The Role Of Digital Health Technology In Enhancing Health Promotion Campaigns : A Case Study From A Resource Imites Region

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ABSTRACT

Study This evaluate role technology digital health in increase effectiveness campaign promotion health in the region with source Power limited use method studies literature. Focus main is understand contribution application health, social media platforms , and services message short (SMS) in expand reach and impact information health , as well as identify challenges and solutions related its application . This method involving review systematic to relevant literature, including article journal , report research , and publication about technology digital health . Analysis aiming collect data about effectiveness technology , challenges faced, and strategies implemented . Findings show that technology digital health has the potential big in repair access information health , improve awareness society , and encourage behavior healthy. Limitations internet access and low digital literacy can hinder utilization technology. The proposed solution covering investment in infrastructure technology information , improvement digital literacy through training , and work The same between government , sector private sector , and non- governmental organizations . Technology digital health can become tool effective in reach objective health a more society good and even , especially in areas with source Power limited , with support and planned strategies. Research This give outlook about optimization technology digital health based proof studies literature For results better health Good .

Keywords: *Digital Health Technology, Health Promotion , Resources Imitations Regions*

INTRODUCTION

Health is one of the main pillars in development sustainable society Because good health contribute direct to productivity and well-being society (Dyakova, 2017). Access to service adequate health Still become challenge significant , especially in the areas with source Power limited (Elmusharaf , 2020). These areas often face various complex and interrelated constraints related , start from lack of infrastructure health , deficiency power medical , up to obstacle geographical which results in the difficulty access public to service health (Jacobs, 2021). The absence of facility adequate health , distribution power medical that is not evenly , and the difficulty access transportation make communities in the regions remote must to go through long distance and long time to get maintenance medical .

Condition This exacerbated by the low level education , which contributes to the lack of awareness will importance behavior life healthy and prevention disease (Shonkoff, 2019). Limitations information also becomes problem , where society often not own access to information accurate health , so that happen distribution incorrect information or No right (Cline, 2021).

All factor This in a way collective hinder effort promotion health that aims For increase awareness and change behavior society (mcginnis, 2022). Campaign promotion health in the region with source Power limited often not reach expected results Because obstacles(Nyamtema , 2021). The approach newer one innovative and inclusive For expand range service health and strengthen effort promotion health (Tzikaraki , 2019). Utilization technology digital health offers solution potential in answer various challenge this (Kasoju , 2023). Digital technology can help expand access to service health, providing accurate information , and encourage participation active public in guard health them , so that expected can speed up achievement objective health sustainable society in the future.

Campaign promotion health own role important in increase awareness public about importance guard health and prevent disease (Nutbeam , 2020). Promotion health become bridge between knowledge medical and its applications in life everyday . In the area with limitations source power , campaign This the more crucial Because public often not own adequate access to information and services health . Promotion methods health traditional like counseling look at face , print media , and distribution pamphlet often not effective in reach all over layer communities in the region (Ahmad, 2024). The low level literacy become constraint the main thing that makes messages health difficult understood (Ngoh, 2019). Information in form text or Language technical often not reach public with level low education . Limited mass media reach in the region . Remote also becomes obstacle in to spread messages health .

Technology digital health offers solution potential For overcome limitations this (Solomon, 2020). Utilization technology like mobile applications , social media platforms , and services message short (SMS) allows information health disseminated with fast and easy accessed by various layer community , including those in the regions remote . Technology This allow adjustment order for more relevant and easy understood by the community local with use appropriate language and format with culture as well as condition social they (Fletcher, 2020). Digital technology in campaign promotion health also improves participation and interactivity society , such as through application mobile health that enables user For access information in a way independent and interactive with provider service health . In achieving impact maximum , access wide to technology must supported through strengthening digital infrastructure , training use technology , as well as development appropriate content with local needs (Chohan, 2022). Steps This expected make campaign promotion health based on digital technology is capable give contribution significant in increase health community in the area with source Power limited (Thobias, 2018).

Technology digital health offers solution innovative For overcome various obstacle in distribution information and services health , especially in the areas with source Power limited (Lamichhanne , 2022). Application health mobile - based (mhealth) makes it easier user access information health , receive reminder maintenance medical , and monitoring condition health in a way independent (Berrouiguet , 2020). This is very useful in the area remote where facilities health often not adequate (Houghton, 2023). Telemedicine utilizes technology communication For give service health distance far , possible patient consult with power medical via video call or other digital platforms without must traveling to facility health . Approach This very important in distant areas from center health, reduce need will a journey that takes time and cost (Aringhieri , 2017).

