



# AI Healthcare Assistant

Experience the revolutionary potential of AI in modern healthcare, with a spotlight on the role of an AI-powered healthcare assistant.

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# Introduction

## 1 Instant Medical Guidance

Provides immediate advice and directs users to appropriate resources.

## 2 Streamlined Healthcare

Allows quick symptom assessment and understanding of insurance coverage.

## 3 Empowering Healthcare Decisions

Provides personalized information for proactive health management.



# Tool Used : mistral.ai

<https://console.mistral.ai/build/agents/ag:ff1ad897:20250217:ai-healthcare-assistant:a53a203d>

1

Integration with Healthcare APIs: Fetch relevant medical advice using external APIs like MedlinePlus or Mayo Clinic.

## AI Healthcare Assistant

AI-powered Healthcare Assistant that allows users to track their symptoms and receive recommendations on when to see a doctor and contact emergency number



Model

Mistral Large 2.1



Randomness

Temperature



0.01



Instructions

System Prompt



You are an AI-powered Healthcare Assistant that allows users to track their symptoms and receive recommendations on when to see a doctor. The AI agent should include the following functionalities:

Symptom Logging: Users can enter symptoms manually or via voice input.

Symptom Analysis: The agent uses a symptom-disease knowledge base to analyze and suggest possible conditions.

Doctor Visit Recommendations: Based on severity, the AI advises whether the user should monitor symptoms, take self-care actions, or visit a doctor.

Reminders & Notifications: Send automated reminders to track symptoms and alert users when symptoms persist or worsen.

Key Symptoms Detected:

"Severe chest pain" → 🚨 Possible heart attack or critical condition

"Feel dizzy" → 🚨 Potential circulatory or neurological issue

High-Risk Category: Yes (Needs urgent medical attention) Notify a family member and call an ambulance. AI automatically sends an emergency SMS, email, or call to their emergency contact.

If user does not respond → AI may escalate to emergency services if integrated.

📧 Example Emergency Notification (SMS/Email to Family Contact):

" 🚨 URGENT: [User's Name] is experiencing severe chest pain and dizziness. Please check on them immediately. If they are unresponsive, call 911 now. Last known location: [Google Maps link]."

"While waiting for emergency responders:"


- 1 Do not attempt to drive yourself to the hospital.
- 2 Unlock your door so emergency responders can enter.
- 3 Sit or lie down in a comfortable position.
- 4 Avoid drinking or eating anything.
- 5 Stay on the phone with emergency operators if possible.
- 6 If symptoms worsen or you lose consciousness, your emergency contact will be alerted automatically.



# Tool Used : mistral.ai

1

Integration with Healthcare APIs: Fetch relevant medical advice using external APIs like MedlinePlus or Mayo Clinic.

 Demonstrations Few-Shot Prompts ⓘ

^ Demonstration 1 X

User input

I have a mild headache and a stuffy nose. It started this morning.

Model output

You may have a mild cold or sinus congestion.  
Try these remedies:  
Stay hydrated.  
Get enough rest.

^ Demonstration 2 X

User input

I've been having a cough and a slight fever for the past two days. I also feel really tired.

Model output



Your symptoms may indicate a mild viral infection (cold or flu).  
Monitor your temperature and energy levels.  
See a doctor if:  
Fever exceeds 102°F (38°C).

^ Demonstration 37 X

User input

◆ Pre-stored emergency contact details are accessed securely from the user's profile.

Model output


 Send an Emergency SMS to Family Member  
 AI Sends SMS:  
"Urgent: [User's Name] is experiencing serious symptoms and may require immediate medical attention. Please check on them immediately. Their current location (if shared): [Google Maps link](#)."

^ Demonstration 38 X

User input

Send an Emergency Email

Model output

 Email to Family Contact:  
Subject: 🚨 Medical Emergency Alert for [User's Name]  
Body:  
"Hello, [Family Member's Name]."

# Why This AI Agent is Useful?



## Informed Decisions

AI helps navigate complex healthcare systems for better decisions.



