

Talking to the Diabetes Patients upon Admission to the Ward: How Mind Genomics Plus AI may Inform the Nurse and Improve the Patient's Experience

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Abstract

The paper shows how artificial intelligence can be combined with Mind Genomics thinking to synthesize mind-sets in an effort to teach nurses about the way patients think and feel about sensitive topics. We show this approach through a demonstration of mind types synthesized for diabetes (diabetes + obesity). For a selected topic and a specified number of mind-sets, the user can instruct AI to name these mind-sets, and provide to the user extensive recommendation to give to a patient who belongs to this mind-set. The paper further shows what AI recommends to say to each of these mindsets to make them feel comfortable. The paper finishes with the vision of what could be accomplished if AI were to be incorporated as standard tool for nurses as a way to add a new dimension to understanding the 'mind' of the patient.

Introduction

The way a nurse greets patients entering the ward for treatment sets the tone for their hospital stay, significantly impacting the patient's overall experience and sense of well-being. Patients with diabetes may experience dread, anxiety, and uncertainty due to the complicated illness and the unsettling hospital setting, especially when they have had previous poor experiences with healthcare. A warm, friendly, and sympathetic greeting can alleviate concerns, making patients feel valued and accepted. . By taking the time to listen to and connect with patients on a personal level, nurses can build trust and rapport, which is crucial for effective care and treatment [1-3].

When teaching nurses how to greet patients with diabetes, it is the norm to emphasize the importance of empathy and understanding. Nurses should end up recognizing and acting upon the realization of each patient as a person with unique needs, fears, and emotions, rather than just a 'body' with a medical condition [4-7].

Training and role-playing activities may assist nurses learn how to meet patients more successfully. One might encourage nurses

to imagine themselves in the patient's position and consider how they would want to be treated in the similar circumstance. Underscoring the significance of nonverbal communication, such as eye contact, tone of voice, and body language, generally help to make patients feel safe and supported. Furthermore, nurses should be taught to ask open-ended inquiries, allowing the opportunity to encourage patients to further express problems and needs. Nurses should be encouraged to ask about the patient's feelings, worries, and anxieties, and how they may best assist them throughout their hospital stay. All of the above are already being done, of course. The goal of the education is for nurses to establish a welcoming and caring atmosphere. The issue here is not what to do, viz., demonstrate real attention and empathy to help ease patients' concerns and promote healing and recovery. Rather, the issue here is how AI can help drive the process [8-11].

Mind Genomics Thinking and the Discovery of Mind-sets

Mind Genomics began by evaluating messages from manufacturers who were advertising commercial products. The motive was to understand how people respond to slogans and descrip-

tions of product features and other material design to sell the product to the consumer. Again and again, the experiments revealed that there existed clusters of individuals who responded to the messages in different, but seemingly meaningful ways. People ended up falling into these groups, later called ‘mind-sets.’

The important discoveries emerging from this newly developing process, and now an emerging science, is the simple regularities in the mind of people. Most important, it was hard to find a simple co-variation between who people WERE and how people THOUGHT. Although common wisdom said that people think similarly about a topic, they do not. Factors such as gender, age, education and so forth were not the key predictors of the way people thought. Rather, there were a small number of mind-sets, these clearly different ways of responding to the same set of messages [12-14].

This understanding was applied in medical applications, where understanding patients' mindsets led to reduced readmissions within 30 days, as well as doubling the number of colonoscopies in an economically poor catchment area [15, 16].

Moving on to the topic of this paper, the patient with diabetes, Mind Genomics ‘thinking’ can assist nurses in tailoring their approach to newly admitted patients in the diabetes ward. Understanding the different mind-sets of patients can help nurses tailor their care approach to meet individual needs. By incorporating into their practice AI technology ‘informed’ by Mind

Genomics ‘thinking’, nurses may be able to increase patient engagement and generate greater patient satisfaction [17].

The remainder of this paper shows a worked example of AI-synthesized mind-sets for a new patient just admitted to the diabetes ward. The objective is to demonstrate how AI needs relatively little information to synthesize instructive mind-sets, and what the nurse might do knowing the nature of these mind-sets. The focus is not on establishing these mind-sets in actual practice, but rather positing that they exist, and then USING the AI output to understand and to think critically,

Synthesizing Mind-sets for Diabetes using AI

This paper investigates the issue of how one should gain the confidence of patients newly admitted to the ward. This includes the topic of what might be styles of communications and types of messages which could help the patient feel more comfortable. Once that issue is recognized as the topic, Mind Genomics thinking comes in, looking at patterns of communication based upon mind-sets. Finally, comes the issue of introducing AI, specifically as a teaching tool, to help speed up the process.

