

Short Communication: Synthesizing the Mind-Sets of Smokers, Former Smokers, and Never-Smokers: What might they be thinking, hoping or fearing about their annual checkup with their PCP (Primary Care Physician)



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ABSTRACT

AI (large language models) can be used to teach medical professionals about patients' thoughts during their annual checkups. This technology, available on BimiLeap.com, simulates questions and answers, reveals what patients might not share, and helps doctors understand their mind-sets, enhancing their understanding of patients and their needs.

Keywords: annual checkup, large language model, primary care physician, smokers, synthesized mind-sets

Introduction

A doctor needs to know what's going on in a patient's thoughts in order to treat them well and with kindness. Doctors can better help and talk to their patients if they know what they are thinking, feeling, believing, and experiencing. This knowledge can also help the doctor and patient get along better and build trust, which can lead to better patient behavior and results. Also, if the doctor knows about the patient's mental health, they can find and treat any mental problems that may be making their physical health worse.

There are things a doctor can do to better understand a patient's mind even if they are new to their job or only have a short time with the patient. Active listening is very important. If the doctor gives the patient their full attention and validates how they feel, they can learn more about their worries and goals. Also, asking open-ended questions can help the doctor learn more about the patient and find any problems that are going on underneath the surface [1-4]. Even such actions as asking a patient to adjust the chair may make a difference in the communication [5].

The Value of AI (Large Language Models, LLMs) to Help the Doctor

In the healthcare field, artificial intelligence (AI), especially large language models (LLMs), has become very useful. One great thing about using LLMs is that they can help you understand your patients faster. By entering a patient's information, symptoms, and medical history into an LLM, doctors can get insights and suggestions in a lot less time than it would take to study and analyze the data by hand. This can help doctors make faster evaluations, more personalized treatment plans, and better results for patients overall [6,7].

Aside from helping with patient care, LLMs can also be a great way for medical professionals to test their own knowledge. Medical study and technology are changing so quickly that it can be hard for even the most experienced doctors and nurses to keep up with all the new information. LLMs can help doctors make sure they are giving their patients the best care possible by giving them quick access to standards, treatment choices, and diagnosis criteria that are based on research [8].

LLMs could also change the way medical education is done by acting as virtual mentors for people who want to work in healthcare. LLMs can help students improve their critical thinking, learn more about medicine, and get better at making diagnoses by giving them clinical cases and questions. This kind of collaborative learning can go along with regular school lessons and show students how the things they are learning can be used in the real world [9-13].

Overall, it is impossible to say enough good things about artificial intelligence (AI), especially LLMs, in the healthcare field. Assisting with patient care, helping experienced doctors keep up with new medical developments, and improving medical education and training are just some of the ways that LLMs could make

healthcare much better. As these tools improve and become more common, the ways they can be used in medical care and patient care will grow.

The remainder of this paper focuses on the behavior and thinking of smokers, former smokers, and non-smokers who are undergoing their annual medical examination in the office of their primary care physician. It is crucial for doctors to closely monitor smokers and former smokers for disease as they are at a higher risk for developing various health conditions such as lung cancer, heart disease, and respiratory illnesses. Even though the number of people who smoke is going down, the effects of smoking can last for a long time after someone stops. New doctors may not know as much about how smokers and past smokers think and act, though, since the number of people who smoke has gone down.

Having a large language model simulate the mind of a smoker or former smoker, and even a non-smoker, can provide doctors with valuable insight into their patients' experiences and perspectives. If doctors know more about how people who smoke or used to smoke think and act, they can change how they talk to and treat those people, which leads to better care and prevention. This simulated model can help bridge the gap between doctors and patients, ultimately improving the quality of care and outcomes for those at risk for smoking-related diseases.

Example 1 — How Different Groups of People React in Their Annual Healthcare Visits

The exercise examines how different groups of people, including smokers, non-smokers, and past smokers, react to healthcare visits. It aims to understand the varying thoughts, feelings, and communication styles of these groups, highlighting the complex factors that influence the relationship between patients and healthcare providers.

Table 1: LLM simulates questions and answers about the annual visit

What Do We Learn

I am in a teaching hospital. We have medical students who are learning how to talk with patients. One of the issues is whether there are any discernible differences in the way people think about dealing with their yearly visit to the doctor. Do smokers differ from former smokers and non-smokers? What are the differences in the way these three people think about their annual visit to their primary care physician?

