias.	62.50%	20
Por medio de talleres y seminarios extracurriculares en competencias digitales.	21.88%	7
No se abordan las competencias digitales en el currículo actual.	6.25%	2
Otro (Por favor especifique)	0.00%	0
Total de encuestados: 32		

Table 5. Inclusion of digital skills in the current curriculum.

Educational institutions address digital skills in their curricula, which are key to digital health training. A remarkable 62.50% of respondents indicated that digital tools are integrated throughout all subjects, and 46.88% mentioned the existence of specific courses dedicated to digital skills and digital health. This dual approach not only underscores the importance placed on preparing students in fundamental digital skills but also demonstrates a holistic strategy for incorporating technology into education.

Curriculum update and teacher training (questions 15-21).

4.5. Curriculum update and teacher training

Frequency with which syllabi that reflect advances in digital health are updated.

P15 ¿Con qué frecuencia se actualizan los sílabos que reflejan los avances en salud digital

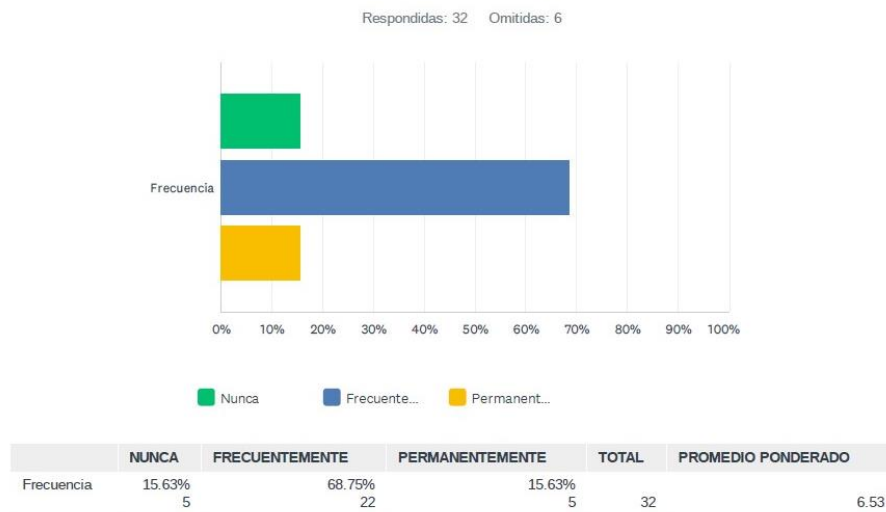


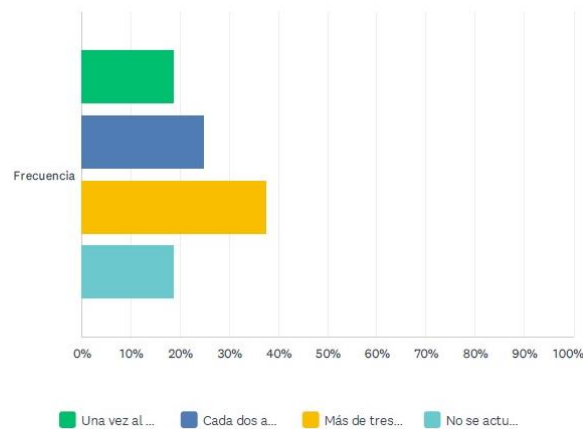
Chart 7. Frequency of update of syllables.

The results show that 68.75% of respondents indicate that their institutions frequently update their syllabi, while 15.63% do so permanently, and another 15.63% never update them. This trend toward frequent updates is encouraging, as it indicates a widespread willingness among institutions to keep their educational programs aligned with the latest developments in the field of digital health. The importance of this practice of updating syllabi cannot be underestimated, as it ensures that students acquire relevant knowledge and skills that reflect the current needs and challenges of the health sector. However, there is a group of respondents who indicate that 15% of their institutions do not update their syllabi. This suggests that there are still institutions that may be lagging behind in incorporating technological and methodological advances into their curricula, potentially limiting their students' preparation for the modern workforce.

Frequency at which grids are updated to reflect advances in digital health.

P16 ¿Con que frecuencia se actualizan las mallas para reflejar los avances en salud digital?

Respondidas: 32 Omitidas: 6



	UNA VEZ AL AÑO	CADA DOS AÑOS	MÁS DE TRES AÑOS	NO SE ACTUALIZA	TOTAL	PROMEDIO PONDERADO
Frecuencia	18.75% 6	25.00% 8	37.50% 12	18.75% 6	32	2.56

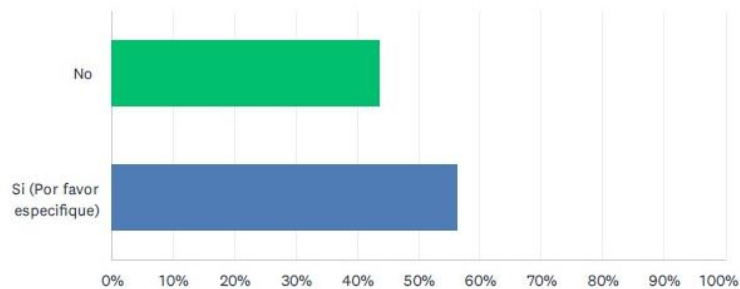
Graphic9. Frequency of update of mallas.

The results show a variable distribution: 18.75% of institutions update their curriculum annually, 25.00% every two years, 37.50% do so over a period of more than three years, and 18.75% do not update their curriculum. These data indicate that, although there is an effort to keep educational programs up to date with technological advances, there is considerable variation in the frequency of these updates. Most institutions lean toward less frequent updates, which may be insufficient given the rapid evolution of the digital health field. This approach could limit students' ability to learn the latest innovations and practices in this area. This creates the need for a stronger and more systematic commitment to regularly updating curricula, ensuring that future health professionals are adequately prepared for the demands and challenges of the sector.

In the latest update of the curriculum or syllabus, topics related to digital health were included.

P17 ¿ En la última actualización de la malla curricular o sílabos se incluyeron temáticas vinculadas a la salud digital ?

