

An Overview of the Digital Literacy Level of Healthcare Workers at Talaga Regional General Hospital, Majalengka, in 2026

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Abstract.

The rapid advancement of digital health technologies in the era of Industry 4.0 and Society 5.0 has necessitated adequate digital literacy among healthcare professionals; However, empirical evidence in regional hospitals remains limited. This study aims to describe the level of digital literacy among healthcare workers at a regional public hospital in 2026 based on eight dimensions of digital competence. A quantitative descriptive cross-sectional design was employed, involving all 90 healthcare workers through total sampling. Data were collected using a validated and highly reliable 21-item questionnaire (Cronbach's Alpha = 0.970) measured on a six-point Likert scale and analyzed using descriptive statistics. The findings indicated that overall digital literacy was at a high level (82%), with the highest score in the ability to find and select information (87%) and the lowest in functional skills (78%). All dimensions, including communication, collaboration, creativity, critical thinking, cultural understanding, and digital safety, were consistently categorized as high. These results suggest that healthcare workers demonstrate strong readiness to support digital health transformation, although technical skill enhancement remains necessary. The study contributes empirical evidence for developing targeted training programs and strengthening digital health implementation in regional healthcare settings.

Keywords: *Communication, Digital Literacy, E-Health, Health Workforce and Information Management.*

I. INTRODUCTION

In the era of the Industrial Revolution 4.0 which continues into Society 5.0, advances in information technology have revolutionized instant data access, creating a virtual space or cyberspace that is without time and place boundaries, including in the healthcare sector where digitalization is a necessity to improve service efficiency. Global trends show a rapid increase in the adoption of digital health technologies, such as electronic medical records (EMR) and telemedicine, driven by the COVID-19 pandemic, while nationally, the Indonesian Digital Society Index (IMDI) Komdigi reached 43.34 in 2024, with the highest digital skills pillar at 58.25 but the lowest empowerment at 25.66, indicating that the potential of the digital economy is not yet optimal. The scientific relevance of this topic lies in its role in supporting sustainable healthcare transformation, while practically, it promises to improve diagnostic accuracy and patient satisfaction amidst regulatory demands such as Permenkes No. 24/2022 which requires EMR in all healthcare facilities.

In Indonesia, the utilization of digital technology in the healthcare sector still lags behind neighboring countries, with the World Digital Competitiveness Ranking increasing from 56th (2020) to 43rd (2024), although digital literacy of healthcare workers remains a crucial issue. The latest survey shows the IMDI score rising to 44.53 by 2025, but the skills pillar remains prominent while empowerment is low, reflecting a field phenomenon where healthcare workers have good basic skills but lack productive utilization, such as in the implementation of EMR in regional hospitals. Empirical data from a case study in Makassar reveals significant deficiencies in digital health data acquisition and management among healthcare workers, exacerbated by the gap between management expectations and field realities.

Previous research consistently confirms that healthcare workers' digital literacy impacts the success of health information systems. A study at Ciremai Hospital (2025) found an overall good score (77%) across the five dimensions of DigComp 2.2, with the highest score being information and data literacy (80%).

Similarly, a survey at a primary healthcare center highlighted deficiencies in data management and the use of health technology tools, which form the basis for the Ministry of Health's digital curriculum reform. A study of millennials in Bandung Regency also recorded an intermediate score (62.56), with strengths in information retrieval (71.8) and communication (69.09), but weakness in e-safety (46.97), a relevant dimension for the eight digital literacy indicators, from Functional Skills and Beyond to E-Safety.

However, study results have been inconsistent; while some found good literacy in operational skills (e.g., 60.5% found excellent in the 2022 Bapelkes training), others identified poor computer and data exchange skills among healthcare workers in hospitals and primary care clinics. Methodological limitations in previous studies often lie in limited cross-sectional coverage, a lack of focus on rural hospitals such as Talaga Majalengka Regional Hospital, which is currently in the development phase of RME with human resource and infrastructure constraints, and the absence of comprehensive measurements of the eight dimensions of digital literacy.

An explicit research gap lies in the lack of up-to-date empirical data on the digital literacy level of healthcare workers in regional hospitals such as Talaga Majalengka Regional Hospital in 2026. Although RME regulations have been implemented, human resource readiness has not been thoroughly mapped, potentially hampering service efficiency and patient satisfaction. This problem statement is formulated as: "What is the digital literacy level of healthcare workers at Talaga Majalengka Regional Hospital in 2026 based on eight dimensions of digital literacy?"

This study aims to describe the level of digital literacy of healthcare workers at Talaga Majalengka Regional Hospital in 2026 in general and specifically per dimension (Functional Skill and Beyond, Creativity, Collaboration, Communication, The Ability to Find and Select Information, Critical Thinking and Evaluation, Cultural and Social Understanding, and E-Safety), with high urgency considering the ongoing digital transformation of RME amidst limited local human resources. The novelty lies in the comprehensive measurement of eight dimensions in the context of a regional hospital in West Java which has been minimally explored, different from previous urban or primary studies; the theoretical contribution enriches the digital literacy literature in health with 2026 data, while practically provides a basis for training strategies for hospital management, health education institutions, and national policies for inclusive digitalization.

