



Acceptability of a Bilingual Chatbot for Cancer Genetic Counseling Amongst Regional Hispanic/ Latino Communities

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Background

A short horizontal bar with a teal left half and an orange right half.

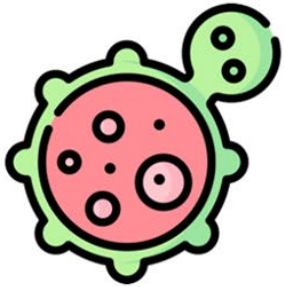
What we know:



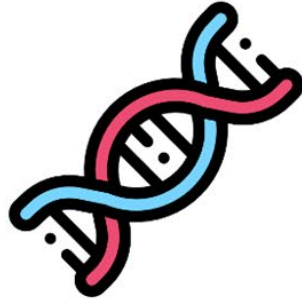
Cancer is the leading
cause of death in
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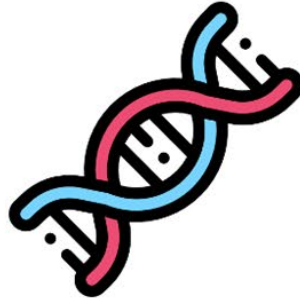
Cancer genetics
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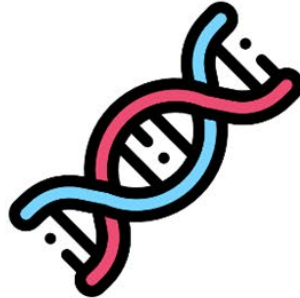
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What we know:



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H/L adults face unique barriers to accessing services



What is a chatbot?

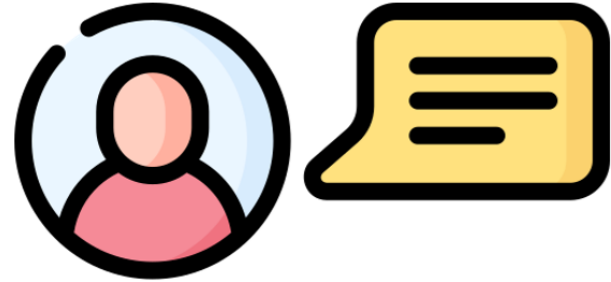
Computer/AI-driven conversational agent

- Messages with a human user in a WhatsApp-like manner

Some developed/validated by genetic counselors

- Collect family history, provide pre-test education

Schmidlen et al. 2019: favorable impressions of chatbot “Gia”





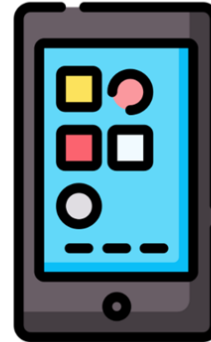
Why a chatbot?

Available on
smartphone/tablet/computer

- 25% Hispanic internet users smartphone only
- 85% smartphone ownership

Available in English or Spanish

- Language concordance improves healthcare communication, fosters trust



Methods



Part 1

Population: bilingual Hispanic community leaders

Recruitment: personal contact + snowball sampling

Pre-
chatbot
interview



Chatbot
demo



Post-
chatbot
interview

Part 2



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Population: bilingual Hispanic community

members

Recruitment: Personal contact + flyer

Community
Presentation



Chatbot



Interview



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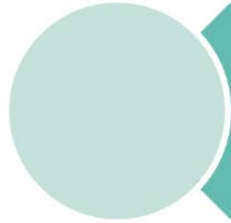


Chatbot



Interview

Part 1 Review: Community Leaders



1. Investigate barriers to cancer care in regional Hispanic communities



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2. Assess health education approaches used by regional Hispanic community leaders



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2. Assess health education approaches used by regional Hispanic community leaders



3. Evaluate acceptability of bilingual chatbot amongst regional Hispanic community leaders

Key results from Part 1



- Documentation status
- Language
- Income
- Insurance
- Competing priorities

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- **Documentation status**
- **Language**
- **Income**
- **Insurance**
- **Competing priorities**