Record medical electronics (RME) simplifies health data recording and management patient . System This make it easier administration and improve coordination between provider service health . With the presence of RME, doctors and personnel medical can access history medical patient with fast and accurate , which allows taking decision more clinical good and monitoring development health in a way efficient . Social media platforms play a role important in to spread information health (Chukwutere , 2020). Social media allow distribution messages health in a way wide and fast with relative cost low . Information about prevention disease , education health , and campaigns health can disseminated with effective (Gough, 2017). Social media provide room for public For share experience , ask , and get support from community , improve involvement and awareness to issues health (Fergie, 2016). Technology digital health improves access , efficiency and effectiveness service health in the region with source Power limited (Mumtaz, 2023). Use technology This allow provider service health give more services fast , affordable and precise targets (Free, 2023). The community obtains more access good and information better health accurate , open opportunity new For improvement quality life and well-being in areas in need (Costanza, 2017).

Study This aiming For explore How technology digital health can strengthen campaign promotion health in the region with source Power limited (Strak , 2022). Focus analysis lies in the role technology in increase awareness society , expanding access to service health , and improve involvement public in effort guard health they (Thompson, 2022). Technology digital health , such as application health mobile based , telemedicine, record medical electronics , and social media platforms , offering various method innovative For reach out and engage community in the area with limitations source power (Miah, 2017). Application health mobile based makes it easier public in access information health , receive reminder maintenance medical , and monitoring condition health in a way independent (Lee, 2018).

Telemedicine makes it possible consultation health distance far , reduce need For traveling Far to facility health , and accelerate access to service medical (Haleem, 2021). Record medical electronic simplify health data recording and management patient as well as increase coordination between provider service health , while social media platforms functioning as tool distribution information

rapid and widespread health . The challenges faced in implementation technology digital health includes limitations digital infrastructure , such as quality and availability internet network that is not evenly , which can hinder access public to technology This (Yao, 2022). Problem culture and language need attention special Because information health must customized with context local so that you can understood and accepted with good (Teles, 2021). The digital divide , which includes difference in access to digital devices , skills use technology , and level digital literacy , also becomes challenge significant (Scheerder , 2017).

Study This will identify and analyze challenges This as well as evaluate the impact to effectiveness campaign promotion health based on technology . With understanding deep about challenges this , it is expected study This can give valuable insights about method maximize potential technology digital health for strengthen campaign promotion health in the region with source Power limited , and give recommendation practical For development and implementation more technology effective and inclusive .

Study This will evaluate potential sustainability and scalability from intervention digital health in the region with source Power limited . Focus main analysis covers evaluation whether technology digital health can applied in a way extensive and sustainable , as well as how strategies are developed For ensure accessibility technology This for all over layer society . Aspects sustainability involving ability technology For Keep going used in a way effective after implementation beginning , and management cost maintenance and operations to remain affordable . Scalability covering potential expansion use technology from One community to other communities and adaptation technology For fulfil need different local (Greenhalgh, 20170. Models and practices best in implementation technology digital health in other areas will discussed together with factors key influencing success implementation in context area with source Power limited . Participation need various stakeholders interests , including maker policies , non- governmental organizations , providers service health , and society local , will also under consideration in design and implement campaign promotion effective health (Jackson, 2020) . The practical guide produced from analysis deep about challenges and opportunities expected can help maker policies and parties related other in designing an effective strategy For utilise digital technology in campaign promotion health (Stellefson, 2020). Research This aiming For identify ways innovative overcome obstacles that have been This obstruct achievement objective health public as well as push use technology digital health as tool essential in effort promotion health in the future .

Evaluation effectiveness intervention digital technology in campaign promotion health in the area with source Power limited Still less (Meyer, 2020). Many studies previously carried out in areas with more infrastructure well, so the result Possible No relevant For underprivileged communities source power. Research This need evaluate How technology like application mobile health, telemedicine, and social media platforms influence results health and change behavior in a less supportive environment support. Evaluation must covers

measurement impact term long to knowledge health , compliance medical , and prevalence disease , and consider limitations internet access and digital literacy (Hamine, 2023). Approach to research can give outlook For development technology better health effective and sustainable in the community with source Power limited .