For each group, write a paragraph recording what they are thinking. Use their own words (in quotes) to make things realistic.

WHAT DO YOU THINK ABOUT GOING TO SEE YOUR DOCTOR EVERY YEAR?

SMOKER: Smokers may feel anxious or guilty about their health habits and may be hesitant to discuss their smoking with their doctor.

FORMER SMOKER: Former smokers may feel proud of quitting and may be more motivated to have a positive experience at their annual check-up.

NON-SMOKER: Non-smokers may feel less pressure or worry about their visit, as they may have fewer health concerns related to their smoking habits.

HOW DO YOU FEEL ABOUT TALKING TO YOUR DOCTOR ABOUT SMOKING?

SMOKER: Smokers may feel uncomfortable or defensive when discussing their smoking habits with their doctor.

FORMER SMOKER: Former smokers may feel more open and willing to share their quitting journey with their doctor.

NON-SMOKER: Non-smokers may not have to address smoking during their visit, so they may feel more at ease during their appointment.

WHAT MOTIVATES YOU TO ATTEND YOUR ANNUAL DOCTOR'S APPOINTMENT?

SMOKER: Smokers may attend their appointment to check on their health due to smoking-related concerns or to avoid any potential health issues.

FORMER SMOKER: Former smokers may attend to receive support and encouragement for their quitting journey and to monitor their overall health.

NON-SMOKER: Non-smokers may attend to maintain their good health and to prevent any potential health problems.

DO YOU HAVE ANY FEARS OR ANXIETIES ABOUT YOUR ANNUAL DOCTOR'S VISIT?

SMOKER: Smokers may fear being judged or lectured by their doctor about their smoking habits, leading to anxiety during the appointment.

FORMER SMOKER: Former smokers may fear relapsing or facing negative consequences related to their past smoking habits, which could cause anxiety before the appointment.

NON-SMOKER: Non-smokers may have fewer fears or anxieties about their visit, as they may not have to address smoking-related issues during the appointment.

HOW DO YOU PREPARE FOR YOUR ANNUAL DOCTOR'S VISIT?

SMOKER: Smokers may feel the need to rationalize or downplay their smoking habits before the visit or may try to quit temporarily to appear healthier.

FORMER SMOKER: Former smokers may prepare by documenting their quitting journey or setting health goals to discuss with their doctor during the appointment. **NON-SMOKER:** Non-smokers may prepare by organizing their medical history or writing down any questions or concerns to address with their doctor during the visit.

Example 2 — What Do Patients Think in the Meeting That They May Not Share with the Doctor?

The second experiment explores the profound thoughts and emotions of individuals undergoing therapy or medical procedures. By using quotations, the study aims to communicate the patient's emotions, concerns, and personal encounters. It aims to provide insight into the complex minds of individuals with physical ailments and the profound impact of medical procedures and treatments on their mental state, emotions, and self-perception. The study aims to enhance understanding and awareness of the patient experience.

Table 2: The simulated and possibly unshared thoughts

Smokers: "I know I should probably quit, but I just can't seem to kick the habit."; "I'm dreading my annual check-up because I know my doctor is going to nag me about my smoking."; "I'm

worried that my doctor will find something wrong with my lungs or heart because of my smoking.”; “I feel guilty every time I go to the doctor because I know I’m damaging my health.”; “I keep putting off scheduling my appointment because I don’t want to face the truth about my smoking.”; “I know I need to take better care of myself, but quitting smoking is just so hard.”; “I’m afraid that my doctor will judge me for being a smoker.”; “I’m tired of hearing all the negative effects of smoking, but I know I need to listen to my doctor.”; “I wish I could go back and never start smoking in the first place.”; “I know I need to prioritize my health, but I feel like quitting smoking is an impossible task.”

Former smokers: “I’m proud of myself for quitting smoking, but I’m still worried about the damage I did to my body.”; “I’m grateful that I no longer have to endure the guilt and shame of being a smoker.”; “I’m looking forward to my check-up to see how my health has improved since quitting smoking.”; “I hope my doctor recognizes and commends me for quitting smoking.”; “I’m curious to see if there are any lasting effects from my years of smoking.”; “I feel empowered knowing that I took control of my health by quitting smoking.”; “I want to be a positive example for others who are trying to quit smoking.”; “I know that quitting smoking was one of the best decisions I’ve ever made.”; “I’m hopeful that my doctor will see the positive changes in my health since quitting smoking.”; “I’m determined to continue prioritizing my health and staying smoke-free.”

