
Patient Information:

Name: James Thompson Age: 65 Gender: Male Medical History: Chronic smoker, recurrent respiratory infections Disease Information: Disease: Nasal Vestibule Cancer Severity Level: Major Severity Symptoms: Erosion in nasal cavity, persistent ulcers, nasal bleeding, nasal obstruction, mild facial edema Duration: Symptoms have been present for several weeks with gradual worsening Curability: No Examination Results:... Treatment Plan: James Thompson has been diagnosed with nasal vestibule cancer... Affective score: Openness: high, Conscientiousness: low, Extraversion: high, Agreeableness: low, Neuroticism: low, Cognitive level: higher

Doctor:

Hello James, I'm Dr. BBNer, and I want you to know that I'm here to support you every step of the way. I understand you've been experiencing some tough symptoms recently, and I truly appreciate you coming in today so we can address them together. You've been diagnosed with a condition called nasal vestibule cancer. This is a serious illness, but rest assured, we have a comprehensive treatment plan in place to manage and address it. What we'll be doing first is radiotherapy, which will help shrink the tumor. By shrinking it, we can make the subsequent surgical removal more effective while still keeping cosmetic concerns in mind. Throughout this process, my team and I will ensure you're comfortable, managing any pain and side effects you might experience. Along with the treatment plan, it's vital to quit smoking and keep away from nasal irritants to help your recovery. I'll be here to answer any questions you have, and together, we'll focus on facing this illness positively with the best care possible. Remember, we're in this together, and I'm here for you. What are your thoughts and questions so far?

Patient:

Thanks for explaining things clearly and for your support; I appreciate it. It's reassuring to know there's a comprehensive treatment plan in place. I understand the importance of radiotherapy in shrinking the tumor and making surgery more effective, and I'm open to exploring all treatment options. I do have a few questions. Could you explain a bit more about what to expect during radiotherapy? I'm especially curious about potential side effects and how they might be managed. Also, I understand how critical it is to quit smoking and avoid nasal irritants, and I'll need some guidance on how best to achieve that. Thank you for being here for me—I feel confident discussing these matters with you.

Doctor:

Hi James, I'm glad to hear you're feeling reassured and open to the treatment plan. Radiotherapy is a targeted treatment aimed at the tumor to help reduce its size and ease the surgical process. During these sessions, you'll be in a comfortable position, and the radiation will specifically target the nasal area. Regarding side effects, some people might experience skin irritation around the nose, mild swelling, or dryness. We have skincare measures in place to help manage these, and pain management options are available to keep you comfortable. We'll monitor you closely, and I'm always here to help with any discomfort you might feel. Quitting smoking can be challenging, but it's crucial for your recovery. We have resources like counseling and support groups that can guide you through this process. Avoiding nasal irritants like prolonged mask use or nasal picking will also be helpful, and we can discuss strategies to make this easier for you. Remember, the aim is to not only treat the cancer but also support you in making gradual lifestyle changes. You're not alone in this; my team and I will be with you every step of the way. How does that sound to you?

Patient:

Thank you for breaking down the radiotherapy process; it's helpful to know what to expect. The potential side effects you mentioned, like skin irritation or dryness, sound like things I can manage with the right support in place. I trust your team will help me through it, so I'm feeling optimistic about getting started. On the smoking front, I understand it's critical and appreciate the offer for counseling and support groups. I'll need all the help I can get to quit, so being part of a group might really make a difference. As for avoiding nasal irritants, maybe we can look at some practical habits I can change. I'm open to making these lifestyle adjustments together with your team. It's reassuring to know you're all by my side as I face this, and I'm ready to tackle these challenges. Thanks for your patience and support.

Table 1: An example of a BBN conversation generated through simulation under the vanilla method.

Patient Information:

Name: James Thompson Age: 65 Gender: Male Medical History: Chronic smoker, recurrent respiratory infections Disease Information: Disease: Nasal Vestibule Cancer Severity Level: Major Severity Symptoms: Erosion in nasal cavity, persistent ulcers, nasal bleeding, nasal obstruction, mild facial edema Duration: Symptoms have been present for several weeks with gradual worsening Curability: No Examination Results:... Treatment Plan: James Thompson has been diagnosed with nasal vestibule cancer... Affective score: Openness: high, Conscientiousness: low, Extraversion: high, Agreeableness: low, Neuroticism: low, Cognitive level: higher

Doctor:

Hello James, I want to start by saying that we're here to support you through this, and you're in caring hands. I know it can be overwhelming to be in this situation, but my team and I are committed to walking this journey alongside you every step of the way. Today, I'd like to have an open and honest conversation about your health, so we can make sure you feel comfortable and informed about everything that's happening. More than anything, I want you to know that we're here to answer any questions you might have and support you in any way we can. Could we take a moment to discuss your current condition and the treatment plan we think will be most helpful for you? Feel free to share any thoughts, concerns, or questions you might have along the way. Together, we will focus on a positive way forward.

Patient:

Thank you for starting the conversation this way, doctor. I really appreciate knowing that I'm in caring hands, especially when things feel so daunting. I definitely want to understand more about what's been happening with my symptoms, like the nasal bleeding and those persistent ulcers. Could you help me understand which treatment options you're considering? I'm open to trying new things if they can help improve my condition, but I also want to know about possible side effects or risks. What are the next steps for managing this, and how can I contribute to the treatment process more effectively?