- **Increased need for & interest in cancer education, centering:**
 - **Trust**
 - **Personalismo**
 - **Community-based**



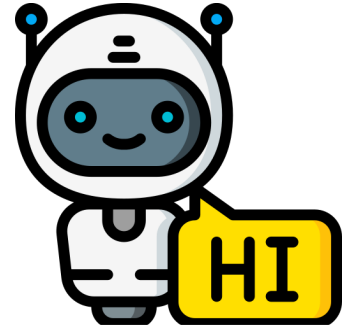
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- **All community leaders would recommend**
- **Easy to use, understand**
- **Time saving**
- **Bilingual a plus**
- **Safe, private**



Chatbots could be an accessible tool for cancer genetic screening for regional Hispanic communities

[The chatbot is] **easy to get**, it's **easy to navigate**, and **it would really make them aware of how [cancer] could**, it could, it could **actually exist within their families**...children, grandparents, aunts, uncles, nieces, nephews, and cousins, that, that is, **I mean, a number, a ramification of your family that you many times don't even think about. So this is really good, that, that information.** And **it goes fast**, so I think **families spend so much time in their phones nowadays, it's right there available for them.** And if they have further information it's something workers to- you know, a red flag would, would show up, I mean, **they would be now more willing to check with a doctor**... many times like I was sharing with you at the beginning, they don't go to a doctor because of lack of transportation, because of language issues, because of insurance issues... This is- **I see it like a good way to get a screening, to see if I really need to go to see a doctor and follow up on this.** So, I think, yeah, **I will definitely share it with families** and explain to them that it's **confidential**, and it does tell you that at the very beginning. (P2)

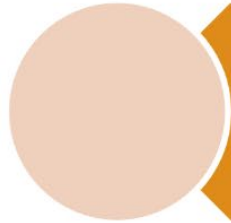
Part 2 Review: Community Members




Develop a bilingual education plan to educate individuals about cancer screening, prevention, and genetic contributions to disease as well as introduce a chatbot to local Hispanic/Latino communities.



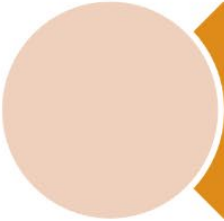
1. Develop a bilingual education plan to educate individuals about cancer screening, prevention, and genetic contributions to disease as well as introduce a chatbot to local Hispanic/Latino communities.




2. Evaluate community members' feedback regarding the education plan for improving access to cancer care for Hispanic/Latino families.



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2. Evaluate community members' feedback regarding the education plan for improving access to cancer care for Hispanic/Latino families.



3. Assess interest, acceptance, and usability of a bilingual chatbot within Hispanic/Latino communities.



Part Two: Results



Theme 1: Informative Presentation (13/ 13)

- 100% thought the presentation was informative
 - Subtheme: Learned about genetic and familial risk of cancer (9/13)
 - Subtheme: importance of screening (7/13)
 - Subtheme: prioritizing lifestyles (3/13)
- Noteworthy: Presentation recommendations
 - Scientific studies and testimonials
 - Simpler language
 - Technical difficulties

Hey, I loved it. Because the topics were very, very broad, well understood, with languages that one can understand clearly, they did not use very eloquent words that one does not understand, they gave the opportunity to ask questions, there were doubts that one had there, they answered them, I loved it and I really like that, those workshops that they do. I love it. P7



Theme 2: Cancer is fatal (6/ 13)



I think that, the bad thing is that I believe that when someone hears that they have cancer, they think that they are going to die immediately and even more so if they do not have the resources to be able to undergo treatment. So maybe it's something strong enough to feel, well, not fatal, but very, very bad. Depressing. P3



Theme 3: Early detection is key to prognosis (10/ 12)

Well, no, I think, look, my way of thinking is this: if you, if you are detected with cancer in time, it is removed or treated and there is more opportunity not to die, but if you do not take care of it in time, you do not pay attention to the pain your body warns you about. Well then, if there is no remedy. P7



Theme 4: Cancer is not discussed (9/ 12)

- Subtheme: Not a common conversation topic (5/12)
- Subtheme: Not discussed due to fear or taboo (4/12)

