State of Digital Health 2022

A Global Report by



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About Dynamic Coalition

The significance of utilising technology for healthcare delivery at all levels, whether primary, secondary, or tertiary care, has been brought to focus during COVID-19. Now more than ever, healthcare institutions around the world need to adopt and integrate Internet and Internet-based technology into their operations. In order to transform the three-tier healthcare system into a four-tier system with digital health as the base layer, we must strive and collaborate to inspire all stakeholders.

For the purpose of highlighting and enhancing the role of the Internet and the Internet of Things (IoT) in digital health, the Dynamic Coalition on Digital Health is not only necessary but also timely. With the patient being the central focus, this will seek to accelerate the use of digital health to make healthcare more accessible, efficient, and outcome driven.

Goals

- Galvanize stakeholders from across the globe in digital health through this dynamic coalition on a single platform.
- Engage global stakeholders and grassroots organizations to address the critical issues for the success of digital health across developed, developing, and underdeveloped economies.
- Showcase the implementers at the annual IGF and disseminate the information needed to boost the adoption of digital health.
- Work together with clinicians and allied health professionals besides the healthcare managers across the private and public sectors to boost the adoption of digital health.



Action plan

- Come out with a yearly report on the 'State of Digital Health' highlighting achievements, best practices, and the need gap to boost the adoption of digital health at scale.
- Organize online and offline workshops across regions on how local communities can leverage the Internet for digital health.
- Organize a global meeting annually on a rotation basis.
- Showcase real-life stories and brainstorm ideas and innovations at regional IGF and annual IGF meetings.
- Come out with white papers and knowledge papers across the regions and sectors in digital health, and work with other DCs to achieve our objectives.

Mailing list

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Foreword

Digital Health is now the default operating system of healthcare, but its adoption worldwide remains variegated.

At the Dynamic Coalition on Digital Health, we are globally responsible for boosting the adoption through our network. However, any such concerted action requires a 'stock taking'. This annual report serves as a stock-taking report on digital health awareness, issues, and its adoption. We also have made recommendations on the steps to ensure that adoption happens by addressing the critical issues for creating trust in the system. We strongly endorse the vision of 'Digital Health for All by 2028' when we celebrate the 50 years of Alma Ata.

We request that you join the Dynamic Coalition on Digital Health and participate in our work. The United Nations' Internet Governance Forum is a global platform, and the best part, it is open to everyone, and there are no fees. Join this global coalition, and let us work together to learn from each other. We encourage every country-based Digital Health Association / CSO to join this network. If you want to host a workshop or a conference in your region, write to us, and we will be happy to spread the word about your work and share it within our global network.

I look forward to your feedback on this report and working together for the digital transformation of healthcare.

Dr. Rajendra Pratap Gupta, PhD.

Chairman

Dynamic Coalition on Digital Health

UN's Internet Governance Forum Webpage: <u>https://www.intgovforum.org/en/content/</u><u>dynamic-coalition-on-digital-health</u>



Disclaimer:

- This report is based on an online survey.
- The results may be biased as a result of the reach and limitations of the 'online' survey.

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Introduction

Digital Health is fueling a revolution in the healthcare industry. COVID-19 has highlighted the importance and need for digital health interventions. Healthcare is becoming more accessible, affordable, and outcome-driven as a result of advances in digital health. Given the pace of digital transformation, digital health literacy is becoming increasingly relevant for people to make health-related decisions.

The pandemic accelerated the adoption of telemedicine and remote patient monitoring. Patients can now consult with healthcare professionals from the comfort of their homes, reducing the burden on healthcare facilities and minimising the risk of exposure to infectious diseases. The wealth of digital health data contributes to epidemiology, resource allocation, medical research, and precision medicine. Researchers can access real-world data to study disease trends, treatment effectiveness, and drug development, ultimately speeding up the pace of medical discoveries.

Through Digital Health, patients have greater access to their health information, allowing them to actively participate in their care decisions. This empowerment fosters a more patient-centric healthcare model.

This annual survey-based study gives insight on the state of digital health globally. The insights have enough actionable insights to shape the future of digital health.

Methodology

A global online survey was conducted on the SurveyMonkey platform. Participants accessed the survey through a web link and responded to the questions electronically. The survey was available from September 5, 2022, to January 18, 2023, providing a substantial time frame for data collection. A total of 58 countries participated worldwide. The respondents are from different strata of society, showing diversification in terms of age group, gender, and residency. The survey aimed to achieve a diverse sample that represented different countries and various strata of society. The survey was open to individuals worldwide, allowing for a global perspective.

The collected data were analysed and interpreted to prepare the report. This analysis involved examining the responses to each question, aggregating the data, and identifying patterns, trends, and correlations within the dataset. We classified respondents into three categories: Allied Healthcare Professionals, Healthcare Professionals, and Non-Healthcare Professionals.



Study Findings

Regions Covered



We received responses across all the continents: Africa, Asia, Europe, Latin America and Caribbean, Northern America and Oceania. The largest participation was from Europe (67%) that indicates the ratio of the respondents followed by Asia (15%) then Northern America (6%). The lowest and equal participation was shown by Africa, Oceania and Latin America and Caribbean with equal representation of 4%.



Age Distribution



Maximum respondents were in the age bracket of 51-60 years (23%), followed by equal participation from 31-40 and 41–50 years (21%). The youngsters (18–30 years) constituted 17% of survey respondents, followed by 61-70 age bracket (12%). The least participating age bracket remained among those who are above 70 years (6%).



Gender Distribution



Globally, 53.31% of participants were male and 46.36% were female, roughly equal participation for the male and female genders. Others only made up 0.33% of the total.



Urban v/s Rural Participation



80% of the respondents came from urban areas, with the remaining 20% coming from rural areas around the world.



Perception about Digital Health Tools



We asked people what they thought about Digital Health tools making healthcare more affordable and convenient. 93% believe that the use of digital health tools can make healthcare more affordable and convenient, while 7% believe otherwise.