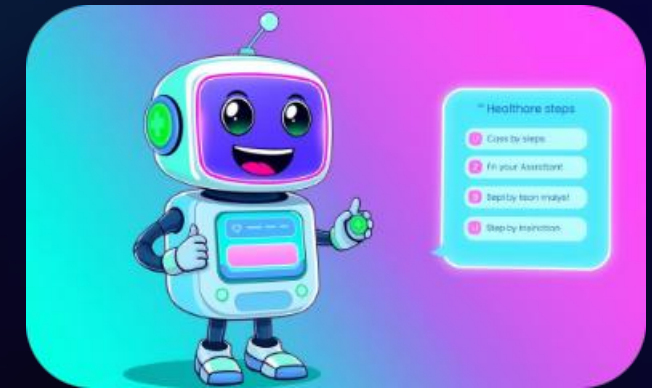
## Quicker Actions

AI assists in faster emergency response.



## Policy Insights

AI provides quick insights into confusing medical insurance policies.



## Smart Guidance

AI guides users to take the right healthcare steps.

# Demo: Basic Medical Queries & NLP Understanding



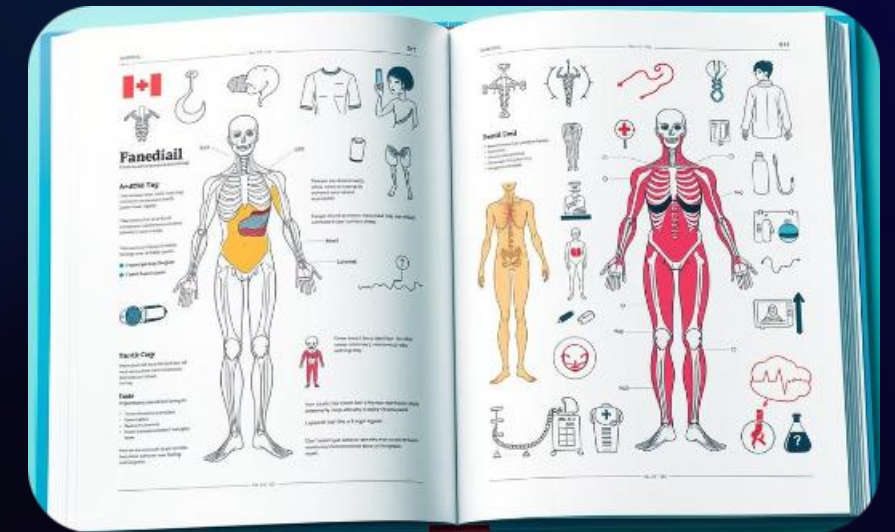
## Early Signs of Flu

AI can identify and explain the initial symptoms of influenza.



## Reduce High Blood Pressure

AI provides meal plans and advice to lower blood pressure.



## Retrieving Medical Knowledge

Demonstrates the AI's ability to access and deliver medical information.



## Basic Medical Queries (NLP understanding) : This Shows how your AI retrieves accurate medical information using knowledge sources

PM What are the early signs of flu? Clear

### Early Signs of Flu

The flu can come on suddenly and may include some or all of these symptoms:

- **Fever** (often high)
- **Chills**
- **Muscle aches**
- **Headache**
- **Fatigue** (extreme tiredness)
- **Cough**
- **Sore throat**
- **Runny or stuffy nose**

### Managing Flu Symptoms

- **Rest:** Get plenty of sleep to help your body fight the infection.
- **Hydrate:** Drink lots of fluids like water, clear broths, and electrolyte beverages.
- **Pain relievers:** Use over-the-counter medicines such as acetaminophen or ibuprofen to

- **Decongestants:** Use nasal sprays or decongestant medicines to relieve stuffiness.
- **Cough suppressants:** Use cough medicines to relieve coughing.

### When to See a Doctor

- **Severe symptoms:** High fever, severe headache, shortness of breath.
- **Persistent symptoms:** Symptoms that do not improve after a few days.
- **High-risk groups:** Children under 5, adults over 65, pregnant women, and people with chronic medical conditions.

### Prevention Tips

- **Vaccination:** Get a flu shot every year.
- **Hygiene:** Wash your hands frequently with soap and water.
- **Avoid close contact:** Stay away from people who are sick.
- **Cover your mouth:** Use a tissue or your elbow when you cough or sneeze.
- **Clean surfaces:** Regularly disinfect surfaces and objects that may be contaminated.

# Demo: Emergency Handling: AI Decision-Making



**Step 1:** User reports severe chest pain & dizziness.

AI analyzes symptoms.