Non-smokers: “I’m grateful that I’ve never had to deal with the addiction and health risks of smoking.”; “I see my annual check-up as a routine part of taking care of my health.”; “I’m confident that my doctor will give me a clean bill of health since I’ve never smoked.”; “I appreciate that I don’t have to worry about the negative effects of smoking on my body.”; “I feel fortunate that I can focus on other aspects of my health without the added complication of smoking.”; “I want to continue making healthy choices to maintain my non-smoker status.”; “I know that not smoking has greatly contributed to my overall well-being.”; “I take pride in being able to say that I’ve never been a smoker.”; “I’m interested in learning how I can further optimize my health through preventive care.”; “I value the peace of mind that comes with knowing I’ve prioritized my health by not smoking.”

Example 3 — Understanding the Patient More Deeply by Looking at Mind-Sets, How Patients Think About the Everyday

Mind-sets significantly influence individuals’ beliefs, attitudes, and behaviors, including health. Smokers, former smokers, and non-smokers have different mind-sets, with some focusing on stress relief, others on health improvement, and others on abstinence. Understanding these mind-sets can help healthcare professionals identify motivations and barriers to smoking cessation and promote healthier lifestyle choices. By incorporating mind-set-focused approaches into treatment plans, healthcare providers can empower patients to overcome challenges, change harmful habits, and cultivate a positive mind-set towards a healthier lifestyle.

Table 3: Understanding mind-sets

Mind-Sets vs Habits

When people visit their primary care physicians, they respond in different ways.

These are called mind-sets. There are various mind-sets.

For each mind-set, answer the following questions:

1- What is the proportion of smokers, former smokers, non-smokers in each mind-set?

2- What are they thinking before the doctor’s visit?

3- What are they thinking during the doctor’s visit?

4- What are they thinking after the doctor’s visit?

5- What are they thinking when the doctor calls, and all they know is that the doctor called?

6- What are their general personality characteristics?

7- How does the primary care physician talk to the smoker, then talk to the former smoker, then talk to the non-smoker in the specific mind-set?

Mind-Set 1: Anxious

1. Smokers: 30%, Former smokers: 40%, Non-smokers: 30%
2. Before the doctor’s visit: They are worried about what the doctor might find and are anxious about the results of any tests.
3. During the doctor’s visit: They are tense and have racing thoughts, making it hard to focus on what the doctor is saying. They may also feel overwhelmed by the information being given to them.
4. After the doctor’s visit: They are relieved to have some answers but may still have lingering worries or doubts about their health.
5. When the doctor calls: They are immediately anxious and jump to conclusions, assuming the worst.
6. General personality characteristics: Anxious mind-set individuals tend to be worriers, perfectionists, and may struggle with managing stress.
7. Conversation with the primary care physician for the smoker: The physician begins by addressing any concerns the patient may have about their smoking habits and provides resources for quitting. They discuss the potential health risks and emphasize the importance of taking proactive steps towards a healthier lifestyle.
8. Conversation with the primary care physician for the former smoker: The physician acknowledges the patient’s efforts to quit smoking and discusses any potential lingering health effects. They may recommend regular screenings and lifestyle changes to minimize the risk of future health issues.
9. Conversation with the primary care physician for the non-smoker: The physician focuses on preventative care and encourages the patient to continue their healthy habits. They discuss the importance of staying active, eating a balanced diet, and avoiding potential health risks.

Mind-Set 2: Proactive

1. Smokers: 10%, Former smokers: 20%, Non-smokers: 70%
2. Before the doctor’s visit: They have prepared a list of questions and concerns to discuss with the doctor and are eager to take steps towards improving their health.
3. During the doctor’s visit: They actively engage in the conversation, ask insightful questions, and take notes on the information provided to them. They are open to making changes in their lifestyle based on their doctor’s recommendations.
4. After the doctor’s visit: They feel empowered and motivated to make positive changes in their health. They may start implementing the doctor’s suggestions immediately.
5. When the doctor calls: They are curious to know more details about their test results or next steps but remain calm and rational.
6. General personality characteristics: Proactive mind-set individuals are organized, self-disciplined, and take ownership of their health and well-being.