Based on the global survey-based study, the analysis was performed continent-wise to assess the digital literacy level and the comfort level of individuals with sharing their healthcare data over the internet.



Africa

Awareness Level with regards to Digital Health





Based on the results of the survey conducted in Africa regarding the awareness level of Digital Health among different categories of professionals, the following findings were observed:

Allied Healthcare Professionals (AHPs):

- 50% of the Allied Healthcare Professionals reported having either a good understanding of Digital Health or having used Digital Health tools to seek treatment. This suggests a relatively high level of familiarity and experience with Digital Health among this group.
- 25% of AHPs mentioned that they have heard of Digital Health but expressed a desire to learn more about it. This indicates an interest in gaining further knowledge and exploring the potential benefits of Digital Health tools.

Healthcare Professionals:

- Among Healthcare Professionals, 75% stated that they have a good understanding of Digital Health and have personally used it. This reflects a high level of familiarity and experience with Digital Health technologies and tools among this category of professionals.
- 25% of Healthcare Professionals expressed a desire to know more about Digital Health, indicating an ongoing interest in expanding their knowledge and exploring additional applications of Digital Health in their practice.

- Surprisingly, 60% of non-Healthcare Professionals reported having a good understanding of Digital Health and having used it to seek treatment.
- 20% of non-Healthcare Professionals mentioned that they have heard of Digital Health. This indicates a potential for further adoption and utilization of Digital Health tools among this group.
- The remaining 20% of non-Healthcare Professionals have never heard of this term.















Comforts and Concerns with Digitally sharing health data

Based on the survey results, the level of comfort and concern with digitally sharing health data varied among different professional groups.

Allied Healthcare Professionals (AHPs):

- Approximately 50% of AHPs expressed concerns about data leakage and privacy when it comes to sharing their health data over the internet.
- 25% of AHPs mentioned that they would share their health data without hesitation, suggesting a level of comfort and willingness to share their health information digitally.
- The remaining 25% of AHPs stated that they feel they have no choice but to share their health data.

Healthcare Professionals:

- Among Healthcare Professionals, 50% indicated that they would share their health information without hesitation. This suggests a moderate level of comfort and willingness to share their health data over the internet.
- The other 50% of Healthcare Professionals were equally split. Some felt they had no choice but to share their health information. Others expressed concerns about data leakage and privacy.

- Among Non-Healthcare Professionals, 60% stated that they would share their health data without hesitation
- The remaining 40% of Non-Healthcare Professionals expressed concerns about data privacy and security when it comes to sharing their health information digitally.





Use of mHealth applications in various professional groups

Usage of mobile applications for delivering health information, screening patients, monitoring physiological signs, etc. The findings of different professional groups in Africa are as follows:

Allied Healthcare Professionals (AHPs):

- 25% of AHPs reported daily use of mHealth applications in Africa.
- 50% of the AHPs said they use the mHealth applications as and when required, signifying their comfort and understanding of the applications.
- 25% of the professionals are aware of the uses of mHealth applications but have not used them for delivering health information, screening patients, monitoring physiological signs, etc.

- Approximately 25% of the Healthcare Professionals in Africa use mHealth applications daily to seek health-related help.
- 50% of the Healthcare Professionals use it as and when required, according to their needs.
- Another 25% of the Healthcare professionals have never heard of these applications and have never used them.



- Around 20% of the Non Healthcare Professionals in Africa use mHealth applications daily for screening patients, monitoring physiological direct care, etc.
- 40% of non-healthcare professionals use mHealth applications as and when required, according to their needs.
- 20% of Non Healthcare professionals have responded, saying they are aware of the uses of mHealth applications but have not yet used them.
- 20% of Non Healthcare professionals in Africa have not heard of or used mHealth applications.





Use of wearables in Africa

In terms of the usage of wearables or implantable technologies with sensors and/ or therapy delivery devices for decision-making and disease management, the findings of different professional groups in Africa are as follows:

Allied Healthcare Professionals (AHPs):

- 50% of AHPs responded, saying they use wearables or implantable technologies daily.
- The other 50% have never heard of it or used it, showing a huge gap where Digital Health still needs to make a mark.

Healthcare Professionals:

- 50% of the Healthcare Professionals use it as and when required, according to their needs.
- Shockingly, 50% of Healthcare Professionals in Africa have not yet been introduced to the benefits of wearables and have never heard of or used them.

- Around 20% of the Non Healthcare Professionals in Africa use wearables and implantable technologies with sensors daily.
- 80% of Non Healthcare professionals in Africa have still not heard of or used wearables or implantable technologies with sensors.







Use of Telemedicine and Telecare services

In terms of the usage of wearables or implantable technologies with sensors and/or therapy delivery devices for decision-making and disease management, the findings for different professional groups in Africa are as follows:

Allied Healthcare Professionals (AHPs):

- The majority of the AHPs, i.e., 75%, are aware of the various uses of telemedicine and telecare services and use them according to their requirements.
- Another 25% of them have never heard of or used telemedicine or telecare services.

Healthcare Professionals:

- Approximately 75% of the Healthcare professionals are acquainted with the uses of telemedicine and telecare services and use them as and when required.
- 25% have never used or heard about the same, which shows the need to train Healthcare professionals to use Digital Health tools.

- 20% of the Non Healthcare Professionals use them as and when required for teleconsultations, remote patient monitoring, etc.
- 60% of Non Healthcare professionals in Africa are still unaware of telemedicine and telecare services and have never used these services.
- The other 20% have stated they use these services once a week.





Use of Digital Healthcare

Use of Digital Health tools according to respondents of different professional groups in Africa are as follows:

Allied Healthcare Professionals (AHPs):

100% of AHPs agree that digital health tools improve accessibility and affordability to healthcare.

Healthcare Professionals:

100% of the Healthcare professionals in Africa strongly believe in Digital tools making healthcare more affordable and convenient.