We will begin with the statement that there are six mindsets, and that is all that we will tell the AI. The AI will be asked to answer seven questions as shown in Table 1, doing so separately for each of the as-yet unknown, unnamed mind-sets. Table 2 then shows the different answers for each of the mindsets. Keep in mind that the AI was not told the nature of the mindset but simply that six mindsets existed for diabetes. -

Table 1: The orientation for AI, showing the statement that there are six major mind-sets for diabetes and the request to AI to answer seven questions for each mind-set.

I am a nurse on the diabetes floor. My job is to talk to the newly admitted patients who are suffering from the complications of diabetes (diabetes, obesity). For many of them, the hospital admission is a wakeup call.	
There are six major mind-sets of patients. For each mind-set tell me the following	
1.	Name of the mind-set. (WRITE NAME IN CAPS AT START OF SENTENCE)
2.	Describe the mind-set. (START WITH WORDS DESCRIBE THE MIND-SET)
3.	What is the mind-set thinking when the mind-set comes to the hospital? (START WITH WORDS WHAT IS MIND-SET THINKING)
4.	What will make the mind-set relax when the mind-set comes to the hospital? (START WITH WORDS HOW TO RELAX THE MIND-SET)
5.	What should you do to begin a relationship of trust with the mind-set? (START WITH WORDS ESTABLISHING A TRUSTING, WARM RELATIONSHIP WITH THE MIND-SET)
6.	What are problem signals to be on the watch for, with this mind-set? (START WITH WORDS ... WARNING SIGNS FROM MIND-SET).
7.	What are signals that the patient feels comfortable and trusts you? (START WITH WORDS ... SIGNS THAT MIND-SET IS COMFORTABLE)

Table 2: The six mind-sets, and the answers to the seven questions about each mind-set

Denial Mind-Set	
1.	DESCRIBE THE MIND-SET: Patients in denial often minimize or ignore the seriousness of their health issues, preferring to pretend everything is fine.
2.	WHAT IS THE MIND-SET THINKING: "I don't have diabetes or obesity, there must be a mistake. I can continue to eat and live the way I want without consequences."
3.	HOW TO RELAX THE MIND-SET: Gently confronting their denial with factual information, providing education about their conditions, and offering support to help them accept the reality of their situation.
4.	ESTABLISHING A TRUSTING, WARM RELATIONSHIP WITH THE MIND-SET: Respect their feelings and perspective, educate without judgment, and slowly guide them towards acknowledging the truth about their health.
5.	WARNING SIGNS FROM MIND-SET: Refusing to acknowledge medical advice or test results, blaming others for their health issues, and becoming defensive or hostile when confronted about their denial.