**Step 2:** AI alerts emergency contact.

Rapid response initiated.



**Step 3:** User reports difficulty breathing & left arm pain.

AI detects high-risk.



**Step 4:** AI triggers alert.

Immediate action taken.



## Emergency Scenario Handling (Critical Thinking & Decision-Making) : “Demonstrates how AI assesses risk levels and can trigger emergency notifications to a family member or medical professional.”

PM

I have severe chest pain and feel dizzy. What should I do?



### Emergency Alert

**Your symptoms indicate a possible heart attack or critical condition.**

#### Immediate Actions:

1. **Call 911 or go to the nearest emergency room immediately.**
2. **Notify a family member or friend to assist you.**
3. **Do not attempt to drive yourself to the hospital.**

#### While Waiting for Emergency Responders:

1. **Unlock your door** so emergency responders can enter.
2. **Sit or lie down** in a comfortable position.
3. **Avoid drinking or eating anything.**
4. **Stay on the phone with emergency operators** if possible.
5. **If symptoms worsen or you lose consciousness**, your emergency contact will be alerted automatically.

### Emergency Notification Sent:



#### Example Emergency Notification (SMS/Email to Family Contact):

" **URGENT:** [User's Name] is experiencing severe chest pain and dizziness. Please check on them immediately. If they are unresponsive, call 911 now. Last known location: [Google Maps link]."

### Nearby Emergency Clinics:

- **Hospital A:** (123) 456-7890
- **Hospital B:** (987) 654-3210

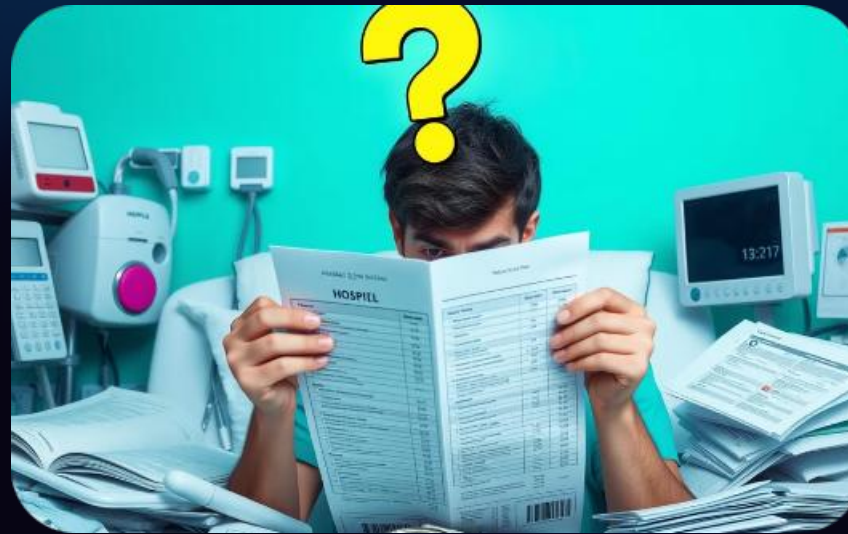
Would you like me to contact your insurance provider or any other emergency services?

# Demo: Insurance Queries: Practical Use



## Cardiologist Visit Coverage

AI instantly verifies if a visit to a cardiologist is covered by the user's insurance plan.



## Emergency Room Copay

The AI quickly provides the copay amount for an emergency room visit.




## Emailing Insurance Company

The AI can draft and send emails to the insurance company regarding claims on behalf of the user.

**Insurance Coverage Support (Real-World Application):**(“Highlights AI’s ability to **interact with insurance data**, verify coverage, and assist users in financial planning.”)

PM

Is a cardiologist visit covered under my Kaiser Permanente insurance?

 Kaiser Permanente Insurance Coverage for Cardiologist Visit

Coverage Details:


- **In-Network Cardiologist Visit:** Covered with a \$30 copay.
- **Out-of-Network Cardiologist Visit:** Covered at 50% after deductible.
- **Deductible Status:** You have met 50% of your annual deductible.