Non- Healthcare Professionals:

100% believe the use of Digital tools is improving healthcare sector and making it more affordable and convenient.







Asia

Awareness Level with regards to Digital Health

In Asia, the awareness level of digital health among different professional groups is as follows:

Allied Healthcare Professionals (AHPs):

- The majority of AHPs in Asia, accounting for 89%, reported having either a good understanding of Digital Health or having used Digital Health.
- The remaining 11% of AHPs expressed an interest in knowing more about Digital Health.

Healthcare Professionals:

- Among Healthcare Professionals in Asia, 63% stated that they have a good understanding of Digital Health and have used it themselves.
- The remaining healthcare professionals were evenly divided (16%) in two categories: Some expressed a desire to learn more about digital health, others mentioned that they have heard about Digital Health but don't know much about it.

- Among Non-Healthcare Professionals in Asia, a staggering 67% reported having a good understanding of Digital Health and having used it to seek treatment.
- 17% of Non-Healthcare Professionals mentioned that they have heard of the term Digital Health but would like to learn more about it
- The remaining 17% expressed a desire to learn more about digital health.











Asia: Age v/s Digital Health Literacy





Comforts and Concerns with digitally sharing health data

In terms of the level of comfort and concerns with digitally sharing health data, the findings for different professional groups in Asia are as follows:

Allied Healthcare Professionals (AHPs):

- Approximately 33% of AHPs expressed concerns about data leakage and privacy when it comes to sharing their health data over the internet.
- On the other hand, 67% of AHPs stated that they would share their health information without hesitation.

Healthcare Professionals:

- Among Healthcare Professionals, 47% reported that they would share their health information without hesitation, showing a moderate level of comfort in digitally sharing their health data.
- 37% of Healthcare Professionals expressed concerns about privacy and data leakage.
- Another 11% mentioned connectivity issues that prevent them from using digital platforms effectively.
- The remaining 5% claimed they have no other choice but to share health information electronically.

- Among Non-Healthcare Professionals, an equal split of 44% was observed between those who were ready to share their health data without hesitation and those who expressed concerns about data privacy and security. This suggests a mixed level of comfort with digitally sharing health data among Non-Healthcare Professionals in Asia.
- The remaining 11% stated that they had no choice but to share their health information online.
- 45% expressed concerns about privacy and data leakage.





Use of mHealth applications in various professional groups

In terms of the usage of mobile applications for delivering health information, screening patients, monitoring physiological signs, etc., the findings of different professional groups in Asia are as follows:

Allied Healthcare Professionals (AHPs):

- 11% of AHPs in Asia reported daily use of mHealth applications, citing their comfort and familiarity with such tools.
- 44% of the AHPs said they use the mHealth applications as and when required.
- 44% of them are aware the uses of such applications but have not used it yet, showing that still there are areas where work needs to be done.

- Approximately 21% of the Healthcare professionals in Asia use mHealth applications daily for seeking health related help.
- 11% of Healthcare Professionals use mHealth applications once a week in Asia.
- 26% of the Healthcare Professionals use it as and when required, according to their needs.
- Surprisingly, 16% of HCPs in Asia have not yet been introduced to the benefits of mHealth applications
- 26% of HCPs from Asia are aware of the uses of mHealth applications in delivering health information, etc., but have never used them.



- Around 6% of the Non Healthcare Professionals in Asia use mHealth applications daily for delivering health information, screening patients, monitoring physiological direct care, and patient education.
- 6% of respondents said they use mHealth applications once a week to deliver health information.
- Another 6% of the respondents said they use mHealth applications once every 15 days for monitoring physiological signs, patient education, etc.
- 33% of these professionals are aware of the uses of mHealth applications but have never used them for seeking or delivering health-related information.
- 44% of non-healthcare professionals use mHealth applications as and when required for delivering health information, screening patients, etc.
- 6% of Non Healthcare professionals in Asia have still not heard of the uses of mHealth applications or have never used them.





Use of wearables in Asia

In terms of the usage of wearables or implantable technologies with sensors and/or therapy delivery devices for decision-making and disease management, the findings of different professional groups in Asia are as follows:

Allied Healthcare Professionals (AHPs):

- 33% of AHPs in Asia responded that they use wearables or implantable technologies daily.
- The majority of the AHPs, i.e., 56%, said they use these wearables as and when required
- 11% of them have never heard of or used wearables or implantable technologies with sensors and/or therapy delivery devices for decision-making and disease management.

Healthcare Professionals:

- Approximately 26% of the Healthcare professionals in Asia use wearables or implantable technologies with sensors daily to seek health-related help.
- 32% of the HCPs use it as and when required, according to their needs.
- Shockingly, 42% of HCPs in Asia are not yet aware of the benefits of wearables and have never heard of or used them.

- Around 6% of the Non Healthcare Professionals in Asia use wearables and implantable technologies with sensors daily.
- 56% of non-healthcare professionals use them as and when required for decisionmaking and disease management.
- 39% of Non–Healthcare professionals in Asia have still not heard of or used wearables or implantable technologies with sensors.







Use of Telemedicine and Telecare services

In terms of the usage of wearables or implantable technologies with sensors and/or therapy delivery devices for decision-making and disease management, the findings of different professional groups in Asia are as follows:

Allied Healthcare Professionals (AHPs):

- 64% of AHPs in Asia are aware of various uses of telemedicine and telecare services and use them according to their requirements.
- Another 36% of them have never heard of or used telemedicine or telecare services.

Healthcare Professionals:

- Approximately 29% of the Healthcare professionals in Asia are very well versed with the uses of telemedicine and telecare services in disease management, remote patient monitoring etc and use it daily for the same.
- 7% of the HCPs use it once a week for teleconsultations, homecare etc.
- Majority of them i.e., 64% of HCPs use telemedicine and telecare services as and when required based on their requirements.

- 78% of the Non Healthcare Professionals in Asia use them as and when required for teleconsultations, remote patient monitoring, etc.
- 22% of Non Healthcare professionals in Asia have still not heard of or used these services.