6.	SIGNS THAT MIND-SET IS COMFORTABLE: Asking questions to better understand their condition, expressing curiosity about treatment options, and showing interest in learning how to manage their health effectively.
7.	What are signals that the patient feels comfortable and trusts you? (START WITH WORDS ... SIGNS THAT MIND-SET IS COMFORTABLE)
Capsule Mind-Set	
1.	DESCRIBE THE MIND-SET: The capsule mind-set is closed off and resistant to change. These patients are often in denial about the seriousness of their condition and prefer to keep their emotions and thoughts hidden.
2.	WHAT IS MIND-SET THINKING: The capsule mind-set is thinking that they don't need help and that they can handle their health issues on their own. They may also believe that the hospital is not the place for them and that they are fine as they are.
3.	HOW TO RELAX THE MIND-SET: To relax the capsule mind-set, it is important to approach them with empathy and understanding. Encouraging open communication and showing genuine concern for their well-being can help them feel more at ease.
4.	ESTABLISHING A TRUSTING, WARM RELATIONSHIP WITH THE MIND-SET: To begin a relationship of trust with the capsule mind-set, it is important to listen actively to their concerns and provide reassurance. Building rapport through empathy and respecting their boundaries can help them feel more comfortable opening up.
5.	WARNING SIGNS FROM MIND-SET: Problem signals to watch for with the capsule mind-set include avoidance of conversations about their health, refusal to engage in treatment plans, and a dismissive attitude towards medical advice.
6.	SIGNS THAT MIND-SET IS COMFORTABLE: Signs that the capsule mind-set is comfortable and trusts you include opening up about their fears and concerns, actively participating in their treatment plan, and seeking guidance and support from you.
Fearful Mind-Set	
1.	DESCRIBE THE MIND-SET: Fearful mind-set patients may exhibit high levels of anxiety, worry, and uncertainty about their health condition.
2.	WHAT IS FEARFUL MIND-SET THINKING: Fearful mind-set patients may be thinking about worst-case scenarios, potential complications, and the impact of their condition on their daily life.
3.	HOW TO RELAX THE FEARFUL MIND-SET: Providing accurate information, offering emotional support, and discussing coping strategies can help alleviate the fear and anxiety of fearful mind-set patients.
4.	ESTABLISHING A TRUSTING, WARM RELATIONSHIP WITH THE FEARFUL MIND-SET: Demonstrating empathy, patience, and understanding can help build trust and a sense of security with fearful mind-set patients.
5.	WARNING SIGNS FROM FEARFUL MIND-SET: Avoidance of discussions, refusal of treatment, and heightened emotional responses may be warning signs of distress or fear in fearful mind-set patients.
6.	SIGNS THAT FEARFUL MIND-SET IS COMFORTABLE: Increased engagement, willingness to ask questions, and openness to exploring treatment options are signs that fearful mind-set patients are feeling more comfortable and trusting in the healthcare provider.
Captured Mind-Set	
1.	DESCRIBE THE MIND-SET: Captured mind-set patients often feel overwhelmed by their health condition and may struggle to see a way out.
2.	WHAT IS CAPTURED MIND-SET THINKING: Captured mind-set patients may be thinking that they are powerless and unable to change their situation.
3.	HOW TO RELAX THE CAPTURED MIND-SET: Active listening, empathy, and reassurance can help ease the anxiety and fear of captured mind-set patients.
4.	ESTABLISHING A TRUSTING, WARM RELATIONSHIP WITH THE CAPTURED MIND-SET: Building trust through genuine care, understanding, and support can help establish a strong connection with captured mind-set patients.
5.	WARNING SIGNS FROM CAPTURED MIND-SET: Signs such as withdrawal, lack of engagement, and resistance to treatment may indicate underlying issues with captured mind-set patients.
6.	SIGNS THAT CAPTURED MIND-SET IS COMFORTABLE: Active participation, open communication, and willingness to follow treatment plans are indicators that captured mind-set patients are feeling comfortable and trusting in the healthcare provider.
Self-defeating Mind-set	
1.	DESCRIBE THE MIND-SET: These patients often feel overwhelmed and defeated by their health conditions, leading to a sense of hopelessness and helplessness.
2.	WHAT IS THE MIND-SET THINKING: "I'm never going to get better, why bother trying to change anything? I'm doomed to a life of poor health."

3.	HOW TO RELAX THE MIND-SET: Providing reassurance, empathy, and support can help them feel less alone and more hopeful about their situation.
4.	ESTABLISHING A TRUSTING, WARM RELATIONSHIP WITH THE MIND-SET: Listen actively, show genuine compassion, and offer encouragement to build a sense of trust and rapport.
5.	WARNING SIGNS FROM MIND-SET: Expressing feelings of despair, refusing to engage in treatment or self-care, and displaying a lack of motivation or interest in improving their health.
6.	SIGNS THAT MIND-SET IS COMFORTABLE: Opening up about their emotions and struggles, asking for advice or guidance, and actively participating in discussions about their treatment plan.
Acceptance Mind-set	
1.	DESCRIBE THE MIND-SET: Patients in acceptance have come to terms with their health conditions and are ready to act towards improving their well-being.
2.	WHAT IS THE MIND-SET THINKING: "I have diabetes and obesity, but I can work on managing them. I'm committed to making healthier choices and prioritizing my health."
3.	HOW TO RELAX THE MIND-SET: Providing guidance and support, celebrating their proactive attitude, and empowering them to take charge of their health journey.
4.	ESTABLISHING A TRUSTING, WARM RELATIONSHIP WITH THE MIND-SET: Acknowledge their efforts and progress, offer encouragement and positive reinforcement, and collaborate on setting achievable health goals.
5.	WARNING SIGNS FROM MIND-SET: Becoming too focused on perfection or unrealistic expectations, feeling overwhelmed by the demands of self-care, and experiencing setbacks in their health journey.
6.	SIGNS THAT MIND-SET IS COMFORTABLE: Engaging actively in discussions about their health plan, following through with recommended lifestyle changes, and expressing gratitude for your support and guidance
Empowered Mind-set	
1.	DESCRIBE THE MIND-SET: Empowered mind-set patients are proactive, motivated, and have a strong sense of control over their health and well-being.
2.	WHAT IS EMPOWERED MIND-SET THINKING: Empowered mind-set patients are likely thinking about setting goals, making positive lifestyle changes, and taking charge of their health management.
3.	HOW TO RELAX THE EMPOWERED MIND-SET: Acknowledging their efforts, providing guidance, and supporting their active involvement in decision-making can help empower the empowered mind-set patients further.
4.	ESTABLISHING A TRUSTING, WARM RELATIONSHIP WITH THE EMPOWERED MIND-SET: Collaborating, respecting autonomy, and fostering a partnership can strengthen the relationship and trust with empowered mind-set patients.
5.	WARNING SIGNS FROM EMPOWERED MIND-SET: Overconfidence, resistance to input, and pushback on medical advice may signal potential challenges in working with empowered mind-set patients.
6.	SIGNS THAT EMPOWERED MIND-SET IS COMFORTABLE: Open communication, shared decision-making, and commitment to self-care are indicators that empowered mind-set patients feel comfortable, valued, and trusted in the healthcare provider's guidance.

