

# Technology, its gaps and their impact on health care

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## Abstract

Technology is a useful tool for improving healthcare processes but, for many, digital barriers are an obstacle to taking advantage of the opportunities offered by technology. Digital barriers include lack of access to technology, lack of digital skills, the generation gap, lack of confidence and the fear of making mistakes. These barriers may have negative consequences on people's quality of life, like social isolation and digital exclusion. Older adults may have difficulties in making healthcare decisions if they cannot download files or open emails, or if the system is offline, which can cause treatment delays and lost opportunities. It is important for healthcare providers to be aware of these digital barriers and offer alternative solutions to ensure that all patients have access to the medical care they require. The digital gap may affect healthcare equity and measures must be taken to close it and ensure that all patients have an equal opportunity to receive quality health care. (*Acta Med Colomb* 2022; 48. DOI: <https://doi.org/10.36104/amc.2023.2945>).

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Paradoxically, technological tools have been designed with the goal of improving processes and facilitating actions, but I will tell you a story, the story of Don Juan (fictitious name), but the story is close to reality, although if Maria, Alexander or Sandra is more to your taste, that is fine with me.

It is 4:30 in the afternoon, a typical workday is coming to a close; it was a good afternoon, a good clinic, the weather cooperated, it was neither too hot nor too cold, a quiet afternoon.

"Come in, Don Juan, it is good to see you."

"Likewise," he answers me very happily.

We have known each other for a while now, approximately two years. A short greeting, and then I ask: "Don Juan, did you bring the result of the tomography I ordered for you?"

He, looking all innocent, despite his 70+ years of age, says: "Dr., would you believe that I have been watching my mail, but I haven't received any letters. I've even asked my neighbors if they have seen a mailman, but it's as though I'm asking about a ghost."

I think he notices my amazed, or perhaps confused, expression at his answer.

"The mailman, Don Juan?"

"Yes, Dr., at the center where they did the tomography they told me that they would send me the result by mail."

I smile a little, thinking that perhaps this is some sort of

joke, but then I notice how his expression changes to what could be termed a feeling of hopelessness.

"Is something wrong, Dr.?" (with a worried tone now).

And I answer, "The mail they are talking about is electronic mail, by computer."

"What do you mean, Dr.? I can barely understand a little bit about numbers, because I learned about that as a child so people wouldn't cheat me out of my money, but I don't know more than that, I don't even have a cell phone."

And I answer, "But maybe your grandson or son can help with that."

"Dr., they don't live with me. They are in a different country, and we haven't talked in a long time."

What seems anecdotal here or perhaps an exaggerated example is not so far from the truth. Although technology arrived to help us, it is leaving behind a large group of people who we could respectfully refer to as "digital illiterates," and, in terms of health, it leads to their running large risks, as many processes require the patient to have, carry and/or manipulate some type of technological tool and, in terms of health and disease, we cannot leave behind those who do not have these tools.

As technology advances, access to information and communication has become increasingly important in our daily

lives. However, for many older adults or people without full access to these technologies, digital barriers have become an obstacle to fully benefiting from the opportunities they offer. This coincides with a recent article by Dr. Carlos San Juan, who, as described by the Colombian journalist Daniel Samper, “raised a protest that shook Spain and Europe: ‘I am older, but not an idiot,’ in which he denounces that the elderly have been swept away by information technology practices and sophisticated and ephemeral equipment unfamiliar to those of us who were educated in a simpler and more pleasant secular culture: interpersonal contact” (1) (translated).

The digital barriers faced by older adults include lack of access to technology, lack of digital skills, the generation gap, lack of confidence and the fear of making mistakes. These barriers can have negative consequences on their quality of life, like social isolation and digital exclusion.

According to the World Report on Aging and Health 2015 by the World Health Organization (WHO), technology is one of the healthcare tools (2), and the most common digital barriers faced by older adults are lack of internet access (38%), lack of digital skills (28%) and lack of interest in or the need to use technology (19%).

According to the 2021 Pew Research Center study on adults 65 years old or older in the United States, 41% do not use the internet at all, and 53% lack high-speed connectivity (5).

Data from Latin America shows us that, according to the Mexican Instituto Nacional de Estadística y Geografía (INEGI) [National Institute for Statistics and Geography] in 2020, the proportion of rural internet users was only 50.4% (3). In Colombia, according to the DANE [National Administrative Department of Statistics] in 2021, a little more than half of Colombian homes had internet access, approximately 60.5% (4). How will the remaining 39.5% access the service?

How many of you have had the experience in your offices of not being able to make a decision because the patient was unable to download the file, could not open the email, or the system was offline? All of this with the consequence of delaying treatment, missing opportunities, or waiting a month or more for an appointment that is wasted, as the results could not be accessed. Another example of a potential obstacle for this population is downloading applications to be able to receive medications, procedures or office visits.

This is a call for everyone to help this group of people to overcome these barriers, especially clinical laboratories,

pathology departments, diagnostic imaging units, appointment desks, etc. Although we know that some population groups have adapted to all the digital growth and some prefer it, we can say that part of humanizing care is to have human beings caring for human beings discriminated against by technology. Attention should be paid to the specific needs and skills of older adults, providing them with adequate training in technology, and offering access to tools and services adapted to their skills and preferences.

Scientific societies and physicians’ own medical practices have the responsibility to promote and favor inclusion policies, with personal care options for human beings who prefer to deal with human beings, and facilitate processes and the delivery of results or easy assignment of appointments. If we leave people behind because of technology, we are missing one of the main reasons for its creation: to improve societal conditions.

Likewise, in medical education settings, it is important for medical students’ knowledge to include strategies for avoiding digital barriers for older adults. Medical students should be able to help overcome these barriers and ensure that older patients can benefit from the advantages of technology in medical care, including telemedicine and remote monitoring. It is essential for future physicians to be prepared to provide inclusive medical care that is accessible for all ages.

## Conclusions

Digital barriers are a significant obstacle to the digital inclusion of older adults. To overcome these barriers, attention must be given to the specific needs and skills of older adults, providing them with adequate training in technology, access to tools and services adapted to their skills and preferences, and emotional and psychological support. Only then will we be able to ensure that older adults are not left behind in society and can enjoy all the benefits offered by technology.

## References

1. **Daniel Samper Ospina.** Somos mayores, no imbéciles. Los Danieles y Cambio. 19 Febrero 2023. <https://cambiocolombia.com/los-danieles/somos-mayores-no-imbeciles>
2. **Informe mundial sobre el envejecimiento y la salud.** Organización Mundial de la Salud, 2015. ([www.who.int](http://www.who.int))
3. **Instituto Federal de Comunicaciones de México.** Comunicado de prensa núm. 352/21 22 de junio de 2021 chrome- extension://efaidnbmnnnibpcajpcglcle-6findmkaj/[https://www.inegi.org.mx/contenidos/saladeprensa/boletines/2021/OtrTemEcon/ENDUTIH\\_2020.pdf](https://www.inegi.org.mx/contenidos/saladeprensa/boletines/2021/OtrTemEcon/ENDUTIH_2020.pdf)
4. **DANE.** Encuesta de Tecnologías de la Información y las Comunicaciones en Hogares. 2021
5. **Pew Research Center.** Informe del Pew Research Center. 2021