Respondidas: 32 Omitidas: 6



OPCIONES DE RESPUESTA	RESPUESTAS	
No	43.75%	14
Si (Por favor especifique)	56.25%	18
TOTAL		32

Graphic10. Inclusion of topics linked to digital health.

The results analyzed show that 56.25% of respondents stated that these topics were indeed included, while 43.75% indicated this deficiency. This suggests a positive trend toward the incorporation of digital health into curricula, reflecting an awareness of its growing importance in the training of health professionals. However, the significant proportion that indicated the absence of these topics highlights the need for a more systematic and widespread approach to ensure that digital health education is effectively and consistently integrated into all health-related programs. This balance between positive and negative statements underscores the diversity in the degree of adoption and integration of digital health, pointing to areas of opportunity to improve and expand digital health education in the Ecuadorian educational system.

Thematic areas related to digital health included in their syllabi:

- Telemedicine, AI in medicine
- Subjects of digital skills and medical informatics
- Same courses, Biomedicine degree
- As components in the micro curriculum of some subjects
- ICT subject applied to Dentistry
- Use of measuring equipment for human movement.

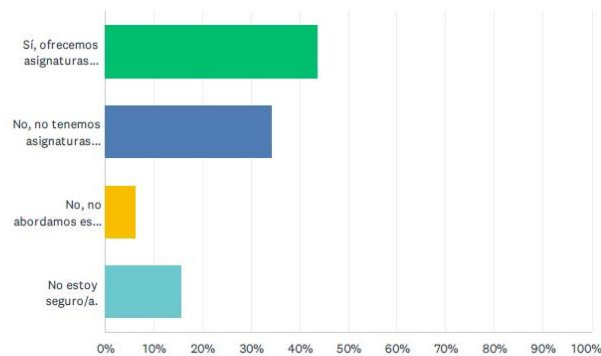
- Subjects such as health technology
- Medical informatics
- Big data in health, artificial intelligence and healthcare
- Subject digital health
- In theThe last levels will include a supporting digital health module
- ICT applications in the 3rd semester.
- Evidence-based Nursing.
- As components in the micro curriculum of some subjects
- ICT subject applied to Dentistry
- Use of measuring equipment for human movement.
- Subjects such as health technology
- As components in the micro curriculum of some subjects
- ICT subject applied to Dentistry
- Use of measuring equipment for human movement.
- Subjects such as health technology

The responses regarding the topics indicated a diversity in the incorporation of topics such as telemedicine, artificial intelligence in medicine, digital skills, and medical informatics, as well as the specific implementation of subjects related to health technology, such as ICT applied to dentistry and the use of measuring equipment for human movement. This multidisciplinary approach suggests not only a recognition of the importance of these skills in modern professional practice but also a commitment to preparing students for a work environment that is becoming increasingly dependent on digital technologies. The inclusion of subjects such as big data in health and the planning to include digital health modules in the later levels of the curriculum underscore a proactive and adaptive educational strategy, crucial to developing professionals capable of facing the challenges and taking advantage of the opportunities that digitalization brings to the health field.

Your institution incorporates subjects specifically dedicated to technology and innovation in health.

P18 ¿Ofrece su institución asignaturas dedicadas específicamente a la tecnología y la innovación en salud?

Respondidas: 32 Omitidas: 6



OPCIONES DE RESPUESTA	RESPUESTAS
Sí, ofrecemos asignaturas específicas sobre tecnología e innovación en salud.	43.75% 14
No, no tenemos asignaturas específicas pero integramos estos temas en otras asignaturas.	34.38% 11
No, no abordamos estos temas en nuestro currículo.	6.25% 2
No estoy seguro/a.	15.63% 5
TOTAL	32

Chart 11. The institution incorporates subjects dedicated to technology and innovation in health.

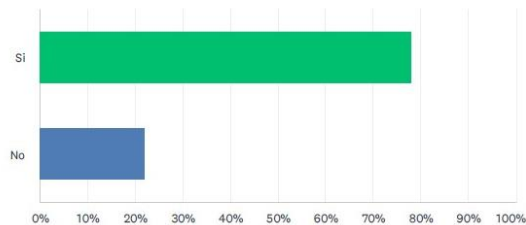
The results show an encouraging outlook, but with room for improvement: 43.75% of respondents stated that they do offer specific courses on technology and innovation in health, 34.38% indicated that they do not have specific courses, but integrate these topics into other courses, and a small 6.25% mentioned that they do not address these topics in their curriculum.

This scenario underscores the growing awareness of the importance of digital health in academic training, with almost half of institutions developing dedicated courses that likely range from telemedicine to the application of artificial intelligence in medical practice. The integration of technology-related content and health innovation into existing courses by other institutions is also a valid strategy that allows students to acquire relevant knowledge without overloading the curriculum.

The current academic offerings of health programs at these institutions are articulated with the country's health system.

P19 ¿La Oferta Académica actual de las Carreras de Salud de su institución se encuentra articulada con el sistema de Salud del País?

Respondidas: 32 Omitidas: 6



OPCIONES DE RESPUESTA	RESPUESTAS	Cantidad
Si	78.13%	25
No	21.88%	7
TOTAL		32

OPCIONES DE RESPUESTA	RESPUESTAS	Cantidad
Hospitales y clínicas locales.	56.25%	18
Organizaciones gubernamentales de salud.	18.75%	6
Empresas de tecnología médica.	6.25%	2
Instituciones de investigación en salud.	9.38%	3
Organizaciones no gubernamentales (ONGs) centradas en la salud.	6.25%	2
Redes de atención primaria de salud.	15.63%	5
Laboratorios farmacéuticos y de investigación clínica.	6.25%	2
No tenemos colaboraciones con instituciones del sistema de salud.	18.75%	6
Otro (Por favor especifique)	18.75%	6
Total de encuestados: 32		

Chart 12. The institution incorporates subjects dedicated to technology and innovation in health.