RESEARCH METHODS

Study This use method qualitative with approach studies literature For evaluate role technology digital health in increase campaign promotion health in the region with source Power limited . This method chosen Because allow exploration deep to complex phenomena, such as implementation digital technology in context health. Literature study used For collect and analyze information from various relevant sources , without need Primary data collection . Stages study covering search literature through academic database such as Google Scholar, with focus on studies that discuss implementation technology digital health and the challenges faced in the region with source Power limited . After the literature collected , selection done based on relevance topic , validity , and quality Methodological . Selected literature analyzed in a way qualitative For identify theme main , such as benefit digital technology, barriers implementation, and effective strategies in campaign promotion health. Analysis results Then synthesized For formulate more patterns and conclusions wide , and produce recommendations that can applied in practice . This method allow researcher to obtain outlook deep about role technology digital health in promotion health , especially in areas with limitations source power , and identify effective strategies that can adopted For overcome existing challenges.

RESULTS AND DISCUSSION

Technology digital health has give impact significant in effort promotion health in the region with source Power limited (Gous , 2018). Application health and social media facilitate access previous information difficult reachable , which increases knowledge and encourage adoption behavior life healthy (Farsi, 2021). The community can to obtain guide about pattern Eat healthy, exercise and monitoring health daily through applications, while social media play a role effective in spread campaign health in a way interactive and fast. In the situation emergency health, technology This make it easier distribution information important , helpful control distribution disease (Wu, 2020). Progress digital technology also improves efficiency communication between provider service health and society (Wang, 2021). The previous communication limited to meetings direct or calling telephone now can done in a way more fast and efficient through message text, application message instant, and social media (Larsen, 2016).

Reminder promise meeting, information treatment, as well as support mental health can delivered with fast through digital platforms (Philippe, 2022). Chatbots and virtual assistants are increasingly often used For answer question general patient, giving information health basic , and direct they to the right

service , so that speed up response and reduce risk complications . Use digital technology in campaign promotion health also reduces cost operational in a way significant (Hauza , 2015). Cost the previous height issued For print material like pamphlets and posters, as well as For power Work counseling , can pressed with use of digital platforms (Giulivi , 2023). Educational materials health can disseminated via email, social media , or application , which is more economical costs (Stellefson , 2020). Technology such as video conferencing and webinar platforms allow training and counseling done virtually , reducing need travel and accommodation , which is very important in areas with budget health limited (Stellefson , 2020).

Implementation technology digital health in the region with source Power limited face challenge big , one of them is limitations internet access (Olson, 2021). Slow internet connection or No stable become obstacle main in utilise technology (Pramono , 2021). Investment in infrastructure technology information and communication required For expand internet network in the regions remote . Government and sector private must collaborate in build infrastructure for technology This can accessible to all layer society . Other challenges that arise is low digital literacy . Many people in areas with source Power limited No used to use technology such as smartphones, applications , or the internet. Difficulty in operate device This or lack of understanding about method its use For health become obstacle .

Training and education programs that focus on improving digital literacy must designed for easy understood , with counseling involving community local and training sustainable For ensure technology This utilized with good . Resistance culture to technology new also become barrier in implementation technology digital health . The community that still depends on practice health traditional or own possible trust contradictory with modern technology often refuses use application health or telemedicine. Important For involving stakeholders interest local , such as leader community , religious figures , or expert health traditional in the process of designing and implementing the program. Approach This can help minimize resistance and ensure that technology This accepted with well by the community.

Challenge related data security and privacy are also a must become Attention . Use digital technology in health at risk to security information personal users . In areas with source Power limited , infrastructure data security possible No as strong as in other areas, increasing risk violation privacy and abuse information . Provider service health and developers technology must ensure protocol strong security applied , as well as policy clear privacy For protect information personal user . Education about importance data security is also necessary given to society to be more be careful in use technology digital health . Potential technology digital health in increase effectiveness campaign promotion health in the region with source Power limited very big . Proper support in matter infrastructure , education , and a sensitive approach to culture can bring change significant positive to health public .

Technology digital health is increasingly confirm its crucial role in effort improvement health community , especially in areas that have limitations source power . Technology This No only allow distribution information better health broad and fast , but also significant increase effectiveness campaign health . Use application health , social media platforms , and services message short (SMS blast) becomes solution innovative capable reach public in a way wide , including in the regions remote . Application health give convenience for public For access relevant information with condition health they , like reminder vaccination , guide pattern Eat healthy , and recommendations activity physical (Singh, 2016). Social media platforms play a role effective in to educate public through content interactive , such as educational videos , infographics , and engaging viral campaigns attention various group age (Towner, 2017). SMS blast services are also becoming the right solution For reach individuals who do not own internet access , ensuring that message health can delivered to all over layer society , including those in rural areas or isolated .