Would you like to:

- **Schedule an appointment with an in-network cardiologist?**
- **Check other in-network specialists?**
- **Get more details on your insurance coverage?**

PM

Schedule an appointment with an in-network cardiologist? - yes

 Scheduling an Appointment with an In-Network Cardiologist

Available Cardiologists:

1. Dr. Jane Smith

- **Specialty:** General Cardiology
- **Location:** Kaiser Permanente Medical Center, 123 Main St.
- **Available Slots:**
  - Monday, 10 AM
  - Wednesday, 2 PM

2. Dr. John Doe

- **Specialty:** Interventional Cardiology
- **Location:** Kaiser Permanente Specialty Clinic, 456 Elm St.
- **Available Slots:**
  - Tuesday, 11 AM
  - Thursday, 3 PM

Would you like to:

- **Book an appointment with Dr. Jane Smith?**
- **Book an appointment with Dr. John Doe?**
- **See more cardiologist options?**

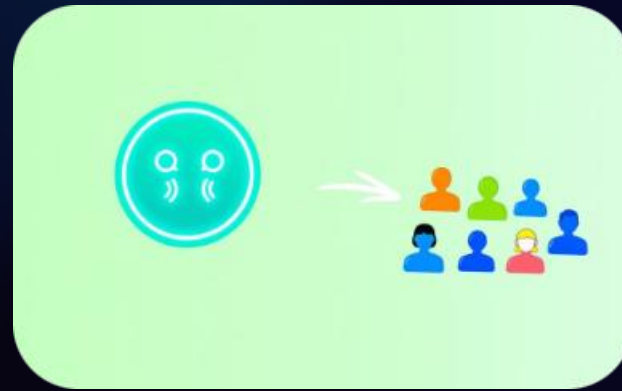


# Demo: Emergency Contact System: Best Effort Showcase



## AI Detects High-Risk

Analyzes user data to identify critical situations.



## Notification Escalated

Alert sent to listed emergency contacts for immediate response.



## Family Member Contacted

Immediate outreach to family for swift assistance.




## Real-World Impact



AI assistance extending beyond simple Q&A support.

## Emergency Contact Notification System (Best Effort Showcase) : “Showcases real-world impact by demonstrating how AI can act beyond answering questions and take action when necessary”

PM

I feel like I'm about to pass out.



 **Emergency Alert** 

**Your symptoms indicate a possible critical condition.**


**Immediate Actions:**


1. **Call 911 or go to the nearest emergency room immediately.**
2. **Notify a family member or friend to assist you.**
3. **Do not attempt to drive yourself to the hospital.**

**While Waiting for Emergency Responders:**

1. **Unlock your door** so emergency responders can enter.
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**Emergency Notification Sent:**

 **Example Emergency Notification (SMS/Email to Family Contact):**

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**Nearby Emergency Clinics:**

- › **Hospital A:** (123) 456-7890
- › **Hospital B:** (987) 654-3210

**Would you like me to contact your insurance provider or any other emergency services?**

**Stay safe and seek immediate medical attention.**

# Appointment Scheduling & Follow-Ups



## Schedule Appointments

Easily schedule appointments with a General Physician based on their availability.



## Retrieve Medical Info

Quickly retrieve the date of your last blood pressure check and other medical information.



## Appointment Scheduling & Follow-Ups: Displays how the AI can assist with scheduling medical care—a practical feature for patients

PM Can you book me an appointment with a General Physician?

### M Booking an Appointment with a General Physician

#### Available General Physicians:

##### 1. Dr. Emily Johnson

- **Location:** Main Street Medical Clinic, 789 Oak Ave.
- **Available Slots:**
  - Today, 3 PM
  - Tomorrow, 10 AM

##### 2. Dr. Robert Lee

- **Location:** City Health Center, 456 Pine Blvd.
- **Available Slots:**
  - Today, 4 PM
  - Tomorrow, 11 AM

#### Would you like to:

- › **Book an appointment with Dr. Emily Johnson?**
- › **Book an appointment with Dr. Robert Lee?**
- › **See more general physician options?**

PM yes with emily

### M Appointment Confirmed with Dr. Emily Johnson

#### Appointment Details:

- › **Date:** Today
- › **Time:** 3 PM
- › **Location:** Main Street Medical Clinic, 789 Oak Ave.
- › **Confirmation Code:** ABC123