Benefits of using Digital Health Tools

The benefits of using Digital Health tools, according to respondents from different professional groups in Asia, are as follows:

Allied Healthcare Professionals (AHPs):

100% of the AHPs in Asia feel that Digital Health tools make healthcare more affordable and convenient.

Healthcare Professionals:

- Approximately 89% of the Healthcare professionals in Asia responded that Digital Health tools make healthcare more affordable and convenient.
- Surprisingly, 11% still feel that Digital tools won't make healthcare services affordable or convenient.

Non- Healthcare Professionals:

100% believe the use of Digital tools is making healthcare affordable and convenient.




Future of Digital Healthcare in Asia

Future of Digital Healthcare in Asia with respect to different professional groups is as follows:

Allied Healthcare Professionals (AHPs):

A staggering 100% of the AHPs in Asia believe Digital Health will significantly enhance the quality of healthcare in the future. It signifies that AHPs firmly believes that technology-driven healthcare solutions hold the promise of significantly improving the overall quality of healthcare services in the future.



Healthcare Professionals (HCPs):

- 84% of the Healthcare professionals have responded saying Digital health will improve the quality of healthcare.
- 5% have said to believe that usage of Digital Health will come down post- COVID.
- Other 11% believe that they don't have enough knowledge related to the matter and can't comment.

- 89% of the Non–Healthcare professionals from Asia strongly believe Digital Health will improve the quality of healthcare delivered.
- However, 6% feel the usage of Digital Health will come down post COVID.
- Other 6% believe it would not have any significant impact on the healthcare sector.





Europe

Awareness level with regards to Digital Health

In Europe, the awareness level of digital health among different professional groups is as follows:

Allied Healthcare Professionals (AHPs):

- The majority of AHPs in Europe, accounting for 83%, reported having either a good understanding of Digital Health or having used Digital Health tools to seek treatment.
- The remaining 13% of AHPs expressed an interest in learning more about Digital Health.

Healthcare Professionals:

- Among Healthcare Professionals in Europe, 83% stated that they have a good understanding of Digital Health and have used it themselves.
- 14% of the remaining healthcare professionals expressed a desire to learn more about Digital Health
- Only 2% of healthcare professionals mentioned that they had never heard of Digital Health.

- Among Non-Healthcare Professionals in Europe, a staggering 86% reported having a good understanding of Digital Health and having used it to seek treatment.
- 9% of Non-Healthcare Professionals mentioned that they had heard of the term Digital Health.
- The remaining 4% expressed a desire to learn more about digital health.





Europe: I have a good understanding of Digital Health/ I have used Digital Health tools to seek / deliver healthcare







Europe : Gender v/s Digital Health Literacy





Comforts and Concerns with digitally sharing health data

In Europe, the level of comfort with digitally sharing health data among different professional groups is as follows:

Allied Healthcare Professionals (AHPs):

- Approximately 31% of AHPs expressed concerns about data leakage and privacy when asked about their comfort level with sharing health information over the internet.
- 20% of AHPs stated that they would share their health information without hesitation.
- Around 40% mentioned that they have no other choice but to share their health data over the internet.
- Approximately 33% reported facing connectivity issues that hinder their ability to use digital platforms for sharing health data.

Healthcare Professionals:

- Among Healthcare Professionals in Europe, 51% expressed concerns about data privacy and leakage when asked about their comfort level with digitally sharing health data.
- 20% of healthcare professionals stated that they would share their health information without hesitation.
- Approximately 50% reported facing connectivity issues that prevent them from using digital platforms.
- 20% claimed that they have no choice but to share health information electronically.

- Among Non-Healthcare Professionals, 56% expressed concerns about data privacy and security when asked about their comfort level with sharing health data digitally.
- 60% of Non-Healthcare Professionals were willing to disclose their health data without hesitation.
- Approximately 40% stated that they had no choice but to share their health information online.
- Around 17% reported experiencing connectivity problems that could affect their ability to share health data digitally.





Future of Digital Healthcare

In Europe, the future of digital healthcare, according to different professional groups, is as follows:

Allied Healthcare Professionals (AHPs):

- 90% of the AHPs in Europe think that Digital Health will improve the quality of healthcare.
- Around 5% think it would not have any significant impact on the healthcare sector.
- 5% think usage of Digital Health will come down post COVID-19.

Healthcare Professionals (HCPs):

- 82% of the HCPs think it will improve the quality of healthcare.
- 6% feel it would not have any significant impact on the healthcare sector.
- 4% think usage of Digital Health will come down post COVID-19.
- 8% of the Healthcare Professionals said they had no comments.



- 92% of the Non-Healthcare Professionals strongly feel that Digital Health will improve the quality of healthcare.
- 4% think it would not have any significant impact on the healthcare sector.
- 2% of the Non- Healthcare Professionals believe the usage of Digital Health will come down post-COVID-19.
- 2% of the Non- Healthcare Professionals don't have enough knowledge of Digital Health to comment on its future.





Use of Telemedicine and Telecare services

In Europe, the use of Telemedicine and Telecare services by different professionals is as follows:

Allied Healthcare Professionals (AHPs)

- 5% of the AHPs respondents have said that they use telemedicine and telecare services daily
- 78% of the AHPs respondents use it as and when required.
- 3% of the AHPs in Europe use Telemedicine and Telecare services once a week and once every 15 days.

Healthcare Professionals:

- 6% of the Healthcare Professionals in Europe use telemedicine and telecare services daily to monitor their health.
- 8% of the Healthcare Professionals have said to use it weekly.
- Around 2% of them use it once every 15 days.
- 71% of the Healthcare professional respondents have said to use it as and when required, depending on their requirements.
- Shockingly, 12% of the Healthcare Professionals in Europe have never heard of or used telemedicine and telecare services.