II. METHOD

This study employed a descriptive quantitative approach with a cross-sectional design to describe the digital literacy levels of healthcare workers in a snapshot at a specific point in time, allowing for mapping of actual conditions without intervention or causality testing (Sugiyono, 2022; Sudaryono, 2021). This approach was chosen because it aligns with the descriptive objective of presenting the distribution and characteristics of digital literacy variables based on the eight dimensions of the Digital Literacy Across the Curriculum framework, encompassing Functional Skills and Beyond to E-Safety, as applied in similar studies in the digital health context in Indonesia (Emzir, 2023; Pratama et al., 2024). The cross-sectional design ensures efficient data collection while allowing limited generalizability to the target population, as this method is effective for questionnaire-based surveys of small populations in healthcare facilities (Hidayat & Kurniawan, 2022).

The study population consisted of all 90 healthcare workers at Talaga Majalengka Regional Hospital, Majalengka Regency, West Java, including doctors, nurses, pharmacists, and related staff who were actively on duty during the study period. The total sampling technique was applied because the population size was less than 100 respondents, so all members of the population were sampled to maximize representativeness and avoid sampling bias, as recommended for descriptive studies in small work groups (Creswell & Creswell, 2024; Putu, 2024). Inclusion criteria included healthcare workers who were willing to participate voluntarily, while exclusion criteria included those who were on leave, sick, absent during data collection, incompletely completed questionnaires, or were interns/colleagues, to maintain data quality and professional relevance (Nugroho & Sari, 2023).

The main instrument was a self-report questionnaire adapted from the Millennial Generation Digital Literacy Index study in Bandung Regency. It consisted of 21 closed-ended questions measuring eight

dimensions of digital literacy with specific indicators such as ICT skills, content creation, digital collaboration, and cybersecurity. The questionnaire used a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree) to generate interval data, with Pearson Product Moment validity testing (calculated $r > r_{table}$ at $\alpha = 0.05$) and Cronbach's Alpha reliability (> 0.70 is considered reliable). A pilot test was conducted on 30 healthcare workers outside the primary population to ensure construct validity and internal consistency, in line with standard practices in measuring digital literacy in the healthcare sector (Rahman et al., 2023; Widodo & Pratiwi, 2024).

The research procedure began in the preparation stage with the preparation of a proposal, a preliminary study through an exploratory interview with one healthcare worker at Talaga Majalengka Regional Hospital, and obtaining ethical clearance and institutional cooperation in December 2025. The implementation stage included the distribution of a hybrid questionnaire (online Google Form and offline physical sheets) to 90 respondents for one month in January 2026, followed by the collection of primary data along with secondary data such as employee lists from the hospital. Initial processing included editing, coding, entry into the master table via Excel, and cleaning to verify completeness, with a total study duration of approximately three months until March 2026, ensuring a structured chronology and minimal data loss (Sugiyono, 2022; Muin et al., 2023).

Data analysis applied descriptive univariate techniques using IBM SPSS Statistics version 26 and Microsoft Excel, with the calculation of the mean, standard deviation, frequency, and percentage of digital literacy scores using the formula $(\text{Total Score Obtained} / \text{Total Maximum Score}) \times 100\%$, converted into low (17-45%), medium (45.1-73%), and high (73.1-100%) categories. The results were presented in frequency distribution tables, bar graphs per dimension, and interpretive narratives linking the findings to the literature, without hypothesis testing to focus on the description of the phenomenon according to descriptive purposes (Raharjo & Winarko, 2021; Hidayat, 2024). Interpretation emphasized clinical and policy implications, with bias reduction through cross-validation of demographic data.

III. RESULTS AND DISCUSSIONS

1. Validity Test

Tab. 1. Results of the Validity Test of the Digital Literacy Questionnaire for Health Workers

Item	R table	R count	Criteria
P1	0.361	0.756	Valid
P2	0.361	0.787	Valid
P3	0.361	0.718	Valid
P4	0.361	0.798	Valid
P5	0.361	0.597	Valid
P6	0.361	0.805	Valid
P7	0.361	0.774	Valid
P8	0.361	0.734	Valid
P9	0.361	0.749	Valid
P10	0.361	0.910	Valid
P11	0.361	0.736	Valid
P12	0.361	0.801	Valid
P13	0.361	0.868	Valid
P14	0.361	0.902	Valid
P15	0.361	0.912	Valid
P16	0.361	0.828	Valid
P17	0.361	0.816	Valid
P18	0.361	0.774	Valid
P19	0.361	0.842	Valid
P20	0.361	0.810	Valid
P21	0.361	0.856	Valid

Based on Table 1, the instrument validity test was conducted on 30 healthcare workers ($n = 30$), with an r -table value of 0.361 at a 5% significance level. The results show that all statement items (P1–P21) have

r-calculated values ranging from 0.597 to 0.912. Since all r-calculated values are greater than the r-table value ($r\text{-calculated} > 0.361$), each item is declared valid. This indicates that each statement item has a significant correlation with the total score, meaning that all items are appropriate and can be used as data collection instruments in research on the digital literacy level of healthcare workers.

2. Reliability Test

Tab.1. Results of the Reliability Test of the Digital Literacy Questionnaire for Healthcare Workers

<i>Reliability Statistics</i>	
<i>Cronbach's Alpha</i>	<i>N of Items</i>
0.970	21

Based on Table 2, the results of the reliability test obtained a Cronbach's Alpha value of 0.970 with a total of 21 items. A Cronbach's Alpha value of 0.970 indicates that the instrument has a high level of consistency. In general, an instrument is considered reliable if the Cronbach's Alpha value is > 0.60 or > 0.70 . Therefore, a value of 0.970 is included in the highly reliable category.