Digital technology offers Lots benefits , challenges big Still faced , especially related limitations internet access and low digital literacy in the region with source Power limited . In many area remote , slow internet access or No stable become constraint the main thing that hinders utilization technology optimal digital health . The low level digital literacy also becomes challenges , where many public Not yet used to use modern technology such as mobile phone clever or digital applications (Meyers, 2023). For overcome challenge this , is required approach comprehensive involving strengthening infrastructure and education society. Investment in infrastructure technology information and communication must become priority, with expand internet network in areas that have not been affordable.

Government, sector private sector, and non- governmental organizations need Work The same For ensure availability adequate internet access throughout the region, so that public can utilise technology optimal digital health . Improvement digital literacy becomes element key in ensure public can use technology This with good (Fallon, 2020). Training programs that focus on improving digital literacy is necessary developed and customized with need local . Training This must designed for easy understandable and relevant with life daily society , for example with teach method use application health , access information health via the internet, or recognize signs digital fraud that can endanger personal data security . Counseling through approach based on community and work The same with stakeholders interest local will increase the effectiveness of this digital literacy program .

Technology digital health no only functioning as means distribution information health , but also plays a role important in change behavior public going to style a better life healthy . Use technology This has proven capable increase awareness public about importance guard health and encourage they For take action preventive . Campaign health care is carried out through applications , social media , and SMS blast services have potential For Motivate public in apply habit life healthy . Application health which in a way routine give

reminder For exercising or follow pattern Eat Healthy can help public guard pattern life Healthy in a way consistent. Announcement through social media that spreads information about danger smoking , the importance of immunization , or method prevent distribution disease infectious has proven effective in change pattern thoughts and behavior society . Change behavior This No only impact on individuals , but also on communities in a way overall (Brown, 2021).

Information health disseminated in a way effective through digital technology , society become more aware will importance health and more pushed For take steps preventive (Nelson, 2024). This is can reduce incident diseases that can prevented , such as obesity , diabetes, and disease cardiovascular . In areas with limitations source power , where access to service health Possible limited , technology This play role important in support effort prevention and management health. Technology digital health also provides benefit in matter monitoring and evaluation change behavior society (Kasnja , 2021). Collected data through application health or online surveys can used For evaluate impact campaign health in a way more effective . With this data , providers service health can see change pattern behavior community , identifying areas in need attention more , and adjust the campaign strategy more appropriate target . Usage data application health can show improvement activity physique public after campaign promotion sport or improvement amount users who comply timetable vaccination after campaign immunization (Michie, 2017). The use of this data allow approach based on more evidence Good in planning and implementation campaign future health . Collaboration between government , non- governmental organizations , and sectors private very important in strengthen use technology digital health .

Government own role in create supportive policies adoption technology this , including regulations that protect data security and privacy (Ali, 2020). Non- governmental organizations can play a role in provide training and education for society , while sector private can contribute in provision infrastructure and development application innovative health (Chesbrough , 2016). Collaboration between various party This will ensure that technology digital health can accessible to all layer society , especially those who are in the area with source Power limited. Technology digital health has potential outside normal in increase effectiveness campaign health , change behavior society , and reduce burden disease in the area with source Power limited . The challenges that exist need holistic and sustainable solutions , starting from from improvement internet access , digital literacy , to supportive policies (Clark, 2022). The right approach , technology This can become very useful tool effective in reach objective health a more society good and even (Travis, 2024). Potential technology digital health in create change positive in the field health public No only seen from the impact moment this , but also from its potential in strengthen system global health in the future.

CONCLUSION

Technology digital health plays role important in increase effectiveness campaign promotion health, especially in areas with source power limited. Application health, social media platforms, and services message short (sms) allows distribution information health in a way wide and fast, and reach communities in difficult areas accessible. However, the challenges like limitations internet access and low digital literacy is necessary overcome for utilise technology this optimally. Approach comprehensive required for optimize benefit technology digital health, including investment in infrastructure technology information, improvement digital literacy, and work the same between government, sector private sector, and non- governmental organizations. Appropriate training programs and improvements infrastructure is step important in overcome existing constraints. Technology digital health no only increase knowledge health society, but also contribute to change more behavior healthy as well as reduce burden diseases that can prevented. The right strategy will allow technology this become very useful tool effective in reach objective health a more society good and even, and strengthen system health in a way overall. Collaboration and support sustainable ensure that benefit technology digital health can felt optimally, especially in areas with source power limited.