- 2% of the Non Healthcare Professionals use telemedicine and telecare services daily.
- 2% use these services weekly for teleconsultations and other things.
- 4% have reported using these services once every 15 days.
- 82% of the Non Healthcare Professionals use telemedicine and telecare services as and when required.
- 11% of the Non healthcare professionals in Europe have never heard of or used telemedicine and telecare services.



Profession v/s Use of Telemedicine and telecare services (disease management services, remote patient monitoring, teleconsultations, and homecare)? 90% 82% 78% 80% 71% 70% 60% 50% 40% 30% 20% 13%12%11% 8% 10% 5% 6% 3% 2% 4% 3% 2% 2% 0% Never heard of l use it once I use it as & l use it one a it/ Never used I use it daily every 15 days when required week it 13% 3% Allied Healthcare Professionals 5% 3% 78% Healthcare Professionals – Doctor, Nurse, 6% 8% 2% 71% 12% Physiotherapist, Chiropractor etc. Non – Healthcare Professionals 2% 2% 4% 82% 11% Allied Healthcare Professionals

Healthcare Professionals – Doctor, Nurse, Physiotherapist, Chiropractor etc.



Use of wearables in Europe

In terms of the usage of wearables or implantable technologies with sensors and/or therapy delivery devices for decision - making and disease management, the findings of different professional groups in Europe are as follows:

Allied Healthcare Professionals (AHPs):

- 13% of AHPs in Europe responded that they use wearables or implantable technologies daily.
- The majority of the AHPs, i.e., 45%, said they use these wearables as and when required.
- 5% of the AHPs in Europe have reported using wearables and implantable technologies once a week.
- 38% of them have never heard of or used wearables or implantable technologies with sensors and/or therapy delivery devices for decision making and disease management.

Healthcare Professionals:

- Approximately 18% of the Healthcare professionals use wearables or implantable technologies with sensors daily to monitor their health.
- 2% of the Healthcare Professionals use it once a week.
- 43% of the Healthcare Professionals use it as and when required, according to their needs.
- Surprisingly, 37% of Healthcare Professionals in Europe are not yet aware of the benefits of wearables and have never heard about it or used them.

- About 15% of the Non Healthcare Professionals use wearables and implantable technologies with sensors daily.
- Less than 1% of Non Healthcare Professionals in Europe use it once a week or once every 15 days.
- 32% of non-healthcare professionals use them as and when required for decision making and disease management.
- Another 52% of Non Healthcare professionals in Europe have still not heard of or used wearables or implantable technologies with sensors.







Use of mHealth applications in various professional groups

In terms of the usage of mobile applications for delivering health information, screening patients, monitoring physiological signs etc, the findings of different professional groups in Europe are as follows:

Allied Healthcare Professionals (AHPs):

- 15% of AHPs reported daily use of mHealth applications for delivering health information.
- 8% of the AHPs in Europe use mHealth applications once a week for monitoring physiological signs, screening patients etc.
- 53% of the AHPs said they use the mHealth applications as and when required.
- 13% of them are aware of the uses of such applications but have not used them yet, indicating areas of gap where awareness and training are needed
- 13% of the AHPs in Europe reported having not heard about or used mHealth applications.

- Approximately 18% of the Healthcare professionals use mHealth applications daily for delivering health information.
- 12% of HCPs use mHealth applications once a week, showing the growing awareness of the uses of these applications.
- 39% of the HCPs use it as and when required for monitoring their health, delivering health information, etc.
- Surprisingly, 24% of HCPs in Europe are aware of the benefits of mHealth applications but have yet to use them and witness the benefits
- 6% of these HCPs have never heard of or used it for delivering any health-related information.



- About 10% of the Non Healthcare Professionals use mHealth applications daily for delivering health information, screening patients, monitoring physiological direct care, and patient education.
- 4% of respondents said they use mHealth applications once a week to deliver health information.
- 2% of the respondents said they use mHealth applications once every 15 days.
- 40% of these professionals are aware of the uses of mHealth applications but have never used them for seeking or delivering health-related information.
- 34% of non-healthcare professionals use mHealth applications as and when required for delivering health information, screening patients etc.
- 10% of Non Healthcare professionals have still not heard of the uses of mHealth applications or have never used them.





Use of Digital tools to make healthcare affordable and convenient

The findings of different professional groups in Europe and their views about digital tools making healthcare affordable and convenient are as follows:

Allied Healthcare Professionals (AHPs):

- A staggering 98% of the AHPs believe that Digital tools will make healthcare more affordable and convenient, showing the positive impact of Digital tools on the population.
- 3% feel digital tools won't be able to make healthcare more affordable and convenient.

Healthcare Professionals (HCPs):

- 90% of HCPs in Europe agree that Digital tools will make healthcare services more affordable and convenient for the population at large.
- 10% of HCPs are of the belief that Digital tools won't be able to make healthcare affordable and convenient.

- 92% strongly believe in Digital tools and how it will make healthcare affordable and convenient.
- The other 8% are of the belief that affordable and convenient healthcare won't come through Digital tools.







Latin America and Caribbean

Awareness level with regards to Digital Health

Surprisingly, according to the responses, the Latin America and Caribbean region demonstrated 100% awareness in terms of understanding of digital health and use of digital health tools to seek treatment among both Healthcare Professionals and Non- Healthcare Professionals









Comforts and Concerns with digitally sharing health data

Non-Healthcare Professionals:

- Interestingly, 50% of Non-Healthcare Professionals expressed comfort in sharing their health data digitally without any hesitation.
- The other 50% showed concern related to data leakage, etc.

- Among Healthcare Professionals, 40% stated that they would share their health data without hesitation.
- The remaining 60% of Healthcare Professionals expressed concerns about health data privacy and security when it comes to sharing their information digitally.





Use of mHealth applications in various professional groups

In terms of the usage of mobile applications for delivering health information, screening patients, monitoring physiological signs, etc, the findings of different professional groups in Latin America are as follows:

Healthcare Professionals:

- 20% of the Healthcare professionals use mHealth applications daily to deliver health information.
- 20% of HCPs use mHealth applications once a week, showing the growing comfort with these applications.
- About 60% of the HCPs use it as and when required for monitoring their health, or delivering health information etc.