Respondent Demographic Data

1. Respondent Characteristics Based on Gender

Tab. 3. Frequency Distribution of Respondents Based on Gender

No.	Gender	Frequency	Percentage (%)
1.	Man	28	31%
2.	Woman	62	69%
	Total	90	100%

Source: Primary research data

Based on Table 3, the majority of respondents in this study were female (62 people) and male (28 people) at 31%. These results indicate that female healthcare workers were more dominant than male respondents at Talaga Majalengka Regional Hospital.

2. Respondent Characteristics Based on Age

Table 4. Frequency Distribution of Respondents Based on Age

No.	Age	Frequency	Percentage (%)
1.	17-24	7	8%
2.	25-32	45	50%
3.	33-40	22	24%
4.	41-48	10	11%
5.	49-56	5	6%
6.	>56	1	1%
	Total	90	100%

Source: Primary Research Data

Based on Table 4, the age distribution shows that respondents in this study were predominantly in the 25–32 age group, accounting for 50%. Other age groups, such as those aged 33–40 (24%) and 41–48 (11%), also dominated, while those aged 49 and above were relatively small. This indicates that the majority of healthcare workers at Talaga Majalengka Regional Hospital are in the 25–32 age range.

3. Respondent Characteristics Based on Education

Tab. 5. Frequency Distribution of Respondents Based on Education

No.	Education	Frequency	Percentage (%)
1.	High School	5	6%
2.	Diploma III	37	41%
3.	Diploma IV/S1	33	37%
4.	NERS	11	12%
5.	Masters/S2	4	4%
	Total	90	100%

Source: Primary Research Data

Based on Table 5, the distribution results based on education level obtained indicate that the majority of research respondents had a Diploma III educational background with a percentage of 41%. Furthermore, respondents with Diploma IV/S1 education were also quite large at 37%. Respondents with Nursing education reached 12%, while those with high school/vocational school and Masters/S2 education had smaller proportions, at 6% and 4%, respectively. These results illustrate that the majority of research respondents at Talaga Majalengka Regional Hospital were dominated by Diploma III and Diploma IV/S1 graduates.

4. Respondent Characteristics Based on Length of Service

Tab.6. Frequency Distribution of Respondents Based on Length of Service

No.	Years of service	Frequency	Percentage (%)
1.	< 1 year	22	24%
2.	1-10 Years	57	63%
3.	11-20 Years	5	6%
4.	21-30 Years	4	4%
5.	> 30 Years	2	2%
Total		90	100%

Source: Primary Research Data

Based on Table 6, the distribution results based on length of service indicate that the majority of respondents have a service period of 1–10 years, with a percentage of 63%. Respondents with a service period of less than 1 year reached 24%. Meanwhile, respondents with a service period of 11–20 years, 21–30 years, and more than 30 years have a relatively small proportion, at 6%, 4%, and around 2%, respectively. These results indicate that the majority of respondents are in the early to mid-career period.

Digital Literacy Level of Healthcare Workers Based on 8 Dimensions

1. Functional Skills and Beyond

Table 7. Frequency Distribution of Percentage of Dimension Scores *Functional Skills and Beyond*

No.	Indicator	Mark	Percentage%
1.	I have competence in the field of ICT to operate a computer	78.5	78%
2.	I have ICT competency in the internet field	77.4	
Category			Tall

Source: Primary Research Data

The analysis of the Functional Skills and Beyond dimension shows that the digital literacy level of healthcare workers is in the "High" category, with a percentage of 78%. This score is derived from two main indicators: computer competence with a score of 78.5 and internet competence with a score of 77.4. This achievement indicates that the majority of respondents have adequate basic information and communication technology (ICT) skills.

2. Creativity

Tab. 8. Frequency Distribution of Percentage of Creativity Dimension Scores

No.	Indicator	Mark	Percentage%
1.	I am able to create products in various formats and models by utilizing digital technology.	78.9	81%
2.	I have creative thinking competency	81.7	
3.	I have Imaginative Thinking Competence	81.3	
Category		Tall	

Source: Primary Research Data

The analysis results on the Creativity dimension indicate that the digital literacy level of healthcare workers falls into the "High" category, with a percentage value of 81%. This value is obtained from three main indicators: the ability to create products in various formats using digital technology (with a score of

78.9), creative thinking ability (81.7), and imaginative thinking ability (81.3). The high achievement in this dimension indicates that respondents are not only able to utilize digital technology technically, but also have the ability to develop ideas, innovate, and produce digital-based products.

3. Collaboration

Tab. 9. Frequency Distribution of Percentage of Collaboration Dimension Scores

No.	Indicator	Mark	Percentage%
1.	I have the competence to participate in the digital space	81.1	81%
2.	I am able to explain ideas with others in groups in digital spaces.	80.7	
3.	I am able to negotiate ideas with others in groups in digital spaces.	80.6	
Category		Tall	

Source: Primary Research Data

The analysis of the Collaboration dimension shows that the digital literacy level of healthcare workers is in the "High" category, with a percentage score of 81%. This score is derived from three indicators: the ability to participate in digital spaces (81.1), the ability to explain ideas to others in digital groups (80.7), and the ability to negotiate ideas in group discussions in digital spaces (80.6).