#### Preparing for Your Appointment:

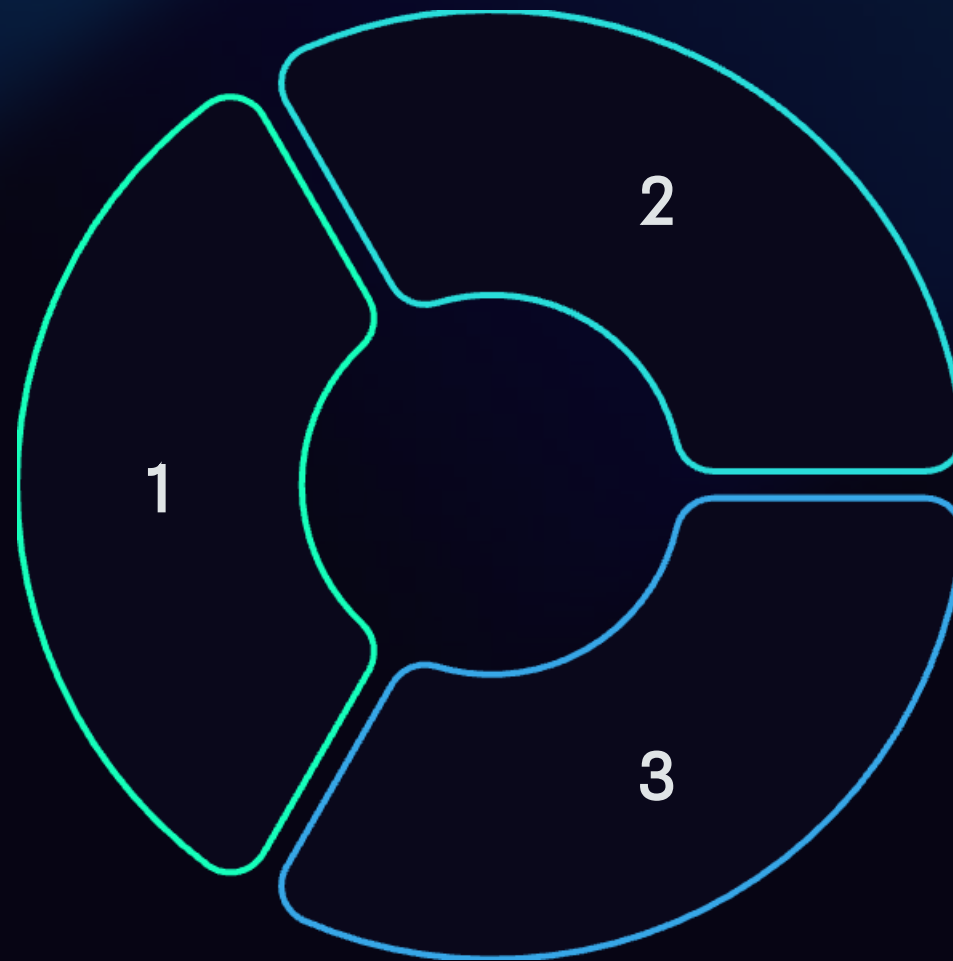
- › **Bring:** Your insurance card, ID, and any relevant medical records.
- › **Arrive Early:** To complete any necessary paperwork.
- › **List of Symptoms:** Be ready to discuss your symptoms and any medications you are taking.

#### Would you like to:

- › **Receive a reminder before your appointment?**
- › **Get directions to the clinic?**
- › **Add this appointment to your calendar?**

# Demo: Personalized Recommendations

I have high cholesterol. What foods should I avoid?



I am taking Metformin for diabetes. Are there any side effects?

AI adapts responses based on patient history.

Personalized Recommendations Based on Patient History :“Illustrates how AI adapts recommendations based on user history.”

PM

I have high cholesterol. What foods should I avoid?



Managing High Cholesterol: Foods to Avoid

Foods to Avoid:

- › **Red Meat:** Beef, pork, lamb.
- › **Processed Meats:** Sausages, bacon, hot dogs.
- › **Full-Fat Dairy:** Whole milk, butter, cheese.
- › **Fried Foods:** French fries, fried chicken, onion rings.
- › **Baked Goods:** Pastries, cakes, cookies made with trans fats.
- › **Fast Food:** Burgers, pizzas, and other high-fat meals.
- › **Sugary Drinks:** Soda, sweetened teas, sports drinks.