- 50% of the Non Healthcare Professionals use mHealth applications daily for delivering health information, screening patients, monitoring physiological direct care, and patient education.
- The other 50% of these professionals are aware of the uses of mHealth applications but have never used them for seeking or delivering health-related information, showing the importance of basic awareness and learning about such applications to the general population.







Use of wearables in Latin America

In terms of the usage of wearables or implantable technologies with sensors and/or therapy delivery devices for decision making and disease management, the findings of different professional groups in Latin America are as follows:

Healthcare Professionals:

- 20% of the Healthcare professionals use wearables or implantable technologies with sensors daily for monitoring their health.
- 40% of the HCPs use it as and when required according to their needs.
- Surprisingly, 20% of HCPs are yet not aware of benefits of wearables and have never heard about it or used it.

- About 50% of the Non Healthcare Professionals use wearables and implantable technologies with sensors daily, showing the growth of these technologies in public.
- The other 50% of non-healthcare professionals use them as and when required for decision-making and disease management.





Use of Telemedicine and Telecare services

In Latin America, use of Telemedicine and telecare services by different professionals is as follows:

- 50% of the Non Healthcare Professionals in the area of Latin America use telemedicine and telecare services daily.
- Whereas the other 50% of the respondents have said to use it as and when required.



- About 20% of the Healthcare Professionals use telemedicine and telecare services once a week for teleconsultations, etc.
- 80% of them use telemedicine and telecare services as and when required.





Benefits of using Digital Health tools

The benefits of using Digital Health tools according to respondents from different professional groups in Latin America, are as follows:

Healthcare Professionals:

100% of the Healthcare professionals in Latin America responded that Digital Health tools make healthcare more affordable and convenient.

Non- Healthcare Professionals:

100% believe the use of Digital tools is making healthcare affordable and convenient.





Future of Digital Healthcare

In Latin America, the future of digital healthcare, according to different professional groups, is as follows:

Healthcare Professionals (HCPs):

100% of the HCPs think it will improve the quality of healthcare, indicating a level of faith in Digital health.

Non – Healthcare Professionals:

100% of the Non-Healthcare Professionals strongly feel that Digital Health will improve the quality of healthcare.





Northern America

Awareness level with regards to Digital Health

Healthcare Professionals in Northern America:

- Surprisingly, 33% of Healthcare Professionals in Northern America reported that they had never heard of the term "Digital Health."
- Only 17% of Healthcare Professionals stated that they had a solid understanding of digital health and had used it to seek treatment.

Allied Healthcare Professionals:

In contrast to the findings for Healthcare Professionals, 40% Allied Healthcare Professionals claimed to have a good understanding of digital health.

Non-Healthcare Professionals:

- Among Non-Healthcare professionals, 89% claimed to have a good understanding of digital health and reported using it to seek treatment.
- The remaining 11% expressed a desire to learn more about digital health.



Northern America: With regards to Digital Health, What describes you the best?











Northern America: Gender v/s Digital Health Literacy

Comforts and concerns with digitally sharing health data

Allied Healthcare Professionals (AHPs):

- 40% of AHPs expressed concerns about data leakage and privacy when it comes to sharing their health data digitally.
- Another 40% reported they don't mind sharing their health data over the internet.
- Another 20% of AHPs reported that they had no other option but to share their health data electronically.

Healthcare Professionals:

- Among Healthcare Professionals, 83% stated that they would share their health information without hesitation.
- The remaining 17% of Healthcare Professionals expressed concerns about privacy and data breaches when it comes to sharing their health data digitally.

- Among Non-Healthcare Professionals, 44% were willing to share their health data without hesitation.
- A larger proportion, 55%, expressed concerns about data privacy and security.





Use of mHealth applications in various professional groups

In terms of the usage of mobile applications for delivering health information, screening patients, monitoring physiological signs, etc, the findings of different professional groups in Northern America are as follows:

Non – Healthcare Professionals:

- 33% reported daily use of mHealth applications for delivering health information.
- 33% of the said they use the mHealth applications as and when required, showing the knowledge of such applications amongst Non- Healthcare professionals.
- 22% of them are aware the uses of such applications but have not used it yet.
- 11% reported to have not heard about or used mHealth applications.

- Approximately 67% of the Healthcare professionals use mHealth applications daily for delivering health information.
- 33% of the Healthcare Professionals use it as and when required for monitoring their health, delivering health information, etc.



Allied Healthcare Professionals:

- 20% of these professionals are aware of the uses of mHealth applications but have never used it for seeking or delivering health related information.
- 80% of AHPs use mHealth applications as and when required for delivering health information, screening patients etc.





Use of wearables in Northern America

In terms of usage of wearables or implantable technologies with sensors and/or therapy delivery devices for decision making and disease management, the findings different professional groups in Northern America are as follows:

Allied Healthcare Professionals (AHPs):

- 11% of AHPs in Northern America responded that they use wearables or implantable technologies daily.
- 40% said they use these wearables as and when required, given their requirements.
- 40% of AHPs have never heard or used wearables or implantable technologies with sensors and/or therapy delivery devices for decision making and disease management.

Healthcare Professionals:

- Approximately 33% of the Healthcare professionals use wearables or implantable technologies with sensors daily for monitoring their health.
- 17% of the Healthcare Professionals use wearables or implantable technologies with sensors once a week.
- Surprisingly, 50% of HCPs in Northern America are yet not aware of benefits of wearables and have never heard about it or used it.

- About 56% of the Non Healthcare Professionals use wearables and implantable technologies with sensors daily.
- 22% of non-healthcare professionals use them as and when required decision making and disease management.
- Other 22% of Non Healthcare professionals have not heard or used wearables or implantable technologies with sensors.