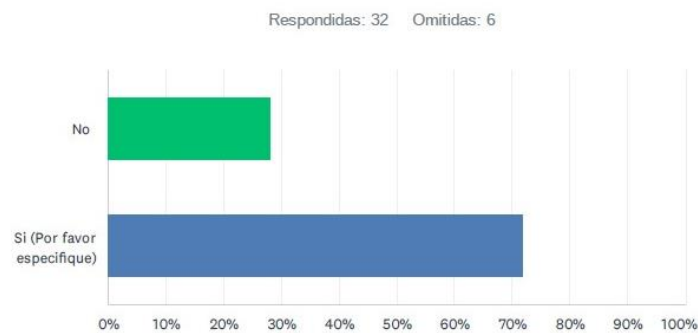
The results indicate a diversity of collaboration sources, with 56.25% of responses pointing to local hospitals and clinics, 18.75% to government health organizations, and a variety of other sources such as medical technology companies, research institutions, and non-governmental organizations, among others. This broad spectrum of collaboration reflects an intersectoral and multidisciplinary approach to health education, emphasizing the importance of partnerships to keep educational programs aligned with the needs and advancements of the health sector. However, it also highlights the fact that 18.75% of institutions do not report collaboration, suggesting areas of opportunity to strengthen connections between health education and the country's health system. Effective collaboration is crucial for developing curricula that are not only relevant and current, but also prepare students for the practical challenges they will face in their future professional careers in the changing healthcare environment.

Knowledge and perception of digital health (questions 22-27).

4.6. Digital health awareness.

Do you know the graduation profile of the students who will be part of the health system?

P22 ¿ Conoce usted el perfil de egreso de los estudiantes que formarán parte del sistema de salud?



OPCIONES DE RESPUESTA	RESPUESTAS
No	28.13% 9
Si (Por favor especifique)	71.88% 23
TOTAL	32

Chart 13. Knowledge of the students' graduation profile.

The results indicate that a significant 71.88% of respondents are aware of the graduate profile of students related to the health system, suggesting a clear awareness and understanding of the expectations and requirements that the healthcare environment demands of future professionals. This high percentage possibly indicates an effort on the part of educational institutions to align their programs and curricula with the current and emerging needs of the health sector, thus ensuring that graduates are well-equipped to effectively integrate into the health system. However, the remaining 28.13%, who do not have this knowledge, emphasize the importance of improving communication and understanding of these graduate profiles, ensuring that all those involved in the training of health professionals are aligned with the sector's goals and expectations.

Alignment of the current curriculum with the desired graduate profile in terms of digital health competencies:

OPCIONES DE RESPUESTA	RESPUESTAS	
La malla curricular está completamente alineada y cumple con todas las competencias en salud digital requeridas para el perfil de egreso.	21.88%	7
La malla curricular está parcialmente alineada, incluye algunas competencias en salud digital necesarias para el perfil de egreso.	31.25%	10
La malla curricular está mínimamente alineada, carece de varias competencias en salud digital importantes para el perfil de egreso.	21.88%	7
La malla curricular no está alineada con las competencias en salud digital requeridas para el perfil de egreso.	9.38%	3
No estoy seguro/a de la alineación de la malla curricular con el perfil de egreso en términos de salud digital.	15.63%	5
TOTAL		32

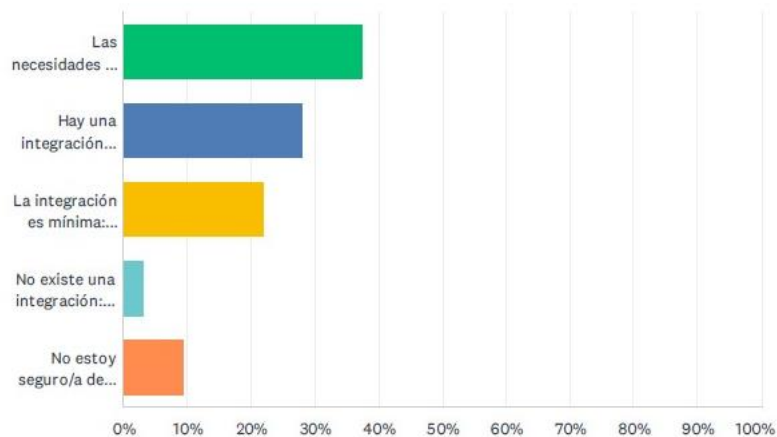
Table 6. Inclusion of Digital Competencies in the Current Curriculum

The alignment of the curriculum with the desired graduate profile in terms of digital health competencies shows a variety of perceptions among participants. 21.88% consider the curriculum to be fully aligned, indicating that a segment of respondents strongly believes in the effectiveness of the current curriculum in preparing students in digital competencies. However, the largest proportion, 31.25%, sees only partial alignment, noting that although efforts are being made to incorporate digital health, there are still crucial aspects that could be improved. The perception of minimal or nonexistent alignment (21.88% and 9.38%, respectively), along with 15.63% uncertainty about this alignment, underscores a significant challenge and an opportunity for educational institutions to reevaluate and enrich their educational programs.

What is the best option that describes how the needs of the current health care model are reflected in the graduate profile of professionals trained at your institution?

P24 Seleccione la opción que mejor describa cómo se reflejan las necesidades del modelo de atención en salud vigente, en el perfil de egreso de los profesionales formados en su institución:

Respondidas: 32 Omitidas: 6



OPCIONES DE RESPUESTA	RESPUESTAS
Las necesidades del modelo de atención en salud están plenamente integradas y se reflejan en todas las competencias del perfil de egreso.	37.50% 12
Hay una integración parcial: algunas competencias del perfil de egreso abordan las necesidades del modelo de atención en salud.	28.13% 9
La integración es mínima: pocas competencias del perfil de egreso reflejan las necesidades del modelo de atención en salud.	21.88% 7
No existe una integración: las necesidades del modelo de atención en salud no se reflejan en el perfil de egreso.	3.13% 1
No estoy seguro/a de cómo se reflejan estas necesidades en el perfil de egreso.	9.38% 3
TOTAL	32

Chart 13. Knowledge of the students' graduation profile.