BIBLIOGRAPHY

Ahmad, F., Shik, A., Vanza, R., Cheung, A., George, U., & Stewart, D. E. (2004). Popular Health Promotion Strategies Among Chinese and East Indian Immigrant Women. Women & Health, 40(1), 21–40. https://doi.org/10.1300/j013v40n01_02

Ali, O., & Osmanaj, V. (2020). The role of government regulations in the adoption of cloud computing: A case study of local government. Computer Law & Security Review, 36, 105396. https://doi.org/10.1016/j.clsr.2020.105396

Aringhieri, R., Bruni, M. E., Khodaparasti, S., & van Essen, J. T. (2017). Emergency medical services and beyond: Addressing new challenges through a wide literature review. Computers & Operations Research, 78, 349–368. https://doi.org/10.1016/j.cor.2016.09.016

Berrouiguet, S., Baca-García, E., Brandt, S., Walter, M., & Courtet, P. (2016). Fundamentals for Future Mobile-Health (mHealth): A Systematic Review of Mobile Phone and Web-Based Text Messaging in Mental Health. Journal of Medical Internet Research, 18(6), e135. https://doi.org/10.2196/jmir.5066

Brown, E. R. (2021). Community Action for Health Promotion: A Strategy to Empower Individuals and Communities. International Journal of Health Services, 21(3), 441–456. https://doi.org/10.2190/akcp-l5a4-mxxq-dw9k

Chesbrough, H., Ahern, S., Finn, M., & Guerraz, S. (2006). Business Models for Technology in the Developing World: The Role of Non-Governmental Organizations. California Management Review, 48(3), 48–61. https://doi.org/10.2307/41166349

Chohan, S. R., & Hu, G. (2020). Strengthening digital inclusion through e-government: cohesive ICT training programs to intensify digital competency. Information Technology for Development, 28(1), 16–38. https://doi.org/10.1080/02681102.2020.1841713

Clark, S., MacLachlan, M., Marshall, K., Morahan, N., Carroll, C., Hand, K., Boyle, N., & O'Sullivan, K. (2022). Including Digital Connection in the United Nations Sustainable Development Goals: A Systems Thinking Approach for Achieving the SDGs. Sustainability, 14(3), 1883. https://doi.org/10.3390/su14031883

Cline, R. J. W. (2021). Consumer health information seeking on the Internet: the state of the art. Health Education Research, 16(6), 671–692. https://doi.org/10.1093/her/16.6.671

Chukwuyere, A. E., Nwanneka, O. I., Chukwudebelu, C. C., & Chidiebere, E. B. (2020). Librarians' use of social media in disseminating health information on COVID-19. *International Journal of Research and Review*, 7(7), 443-454. https://doi.org/10.1504/ijeh.2020.113199

Costanza, R., Fisher, B., Ali, S., Beer, C., Bond, L., Boumans, R., Danigelis, N. L., Dickinson, J., Elliott, C., Farley, J., Gayer, D. E., Glenn, L. M., Hudspeth, T., Mahoney, D., McCahill, L., McIntosh, B., Reed, B., Rizvi, S. A. T., Rizzo, D. M., … Snapp, R. (2007). Quality of life: An approach integrating opportunities, human needs, and subjective well-being. Ecological Economics, 61(2–3), 267–276. https://doi.org/10.1016/j.ecolecon.2006.02.023

Dyakova, M. (2017). Investment for health and well-being: developing and using infographics as an advocacy tool in Wales. European Journal of Public Health, 27(suppl_3). https://doi.org/10.1093/eurpub/ckx187.013

Elmusharaf, K., Byrne, E., & O'Donovan, D. (2020). Strategies to increase demand for maternal health services in resource-limited settings: challenges to be addressed. BMC Public Health, 15(1). https://doi.org/10.1186/s12889-015-2222-3

Falloon, G. (2020). From digital literacy to digital competence: the teacher digital competency (TDC) framework. Educational Technology Research and Development, 68(5), 2449–2472. https://doi.org/10.1007/s11423-020-09767-4

Farsi, D. (2021). Social Media and Health Care, Part I: Literature Review of Social Media Use by Health Care Providers. Journal of Medical Internet Research, 23(4), e23205. https://doi.org/10.2196/23205

Fergie, G., Hunt, K., & Hilton, S. (2016). Social media as a space for support: Young adults' perspectives on producing and consuming user-generated content about diabetes and mental health. Social Science & Medicine, 170, 46–54. https://doi.org/10.1016/j.socscimed.2016.10.006

Fletcher, R. (2006). The impact of culture on web site content, design, and structure. Journal of Communication Management, 10(3), 259–273. https://doi.org/10.1108/13632540610681158