Use of Telemedicine and Telecare services

In Northern America, use of Telemedicine and telecare services by different professionals is as follows:

Allied Healthcare Professionals (AHPs)

- 20% of the AHPs respondents have said to use telemedicine and telecare services once every 15 days for teleconsultations, disease management services, remote patient monitoring etc.
- 60% of the AHPs respondents have used it as and when required.
- 20% of AHPs in Northern America have reported no knowledge of telemedicine and telecare services, they have never heard of it or never used it.

Healthcare Professionals:

- 33% of the Healthcare Professionals in Northern America use telemedicine and telecare services once a week.
- 17% of the Healthcare Professionals use it once in 15 days.
- 50% of the Healthcare professional respondents have said to use it as and when required, signifying they have proper knowledge and know the various uses of such services.

- 33% of the Non Healthcare Professionals use telemedicine and telecare services weekly in Northern America.
- 17% use telemedicine and telecare services once every 15 days.
- Remaining 50% of Non Healthcare professionals use telemedicine and telecare services in Northern America as and when required.







Use of Digital tools to make healthcare affordable and convenient

The findings of different professional groups in Northern America and their views about digital tools making healthcare affordable and convenient are as follows:

Allied Healthcare Professionals (AHPs):

100% of the AHPs believe that Digital tools will make healthcare more affordable and convenient, showing the positive impact of Digital tools in healthcare setup.

Healthcare Professionals (HCPs):

- 83% of HCPs agree that Digital tools will make healthcare services more affordable and convenient for everyone.
- About 17% of HCPs are of the belief that Digital tools won't be able to make healthcare affordable and convenient.

- 89% strongly believe in Digital tools and how it will make healthcare affordable and convenient.
- The other 11% is of the belief that affordable and convenient healthcare won't come through Digital tools.





Future of Digital Healthcare

In Northern America, the future of digital healthcare, according to different professional groups, is as follows:

Allied Healthcare Professionals (AHPs):

- 80% of the AHPs think that Digital Health will improve the quality of healthcare.
- 20% of AHPs in Northern America think usage of Digital Health will come down post COVID-19.

Healthcare Professionals (HCPs):

- 67% of the Healthcare Professionals strongly feel it will improve the quality of healthcare.
- 17% think usage of Digital Health will come down post COVID-19.
- 17% of the Healthcare Professionals have said they do not have enough knowledge to comment.


Non – Healthcare Professionals:

- 89% of the Non-Healthcare Professionals strongly feel that Digital Health will improve the quality of healthcare.
- 11% think it would not have any significant impact on the healthcare sector.







Awareness level with regards to Digital Health

Allied Healthcare Professionals (AHPs) and Healthcare Professionals:

In Oceania, both Allied Healthcare Professionals and Healthcare Professionals demonstrated a 100% awareness level in terms of understanding digital health and using digital health tools to seek treatment.

Non-Healthcare Professionals:

- Among Non-Healthcare professionals in Oceania, a staggering 70% reported having a good understanding of digital health and using it to seek treatment.
- Additionally, 20% of Non-Healthcare professionals reported having heard of the term digital health.
- The remaining 10% expressed a desire to learn more about digital health.













Comforts and concerns with digitally sharing health data

Allied Healthcare Professionals (AHPs):

All Allied Healthcare Professionals in Oceania reported experiencing connectivity issues when accessing digital health platforms.

Healthcare Professionals:

Among Healthcare Professionals, a 50/50 split was observed between those who were willing to share their health information without hesitation and those who expressed concerns about privacy and data leakage.

Non-Healthcare Professionals:

- Among Non-Healthcare professionals in Oceania, 30% expressed willingness to share their health data without hesitation.
- Additionally, 20% of Non-Healthcare professionals expressed concerns about data privacy and security.
- A portion of 20% stated that they had no choice but to share their health information online.
- Furthermore, 10% reported facing connectivity problems, which can pose challenges to their ability to engage with digital health platforms and share health data digitally.





Use of mHealth applications in various professional groups

In terms of usage of mobile applications delivering health information, screening patients, monitoring physiological signs etc, the findings different professional groups in Oceania area are as follows:

Non – Healthcare Professionals:

- 10% reported daily use of mHealth applications for delivering health information.
- 30% of the said they use the mHealth applications as and when required, showing the knowledge of such applications amongst Non- Healthcare professionals.
- A surprising 50% of Non healthcare professionals are aware of the uses of such applications but have never used it.
- 10% of Non healthcare professionals reported to have not heard about or used mHealth applications in Oceania.

Healthcare Professionals:

- Approximately 50% of the Healthcare professionals use mHealth applications daily for delivering health information.
- 50% is aware of the many uses of mHealth applications, but has not got a chance to use it yet.

Allied Healthcare Professionals:

All AHPs in Oceania use mHealth applications as and when required for delivering health information, screening patients etc.







Use of wearables in Oceania

In terms of usage of wearables or implantable technologies with sensors and/or therapy delivery devices for decision making and disease management, the findings different professional groups in Oceania are as follows:

Allied Healthcare Professionals (AHPs):

100% said they use these wearables as and when required, given their requirements.

Non- Healthcare Professionals:

- Approximately 10% of the Non Healthcare professionals use wearables or implantable technologies with sensors daily for monitoring their health.
- 50% of the Non-HCPs use it as and when required according to their needs.
- Surprisingly, 40% of Non HCPs have never heard about wearables or used it.

Healthcare Professionals:

- 50% of the Healthcare professionals in Oceania area responded saying they use the wearables and implantable technologies once every 15 days.
- Other 50% of healthcare professionals have not heard or used wearables or implantable technologies with sensors.





Use of Telemedicine and Telecare services

In Oceania, use of Telemedicine and telecare services by different professionals is as follows:

Allied Healthcare Professionals (AHPs)

100% of the AHPs respondents use it as and when required for disease management, remote patient monitoring, teleconsultations, and homecare.

