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Aim

This project aims to reduce missed diagnosis of pulmonary embolus, myocardial infarction, and acute abdomen who first present to ambulatory urgent care. In ambulatory care, accuracy of diagnosis is often assumed. This risk is particularly high in the urgent care setting where care continuity and familiarity with the patient are minimal. Each year patients are admitted to the hospital with these serious conditions after being seen first and diagnosed incorrectly in an ambulatory setting.

Objectives

1. Quantify the incidence of diagnostic error in the Atrius Health urgent care setting for myocardial infarction (MI), acute abdomen, pulmonary emboli (PE).
2. Determine if earlier identification of diagnostic errors occurs when patients are directly questioned about their care experiences.
3. Compare effectiveness of communication with patients via direct phone call versus outreach by electronic messaging.

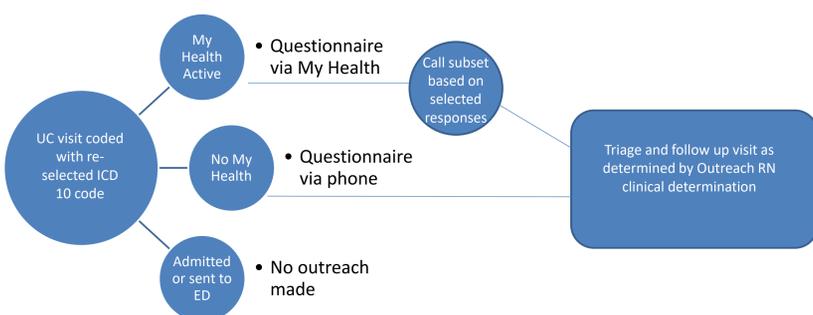
Methodology

The electronic medical record was used to identify patients by ICD10 diagnosis who had presented to urgent care with concerning symptoms such as chest pain or abdominal pain and then been discharged home. A workbench report was then sent to triage nurses to contact the patients within 48-72 hours of their discharge from care.

To those active on the health portal a short survey was administered to determine if symptoms had improved. Patients with new or worsening symptoms then received a phone call from a triage nurse to determine if they required further clinical evaluation. To those with no health portal activity, the survey and triage was conducted by phone.

Patients excluded from this study were those under age 18, pregnant, non-English speaking. Patients sent directly from the urgent care setting to the emergency room and those who had already received an outreach prior to 48 hours did not receive an additional contact.

Figure 1: Methodology



Results

Through this systematized process, 796 patients who had presented to urgent care with concerning symptoms received follow up contact either by phone (n=249) or health portal (n=547). Of those surveyed on the health portal, 120 had new or worsening symptoms and received a call by a dedicated triage nurse.

Eleven percent of those surveyed were found to need further clinical evaluation either by their PCP, through urgent care, or in an emergency room setting.

Figure 2. MyHealth Survey and Survey Response.

Urgent Care Survey

During the urgent care visit were all of your symptoms addressed? Yes, completely agree Somewhat agree Neutral - too soon to answer Somewhat disagree No, completely disagree

Do you feel the care you received helped you feel better? Yes, completely agree Somewhat agree Neutral - too soon to answer Somewhat disagree No, completely disagree

Since the urgent care visit have your symptoms gotten better? Yes, completely agree Somewhat agree Neutral - too soon to answer Somewhat disagree No, completely disagree

Have you noticed any new symptoms since your visit? Yes, completely agree Somewhat agree Neutral - too soon to answer Somewhat disagree No, completely disagree

Outcome:

Patient symptoms resolved or resolving - no indication for further follow-up care

Patient symptoms unresolved - indication for non-urgent phone call with PCP office

Patient symptoms unresolved - indication for a follow-up visit with PCP office

Patient symptoms unresolved - indication for urgent care visit

Patient symptoms unresolved - indication for emergent care visit

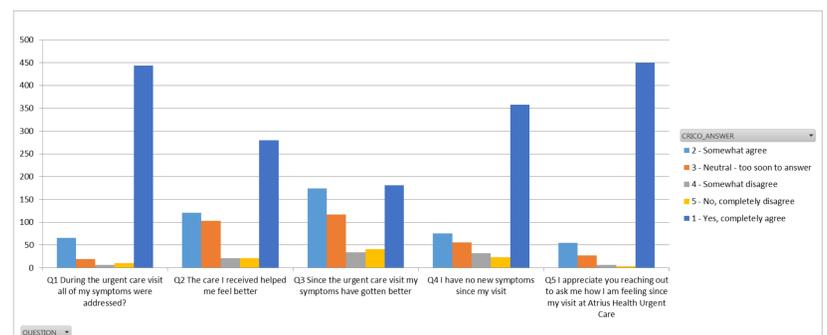
Patient symptoms unresolved - 911 called

1st outreach attempt

2nd outreach attempt

3rd outreach attempt

Other: (see comments)



Lessons Learned

- Our process used the electronic medical record to systematically identify patients with concerning symptoms to supplement clinical judgement by our urgent care providers. However, we had not anticipated that of the five thousand patients identified, the majority of them had already received a follow up call by a concerned clinician the following day to discuss lab or Xray results or been triaged to higher care. Only the remaining 796 made up our study group as listed above.
- It became apparent early on that using a decentralized approach with local triage nurses at each urgent care site was vital both to facilitate scheduling follow-up care and to achieve buy-in from each urgent care site.
- It was unexpected that the majority of responses came through the health portal rather than phone outreach. Using batched emails allowed a large number of patients to be contacted with a short survey identifying those who needed triage nursing expertise. This volume reduction was critical to create an effective safety net while reserving staffing resources for those patients most in need.

Next Steps

The study thus far has identified individuals at risk, resulting in hundreds of outreaches to ill patients who would not otherwise have received contact. However, ultimately a review of claims data is planned to identify those patients who were admitted to local hospitals with myocardial infarction (MI), acute abdomen, or pulmonary emboli (PE) that were seen in urgent care within the previous 14 days. A chart review will be conducted to identify if the patients presented to urgent care with symptoms and signs that could plausibly be related to the admitting diagnosis. This review will also identify if these patients had been identified and triaged by our safety net project and if their "time to diagnosis" was reduced by the triage nursing outreach.

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