Putting AI and Mind Genomics into Practice – What to Say to New Patient

We start by a quick review of what happens in training, and then how that training turns rapidly into an AI session generating knowledge and promoting deeper, critical thinking. During the instructional session, nurses are introduced to the AI system and its capabilities. Now it is time to put the learning into practice.

The location is a teaching hospital where nurses are being introduced to diabetes patients. The nurses are already on the ward, and have some experience, but this may be their first time encountering a diabetes patient where they are in a position of responsibility. A variety of patients come in. The nurse reads the chart, and knows gender, age, and ethnicity. The question is, what is the likely or appropriate reaction when the nurse knows nothing else? Can AI help us the nurse optimize the communica-

tion if, in fact, other information of a psychological/personality nature is as yet absent?

Table 3 shows the orientation given to AI, and the request to provide the relevant information. Table 4 shows what AI returns, in answer to the request. The AI system analyzes different patient characteristics such as gender, age, and ethnicity to make predictions about their potential mind-set upon admission. The actual mind-set is not important. What is important is to use the concept of ‘mind-set’ to get relevant information that can shape the interaction with the patient. By understanding the ‘likely mind-set’ of patients before they even arrive, nurses can tailor their interactions to make newly admitted patients feel more comfortable and welcome. This promotes a sense of empathy and understanding, ultimately leading to a better patient experience.

Table 3: The orientation input provided to the AI

1.	I am a nurse on the diabetes floor. My job is to talk to the newly admitted patients who are suffering from the complications of diabetes (diabetes, obesity). For many of them, the hospital admission is a wakeup call.
2.	I know that there are mind-sets, but I don't know the likely mind-set to which my patient belongs. I do know the gender, the age, and the ethnicity of the patient. Help me figure out the safest and most productive things to say, given that there are mind-sets. I can only guess the mind-set to which the patient belongs.. Make everything in English.
3.	Remember that I know these mind-sets exist, but I don't know the mind-set to which my patient belongs. Nonetheless, I have to give the patient advice.
4.	[Mind-Set information inserted here to 'instruct' the AI].
5.	Is there any suggestion about how I talk to the following types of patients admitted.
6.	For each patient listed below, write WHO THE PATIENT IS.
7.	Then write the mind-set or mind-sets to which the patient is likely to belong, even if you are not sure. And for each mind-set, give a probability that the patient belongs to that mind-set
8.	Then, for that patient, give me TWO DIFFERENT SLOGANS
9.	The first slogan is the slogan which makes the patient feel comfortable upon admission to the ward. Call this the ADMIS-SION SLOGAN and give me the slogan.
10.	The second slogan is the healing slogan and reassures the patient that the patient will receive every care to health. Call this the HEALING SLOGAN and give me the slogan.
11.	Here are the patients. Do the above for each patient separately
12.	[List of patients here, comprising gender, age, ethnicity if available].

Table 4: Aspects of the mind-set to which the patient might belong, as well as slogans to help the nurse get a sense of how to talk to the patient.

