

# Intelligent Laboratory Management Assistant

## Doctor Evaluation Questionnaire

### Basic Information

1. **Name:** \_\_\_\_\_ Dr. Normand Gatsinda\_\_\_\_\_
2. **Specialty:** \_\_\_\_\_
3. **Years of Practice:** \_\_\_\_\_
4. **Facility Type:** ☐ Hospital ☐ Clinic ☐ Other: \_\_\_\_\_

### Use Case 1: Routine Annual Check-up

***“As an internist conducting an annual check-up for a 45-year-old male with family history of cardiovascular disease”***

The system correctly identified my specialty and suggested appropriate consultation types. For lab test selection, it provided a comprehensive menu with clear organization. However, I found the test selection process somewhat cumbersome compared to our current system as it required multiple confirmations.

The patient history analysis was impressive, suggesting additional tests like hemoglobin A1c given the patient's risk factors. When results arrived, the system effectively highlighted borderline cholesterol levels, but I would have appreciated more contextual information about cardiovascular risk calculation.

Strengths:

- Good integration of family history into test recommendations
- Clear abnormal value identification
- Professional presentation of results

Weaknesses:

- Workflow felt somewhat rigid with too many confirmation steps
- Limited risk stratification in the analysis

### Use Case 2: Acute Abdominal Pain

***“Case with a female patient with severe RLQ pain, fever, and vomiting”***

In this urgent scenario, the priority setting feature worked well, though I initially had trouble locating it. The system appropriately suggested CBC with differential, CRP, and liver function tests.

When critically elevated WBC and inflammatory markers returned, the system promptly identified them as requiring immediate attention. The specialist recommendation feature correctly suggested surgical consultation, but the matching algorithm for available surgeons seemed limited - it didn't consider factors like on-call status or subspecialty expertise.

Strengths:

- Critical value identification was timely and accurate
- Comprehensive suggestions for acute inflammatory workup
- Specialist escalation pathway was available

Weaknesses:

- Priority setting interface could be more prominent for emergency cases
- Limited filters for specialist matching
- Communication could be more concise in acute scenarios

## Use Case 3: Diabetes Management

***“Managing a female patient with type 2 diabetes and hypertension”***

The system's pattern recognition across multiple test results was its strongest feature here. It identified a declining eGFR trend alongside persistent hyperglycemia that wasn't immediately obvious. The comprehensive analysis provided valuable context about diabetic nephropathy progression.

However, I found the assistant's communication occasionally too verbose when discussing chronic disease management. While clinically accurate, some explanations could have been more concise.

Strengths:

- Excellent longitudinal data analysis
- Sophisticated pattern recognition between related parameters
- Appropriate recommendations for additional tests based on trends

Weaknesses:

- Explanations sometimes unnecessarily detailed
- Limited customization of result display formats
- No integration with treatment guidelines

## System Usability

### Lab Test Ordering Process

1. How would you rate the ease of finding and selecting the appropriate lab tests?

☐ 1 (Very Difficult)

☐ 2

☒ 3

☐ 4

☐ 5 (Very Easy)

2. Did the system accurately identify the consultation type based on your specialty?

☒ Yes

☐ No

☐ Partially

Comments: \_\_\_\_\_

3. How helpful were the lab test suggestions based on patient history?

☐ 1 (Not Helpful)

☐ 2

☐ 3

☒ 4

☐ 5 (Very Helpful)

Comments: \_\_\_\_\_

4. Rate the clarity of lab test descriptions and information:

☐ 1 (Very Unclear)

☐ 2

☐ 3

☐ 4

☒ 5 (Very Clear)

5. How intuitive was the priority setting for urgent lab requests?

- ☐ 1 (Not Intuitive)  
☐ 2  
☒ 3  
☐ 4  
☐ 5 (Very Intuitive)

## Lab Results Review

1. How would you rate the clarity of the lab results presentation?

- ☐ 1 (Very Unclear)  
☐ 2  
☐ 3  
☒ 4  
☐ 5 (Very Clear)