The results show a distribution where 37.50% of respondents believe these needs are fully integrated into the graduate profile, while 28.13% see partial integration, and 21.88% perceive minimal integration. Only 3.13% believe such integration does not exist, and 9.38% are unsure how these needs are reflected. This spectrum of responses indicates that, although some institutions have made considerable efforts to ensure their educational programs are aligned with the current demands of the health system, there is still significant room for improvement.

Digital skills that he considers essential for healthcare professionals in the next 5 to 10 years:

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OPCIONES DE RESPUESTA	RESPUESTAS	
Trabajar con sistemas de apoyo para la toma de decisiones	78.13%	25
Uso de historial clínico electrónico en la práctica	87.50%	28
Aplicaciones prácticas de telemedicina	62.50%	20
Conducir exámenes físicos online	28.13%	9
Trabajar con ePacientes	34.38%	11
Programación básica de programas estadísticos	50.00%	16
Diseño de tecnología de salud	50.00%	16
Cirugías/operaciones asistidas por robots/computadoras	31.25%	10
Emprendimientos en salud digital	46.88%	15
Arquitectura, diseño e implementación de softwares y apps de salud a gran escala	28.13%	9
Otras habilidades técnicas específicas (Por favor especifique)	3.13%	1
Total de encuestados: 32		

Table 7. Inclusion of digital skills in the current curriculum

The use of electronic health records receives the highest importance (87.50%), underscoring the growing need to manage patient information efficiently and securely in digital environments. Basic programming and health technology design, both rated at 50%, indicate a recognition of the importance of customizing and developing new technological solutions tailored to the specific needs of the sector. Practical telemedicine applications are also considered key (62.50%), which is consistent with the expansion of remote healthcare and the use of technology to overcome geographical barriers and improve access to health services. This skill set highlights a shift toward greater digitalization in healthcare, where professionals must be equipped not only to use existing technology but also to innovate and adapt to new tools and platforms that emerge.

How do you think students perceive their level of preparation in digital health with the current curriculum?

OPCIONES DE RESPUESTA	RESPUESTAS	
Muy bien preparados: los estudiantes sienten que la malla curricular les ha proporcionado un excelente conocimiento y habilidades en salud digital.	12.50%	4
Bien preparados: los estudiantes creen que han adquirido un buen entendimiento y habilidades adecuadas en salud digital.	21.88%	7
Medianamente preparados: los estudiantes consideran que tienen un conocimiento y habilidades básicos en salud digital.	34.38%	11
Poco preparados: los estudiantes perciben que carecen de conocimientos y habilidades importantes en salud digital.	12.50%	4
Nada preparados: los estudiantes sienten que no han recibido formación en salud digital.	9.38%	3
No estoy seguro/a de la percepción de los estudiantes.	9.38%	3
TOTAL		32

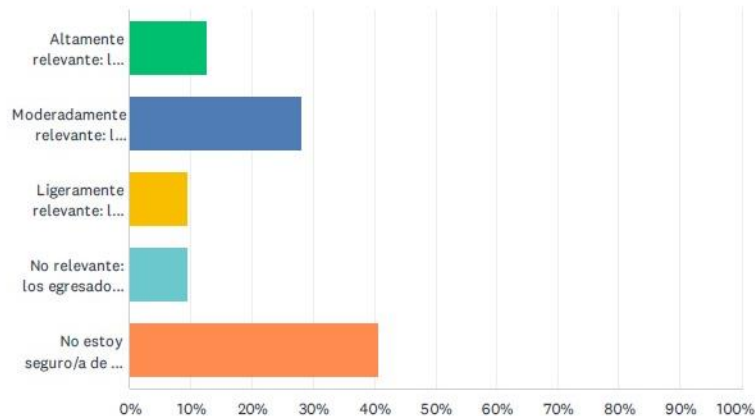
Table 8. Students' perception of their preparation in digital health in their curriculum.

34.38% of respondents believe students feel moderately prepared, indicating that, while some degree of preparedness is recognized, there is a clear opportunity to deepen and expand the integration of digital competencies in education. The fact that there are also perceptions of good preparation (21.88%), along with a significant proportion of respondents who are unsure of this perception (9.38%), underscores the need for more systematic and ongoing assessment of the curriculum's impact on students' digital competency. This overview suggests that educational institutions could benefit from strengthening their efforts to address digital health more comprehensively, ensuring that students feel not only prepared, but fully equipped to face the challenges of the digitalized health environment they will encounter in their professional practice.

Graduates' rating of the relevance of their digital health education to their professional practice.

P27 ¿Cómo han calificado los egresados la relevancia de su educación en salud digital respecto a su práctica profesional?

Respondidas: 32 Omitidas: 6



OPCIONES DE RESPUESTA	RESPUESTAS
Altamente relevante: los egresados reportan que la educación en salud digital ha sido fundamental en su práctica profesional.	12.50% 4
Moderadamente relevante: los egresados encuentran que la educación en salud digital es útil, pero no crítica para su trabajo.	28.13% 9
Ligeramente relevante: los egresados perciben que la educación en salud digital ha tenido un impacto menor en su práctica.	9.38% 3
No relevante: los egresados creen que la educación en salud digital no ha influido en su práctica profesional.	9.38% 3
No estoy seguro/a de la opinión de los egresados.	40.63% 13
TOTAL	32

Chart 15. Graduates' rating of the relevance of their digital health education.