These achievements indicate that healthcare workers have demonstrated strong skills in actively interacting and collaborating in digital environments. Participation skills extend beyond digital presence and include active involvement in conveying ideas, exchanging information, and building effective communication with colleagues. Furthermore, the ability to explain and negotiate ideas demonstrates that respondents are adept at utilizing digital media as a means of professional collaboration.

4. Communication

Tab.2. Frequency Distribution of Communication Score Percentage

No.	Indicator	Mark	Percentage%
1.	I am able to communicate through digital technology media	86.3	84%
2.	I understand the audience in the digital space	82.8	
3.	I understand the audience in the digital space	83.0	
Category		Tall	

Source: Primary Research Data

The analysis results on the Communication dimension show that the digital literacy level of healthcare workers is in the "High" category, with a percentage value of 84%. This value is obtained from three indicators: the ability to communicate through digital technology media (86.3), the ability to understand audiences in the digital space (82.8), and the ability to understand audience characteristics in the digital space (83.0). The high achievement in this dimension indicates that healthcare workers have adequate digital communication skills, both in conveying information and in understanding the recipient of the information. This ability is very important in supporting the effectiveness of communication, especially in healthcare services that require accuracy, clarity, and speed of information delivery.

5. The Ability to Find and Select Information

Tab. 11. Frequency Distribution of Percentage Scores for the Dimension of The Ability to Find and Select Information

Select information			
No.	Indicator	Mark	Percentage%
1.	I am able to search for information in digital space	87.2	87%
2.	I am able to select information in the digital space	86.1	
Category		Tall	

Source: Primary Research Data

The analysis results of the Ability to Find and Select Information dimension indicate that the digital literacy level of healthcare workers is in the "High" category, with a percentage value of 87%. This value is

obtained from two main indicators: the ability to search for information in the digital space (87.2) and the ability to select information in the digital space (86.1). Achievements in this dimension indicate that healthcare workers have good abilities in accessing and sorting information available in the digital environment. The ability to search for information allows respondents to obtain relevant data and knowledge quickly, while the ability to select information indicates the skills in assessing the quality and accuracy of the information obtained.

6. Critical Thinking and Evaluation

Tab. 12. Frequency Distribution of Percentage Scores for Critical Thinking and Evaluation Dimensions

No.	Indicator	Mark	Percentage%
1.	I am able to contribute when dealing with information in the digital space.	82.2	83%
2.	I am able to analyze when dealing with information in the digital space.	82.6	
3.	I am able to think critically when dealing with information in the digital space.	83.3	
Category		Tall	

Source: Primary Research Data

The cumulative analysis results for the Critical Thinking and Evaluation dimension fall into the "High" category. This is evidenced by the significant average scores across the three main indicators. The ability to contribute indicator scored 82.2, with an index per dimension reaching 83%, indicating respondents' active participation in the digital ecosystem. Consistent with this, respondents' ability to analyze information also demonstrated positive results, scoring 82.6. The highest score was found in the critical thinking ability indicator, with a score of 83.3. This indicates that respondents tend to be able to conduct in-depth and selective evaluations of the validity of the information they receive.

7. Cultural and Social Understanding

Tab.13. Frequency Distribution of Percentage of Dimension Scores *Cultural and Social Understanding*

No.	Indicator	Mark	Percentage%
1.	I have thoughts that are in line with social and cultural understanding.	83.0	87%
2.	My ICT skills are used in accordance with the norms applicable in society	82.4	
Category		Tall	

Source: Primary Research Data

The analysis results on the Cultural and Social Understanding dimension, respondents showed a "High" level of social and cultural understanding. This is evidenced by the percentage score of 87% which consists of two main indicators, namely the alignment of thinking with socio-cultural norms (83.0) and an indicator of the use of ICT capabilities in accordance with community norms (82.4). Overall, this data shows that respondents are not only technically proficient, but also able to apply information technology while upholding applicable ethics and social values.

8. E-Safety

Tab. 14. Frequency Distribution of Percentage of E-Safety Dimension Scores

No.	Indicator	Mark	Percentage%
1.	I can guarantee safety when exploring with digital technology.	81.9	82%
2.	I can guarantee safety when creating with digital technology.	81.5	
3.	I can guarantee security when collaborating with digital technology.	81.5	
Category		Tall	

Source: Primary Research Data

The analysis results on the E-Safety dimension indicate that respondents have a digital security level that is in the "High" category with a dimension percentage of 82%. This is supported by the achievement of stable scores on three main indicators, namely the ability to ensure security when exploring (81.9), creating (81.5), and collaborating (81.5) with digital technology. These data illustrate that respondents have the awareness and adequate skills to protect themselves and their personal data while active in the digital space, both in the context of independent and collaborative work.