2. Were abnormal values appropriately highlighted?

- ☐ 1 (Not at all)  
☐ 2  
☐ 3  
☐ 4  
☒ 5 (Excellentlty)

3. How helpful was the comprehensive analysis of all test results?

- ☐ 1 (Not Helpful)  
☐ 2  
☐ 3  
☒ 4  
☐ 5 (Very Helpful)

Comments: \_\_\_\_\_

4. Did the system appropriately identify critical values requiring immediate attention?

- ☒ Yes  
☐ No  
☐ Partially

If no/partially, please explain: \_\_\_\_\_

## Patient Referral/Escalation

1. How would you rate the specialist recommendation feature?

- ☐ 1 (Poor)
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 (Excellent)
- ☐ N/A (Didn't use)

2. Was the process of escalating a procedure to a specialist clear and efficient?

- ☐ 1 (Very Confusing)
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 (Very Efficient)
- ☐ N/A (Didn't use)

## Conversational Interface

1. How would you rate the assistant's ability to understand your requests?

- ☐ 1 (Poor Understanding)
- ☐ 2
- ☐ 3
- ☒ 4
- ☐ 5 (Excellent Understanding)

2. Was the assistant's communication:

- ☒ Too verbose
- ☐ About right
- ☐ Too brief

3. How would you rate the medical accuracy of the assistant's responses?

- ☐ 1 (Frequently Inaccurate)
- ☐ 2
- ☐ 3
- ☐ 4
- ☒ 5 (Highly Accurate)

If inaccuracies were noticed, please describe: \_\_\_\_\_

## Clinical Value

1. How would you rate the clinical relevance of the suggested lab tests?

- ☐ 1 (Not Relevant)
- ☐ 2
- ☐ 3
- ☒ 4
- ☐ 5 (Highly Relevant)

2. Were the clinical insights provided with lab results:

- ☐ 1 (Not Valuable)
- ☐ 2
- ☒ 3
- ☐ 4
- ☐ 5 (Highly Valuable)

3. How would you rate the system's ability to identify patterns across multiple test results?

- ☐ 1 (Poor)
- ☐ 2
- ☐ 3
- ☒ 4
- ☐ 5 (Excellent)

4. Did the system appropriately suggest specialist referrals when indicated by lab results?

- ☐ Yes
- ☐ No
- ☐ Partially
- ☐ N/A (No referrals needed)

Comments: \_\_\_\_\_

## Time Efficiency

1. Compared to your current lab ordering system, this application is:

- ☐ Much slower
- ☐ Somewhat slower
- ☒ About the same
- ☐ Somewhat faster
- ☐ Much faster

2. How much time do you estimate this system could save you per day?

- ☐ No time savings
- ☐ 5-15 minutes
- ☐ 16-30 minutes
- ☐ 31-60 minutes
- ☐ >60 minutes

## Overall Assessment

1. What features of the application did you find most valuable?
  - Accurate clinical knowledge embedded in test recommendations
  - Critical value identification and flagging
  - Integration of patient history with test recommendations
2. What features need improvement?
  - More streamlined workflow with fewer confirmation steps
  - Ability to customize result display formats and report generation
  - More concise communication in urgent situations
3. What additional features would you like to see in future versions?

## Technical Performance

1. How would you rate the overall speed and responsiveness of the application?
  - ☐ 1 (Very Slow)
  - ☐ 2
  - ☐ 3
  - ☒ 4
  - ☐ 5 (Very Fast)
2. Did you find any inconsistencies in the lab test database?
  - ☐ Yes
  - ☐ No

If yes, please provide details: \_\_\_\_\_

## Final Feedback

1. Overall satisfaction with the application:

☐ 1 (Very Dissatisfied)

☐ 2

☐ 3

☐ 4

☐ 5 (Very Satisfied)

2. Any additional comments or suggestions:

Thank you for your valuable feedback! Your input will help us improve our medical lab assistant application.