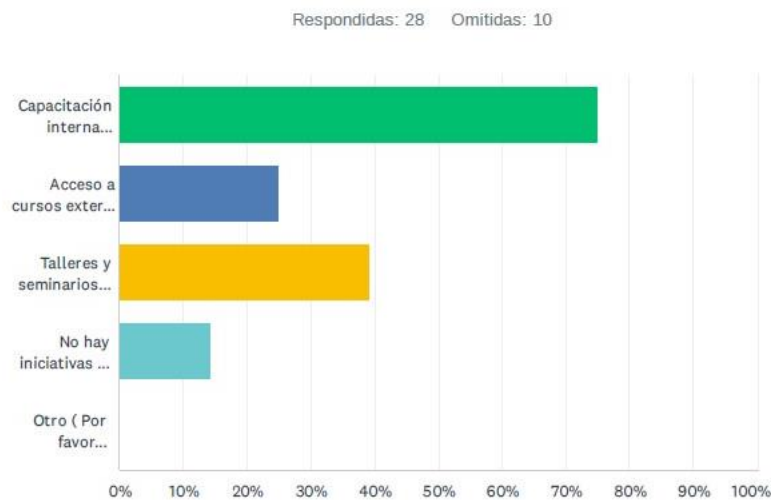
With 40.63% of respondents indicating uncertainty about graduates' opinions, the analysis suggests a notable uncertainty or lack of direct feedback on how digital health education translates into practical professional applications. While 12.50% of graduates find this training highly relevant, 28.13% consider it moderately relevant, and a smaller percentage consider it slightly relevant or not relevant (9.38% in both cases). This spectrum of responses highlights the diversity in perceptions of the usefulness of digital health education, underscoring the need for closer alignment between educational curricula and the practical demands of the health sector, as well as the importance of establishing post-graduation monitoring mechanisms to assess and continuously improve the relevance of the training provided.

Resources and Teaching Methodologies (questions 28-33)

4.7. Teaching resources and methodologies

Types of training available for teaching staff in digital technologies and digital health.

P28 ¿Qué tipo de capacitaciones están disponibles para su personal docente en tecnologías digitales y salud digital?



OPCIONES DE RESPUESTA	RESPUESTAS
Capacitación interna ofrecida por la institución	75.00% 21
Acceso a cursos externos o en línea	25.00% 7
Talleres y seminarios especializados	39.29% 11
No hay iniciativas de capacitación disponibles	14.29% 4
Otro (Por favor especifique)	0.00% 0
Total de encuestados: 28	

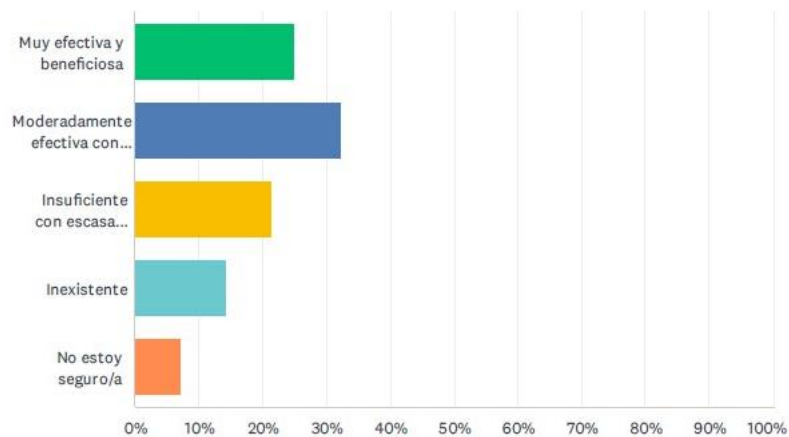
Chart 16. Types of training available for teaching staff in digital technologies and digital health.

With 75% of institutions offering in-house training, a significant commitment to ongoing professional development is evident. However, the 14.29% of respondents reporting a lack of training initiatives point to areas of opportunity to improve and expand training offerings, ensuring that all educators have access to the resources necessary to teach effectively in an increasingly digital healthcare environment.

How do you assess the current collaboration between your institution and the national health authority in terms of digital health?

P29 ¿Cómo valora la colaboración actual entre su institución y la autoridad sanitaria nacional en términos de salud digital?

Respondidas: 28 Omitidas: 10



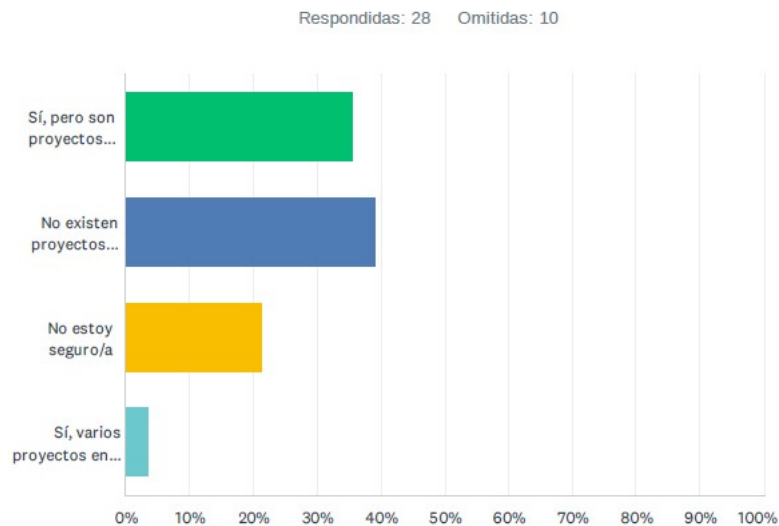
OPCIONES DE RESPUESTA	RESPUESTAS
Muy efectiva y beneficiosa	25.00% 7
Moderadamente efectiva con algunos resultados tangibles	32.14% 9
Insuficiente con escasa colaboración	21.43% 6
Inexistente	14.29% 4
No estoy seguro/a	7.14% 2
TOTAL	28

Chart 17. Assessment of collaboration between the institution and the national health authority.

Current collaboration between institutions and the national health authority in terms of digital health is rated mixed, with 32.14% considering it moderately effective. This suggests that, although collaborative efforts exist, there is room to strengthen these partnerships and achieve more tangible and beneficial results in the area of digital health. The 21.43% of respondents who rated collaboration as insufficient or nonexistent highlight the need for greater integration and joint efforts between the education sector and health authorities to effectively promote digital health.

There are collaborative projects between your institution and the Ministry of Public Health to promote digital health.

P30 ¿Existen proyectos de colaboración entre su institución y el Ministerio de Salud Pública para promover la salud digital?