Digital Literacy Level of Health Workers at Talaga Majalengka Regional Hospital

Tab.15. Frequency Distribution of Percentage of Digital Literacy Level of Health Workers at Talaga Majalengka Regional Hospital

No.	Dimensions	Score	Percentage	Category
1.	Functional Skills and Beyond	842	78%	Tall
2.	Creativity	1306	81%	Tall
3.	Collaboration	1309	81%	Tall
4.	Communication	1361	84%	Tall
5.	The Ability to Find and Select Information	936	87%	Tall
6.	Critical Thinking and Evaluation	1340	83%	Tall
7.	Cultural and Social Understanding	893	83%	Tall
8.	E-Safety	1322	82%	Tall
Total		9309	82%	Tall

Source: Primary Research Data

The analysis results show a very positive consistency of achievement, where all dimensions ranging from Functional Skill and Beyond to E-Safety are in the "High" category. The Ability to Find and Select Information dimension recorded the highest percentage at 87%, followed by Communication at 84%. This achievement illustrates that healthcare workers at Talaga Majalengka Regional Hospital have adequate skills in navigating digital information, communicating effectively, and maintaining data security in a digital work environment. Meanwhile, the lowest percentage is in the Functional Skill and Beyond dimension with a percentage of 78%. Although this is the lowest compared to other dimensions, this value still indicates that the respondents' basic technical abilities are very adequate. Cumulatively, these results illustrate that healthcare workers at Talaga Majalengka Regional Hospital have excellent digital literacy readiness to support healthcare services in the digital era.

IV. DISCUSSION

Validity and Reliability Test

Based on the results of testing the research instrument on 30 respondents, the r table value was obtained at 0.361 at a significance level of 5%. The validity test results showed that all statement items (P1–P21) had calculated r values greater than the r table, which were in the range of 0.597 to 0.912. Thus, all statement items in the questionnaire were declared valid. This indicates that each item is able to measure the construct being studied, namely digital literacy of health workers, making the instrument suitable for use in research (Subhaktiyasa, 2024; Indah Sari & Yolanda, 2024). Validity is a measure that indicates the extent to which an instrument is able to measure the variable it is supposed to measure. A valid instrument will produce accurate data and reflect actual conditions in the field. Validity testing is generally carried out by correlation analysis between the scores of each item and the total score to ensure the suitability of each statement item in measuring the research construct (Sugiharto Setyaedhi, 2024). Other studies also show that items with correlation values above the r table can be declared valid and suitable for use in data collection (Sanaky et al., 2021).

In addition to the validity test, a reliability test was also conducted to determine the level of consistency of the research instrument. Based on the reliability test results, a Cronbach's Alpha value of 0.970 was obtained for a total of 21 questions. This value indicates that the instrument has a very high level of internal consistency. In general, an instrument is considered reliable if its Cronbach's Alpha value is above 0.70, and the closer it is to 1, the better the reliability level (Nurhasanah & Rahayu, 2025). Reliability

describes the extent to which an instrument is able to provide consistent results when repeated measurements are carried out under the same conditions. The high Cronbach's Alpha value in this study indicates that each item has a strong relationship in measuring the digital literacy variable of health workers. This is in line with previous research which showed that a Cronbach's Alpha value above 0.90 is included in the very high category and indicates excellent instrument quality (E-Journal UNSRAT, 2024).

Thus, based on the results of the validity and reliability tests, it can be concluded that all questionnaire items were valid and the research instrument had a very high level of reliability. Therefore, the instrument used in this study is suitable and reliable for measuring the digital literacy level of healthcare workers at Talaga Majalengka Regional Hospital.

Characteristics of Research Respondents

Respondent characteristics in this study included age, gender, education level, and length of service. Based on the research results, respondents were predominantly from the productive age group, aged 25–32, with a percentage of 50%. This indicates that healthcare workers are in an active working phase and tend to be more adaptable to developments in digital technology. The productive age group tends to be more receptive to and utilize technology in their daily work. This finding aligns with research stating that age is a factor influencing digital literacy levels, where younger or more productive individuals have a higher technological adaptability (Shi et al., 2024).

Based on gender, the majority of respondents were female, with a frequency of 62 respondents and a percentage of 69%. This reflects the general characteristics of the healthcare workforce in Indonesia, which is predominantly female, particularly in the nursing profession. However, gender differences do not significantly impact digital literacy levels, as more influential factors are access to technology, experience, and training (Aydinlar et al., 2024).

Based on educational level, the majority of respondents had a diploma (D3) or bachelor's degree (S1). Higher levels of education are generally associated with critical thinking skills and a better understanding of technology, thus supporting improved digital literacy. This is supported by research indicating that education is a crucial factor in improving the digital competence of healthcare workers (Martzoukou et al., 2024).

Based on length of service, the majority of respondents were in the 1–10-year range. While length of service influences experience in using information systems, it does not always correlate with digital literacy if not accompanied by adequate training. Research shows that work experience needs to be supported by ongoing training to continuously develop digital skills (Campanozzi et al., 2023).

Digital Literacy Levels Based on Functional Skill and Beyond Dimensions

Based on the research results, the Functional Skills and Beyond dimension achieved a percentage score of 78%, resulting in a "High" assessment category. This achievement indicates that healthcare workers have adequately mastered the basic skills to operate digital devices and health information systems. This finding aligns with research that suggests digital literacy is closely related to the ability to use technology effectively, particularly in supporting healthcare services (Rachman et al., 2025).

Digital Literacy Levels Based on Creativity Dimensions

The Creativity dimension scored 81%, earning it a "High" rating. This achievement demonstrates the healthcare workforce's ability to create digital content and innovation. Other research confirms the need to develop digital creativity to improve the quality of healthcare services and education (Astuti et al., 2024).

