THE IMPACT ON USERS OF A WEB BASED DIAGNOSIS DECISION SUPPORT SYSTEM

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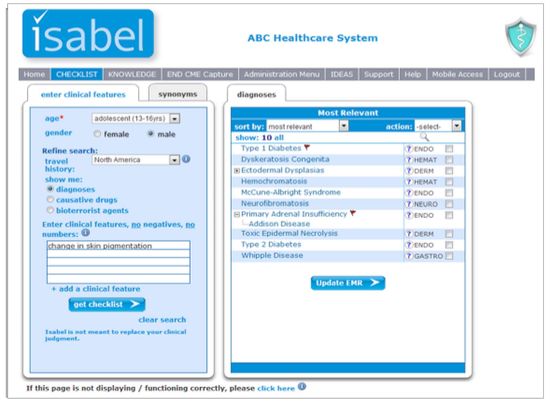
Overview

Diagnosis error continues to be a major contributor to patient adverse events that cause harm and contribute significant burden and cost to the healthcare system. It is believed that between 10-15% of patients are difficult to diagnose and that diagnostic adverse events occur in 4% of all admissions. A leading cause of diagnosis error is human processing and that are in many cases preventable diagnosis error are a major contributor (30-40%) malpractice claims as well. The purpose of this study is to look at the overall impact of a web based diagnosis decision support system on users (Isabel provided by Isabel Healthcare Inc.) and their diagnosis decision making.

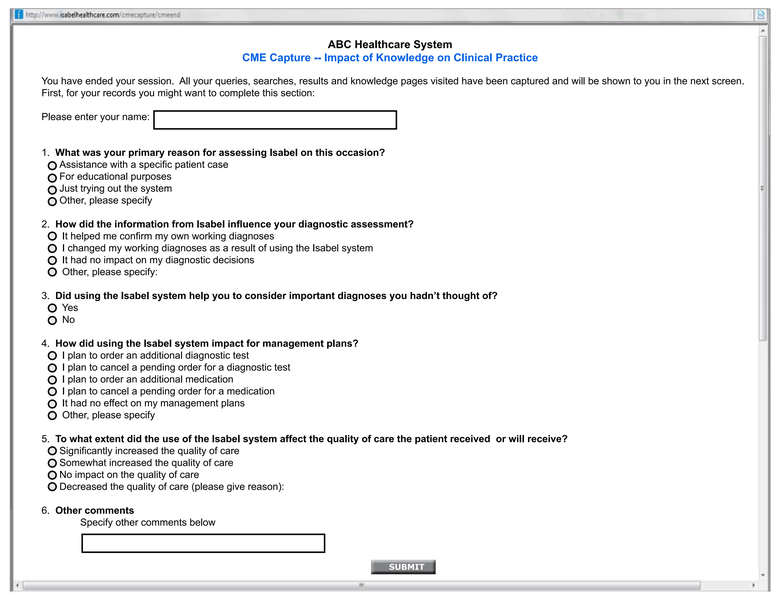
Methods: Subjects and Locations

Isabel, a well-known web based diagnosis decision support system, is used by a wide variety of physician disciplines at several hospitals across the USA. Physicians use the system when there is a question related to the diagnosis. They enter the patients age, gender and signs and symptoms the system provides a list of possible diagnoses and access to medical knowledge for each. Several of these organizations have approved the use of Isabel for CME purposes.



Methods: Study Protocol

In order to earn CME credits while using Isabel users must complete a form that asks 5 multiple choice questions. The questions ask about the impact the system had on the management of their patient for that episode of use and the impact on their diagnosis decision making. Overall 660 questionnaire forms were collected over a 16 month period. The results of the answers have been aggregated to give a view on the generalized impact of such a tool on its users and their diagnosis decision making.



ABC Healthcare System

CME Capture -- Impact of Knowledge on Clinical Practice

You have ended your session. All your queries, searches, results and knowledge pages visited have been captured and will be shown to you in the next screen. First, for your records you might want to complete this section:

Please enter your name:

1. **What was your primary reason for assessing Isabel on this occasion?**
   - Assistance with a specific patient case
   - For educational purposes
   - Just trying out the system
   - Other, please specify
2. **How did the information from Isabel influence your diagnostic assessment?**
   - It helped me confirm my own working diagnoses
   - I changed my working diagnoses as a result of using the Isabel system
   - It had no impact on my diagnostic decisions
   - Other, please specify:
3. **Did using the Isabel system help you to consider important diagnoses you hadn't thought of?**
   - Yes
   - No
4. **How did using the Isabel system impact for management plans?**
   - I plan to order an additional diagnostic test
   - I plan to cancel a pending order for a diagnostic test
   - I plan to order an additional medication
   - I plan to cancel a pending order for a medication
   - It had no effect on my management plans
   - Other, please specify
5. **To what extent did the use of the Isabel system affect the quality of care the patient received or will receive?**
   - Significantly increased the quality of care
   - Somewhat increased the quality of care
   - No impact on the quality of care
   - Decreased the quality of care (please give reason):
6. **Other comments**

   Specify other comments below

SUBMIT

Findings

The questions and their associated aggregate responses are below:

1. What was your primary reason for accessing Isabel on this occasion?

68% stated Isabel was used on a specific case.

2. How did the information from Isabel influence your diagnostic assessment?

In 50.5% of the cases the system confirmed the users own working diagnosis and in 17% of cases the user changed their working diagnosis.

3. Did using the Isabel system help you consider important diagnoses you hadn't thought of?

Yes 83% of the respondents thought Isabel had helped them consider important diagnoses they had not thought of.

4. How did using the Isabel system impact your management plans?

In 38% of cases the user ordered an additional test and in 5.5% they ordered an additional medication.

5. To what extent did use of the Isabel system affect the quality of care the patient received or will receive?

In 70% of cases the user thought that Isabel would increase the quality of care that the patient received.

Conclusions

These results show that the routine use of a diagnosis decision support system, such as Isabel, could have a positive impact on diagnosis error, patient safety and quality of care.