Free, C., Phillips, G., Watson, L., Galli, L., Felix, L., Edwards, P., Patel, V., & Haines, A. (2013). The Effectiveness of Mobile-Health Technologies to Improve Health Care Service Delivery Processes: A Systematic Review and Meta-Analysis. PLoS Medicine, 10(1), e1001363. https://doi.org/10.1371/journal.pmed.1001363

Giulivi, N., Harou, A. P., Gautam, S., & Guereña, D. (2022). Getting the message out: Information and communication technologies and agricultural extension. American Journal of Agricultural Economics, 105(3), 1011–1045. Portico. https://doi.org/10.1111/ajae.12348

Gough, A., Hunter, R. F., Ajao, O., Jurek, A., McKeown, G., Hong, J., Barrett, E., Ferguson, M., McElwee, G., McCarthy, M., & Kee, F. (2017). Tweet for Behavior Change: Using Social Media for the Dissemination of Public Health Messages. JMIR Public Health and Surveillance, 3(1), e14. https://doi.org/10.2196/publichealth.6313

Gous, N., Boeras, D. I., Cheng, B., Takle, J., Cunningham, B., & Peeling, R. W. (2018). The impact of digital technologies on point-of-care diagnostics in resource-limited settings. Expert Review of Molecular Diagnostics, 18(4), 385–397. https://doi.org/10.1080/14737159.2018.1460205

Greenhalgh, T., Wherton, J., Papoutsi, C., Lynch, J., Hughes, G., A'Court, C., Hinder, S., Fahy, N., Procter, R., & Shaw, S. (2017). Beyond Adoption: A New Framework for Theorizing and Evaluating Nonadoption, Abandonment, and Challenges to the Scale-Up, Spread, and Sustainability of Health and Care Technologies. Journal of Medical Internet Research, 19(11), e367. https://doi.org/10.2196/jmir.8775

Haleem, A., Javaid, M., Singh, R. P., & Suman, R. (2021). Telemedicine for healthcare: Capabilities, features, barriers, and applications. Sensors International, 2, 100117. https://doi.org/10.1016/j.sintl.2021.100117

Haluza, D., & Jungwirth, D. (2015). ICT and the future of health care: aspects of health promotion. International Journal of Medical Informatics, 84(1), 48–57. https://doi.org/10.1016/j.ijmedinf.2014.09.005

Hamine, S., Gerth-Guyette, E., Faulx, D., Green, B. B., & Ginsburg, A. S. (2015). Impact of mHealth Chronic Disease Management on Treatment Adherence and Patient Outcomes: A Systematic Review. Journal of Medical Internet Research, 17(2), e52. https://doi.org/10.2196/jmir.3951

Houghton, N., Bascolo, E., Cohen, R. R., Vilcarromero, N. L. C., Gonzalez, H. R., Albrecht, D., ... & Fitzgerald, J. (2023). Identifying access barriers faced by rural and dispersed communities to better address their needs: implications and lessons learned for rural proofing for health in the Americas and beyond. *Rural and remote health*, 23(1), 1-12. https://doi.org/10.22605/rrh7822

Jackson, S. F., Perkins, F., Khandor, E., Cordwell, L., Hamann, S., & Buasai, S. (2006). Integrated health promotion strategies: a contribution to tackling current and future health challenges. Health Promotion International, 21(suppl_1), 75–83. https://doi.org/10.1093/heapro/dal054

Jacobs, B., Ir, P., Bigdeli, M., Annear, P. L., & Van Damme, W. (2021). Addressing access barriers to health services: an analytical framework for selecting appropriate interventions in low-income Asian countries. Health Policy and Planning, 27(4), 288–300. https://doi.org/10.1093/heapol/czr038

Klasnja, P., Consolvo, S., & Pratt, W. (2021). How to evaluate technologies for health behavior change in HCI research. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. https://doi.org/10.1145/1978942.1979396

Kasoju, N., Remya, N. S., Sasi, R., Sujesh, S., Soman, B., Kesavadas, C., Muraleedharan, C. V., Varma, P. R. H., & Behari, S. (2023). Digital health: trends, opportunities and challenges in medical devices, pharma and bio-technology. CSI Transactions on ICT, 11(1), 11–30. https://doi.org/10.1007/s40012-023-00380-3

Lamichhane, B., & Neupane, N. (2022). Improved Healthcare Access in Low-resource Regions: A Review of Technological Solutions. *arXiv preprint arXiv:2205.10913*. https://doi.org/10.1063/pt.5.028530

Larsen, J., Axhausen, K. W., & Urry, J. (2006). Geographies of Social Networks: Meetings, Travel and Communications. Mobilities, 1(2), 261–283. https://doi.org/10.1080/17450100600726654