Digital Literacy Levels Based on Collaboration Dimensions

The Collaboration dimension achieved a percentage score of 81%, earning it a "High" rating. This achievement demonstrates that healthcare workers are capable of collaborating through digital media, such as the use of communication applications or integrated information systems. Research findings indicate that digital literacy plays a role in increasing participation and interaction in digital environments (Destrity et al., 2025). Furthermore, the use of digital technology has also been shown to improve coordination in healthcare services (Rachman et al., 2025).

Digital Literacy Levels Based on Communication Dimensions

The Communication dimension scored 84%, earning it a "High" rating. This achievement demonstrates that healthcare workers are capable of conveying information through digital media quite effectively. Research findings indicate that digital literacy is closely related to communication skills in conveying health information accurately (Wahyuni et al., 2025). Furthermore, digital literacy also plays a role in improving public understanding of health information (Marbun et al., 2024).

Digital Literacy Levels Based on the Dimension of the Ability to Find and Select Information

The Ability to Find and Select Information dimension achieved the highest percentage score of 87%, thus achieving a "High" assessment category. This achievement indicates that healthcare workers have sufficient ability to access, search for, and select digital information relevant to service needs. The ability to find and understand information is one component of digital literacy, as it encompasses skills in accessing, managing, and using information effectively. This aligns with research in the Multidisciplinary Journal of West Science, which states that digital literacy is not only limited to the use of technology, but also includes the ability to search for, select, and manage information appropriately and responsibly (Hidayat et al., 2025).

Digital Literacy Levels Based on Critical Thinking and Evaluation Dimensions

The Critical Thinking and Evaluation dimension achieved a percentage score of 83%, thus achieving a "High" assessment category. This achievement illustrates that healthcare workers have quite optimal abilities in analyzing, assessing, and evaluating digital information before applying it in healthcare services. Other research findings state that digital literacy plays a key role in improving critical thinking skills, including in identifying bias, assessing information accuracy, and making data-based decisions (Herlina, 2025). Furthermore, a recent study confirms that strengthening digital literacy is necessary to improve information evaluation skills, because without critical thinking skills, individuals tend to be easily influenced by invalid information or hoaxes (Sudianto et al., 2025).

Digital Literacy Levels Based on Cultural and Social Understanding Dimensions

The Cultural and Social Understanding dimension scored 83%, earning it a "High" rating. This achievement demonstrates that healthcare workers have an optimal understanding of how to utilize digital technology, taking into account social and cultural aspects. Research indicates that digital literacy is related to an individual's ability to participate wisely in the digital environment (Wahyuni et al., 2025). Furthermore, digital literacy also plays a role in increasing public awareness of the appropriate use of technology (Marbun et al., 2024).

Digital Literacy Level Based on E-Safety Dimension

The E-Safety dimension achieved a score of 82%, earning it a "High" rating. This achievement demonstrates that healthcare workers have an optimal level of awareness in maintaining digital security, particularly regarding the protection of privacy and confidentiality of patient data when using information technology. Other research indicates that healthcare workers still face challenges in digital security and privacy protection (Wahyuni et al., 2025). Similarly, digital literacy also encompasses the ability to anticipate risks arising from the use of digital technology (Kartikawati et al., 2026).

Digital Literacy Level of Healthcare Workers at Talaga Regional General Hospital, Majalengka

Based on Table 15, the results of the study indicate that the overall digital literacy level of healthcare workers at Talaga Majalengka Regional Hospital is in the "High" category with a percentage of 82%. This indicates that healthcare workers have good skills in utilizing digital technology to support healthcare services. This high level of digital literacy reflects that healthcare workers are not only capable of using technology but also can access, understand, and utilize digital information effectively in their work practices. This finding aligns with research in the Journal of Communication, which states that digital literacy plays a crucial role in improving healthcare workers' ability to manage digital health information and support more optimal services (Destriy et al., 2025).

In detail, all dimensions were in the high category, although there was variation in achievement between dimensions. The dimension with the highest score was The Ability to Find and Select Information at 87%, indicating that healthcare workers possess excellent skills in searching for and selecting digital

information. This ability is crucial in supporting decision-making based on relevant data and information. This is in line with research that found that digital literacy is closely related to an individual's ability to access and utilize information effectively in healthcare (Rachman et al., 2025).

The Communication dimension achieved a percentage of 84%, and Critical Thinking and Evaluation achieved a high score of 83%. This indicates that healthcare workers are able to convey information effectively through digital media and possess the ability to analyze and evaluate the information obtained. This critical thinking ability is crucial to avoid errors in the use of digital health information, given the vast amount of information available on the internet. These findings align with research showing that the development of digital technology has increased the effectiveness of health communication, particularly in conveying information through digital media, making it easier for the public to understand and access (Djurkalem et al., 2021). Furthermore, other research also states that the transformation of communication in the digital era requires individuals, including healthcare workers, to have the ability to understand, process, and critically evaluate information to ensure it remains accurate and reliable (Kaunang et al., 2025).

The Cultural and Social Understanding dimension achieved a percentage of 83% and E-Safety achieved 82%. These results are in the high category. This indicates that healthcare workers have a good understanding of how to use technology wisely, taking into account socio-cultural aspects and maintaining the security and privacy of patient data. This aspect is crucial in healthcare because it relates to ethics and public trust. Research shows that digital literacy encompasses the ability to use technology responsibly, including maintaining data security and understanding digital risks (Sapulette et al., 2025).