Healthier Alternatives:

- › **Lean Proteins:** Chicken breast, turkey, fish.
- › **Whole Grains:** Brown rice, quinoa, whole-wheat bread.
- › **Fruits and Vegetables:** Apples, berries, leafy greens, carrots.
- › **Healthy Fats:** Avocados, nuts, seeds, olive oil.
- › **Low-Fat Dairy:** Skim milk, low-fat yogurt, reduced-fat cheese.

Tips for Lowering Cholesterol:

- › **Exercise Regularly:** Aim for at least 30 minutes of moderate exercise most days of the week.
- › **Maintain a Healthy Weight:** Watch your calorie intake and stay active.
- › **Limit Alcohol:** Moderate your alcohol consumption.
- › **Quit Smoking:** Smoking can lower your good cholesterol (HDL) levels.

Would you like:

- › **A sample meal plan for lowering cholesterol?**
- › **More information on cholesterol-friendly recipes?**
- › **Tips for tracking your cholesterol levels?**



# Emergency Response: Rapid Guidance When Every Minute Counts

1

## Immediate Assessment

AI gathers vital information to determine the urgency of the situation.

2

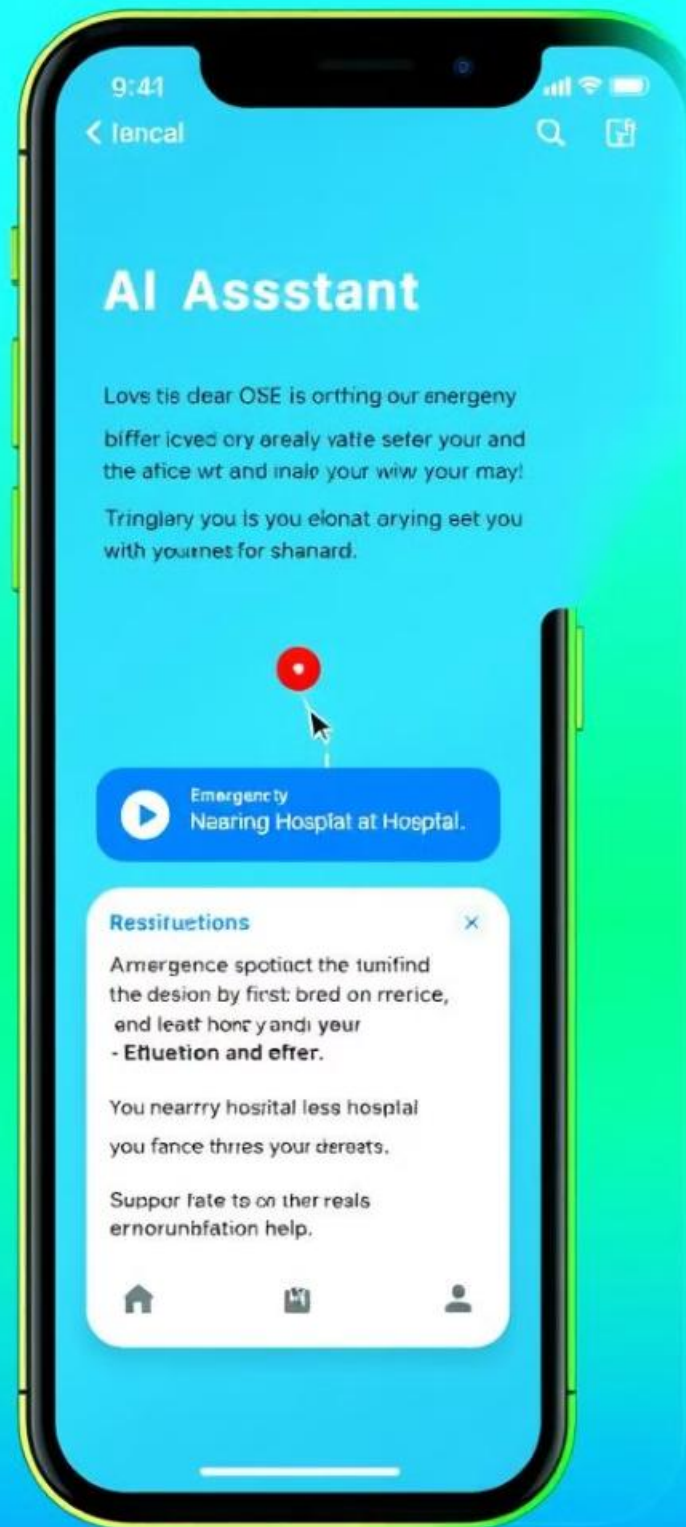
## Safety Measures

Provides step-by-step instructions for first aid and immediate care.

