

# ELECTRONIC MEDICAL RECORDS IN FAMILY PRACTICE:

What drives physician interest and how much are they willing to pay?

K Keshavjee MD, CCFP, R Kyba, P Naisbitt, AM Holbrook

## **ABSTRACT**

### **PURPOSE:**

As the demand for higher quality medicine in the context of lower healthcare budgets continues, physicians are searching for new tools that will help them provide more efficient patient care. Electronic Medical Records (EMR) systems promise to do this. Recent healthcare restructuring and reform projects in Ontario have highlighted the need for informatics tools in patient care. We asked what are physicians looking to get from EMRs and how much would they be willing to pay for them.

### **METHODOLOGY:**

One-on-one interviews with 27 randomly selected physicians from the Hamilton area (random table method). Using a 'Benefits of EMRs' document, we used the Four-question method to determine the price sensitivity of physicians for purchasing EMRs.

### **RESULTS:**

Family physicians are very sensitive to the cost of EMRs. Based on the benefits of computerizing presented to them, only 20% of physicians are willing to purchase an EMR. Those who are willing to purchase one are willing to pay between \$ 255 and \$ 415 per month. At higher prices, interest drops off dramatically. Drivers of physician interest include improved office efficiency, better access to medical information and faster charting.

### **CONCLUSION:**

Family physicians, by and large, are not interested in purchasing EMRs. Those who are interested place a relatively low value on them. Office efficiency and better access to medical information are the main drivers of interest in EMRs.

## **BACKGROUND**

The Centre for Evaluation of Medicines, an academic research institute affiliated with McMaster University, is conducting a study on prescribing practices amongst community physicians in the Hamilton area. The research project is called the COMPETE study (Computerization of Medical Practices for the Enhancement of Therapeutic Effectiveness). COMPETE is a three year project to compare quality of information gathered by paper chart reviews vs. EMR and to assess the effectiveness of computer generated educational interventions.

As part of the preparation for the study, we needed to know what drives physician interest in installing EMRs in their offices. We also needed to know how much they would be willing to pay. Willingness to pay was seen as an important way of gauging physician interest in the project and to provide an incentive to enter information into the EMR.

# METHODOLOGY

## RECRUITMENT OF PARTICIPANTS:

Physicians from the Hamilton-Burlington area were randomly chosen from the Southam Canadian Medical Directory database. They were asked to participate in a 1-1.5 hour interview at their office for a study on Electronic Medical Records. They were offered a nominal honorarium to compensate them for their time.

## CONSTRUCTION OF BENEFITS DOCUMENT:

Using a brainstorming method, we developed a list of benefits that might accrue to a physician using an Electronic Medical Record (EMR). These were grouped under broad headings: 1) Improvements in charting; 2) Access to information for patient care; 3) Improved office efficiencies for clinical work (e.g., patient files not lost, lab data always available in the chart); 4) Societal benefits (e.g., health services research).

A description of the computer system and EMR along with the benefits of having these were given to physicians recruited for the study. They were then asked questions based on these descriptions and benefits.

## CONSTRUCTION OF FREQUENTLY ASKED QUESTIONS DOCUMENT:

When the description of the software, hardware and benefits were given to physicians participating in the study, they brought up many objections, barriers and questions to achieving those benefits. We documented their questions and developed a list of frequently asked questions and the answers to them. This document was used by the interviewers to answer questions about the barriers and objections so they could get information about willingness to pay.

## THE FOUR-QUESTION METHOD:

After going over the description of the hardware, software and benefits document and after their questions were answered, study physicians were asked to provide an estimate of the value they would place on the system and its benefits. Physicians were asked to quote four figures: 1) that is too expensive to consider, whatever its excellence; 2) that is expensive, but still a possible purchase; 3) that is inexpensive, but probably still of acceptable quality and 4) that is so inexpensive, as to be considered of little or no value.

## PRICING SCENARIO METHOD:

A second method of determining willingness to pay was used. In this method, subject physicians were given three price options with three different payment methods; i.e. three different prices with a lease option, three prices with a monthly payment and three lump sum payments for a total of nine payment options. These options were presented randomly to minimize any effect of a choice on the subsequent choice.

At each price point, physicians were asked to state whether they would 1) Definitely buy, 2) Probably buy, 3) May or may not buy, 4) Probably not buy and 5) Definitely not buy. Answers to these questions were normalized based on data from the literature on actual purchases made after similar types of research. The results were graphed and are shown in [Figure 1](#).