Lee, J.-A., Choi, M., Lee, S. A., & Jiang, N. (2018). Effective behavioral intervention strategies using mobile health applications for chronic disease management: a systematic review. BMC Medical Informatics and Decision Making, 18(1). https://doi.org/10.1186/s12911-018-0591-0

Meyer, A. J., Armstrong-Hough, M., Babirye, D., Mark, D., Turimumahoro, P., Ayakaka, I., Haberer, J. E., Katamba, A., & Davis, J. L. (2020). Implementing mHealth Interventions in a Resource-Constrained Setting: Case Study From Uganda. JMIR MHealth and UHealth, 8(7), e19552. https://doi.org/10.2196/19552

Meyers, E. M., Erickson, I., & Small, R. V. (2023). Digital literacy and informal learning environments: an introduction. Learning, Media and Technology, 38(4), 355–367. https://doi.org/10.1080/17439884.2013.783597

McGinnis, J. M., Williams-Russo, P., & Knickman, J. R. (2022). The Case For More Active Policy Attention To Health Promotion. Health Affairs, 21(2), 78–93. https://doi.org/10.1377/hlthaff.21.2.78

Miah, S. J., Hasan, N., Hasan, R., & Gammack, J. (2017). Healthcare support for underserved communities using a mobile social media platform. Information Systems, 66, 1–12. https://doi.org/10.1016/j.is.2017.01.001

Michie, S., Yardley, L., West, R., Patrick, K., & Greaves, F. (2017). Developing and Evaluating Digital Interventions to Promote Behavior Change in Health and Health Care: Recommendations Resulting From an International Workshop. Journal of Medical Internet Research, 19(6), e232. https://doi.org/10.2196/jmir.7126

Mumtaz, H., Riaz, M. H., Wajid, H., Saqib, M., Zeeshan, M. H., Khan, S. E., Chauhan, Y. R., Sohail, H., & Vohra, L. I. (2023). Current challenges and potential solutions to the use of digital health technologies in evidence

generation: a narrative review. Frontiers in Digital Health, 5. https://doi.org/10.3389/fdgth.2023.1203945

Nelson, D., Kreps, G., Hesse, B., Croyle, R., Willis, G., Arora, N., Rimer, B., Vish Viswanath, K., Weinstein, N., & Alden, S. (2024). The Health Information National Trends Survey (HINTS): Development, Design, and Dissemination. Journal of Health Communication, 9(5), 443–460. https://doi.org/10.1080/10810730490504233

Ngoh, L. N. (2019). Health literacy: A barrier to pharmacist–patient communication and medication adherence. Journal of the American Pharmacists Association, 49(5), e132–e149. https://doi.org/10.1331/japha.2009.07075

Nutbeam, D. (2020). Health literacy as a public health goal: a challenge for contemporary health education and communication strategies into the 21st century. Health Promotion International, 15(3), 259–267. https://doi.org/10.1093/heapro/15.3.259

Nyamtema, A. S., Urassa, D. P., & van Roosmalen, J. (2011). Maternal health interventions in resource limited countries: a systematic review of packages, impacts and factors for change. BMC Pregnancy and Childbirth, 11(1). https://doi.org/10.1186/1471-2393-11-30

Olson, J. R., Lucy, M., Kellogg, M. A., Schmitz, K., Berntson, T., Stuber, J., & Bruns, E. J. (2021). What Happens When Training Goes Virtual? Adapting Training and Technical Assistance for the School Mental Health Workforce in Response to COVID-19. School Mental Health, 13(1), 160–173. https://doi.org/10.1007/s12310-020-09401-x

Philippe, T. J., Sikder, N., Jackson, A., Koblanski, M. E., Liow, E., Pilarinos, A., & Vasarhelyi, K. (2022). Digital Health Interventions for Delivery of Mental Health Care: Systematic and Comprehensive Meta-Review. JMIR Mental Health, 9(5), e35159. https://doi.org/10.2196/35159

Pramono, R., Pramezwary, A., Situmorang, J. M. H., & Djakasaputra, A. (2021). Constraints Faced by School of Hospitality and Tourism Students in Distance Learning Using Online Platform in the Pandemic Covid 19. *Turkish Online Journal of Qualitative Inquiry*, *12*(3). https://doi.org/10.17569/tojqi.767378

Scheerder, A., van Deursen, A., & van Dijk, J. (2017). Determinants of Internet skills, uses and outcomes. A systematic review of the second- and third-level digital divide. Telematics and Informatics, 34(8), 1607–1624. https://doi.org/10.1016/j.tele.2017.07.007