Meanwhile, the Creativity and Collaboration dimensions each achieved 81%, and Functional Skills and Beyond achieved 78%. Although all of these dimensions were in the high category, their scores were relatively low compared to the other dimensions. This indicates that healthcare workers' capabilities in utilizing basic technology, digital collaboration, and developing innovation are still not fully optimized.

Specifically, although all dimensions were in the high category, the Functional Skill and Beyond dimension had the lowest score, at 78%. This indicates that healthcare workers' basic skills in operating digital technology are still not as optimal as in other dimensions. In practice, this condition can be seen from several obstacles that still occur in the field. One common example is healthcare workers who still experience difficulties in operating health information systems, such as delays in the patient data input process, errors in data entry, or external factors that hinder the ongoing service, such as system failures (system errors), connectivity issues, or data inconsistencies. This can slow down work processes if users do not have adequate technical skills.

This situation indicates that although healthcare workers are accustomed to using technology, basic operational skills still need to be improved to support service efficiency and effectiveness. This aligns with research in the *Journal of Information Technology and Computer Science*, which states that limited user technical skills are one of the barriers to implementing digital systems in the healthcare sector (Febrianty et al., 2024). Therefore, researchers emphasize that improving digital literacy competencies is necessary for healthcare workers to adapt to technological developments and optimize the use of digital systems in healthcare.

V. CONCLUSION

This study shows that the overall digital literacy level of healthcare workers at Talaga Majalengka Regional Hospital in 2026 is in the high category with a percentage of 82%. All eight dimensions of digital literacy—functional skills and beyond, creativity, collaboration, communication, the ability to find and select information, critical thinking and evaluation, cultural and social understanding, and e-safety—are also in the high category, with the highest achievement in the ability to find and select information (87%) and the lowest in functional skills (78%). These findings indicate that healthcare workers are well prepared to face the digital transformation, particularly in the use of electronic medical records and health information systems. However, this study has limitations such as its cross-sectional design that only describes conditions at a single point in time, its limited coverage location within a single regional hospital, and the use of self-report instruments that could potentially lead to biased perceptions of respondents.

Based on these findings, further research is recommended to use a longitudinal design or a mixed-method approach to more deeply examine the dynamics of digital literacy development, as well as to expand the scope of the study to various healthcare facilities to increase the generalizability of the results. Furthermore, exploration of factors influencing digital literacy, such as training, organizational support, and technological infrastructure, is needed. Practically, the results of this study provide important implications for hospital management and policymakers in designing ongoing training programs, particularly in improving basic technical skills and optimizing the use of digital systems. These efforts are expected to improve service efficiency, data accuracy, and the overall quality of healthcare services in the digital era.

REFERENCES

- [1] Aydınlar, A., Mavi, A., Kütükçü, E., Kırımlı, E.E., Alış, D., & Akin, A. (2024). Awareness and Level of Digital Literacy Among Students Receiving Health-Based Education. *BMC Medical Education*, 24(1), 38. <https://doi.org/10.1186/S12909-024-05025-W>
- [1] Astuti, IF, Cahyadi, D., Khoirunnita, A., Rohmah, N., & Ramdan, IM (2024). Efforts to Improve Digital Literacy and Health: The "Editekes" Program for the Sekumpul Community Group. *Sebatik Journal*, 28(1). <https://doi.org/10.46984/Sebatik.V28i1.2455>
- [2] Campanozzi, L.L., Gibelli, F., Bailo, P., Nittari, G., Sirignano, A., & Ricci, G. (2023). The Role Of Digital Literacy In Achieving Health Equity In The Third Millennium Society: A Literature Review. *Frontiers In Public Health*, 11, 1109323. <https://doi.org/10.3389/Fpubh.2023.1109323>
- [3] Creswell, J. W., & Creswell, J. D. (2024). *Research Design: Qualitative, Quantitative, And Mixed Methods Approaches* (6th Ed.). Sage Publications. <https://uk.sagepub.com/en-gb/eur/research-design/book270550>
- [4] Destriy, NA, Rakhmawati, FY, & Alfira, N. (2025). The Influence of Digital Literacy on the Digital Health Literacy of Health Workers in Indonesia. *Komunikatif: Jurnal Ilmu Komunikasi*, 14(1), 133–144. <https://doi.org/10.33508/Jk.V14i1.6040>
- Djurkalem, M., Tamaela, J., Soplanit, C., & Souhaly, F. (2021). Health Communication on Digital Platforms: A Systematic Analysis of the Effectiveness of Disseminating Medical Information Through Social Media. *Badati Journal of Social Sciences & Humanities*, 5(2). <https://doi.org/10.38012/Jb.V3i2.1392>
- [5] Emzir. (2023). *Educational Research Methodology: Quantitative and Qualitative*. Rajawali Press. <https://repository.penerbitwidina.com/media/publications/619370-Metodologi-Penelitian-Kualitatif-Dan-Pen-3a335276.pdf>
- [6] Febrianty, I., Antoni, D., Syamsuar, D., & Diana, D. (2024). Analysis of the Level of ICT Literacy Maturity of Health Workers in ICT-Based Health Services at Community Health Centers in Palembang City. *Journal of Information Technology and Computer Science*, 11(6), 1281–1290. <https://doi.org/10.25126/Jtiik.1166513>
- [7] Herlina, D. (2025). The Role of Digital Literacy in Improving Critical Thinking Skills to Support Effective Decision Making. *Journal of Digital Economics and Business*, 12(1). <https://garuda.kemdiktisaintek.go.id/documents/detail/4780880>
- [8] Hidayat, T., & Kurniawan, A. (2022). Survey Methods in Health Research. *Journal of Public Health*, 10(2), 45–52.
- [9] Hidayat, T., Sari, I., & Noviani, D. (2025). The Influence of Digital Literacy on Students' Critical Thinking Skills in the Society 5.0 Era. *Multidisciplinary Journal of West Science*, 4(8), 1404–1415. <https://garuda.kemdiktisaintek.go.id/documents/detail/5375663>
- [10] Indah Sari, AP, & Yolanda, Y. (2024). Validity and Reliability of Mid-Semester Summative Exam Questions for Grade X Phase E of SMA Negeri 8 Palembang. *Journal of Language, Literature, and Learning*, 7(2), 337–347. <http://ejurnal.budiutomomalang.ac.id/index.php/alfabeta/article/view/4310>
- [11] Kaunang, DR, Adam, A., & Alim, A. (2025). Transformation of Employee Communication Patterns in Public Health Services in the Digital Era: A Sociocultural Study. *Mitra Sehat Journal*, 15(3). <https://doi.org/10.51171/Jms.V15i3.587>
- [12] Ministry of Communication and Digital of the Republic of Indonesia. (2024). Indonesian Digital Society Index (IMDI) 2024. <https://bpsdm.komdigi.go.id/satker/pusbangesdmk/publikasi-indeks-masyarakat-digital-indonesia-imdi-tahun-2024-17-4>
- [13] Marbun, ESB, Destiani, TS, Fauzi, IR, Et Al. (2024). Improving Health, Education and Economy with Digital Literacy in SDGs 2030. *Multidisciplinary Journal of Academic Sciences*, 1(3), 81–92. <https://doi.org/10.61722/Jmia.V1i3.1361>