Who	Aspects of the mind-set to which the patient might belong	Admission slogan	Healing slogan
Male aged 11	Potential confusion and fear	You're not alone, we're here to help	Together we will overcome this obstacle
Female aged 11	Likely to be feeling scared and overwhelmed	Let's work together to make you feel better	We'll take care of you until you're back on your feet
Male aged 21	Potential denial or lack of understanding about the severity of their condition	You have the power to turn this around	We will support you every step of the way
Female aged 21	May feel embarrassed or self-conscious about their condition	Your health is our top priority	Choose health, choose happiness
Male aged 41	May feel overwhelmed and worried about their future health	You have the strength to make positive changes	Recovery is a journey, but we're here to guide you
Female aged 41	Potentially feeling guilty or ashamed about their lifestyle choices	You deserve to be healthy and happy	Your wellness is our mission
Male aged 61	May be feeling a sense of urgency to make positive changes	It's never too late to prioritize your health	Stay strong, we are here for you
Female aged 61	Likely to be concerned about long-term health implications	Your health is our top priority	Choose health, choose happiness
White male aged 46	May feel a sense of denial or disbelief about their diagnosis	We're here to support you every step of the way	Recovery starts with small steps; we'll help you along the way
White female aged 46	Likely to feel a sense of urgency to make positive changes	You have the power to make a change	Your health is our priority
Black male aged 46	May feel overwhelmed and worried about their health	You're not alone on this journey	We're here to help you heal and thrive
Black female aged 46	Likely to feel determined to make positive changes	You have the strength to overcome this challenge	We're here to support you on your path to wellness
Hispanic male aged 46	May feel overwhelmed by their diagnosis	We're here to help you get back on track	You are capable of healing; we are here to assist you
Hispanic female aged 46	Likely to feel anxious about their health condition	We understand your fears, we're here to listen and support you	Your well-being is our priority

Impediments to the Adoption of AI + Mind Genomics Thinking

Healthcare AI and Mind Genomics may disrupt global medical systems by requiring a more patient-centric and tailored approach. AI and Mind Genomics may challenge traditional medicine, resulting in more personalized and patient-centered therapy. Emphasizing patient views in treatment planning and intervention may require healthcare firms to transition to individualized care over generic methods. This may improve patient outcomes, satisfaction, and resource allocation for patients and clinicians

Cultural reluctance, organizational difficulties, and budgetary limits may all be impediments to adopting an AI and Mind Genomics-based healthcare system. Overcoming these challenges will need a concerted effort among stakeholders to prioritize and invest in technical advances and training initiatives. By tackling these difficulties proactively and strategically, healthcare systems may move toward a more patient-centric and efficient model of care delivery, which will benefit both patients and providers. Deep-rooted systemic challenges may also impede development, demanding a complete redesign of current methods and regulations to ensure the smooth and cost-effective integration of AI and Mind Genomics in healthcare.

The Positives Emerging from AI Technology Coupled with Mind Genomics Thinking

By bringing AI technology into nursing practice, nurses may improve their capacity to interact with patients on a deeper level. The AI system is a helpful tool for nurses to comprehend and treat the varied mindsets of their patients, resulting in enhanced communication and satisfaction. This new technique enables nurses to give more sympathetic and individualized care, resulting in improved patient outcomes.

The use of AI technology in patient care helps not just individual nurses, but also the nursing profession as a whole. Nurses may deliver a better level of care that is tailored to individual needs and preferences by embracing technology and using it to improve patient interactions. This proactive approach to patient care establishes a new standard for nursing practice, stressing the value of empathy, comprehension, and customized attention in fostering healing and well-being.

The worldwide use of AI and Mind Genomics in healthcare has the potential to change patient care, communication, and healthcare delivery. Misdiagnoses and ineffective therapies may be dramatically decreased if healthcare practitioners are given the skills they need to identify and address patients' attitudes. This method has the potential to result in a healthier global population, better patient-provider relationships, and lower healthcare costs, all of which contribute to a more pleasant and rewarding healthcare experience for everyone involved. Adopting this method globally may support a transition toward a more compassionate and sympathetic healthcare system, resulting in improved health outcomes and general well-being.

address their specific needs, leading to improved patient outcomes. By utilizing these advanced technologies, healthcare providers can better connect with patients on a deeper level, fos-

tering stronger therapeutic relationships. The ability to discern patient mindsets can ultimately lead to a more empathic and patient-centered approach to care, resulting in higher patient satisfaction and higher overall well-being. Understanding patient mindsets allows for personalized care and tailored interventions to Implementing AI and Mind Genomics in medicine offers the potential to speed diagnostic procedures, improve treatment results, and lower overall healthcare costs. Healthcare professionals may give more tailored and focused treatment by employing new technology to understand their patients' thoughts, resulting in shorter recovery periods and more patient satisfaction. Cost reductions from a more efficient and effective healthcare system may result in long-term advantages for both patients and healthcare organizations, paving the path for a more sustainable, more equitable, and simply better world of healthcare.

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