7. Conversation with the primary care physician for the smoker: The physician acknowledges the patient's proactive approach and discusses the benefits of quitting smoking. They work together to create a personalized plan for smoking cessation, including setting goals and tracking progress.
8. Conversation with the primary care physician for the former smoker: The physician commends the patient for their efforts to quit smoking and discusses any potential residual health risks. They may suggest continued monitoring and regular check-ups to ensure overall health and well-being.
9. Conversation with the primary care physician for the non-smoker: The physician focuses on maintaining a healthy lifestyle and reinforces the importance of preventative care. They discuss potential risk factors and recommend screenings or vaccinations as needed.

Discussion: The Benefits of AI and LLM for the Doctor Learning How to Deal with Patients

Artificial intelligence can help doctors learn more about their patients by looking at more than just their medical background. For instance, AI systems can look at a person's social media posts, search records, and even facial movements to learn more about their feelings, tastes, and way of life. This knowledge can help doctors connect with their patients on a more human level by changing how they talk to them and how they treat them.

A doctor may know basic things about a patient, like whether or not they smoke, but that doesn't mean they know how to talk to or connect with the patient in the best way. Doctors can get real-time advice from AI tools on how to talk to each patient in a way that works best for them based on their individual traits and communication habits.

The medical system today moves very quickly, so doctors don't always have a lot of time to spend with each patient. AI can help make the interaction between the patient and doctor more efficient by quickly giving the doctor useful information and ideas on how to best connect with the patient during the short visit. Even though doctors only have so much time, this can help them make the most of it and make sure that patients feel heard and understood.

Overall, AI technology could change the way doctors talk to their patients, making it easier for them to understand and communicate with each other. Using AI tools, doctors can quickly learn useful things about their patients and give better, more patient-centered care, even when time is limited, and the healthcare system is focused on getting things done.

References

1. Aghaloo, T., 2024. Are Poor Outcomes Always a Surgeon's Complication?. *Journal of Oral and Maxillofacial Surgery*, 82(5), 507-508.
2. Gupta, S.S. and Jordan, K.N., 2024. Does the Gender of Doctors Change a Patient's Perception? *Health Communication*, 1-10.
3. Quaille, A., Mavrogenis, A.F. and Scarlat, M.M., 2024. What happened to 'bedside manner'? *International Orthopaedics*, 1-3.
4. Reyes, P. B. (2024). The Spiritual Decay of Care. *Anglican Theological Review*, 106(1), 86-88. <https://doi.org/10.1177/00033286241229807>
5. Kneebone, R. and Frezza, G., 2024. In praise of serendipity. *The Lancet*, 403(10434), 1330-1331.
6. Ajagunde, J. and Das, N.K., 2024. ChatGPT Versus Medical Professionals. *Health Services Insights*, 17, 11786329241230161.
7. Kleebayoon, A. and Wiwanitkit, V., 2024. Large Language Models and Psychoeducation: Correspondence. *The Journal of ECT*, 40(1), p.e1.
8. Mat, Q., Briganti, G., Maniaci, A. and Lelubre, C., 2024. Will ChatGPT soon replace otolaryngologists?. *European Archives of Oto-Rhino-Laryngology*, 1-2.
9. Ahmad S, Jenkins M. Artificial Intelligence for Nursing Practice and Management. *Comput Inform Nurs* 2022;40(3):139-144. Available at: <http://doi.org/10.1097/CIN.0000000000000871>
10. Archibald MM, Clark AM. ChatGTP: What is it and how can nursing and health science education use it? *J Adv Nurs*. 2023;1:1-4. Available at: <http://doi.org/10.1111/jan.15643>.
11. Kuhail MA, Alturki N, Alramlawi S, Alhejori K. Interacting with educational chatbots: A systematic review. *Educ Inf Technol* 2022;28(1):973-1018. Available at: <http://doi.org/10.1007/s10639-022-11177-3>
12. Potter, L. and Jefferies, C., 2024. Enhancing communication and clinical reasoning in medical education: Building virtual patients with generative AI. *Future Healthcare Journal*, 11, 100043.
13. Yu, P., Fang, C., Liu, X., Fu, W., Ling, J., Yan, Z., Jiang, Y., Cao, Z., Wu, M., Chen, Z. and Zhu, W., 2024. Performance of ChatGPT on the Chinese Postgraduate Examination for Clinical Medicine: Survey Study. *JMIR Medical Education*, 10, p.e48514.