OPCIONES DE RESPUESTA	RESPUESTAS
Sí, pero son proyectos aislados o puntuales	35.71% 10
No existen proyectos actualmente	39.29% 11
No estoy seguro/a	21.43% 6
Sí, varios proyectos en curso (por favor, proporcionar ejemplos si es posible)	3.57% 1
TOTAL	28

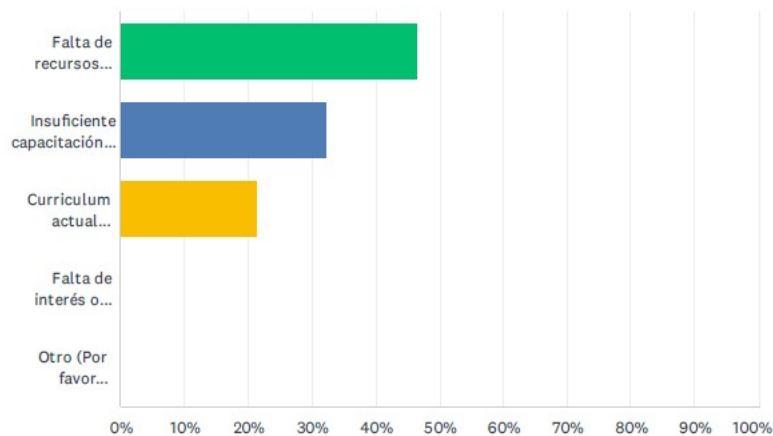
Chart 18. Assessment of the collaboration between the University Institution and the National Health Authority.

The existence of collaborative projects between institutions and the Ministry of Public Health to promote digital health reveals a mixed picture. 35.71% of respondents mention isolated or one-off projects, while 39.29% report the absence of collaborative projects. This analysis highlights a significant opportunity to strengthen synergies between educational institutions and the public sector in the field of digital health. The lack of collaborative projects with the Ministry of Public Health suggests underutilized potential to more effectively integrate digital innovation into the health system. Furthermore, the presence of considerable uncertainty about these collaborations indicates the need to improve communication and visibility of any existing joint efforts. Fostering and increasing these collaborations can not only enrich digital health education but also accelerate the implementation of innovative technological solutions in the Ecuadorian health system.

What do you consider to be the greatest challenge in integrating digital health into the education of future health professionals?

P31 ¿Cuál considera que es el mayor desafío para integrar la salud digital en la educación de futuros profesionales de la salud?

Respondidas: 28 Omitidas: 10



OPCIONES DE RESPUESTA	RESPUESTAS
Falta de recursos tecnológicos adecuados.	46.43% 13
Insuficiente capacitación del personal docente.	32.14% 9
Currículum actual sobrecargado sin espacio para nuevos contenidos.	21.43% 6
Falta de interés o demanda percibida por parte de los estudiantes.	0.00% 0
Otro (Por favor especifique)	0.00% 0
TOTAL	28

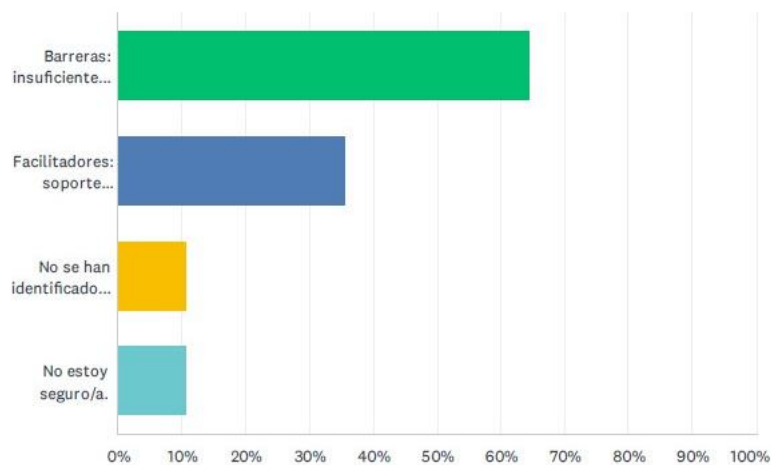
Chart 19. What do you consider to be the greatest challenge in integrating digital health into the education of future health professionals?

Identifying the greatest challenge to integrating digital health into education indicates significant concerns, with the lack of adequate technological resources (46.43%) being the top barrier cited. This response highlights the critical importance of technological infrastructure in teaching digital health and suggests the need for strategic investments to overcome this obstacle and foster a more conducive educational environment for the effective integration of digital health.

Identify the main barriers and facilitators to implementing digital health in your institution.

P32 Identifique las barreras y facilitadores principales en la implementación de la salud digital en su institución.

Respondidas: 28 Omitidas: 10



OPCIONES DE RESPUESTA	RESPUESTAS
Barreras: insuficiente financiamiento, infraestructura tecnológica limitada, resistencia al cambio.	64.29% 18
Facilitadores: soporte administrativo fuerte, colaboraciones externas, interés activo de los estudiantes.	35.71% 10
No se han identificado barreras ni facilitadores.	10.71% 3
No estoy seguro/a.	10.71% 3
Total de encuestados: 28	

Chart 20. Major challenges for integrating digital health into the education of future health professionals.

The data reflect that the main barriers identified include insufficient funding and limited technological infrastructure, highlighted by 64.29% of respondents. On the other hand, the facilitators identified are administrative support and active student interest, recognized by 35.71% of participants. This analysis highlights a critical challenge in the transition to a more digitalized education in the health field: the need for sufficient economic and technological resources. Lack of funding and adequate infrastructure can significantly inhibit institutions' ability to integrate and leverage digital technologies in teaching and learning. Furthermore, the identification of administrative support and student interest as key facilitators suggests that there is a strong foundation of internal support to overcome these obstacles. The motivation and commitment of both the administration and the student body can be essential catalysts for driving digital health initiatives, underscoring the importance of cultivating an institutional environment that fosters technological innovation and adaptation.

How the identified barriers to digital health implementation are being mitigated.

OPCIONES DE RESPUESTA	RESPUESTAS	
Implementando mejoras en la infraestructura tecnológica.	17.86%	5
Aumentando la inversión en capacitación y desarrollo profesional.	25.00%	7
Formando alianzas con entidades de salud y tecnología.	21.43%	6
Las barreras aún no se han abordado de manera efectiva.	28.57%	8
No estoy seguro/a.	7.14%	2
Otro (Por favor especifique)	0.00%	0
TOTAL		28

Table 9. Types of training available for teaching staff in digital technologies and digital health.