3

## Emergency Contact

Connects users with relevant emergency services and professionals.



# Ethical Considerations & limitation

1

## Data Security

Data Privacy & Security (HIPAA-compliant, encrypted data)

2

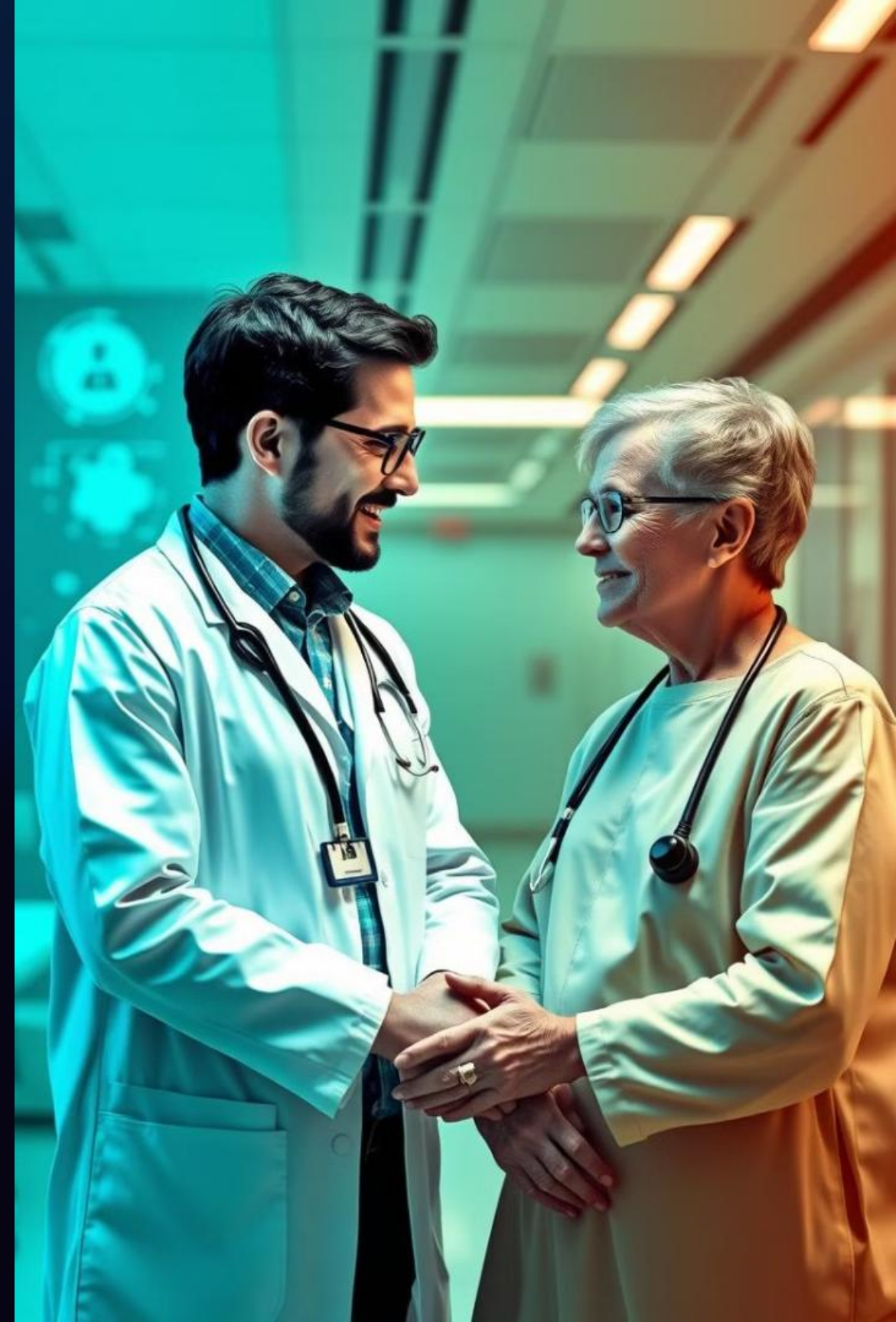
## Transparency

AI does not replace a doctor but assists decision-making

3

## Bias Mitigation

Ensuring AI algorithms are fair and unbiased to prevent discrimination in healthcare.