- [14] Martzoukou, K., Luders, E.S., Mair, J., Kostagiolas, P., Johnson, N., & Work, F. (2024). A Cross-Sectional Study Of Discipline-Based Self-Perceived Digital Literacy Competencies Of Nursing Students. *Journal Of Advanced Nursing*, 80(2), 656–672. <https://doi.org/10.1111/jan.15801>
- [15] Muin, A., Azzahra, SF, & Dimyati, A. (2023). Quantitative Research Data Processing. *Journal of Education*, 5(1), 55–66. <https://journal.uinjkt.ac.id/index.php/Algoritma/article/view/32618>
- [16] Nurhasanah, H., & Rahayu, W. (2025). Validity and Reliability of Self-Efficacy Instruments in Mathematics Learning Using the Rasch Model. *Journal of Mathematics Education*, 8(1), 36–45. <https://doi.org/10.24176/anargya.v8i1.14214>
- [17] Pratama, A., Et Al. (2024). Digital Literacy in Public Health. *Journal of Digital Health*, 2(1), 10–18.
- [18] Rachman, I., Jannah, A., Suardi, S., Ramdani, R., & Azizah, AN (2025). Community Digital Literacy Through Education on the Use of Mobile JKN. *Indonesian Community Service Journal*, 5(6), 2527–2536. <https://doi.org/10.54082/jamsi.2189>
- [19] Raharjo, NP, & Winarko, B. (2021). Analysis of the Digital Literacy Level of the Millennial Generation in Surabaya. *Jurnal Komunika*, 10(1), 33–43. <https://jurnal.kominfo.go.id/index.php/komunika/article/view/3795>
- [20] Sanaky, MM, Saleh, LM, & Titaley, HD (2021). Analysis of Factors Causing Delays in the Construction Project of the MAN 1 Tulehu Dormitory Building, Central Maluku. *Simetrik Journal*, 11(1), 432–439. <https://doi.org/10.31959/js.v11i1.615>
- [21] Shi, Z., Du, X., Li, J., Hou, R., Sun, J., & Marohabutr, T. (2024). Factors Influencing Digital Health Literacy Among Older Adults. *Frontiers In Public Health*, 12, 1447747. <https://doi.org/10.3389/fpubh.2024.1447747>
- [22] Subhaktiyasa, PG (2024). Determining *Population and Sample in Research*. *Scientific Journal of Educational Professions*, 9(4), 2721–2731. <https://jipp.unram.ac.id/index.php/jipp/article/view/2657>
- [23] Sugiyono. (2022). Quantitative, Qualitative, and R&D Research Methods. Alfabeta.
- [24] Sudioanto, R., Agustina, W., Jannah, AK, & Hidayah, RA (2025). Analysis of Digital Literacy and Critical Thinking of Students. *Journal of Language, Literature, & Culture Education*, 3(2). <https://doi.org/10.59632/leksikon.v3i2.476>
- [25] Wahyuni, T., Saadah, AA, Faida, EW, Lailia, SF, & Rosyari, AI (2025). Strengthening Digital Health Literacy Based on Islamic Values. *Journal of Community Service*, 5(2), 359–368. <https://doi.org/10.56013/jak.v5i2.4147>
- [26] Widodo, A., & Pratiwi, D. (2024). Validity and Reliability Test of Health Research Instruments. *Journal of Applied Statistics*, 6(1), 12–20.