Action to mitigate identified barriers to digital health implementation reveals a variety of approaches among institutions, with 28.57% indicating that these barriers have not been effectively addressed. This fact highlights the inherent complexity of incorporating digital health into education and underscores the urgency of concrete and coordinated strategies to overcome these challenges. This will ensure that institutions are equipped to provide relevant and up-to-date training in this constantly evolving field.

Equipment and investment in digital health (questions 34-38)

4.8. Equipment and investment

On a scale of 1 to 5, with 1 being low and 5 being high, depending on the case, how would you rate the following characteristics of the healthcare equipment available at your institution?

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	1	2	3	4	5	TOTAL	PROMEDIO PONDERADO
¿Cuál es el nivel de sofisticación de los equipos o tecnologías utilizados para las prácticas en las carreras ?	21.43% 6	10.71% 3	17.86% 5	32.14% 9	17.86% 5	28	3.14
¿Cuál es el nivel de uso que su público objetivo (los principales usuarios para quienes el equipamiento está dirigido) le da al equipamiento de salud en su institución?	17.86% 5	17.86% 5	10.71% 3	35.71% 10	17.86% 5	28	3.18
¿La capacidad instalada del equipamiento de salud cubre el nivel de necesidad que demanda su público objetivo ?	21.43% 6	14.29% 4	21.43% 6	35.71% 10	7.14% 2	28	2.93

Table 10. Equipment and investment in digital health in Ecuador

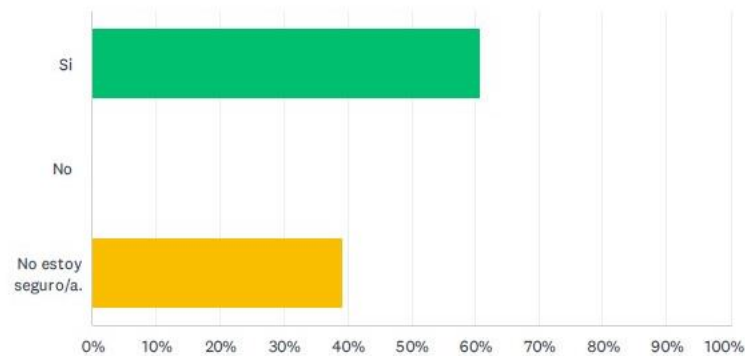
The average ratings for equipment sophistication, its use by primary users, and whether the installed capacity meets the needs of the target audience are 3.14, 3.18, and 2.93, respectively. These values suggest that, overall, institutions are moderately satisfied with the sophistication and use of the available equipment, although they perceive that the installed capacity does not yet fully meet user needs. This indicates recognition of the quality and usefulness of the existing equipment, but also highlights areas for improvement in terms of capacity and accessibility.

The equipment or technologies used in the race were acquired and manufactured within the last 5 years.

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P35 ¿Los equipos o tecnologías utilizados en la carrera fueron adquiridos o fabricados en los últimos 5 años?

Respondidas: 28 Omitidas: 10



OPCIONES DE RESPUESTA	RESPUESTAS	
Si	60.71%	17
No	0.00%	0
No estoy seguro/a.	39.29%	11
TOTAL		28

Chart 21. The equipment or technologies used in the race were acquired or manufactured in the last 5 years.

60.71% of respondents indicated that the equipment or technologies used were acquired or manufactured within the last 5 years, reflecting a positive trend toward updating and modernizing healthcare equipment, ensuring that institutions maintain technological relevance in their teaching and practices.

What is the estimated value of the investment made in technological equipment for health?

OPCIONES DE RESPUESTA	RESPUESTAS	
0\$ - 20.000\$	21.43%	6
20.001\$ - 40.000\$	0.00%	0
40.001\$ - 60.000\$	3.57%	1
60.001\$ - 80.000\$	3.57%	1
más de 80.000\$	46.43%	13
No estoy seguro/a.	25.00%	7
TOTAL		28

Table 11. Estimated value of the investment made in technological equipment for health.

Half of the institutions (46.43%) reported investing more than \$80,000 in health technology equipment, highlighting a significant commitment to investing in digital health resources. This level of investment underscores the importance institutions place on developing and maintaining advanced technology infrastructure for health education.

What are the main sources of investment for the creation of digital health technology?

OPCIONES DE RESPUESTA	RESPUESTAS	
Recursos propios de la institución.	85.71%	24
Fondos gubernamentales o de agencias públicas.	14.29%	4
Donaciones o patrocinios de empresas privadas o fundaciones	7.14%	2
Inversiones de capital de emprendedores o inversores.	0.00%	0
Fondos de investigación o proyectos específicos	14.29%	4
Otros tipos de financiamiento, según la institución y su contexto.	7.14%	2
No se cuenta con inversión.	0.00%	0
No estoy seguro/a.	10.71%	3
Total de encuestados: 28		

Table 12. Main sources of investment for the creation of digital health technology.

The majority of institutions (85.71%) identified their own resources as the primary source of investment for the development of digital health technology. This indicates a predominant reliance on self-funding for digital health innovation, which could imply limitations in the scope or speed of innovation due to internal budgetary constraints.

What are the main sources of financing for the maintenance and operation of the acquired equipment?

OPCIONES DE RESPUESTA	RESPUESTAS	
Recursos propios de la institución.	85.71%	24
Fondos gubernamentales o de agencias públicas.	7.14%	2
Donaciones o patrocinios de empresas privadas o fundaciones.	0.00%	0
Inversiones de capital de emprendedores o inversores.	0.00%	0
Fondos de investigación o proyectos específicos.	7.14%	2
Otros tipos de financiamiento, según la institución y su contexto.	7.14%	2
No se cuenta con financiamiento.	0.00%	0
No estoy seguro/a.	14.29%	4
Total de encuestados: 28		

Table 13. Main sources of financing for the maintenance and operation of the acquired equipment.