Shonkoff, J. P., Boyce, W. T., & McEwen, B. S. (2019). Neuroscience, Molecular Biology, and the Childhood Roots of Health Disparities. JAMA, 301(21), 2252. https://doi.org/10.1001/jama.2009.754

Singh, K., Drouin, K., Newmark, L. P., Lee, J., Faxvaag, A., Rozenblum, R., Pabo, E. A., Landman, A., Klinger, E., & Bates, D. W. (2016). Many Mobile Health Apps Target High-Need, High-Cost Populations, But Gaps Remain. Health Affairs, 35(12), 2310–2318. https://doi.org/10.1377/hlthaff.2016.0578

Solomon, D. H., & Rudin, R. S. (2020). Digital health technologies: opportunities and challenges in rheumatology. Nature Reviews Rheumatology, 16(9), 525–535. https://doi.org/10.1038/s41584-020-0461-x

Stark, A. L., Geukes, C., & Dockweiler, C. (2022). Digital Health Promotion and Prevention in Settings: Scoping Review. Journal of Medical Internet Research, 24(1), e21063. https://doi.org/10.2196/21063

Stellefson, M., Paige, S. R., Chaney, B. H., & Chaney, J. D. (2020). Evolving Role of Social Media in Health Promotion: Updated Responsibilities for Health Education Specialists. International Journal of Environmental Research and Public Health, 17(4), 1153. https://doi.org/10.3390/ijerph17041153

Teles, S., Napolskij, M. S., Paúl, C., Ferreira, A., & Seeher, K. (2020). Training and support for caregivers of people with dementia: The process of culturally adapting the World Health Organization iSupport programme to Portugal. Dementia, 20(2), 672–697. https://doi.org/10.1177/1471301220910333

Thobias, J., & Kiwanuka, A. (2018). Design and implementation of an m-health data model for improving health information access for reproductive and child health services in low resource settings using a participatory action research approach. BMC Medical Informatics and Decision Making, 18(1). https://doi.org/10.1186/s12911-018-0622-x

Thompson, H. M., Clement, A. M., Ortiz, R., Preston, T. M., Quantrell, A. L. W., Enfield, M., King, A. J., Klosinski, L., Reback, C. J., Hamilton, A., & Milburn, N. (2022). Community engagement to improve access to healthcare: a comparative case study to advance implementation science for transgender health equity. International Journal for Equity in Health, 21(1). https://doi.org/10.1186/s12939-022-01702-8

Towner, T. L. (2017). The Infographic Election. The Presidency and Social Media, 236–262. https://doi.org/10.4324/9781315112824-13

Travis, P., Bennett, S., Haines, A., Pang, T., Bhutta, Z., Hyder, A. A., Pielemeier, N. R., Mills, A., & Evans, T. (2024). Overcoming health-systems constraints to achieve the Millennium Development Goals. The Lancet, 364(9437), 900–906. https://doi.org/10.1016/s0140-6736(04)16987-0

Tziraki-Segal, C., De Luca, V., Santana, S., Romano, R., Tramontano, G., Scattola, P., Celata, C., Gelmi, G., Ponce Márquez, S., Lopez-Samaniego, L., Zavagli, V., Halkoaho, A., Grimes, C., Tomás, M. T., Fernandes, B., Calzà, L., Speranza, P., Coppola, L., Jager-Wittenaar, H., … Illario, M. (2019). Creating a Culture of Health in Planning and Implementing Innovative Strategies Addressing Non-communicable Chronic Diseases. Frontiers in Sociology, 4. https://doi.org/10.3389/fsoc.2019.00009

Wang, Q., Su, M., Zhang, M., & Li, R. (2021). Integrating Digital Technologies and Public Health to Fight Covid-19 Pandemic: Key Technologies, Applications, Challenges and Outlook of Digital Healthcare. International Journal of Environmental Research and Public Health, 18(11), 6053. https://doi.org/10.3390/ijerph18116053

Wu, J., Wang, J., Nicholas, S., Maitland, E., & Fan, Q. (2020). Application of Big Data Technology for COVID-19 Prevention and Control in China: Lessons

and Recommendations. *Journal of Medical Internet Research*, 22(10), e21980. https://doi.org/10.2196/21980

Yao, R., Zhang, W., Evans, R., Cao, G., Rui, T., & Shen, L. (2022). Inequities in Health Care Services Caused by the Adoption of Digital Health Technologies: Scoping Review. *Journal of Medical Internet Research*, 24(3), e34144. https://doi.org/10.2196/34144