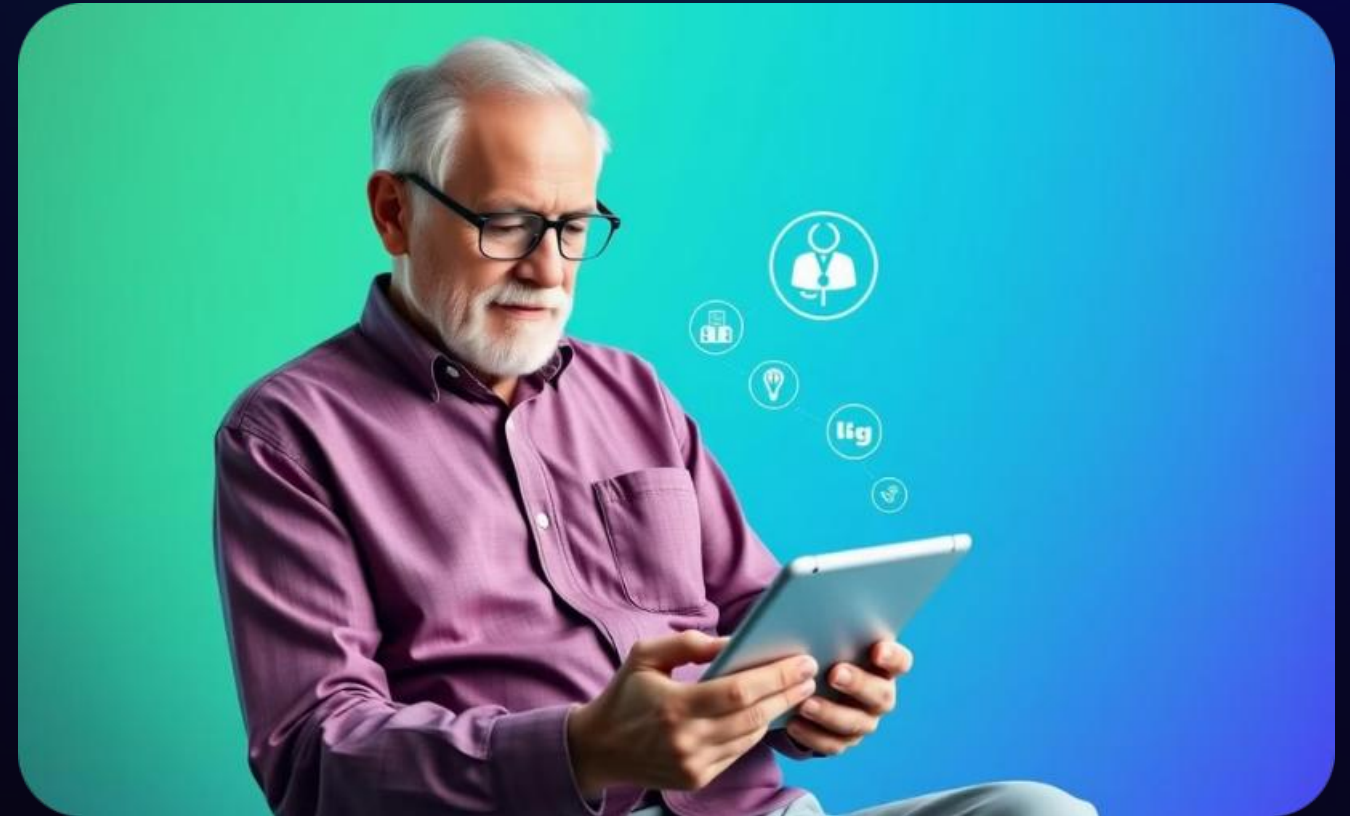




# Conclusion & Future Enhancements



AI Healthcare Assistant improves access to medical guidance.



Reduces unnecessary hospital visits & improves patient awareness.

**Future: Integration with wearables, telemedicine, and EHRs.**



Q&A

- Thank you for your time!!