Similar to the previous question, a large majority (85.71%) indicated that their own resources are also the primary source of funding for the maintenance and operation of acquired equipment, reiterating the institutions' dependence on their own funding to sustain their health technology infrastructure. The reliance on their own funding for both the acquisition and maintenance of technological equipment suggests a challenge in terms of sustainability and could limit institutions' ability to continuously expand or update their health technology equipment.

These analyses paint a picture of commitment and investment in digital health, with a focus on equipment modernization and the adoption of advanced technologies. However, they also highlight the need to address challenges related to financing capacity, accessibility, and sustainability to continue advancing this crucial field.

5. Conclusions:

The report highlights a growing awareness of the relevance of digital health in the academic training of future health professionals, evidencing efforts to integrate digital skills into curricula, although with significant variability across institutions. The lack of adequate technological resources, along with insufficient teacher training, emerge as primary challenges, pointing to the critical need for a common framework and increased investment in technology and training. It is recommended that clear national guidelines for the integration of digital health skills be developed, intersectoral collaboration be fostered to keep the curriculum aligned with the current needs of the health sector, and continuous assessments be established to ensure the relevance and effectiveness of digital health education. It is crucial to diversify funding sources and promote incentives for teaching innovation and curriculum updating, thus ensuring that students are equipped to face the challenges of the modern workplace and contribute significantly to the advancement of digital health in Ecuador.

5.1. Conclusions by thematic areas:

- **Growing awareness about Digital Health:** There is widespread recognition of the importance of digital health in the training of healthcare professionals. Educational institutions are increasingly aware of the need to incorporate digital skills into their programs to prepare students for today's job market.
- **Inconsistent integration of digital skills:** Although there is an effort to include digital health topics in curricula, this inclusion varies significantly across institutions. The inconsistency in the depth and breadth of digital competency coverage suggests the need for a common framework or national guidelines to guide the effective integration of these competencies.
- **Challenges in resources and training:** A lack of adequate technological resources and insufficient training for teaching staff emerge as key challenges to effective digital health teaching. This indicates a gap between the intention to incorporate digital health and the actual capacity to implement it effectively in the classroom.
- **Need for collaboration and continuous updating:** Collaboration between educational institutions, the healthcare system, and technology industry players is essential to ensure that digital health education is relevant and aligned with the sector's current needs. Furthermore, it is crucial that curricula be regularly reviewed and updated to reflect rapid advances in digital health technology and practices.
- **Variability in perception of preparedness:** There is variability in how students perceive their level of digital health readiness. This suggests the need for more uniform and rigorous assessment methods to ensure all graduates have a competent level of digital skills.

6. Recommendations

It is imperative to establish a unified national framework for the integration of digital health competencies, focusing on systematically updating curricula and strengthening teacher training in emerging technologies. Increasing investment in technological resources and fostering strategic collaborations between educational institutions, the health sector, and the technology industry will be crucial to align academic training with current labor market demands. Furthermore, a hands-on learning approach should be promoted through the use of digital simulations and real-world projects that prepare students for the challenges of digital health. The implementation of continuous assessments and feedback will help measure the effectiveness of these strategies and adjust them as needed, ensuring that future health professionals are fully equipped to lead the digital transformation in the sector based on the following specific actions:

- **Establishment of a nationwide standardized curriculum**

Importance: The variability in the integration of digital skills into curricula highlights the urgency of a standardized and coherent approach at the national level.

Action: Develop clear guidelines, in collaboration with educational authorities, healthcare institutions, and representatives of the technology industry, that define essential competencies in digital health. This will include aspects such as health data management, telemedicine, and ethics in digital health.

- **Reinforcement of the competence of teaching staff**

Importance: The success of incorporating digital health depends largely on the training and knowledge of the teaching staff regarding the latest technologies and teaching methodologies.

Action: Implement continuing education and professional development programs for educators, ranging from intensive courses to webinars and practical workshops, focusing on the practical applications of technology in the health field.

- **Investment in technological resources**

Importance: Lack of adequate technological infrastructure is a significant obstacle to effective digital health education.

Action: Increase funding for the acquisition of modern equipment and specialized software. This can include everything from mobile devices and wearables to electronic health record management systems and virtual simulation platforms.

- **Promotion of collaborations and strategic partnerships**

Importance: Collaboration between educational institutions, the healthcare system, and the technology industry is crucial to ensure that digital health training is relevant and aligned with market needs.

Action: Establish collaboration agreements that allow for the exchange of knowledge, the development of professional practices and joint projects, as well as access to cutting-edge technology for educational purposes.

- **Implementation of innovative teaching methodologies**

Importance: Digital health education requires a practical approach that prepares students for real-world challenges.

Action: Adopt project-based teaching methodologies, experiential learning, and intensive use of simulations and augmented/virtual reality. This will allow students to develop practical and critical skills in a controlled but realistic environment.

- **Evaluation and continuous feedback**

Importance: Constant adaptation and improvement of the curriculum and teaching methodologies are essential to maintaining the relevance and effectiveness of digital health education.

Action: Implement assessment and feedback systems that involve both students and teachers, allowing for the timely identification of areas for improvement and the continuous updating of teaching content and techniques.

- **Diversification of Sources of Financing**

Importance: The sustainability of digital health programs depends on the ability of institutions to continually fund the acquisition and maintenance of advanced technology.

Action: Explore alternative sources of funding, including public-private partnerships, international grants, and collaborations with the technology industry, to support modernization and training efforts.

7. Literature:

Research Design. Creswell, J.W. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). Sage Publications.

Denzin, NK, & Lincoln, YS (Eds.). (2011). *The SAGE Handbook of Qualitative Research* (4th ed.). Sage Publications.

Data Processing and Analysis. Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics* (4th ed.). Sage Publications.

Innovation in Digital Health. Topol, E. (2019). *Deep Medicine: How Artificial Intelligence Can Make Healthcare Human Again*. Basic Books.

Meskó, B., Drobni, Z., Bényei, É., Gergely, B., & Gyórfy, Z. (2017). Digital health is a cultural transformation of traditional healthcare. *mHealth*, 3, 38. <https://doi.org/10.21037/mhealth.2017.08.07>