Doctor (Invitation):

Thank you for sharing your thoughts and questions with me, James. They are really important, and I'm glad you're open to discussing what's been going on. I'd like to ensure that we approach this conversation in a way that suits you best. **Before I provide all the details about your condition and the treatment plan, can you let me know how much information you'd like?** Some people prefer a very detailed explanation, while others like to start with the basics and delve deeper as they feel more comfortable. I want to make sure we go through this in the way that feels right for you. To start, based on our evaluations, it appears that your symptoms—such as the nasal bleeding and persistent ulcers—are being caused by a condition called nasal vestibule cancer. It's a serious diagnosis, but I want to assure you that there are treatment options available that we'll go through together. Whenever you feel ready, I'll explain more about these options, including the steps involved and any potential side effects or risks. Feel free to let me know how much detail you'd like at this point, and we'll go from there at a pace that makes you comfortable.

Patient:

Thanks for explaining that, doctor. I'm ready to hear a detailed explanation—understanding everything that's going on will certainly help me feel better equipped to face this. It's a bit concerning to hear I might have nasal vestibule cancer, but we need to confront it as best we can, right? Could you help me with the specifics of the treatment options you mentioned earlier? I'm open to considering new approaches, but I'd like to know exactly what we're dealing with, including the steps we'll be taking and what kind of side effects or risks there might be. How can I make sure I'm contributing my best to the treatment process?

Table 2: An example of a BBN conversation (first two turns) generated through simulation under the dynamic method.

Patient Information:

Name: James Thompson Age: 65 Gender: Male Medical History: Chronic smoker, recurrent respiratory infections Disease Information: Disease: Nasal Vestibule Cancer Severity Level: Major Severity Symptoms: Erosion in nasal cavity, persistent ulcers, nasal bleeding, nasal obstruction, mild facial edema Duration: Symptoms have been present for several weeks with gradual worsening Curability: No Examination Results:... Treatment Plan: James Thompson has been diagnosed with nasal vestibule cancer... Affective score: Openness: high, Conscientiousness: low, Extraversion: high, Agreeableness: low, Neuroticism: low, Cognitive level: higher

Doctor (Knowledge):

Thank you, James, for being open to learning more about your condition and treatment options. It takes courage to face this head-on, and that attitude will play a key role in your path forward. So, let's start with a straightforward explanation of what's happening. Nasal vestibule cancer is a type of tumor that develops in the area just inside your nose. It's causing the symptoms you've been experiencing, like persistent ulcers and nasal bleeding, because it's affecting the tissue there. I'm sure you can see why addressing it is crucial—but I want to reassure you that we have a plan in place. First, we've identified radiotherapy and surgery as the most effective treatment options for your condition. Radiotherapy will be used to shrink the tumor initially, focusing directly on the affected area to prepare it for surgical removal. The details, like how long you'll need to undergo radiotherapy and the specific approach we'll use, will be adjusted to fit your unique needs. Afterward, surgery will aim to remove the tumor while ensuring we preserve as much of the normal function and appearance as possible. We know protecting your quality of life is important. Because nasal vestibule cancer can sometimes affect the lymph nodes in the neck, we might need to target that area with additional radiotherapy. Regular follow-ups after treatment will be essential to monitor your progress and catch any changes quickly. Now, about side effects—radiotherapy and surgery can cause things like nasal irritation or fatigue, but we'll be with you every step to manage pain and discomfort you might experience. We'll prioritize skincare, hydration, and nutrition to support your body during treatment. If smoking has been part of your life, quitting now will significantly help improve your condition and recovery. Lifestyle adjustments will help bolster your body's response and maintain your overall health. Your role in this process is absolutely vital. You can contribute by sticking to the treatment plan, making lifestyle changes, reporting any changes in your symptoms, and maintaining regular follow-ups. Staying connected with us will allow us to support you effectively. If there's anything specific you'd like to know or any concerns you have, feel free to ask. It's important to me that you feel comfortable and confident as we move forward together.

Patient:

Thank you for laying everything out so clearly, doctor. It really helps to have a detailed understanding of what's happening and how we plan to tackle it together. I appreciate knowing there's a structured approach with radiotherapy followed by surgery. I understand the importance of the follow-ups and lifestyle adjustments. I'll do my best to incorporate those changes and keep you updated on any symptoms. Staying hydrated and maintaining good nutrition are things I can definitely focus on. If you have specific advice on managing potential side effects or how best to prepare for each stage of treatment, I'm eager to hear it. Also, if there are specialists, like a dietitian or therapist, that I should connect with, please let me know. Knowing what steps to take to contribute effectively is empowering, and I'm ready to work with you to face this head-on. Thank you again for your dedication to my care.

Table 3: An example of a BBN conversation (third turn) generated through simulation under the dynamic method.

Table 1–3 present dialogues generated for the same patient using both the vanilla method and the dynamic SPIKES-EM approach. It can be observed that in the vanilla method, the physician opens by reassuring the patient of support ("I want you to know that I'm here to support you every step of the way") but quickly transitions to delivering the diagnosis and outlining the treatment plan without first exploring the patient's emotional state or preferences for information. In contrast, the SPIKES-EM approach deliberately paces the conversation to create psychological safety. For example, before providing detailed information, the physician explicitly invites the patient to indicate how much information he feels ready to hear ("Before I provide all the details about your condition and the treatment plan, can you let me know how much information you'd like?"), thereby respecting the patient's readiness. Furthermore, while the vanilla dialogue only briefly mentions potential side effects ("skin irritation around the nose, mild swelling, or dryness"), the SPIKES-EM example offers a more comprehensive explanation of likely symptoms, management strategies, and supportive resources such as counseling and nutritional guidance. Notably, the SPIKES-EM dialogue also validates the patient's emotional resilience ("It takes courage to face this head-on") and emphasizes the patient's active role in the treatment process, explicitly acknowledging that adherence to care and lifestyle adjustments are essential contributions.