Because it is something. I mean, it's not that I don't want to talk about it or that it's taboo or whatever, but if there is no subject, I mean no! I mean, sadly it's not that they don't give it importance, but it's not as a topic of conversation you know how. P13

Well, in my family we don't touch the subject. Although I do touch it, but everyone remains silent, because talking about cancer is like talking about death. Then. And I have perceived that in the community as well. That there is a lot of myth, a lot of fear, a lot of fear. Talking about these issues. P1



Theme 5: Discussion around cancer screening (5/ 13)

It would be something more open. But for example, it has been happening in my job, there is a person who already says no, that she does not want to go for a mammogram because she is afraid, and so I tell her no, because it is okay, and I try to encourage her. But I have had people who don't, who don't want to talk about it, but they don't dare to come for a mammogram, and I try to tell them what I have learned there, what I have seen. P3



Theme 6: Importance of community outreach (5/ 13)

If you think we should educate, to the community in general, on the importance of, how to say...to give it...That is, to pass from generation to generation. Family history. Because that determines and can alert and prevent these cancer deaths, and cancer screening. P1



Theme 7: Barriers to care (10/ 13)

- Subtheme: Insurance (9/ 13)
- Subtheme: Cost (8/ 13)
- Subtheme: Documentation status (6/ 13)
- Subtheme: Language barriers (4/ 13)

*For starters, you have to be working.
Working on insurance. I do not work. And
how? How can you pay for insurance? I went
to investigate, and the prices are too high to
get a one, an insurance or a self-insurance.
P7*

*It is very important to know all of this,
because as a Hispanic you are always in
the middle of it. First of all, because we
blame that we do not speak English. I just
don't understand. P7*



Theme 8: Positive impressions of Gia (12/ 13)

- Subtheme: convenient (8/ 13)
- Subtheme: clear and understandable (6/ 13)
- Subtheme: quick and easy to use (5/ 13)
- Subtheme: Helpful (3/ 13)

I loved it. Very informative, very easy to use, very fast, very concise. I loved it, really. And I loved it very much. P1



Theme 9: Gia in Spanish (13/ 13)



- 100% felt comfortable with it in Spanish
 - Subtheme: Better than interpreter 4/13

Good, because. Well, now it is my language and sometimes, if they were in English or in a language other than my own, yes. Many times you write other things that you don't want to say or I don't know. I don't know how to explain it. P3



Theme 10: Prefer real person over chatbot (8/ 12)

That's why when communicating with a real person, you clear your doubts. That is, one has endless doubts, and a computer is not going to totally clear the doubts that a person, talking to a physical person. P10



Noteworthy outcome: Seek out genetic counseling after using Gia (4/ 13 selfreferred)

Now I want us all to take the genetic test. P7

So, I would like to have genetic tests to determine if any of my daughters are not going to suffer what I did. Sure, I would like to. P10



Key results from Part 2



- Insurance
- Cost
- Documentation status
- Language barriers



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- All participants found presentation informative.
- Increased need for & interest in cancer education and more community outreach.



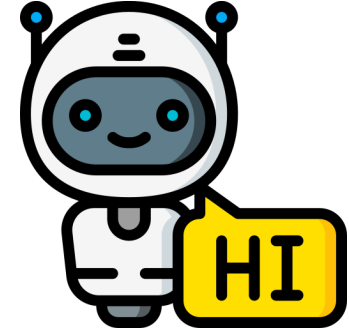
Key results from Part 2



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- All participants found presentation informative.
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- Community members had favorable impressions of Gia
- All participants were comfortable using Gia in Spanish
- Prefer a real person over a chatbot.

Discussion



Practice Implications

- More community outreach to this population.
- Having free screening resources ready to provide in Spanish.
- Gia could help genetic counselors reach underserved populations in a culturally-friendly, resource-friendly manner.
- Ways alternative service delivery models can be included in the genetic counseling process.
- Cost transparency about genetic counseling.
- Inform genetic counselors about culturally sensitive topics around cancer in the Hispanic/Latino community.

Questions?



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