## DRIVERS OF PHYSICIAN INTEREST:

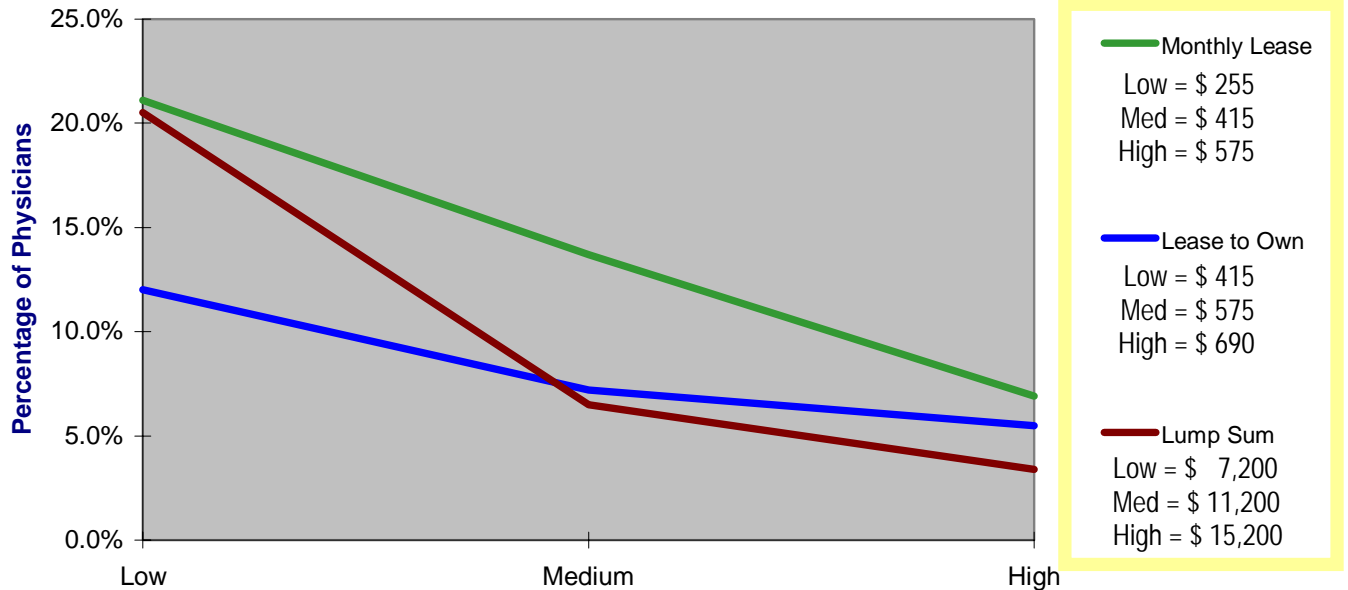
Subject physicians were asked to “vote” for those benefits that were most compelling to them and for which they would be most willing to pay. They were asked to distribute 100 points over the four broad benefit categories presented to them. Results are presented in [Table 1](#).

# RESULTS

Average % of Votes	Benefit	Key Attributes
34	In-Office Efficiencies	<ol style="list-style-type: none"> <li>Files available all the time, never lost</li> <li>Reduction of clerical cost</li> <li>Efficient use of space</li> </ol>
27	Patient Information	<ol style="list-style-type: none"> <li>Access individual patient files</li> <li>Access to other MD's files (for call)</li> <li>Direct lab results</li> </ol>
24	Templates	<ol style="list-style-type: none"> <li>Immediate drug info.</li> <li>Optimal prescribing guidelines</li> <li>Guided chart making (no typing, faster charting)</li> </ol>
15	Societal Benefits	<ol style="list-style-type: none"> <li>Future links with pharmacies, hospitals, homecare</li> <li>Contribute to DUR</li> </ol>

**Table 1: Drivers of physician interest in purchasing EMRs**

## Willingness to Pay



**Figure 1**

## **CONCLUSIONS**

Family physicians, by and large, are not interested in purchasing EMRs. Those who are interested place a relatively low value on them. Improved office efficiency and better access to medical information are the main drivers of interest in EMRs. Physicians who are interested in EMRs would be willing to pay between \$ 255 and \$ 415 per month to achieve the benefits of computerization.

## **BIOGRAPHY**

Karim Keshavjee is a Physician with a part-time Family practice in Toronto, Canada. He has a position as Medical Affairs Manager at Searle Canada. Currently, he is on secondment to the Centre for Evaluation of Medicines, an independent research institute affiliated with McMaster University, to help manage the COMPETE (Computerization of Medical Practices for the Enhancement of Therapeutic Effectiveness) Study.