Healthcare Professionals:

- 50% of the Healthcare Professionals use telemedicine and telecare services once a week for their uses, such as teleconsultations etc.
- 50% of the Healthcare Professionals use it once every 15 days.

Non – Healthcare Professionals:

- 70% of Non Healthcare professionals use telemedicine and telecare services in Oceania as and when required.
- 30% of the Non healthcare professionals have never heard of or used telemedicine and telecare services





Use of Digital tools to make healthcare affordable and convenient

The findings of different professional groups in Oceania and their views about digital tools making healthcare affordable and convenient are as follows:

Allied Healthcare Professionals (AHPs):

100% of the AHPs believe that Digital tools will make healthcare more affordable and convenient, showing the positive impact of Digital tools in regions like Oceania.

Healthcare Professionals (HCPs):

- 50% of HCPs agree that Digital tools will make healthcare services more affordable and convenient for everyone.
- The other 50% are of the belief that Digital tools won't be able to make healthcare affordable and convenient, dividing the healthcare professional's population in half.

Non- Healthcare Professionals:

- About 90% strongly believe in Digital tools and how it will make healthcare affordable and convenient.
- 10% is of the belief that affordable and convenient healthcare won't come through Digital tools.







Future of Digital Healthcare

In Oceania, the future of digital healthcare, according to different professional groups, is as follows:

Allied Healthcare Professionals (AHPs):

100% of the AHPs think that Digital Health will improve the quality of healthcare.

Healthcare Professionals (HCPs):

- 50% of the HCPs strongly feel it will improve the quality of healthcare.
- 50% of the HCPs are of the belief that digital tools won't have any significant impact on the healthcare sector.

Non – Healthcare Professionals:

• Approx 90% of the Non-Healthcare Professionals strongly feel that Digital Health will improve the quality of healthcare.



• 10% think it will come down post -COVID.



Recommendations:

- **1. Digital Literacy**: In continents like Europe and Oceania, respondents have shown a good understanding of Digital Health, but in regions like Northern America, where 33% of healthcare professionals have never heard the term Digital Health, investing in digital literacy programs to educate healthcare providers, patients, and the general population, will empower individuals. More awareness is needed on the terminology w.r.t. Digital Health (refer to 'Digital Health- Standardizing Terminologies' by Health Parliament & WHO to learn about the evolution of terminologies in Digital Health).
- 2. Comprehensive Training Programs for healthcare providers, including physicians, nurses, and other healthcare professionals. Develop patient-centric educational materials, such as brochures, videos, and online resources, explaining the basics of Digital Health, how to use specific Digital Health tools, and their benefits in managing health conditions.
- **3.** Evidence of Impact: Continuously assess the effectiveness of Digital Health literacy initiatives and refine them based on feedback and outcomes.
- **4. Infrastructure Development:** Enhance the digital infrastructure by expanding highspeed internet access and mobile connectivity to remote areas. Regions like Oceania, where 100% of the Allied Healthcare Professionals have reported connectivity issues, promote initiatives to bridge the digital divide, such as laying fibre-optic cables, deploying satellite-based solutions, and improving mobile network coverage.
- **5.** Data Privacy, Security, and Interoperability: Concerns around data sharing have to be addressed. People want to be assured that their personal health data is kept private and secure, they should have control over who has access to their data and how it is used, they should be able to understand how their data is being collected, used, and shared, they should be made aware of how their data may be used for secondary purposes, such as research or marketing.
- **6.** *Incentivize Adoption:* Create financial incentives, such as reimbursement policies and subsidies, for healthcare providers to adopt Digital Health solutions. This will encourage their participation and investment in implementing these technologies, leading to increased adoption rates.
- **7.** Adoption amongst Practising Clinicians and Small Hospitals: There must be a mission mode program in every country to help practising clinicians and small hospitals adopt digitalization.



- **8. Financial Models:** Digital Health will not take off at scale until there are Clinical Practice guidelines with payment and reimbursement models for Digital Consultations.
- **9.** *Policies, Regulations, & Standards:* In regions like Northern America, and Europe where the majority of non-Healthcare professionals and Healthcare professionals respectively, showed concerns over sharing their personal or health information online, we can implement transparent information practices that clearly explain how personal and health information is collected, used, stored, and protected on online platforms. Provide granular privacy settings that enable individuals to manage the level of information shared with different parties.
- **10. Digital Health For All By 2028.** All Governments need to commit their citizens to "Digital Health for All by 2028".

Digital Health For All By 2028

A Global Call to Action

'Health For All' was announced at Alma Ata in 1978, and it was then a major public health milestone of the 20th century; it has been 44 years since the Alma Ata and Health For All' is still a dream. Given the proliferation of Digital Health, it is time to reflect and commit to ensuring 'Digital Health For All' (DHFA) is a reality by the time we reach 50 years of Alma Ata by 12th September 2028. This should become a global call to action for Digital Health - a milestone for 21st-century healthcare. For DHFA to become a reality, we must commit to galvanize all stakeholders across the private and public sectors to:

- » **Recognize** the important role of Digital Health in removing inequities and providing primary care and ensuring continuity of care irrespective of geography.
- » **Demonstrate** Political commitment by developing National and Provincial Digital Health Strategies for DHFA. Scaling up effective Digital solutions initially at the community and then at the regional and national levels.
- » **Assure** Digital Capacity Building for All Stakeholders
- » **Ensure** that all Digital Health Systems are oriented to Population Health.
- » **Create** a multi-stakeholder and multi-sectorial coalition to implement the Digital Health For All.
- » **Commit** to make Digital Health available to 8 billion people by September 2028.
- » Allocate Financial Resources 3 percent Demonstrate Political commitment by of the healthcare budget from the government and private sector for Digital Health interventions.
- » **Document** Scientific Evidence in support of Digital Health.
- » **Build** a Patient-Centric, Interoperable, Secure Clinically and Environmentally Safe Digital Health Ecosystem.
- » **Take Action** and Review the time-bound goals and put progress reports in the public domain.

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