ROI from Nurse Telephone Triage Calls –

Survey of Patient Calls

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Executive Summary:

Much of our skyrocketing health care costs are spent on unnecessary emergency room visits. A Rand Corp. study last year found that we spend $4.4 billion annually on people who use the ER for routine, non-urgent care. Most patient encounter starts with a phone call. A nurse triage can ensure that care is coordinated efficiently and that patients are getting the appropriate help based on their condition. This survey of about 35,000 patients indicates that having nurse triage was able to decrease unnecessary emergency room visits by approximately 70%, with a Return on Investment of over 800% per year.

Background Information:

This research involved a sample of telephone triage calls made by TriageLogic’s Nurse Triage on Call™ center during the months of August, September, October and half of November 2011. Patients called a nurse by telephone and spoke to an answering service agent. The agent entered the patient demographics and reason for calling into the TriageLogic software and nurses returned the call. Patients were called back within 30 minutes. All nurses who called patients were registered nurses.

Patient Survey:

Prior to triaging each patient, nurses randomly asked patients what they would do if they did not have access to a triage nurse. Out of the 35,409 patients surveyed, 11,135 said that they would have gone to the Emergency Room (ER) if they did not have access to nurse triage. In addition, 1,819 patients would have gone to an urgent care center.

Graph 1:

What would you do if you did not have access to nurse triage?

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The following graph shows the frequency of calls from patients who answered the survey and their responses to each question. About 1/3 of the overall responders indicated that they would seek emergency care.

The responses however, change significantly if we separate patient responses based on their insurance type, indicating significantly larger emergency care utilization by government and uninsured population. Almost ½ of the patients in government insurance planned to either go to the emergency room or seek urgent care, suggesting that they could significantly benefit from a program that indicates the appropriate care for their condition. The numbers are very similar for uninsured patients.
Nurse Triage Disposition Outcome:

After answering the survey questions, patients were triaged using standardized protocols from Dr. Bart Schmitt (for pediatric calls) and Dr. David Thompson (adult calls). Nurses documented the patient disposition and patient outcome into the TriageLogic Call Center Software. We compared what the patients were told do to with what the patients expected to do prior to being triaged.

Below, we consider what the 11,135 patients planning to go to the Emergency Room were actually told to do. Table 3 describes the results from patients who answered that they would “go to the emergency room.”:

**Graph 3:**

What were the 11,135 patients who said they would “go to ER” told to do by the Triage nurses?

As the chart demonstrates, only a fraction of the patients planning to go to the ER were actually told that they needed immediate care. Out of the 11,135 patients expecting to go to the emergency room, nurses indicated an ER visit to only about 30% of the callers.

**Cost Savings and Return on Investment Calculations:**

To calculate the cost savings and ROI, consider the savings from 500 patients calls at a telephone triage center that costs of $12/call. About 1/2 of the government insurance patients said that they would go to the ER if they did not have access to nurse triage. Costs of an
unnecessary ER visit vary. A recent article by the Blue Cross/Blue Shield of MN indicated an average cost of $1,049.00 per patient.\(^2\)

I use the following average cost assumptions (note: actual cost may be calculated for an organization by using the organization’s own number).

- Assume 500 calls/year.
- Unnecessary ER visit cost=$1,000 average cost/visit

The cost savings and return on investment (ROI) implications from this result are significant. With no nurse triage line, 250 patients would go to the emergency room. With a nurse triage line, only 75 patients would go to the emergency room.

ER Cost with no nurse triage: $250,000. (250 patients go to the ER)

ER Cost with nurse triage: $75,000 (75 patients go to ER)

Nurse Triage Cost: $7,000 (500 patients at $14.00/call)

<table>
<thead>
<tr>
<th>Telephone nurse triage line savings from 500 callers</th>
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<td>Savings from preventing unnecessary ER visit: $175,000</td>
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<td>ROI: 2,400% (\frac{(ER \ Cost \ Savings) - NurseT \ Cost}{NurseT \ cost})</td>
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The figure below shows cost savings with and without nurse triage on call.

\(^2\) http://www.bluecrossmn.com/Page/mn/en_US/health-education-emergency-room-visits
In this way, the nurse triage on call program is able to save significant amounts of healthcare resources and improve overall care by making a nurse available to all patients, whether or not they seek emergency care. As shown above, the savings from the use of nurse triage can be documented, thus satisfying the current demands for improved patient care along with better and more efficient use of healthcare resources.

To conclude, the nurse triage on-call program is able to save healthcare resources and improve overall care by making a nurse available to all patients regardless of whether or not they are seeking emergency care. At $14 a call, this means a Return on Investment of over 2,000%.

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