Evaluation of the Implementation of a Pharmacist in the Emergency Department
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Introduction/Background
The American Society of Health-System Pharmacists has stated that "every hospital pharmacy department should provide its emergency department (ED) with the pharmacy services that are necessary for safe and effective patient care."

According to the Center for Disease Control and Prevention, ED visits have increased by roughly 19 million from 1995 through 2005. With this rising trend, the need for increasing pharmaceutical services is inevitable. This notion has been further validated by other publications. In accordance to literature data, The Valley Hospital has implemented a pharmacist in the ED.

Objectives
• To assess the impact of the implementation of an ED pharmacist through evaluation of direct patient-care, medication reconciliation, ED workflow, and overall patient safety.
• To study the financial impact of pharmacist involvement in the ED.

Methods
• Retrospective comparison of documented clinical interventions before (Oct. thru Dec. 2007) and after (Oct. thru Dec. 2008) the implementation of an ED pharmacist was performed. Financial data from the same time periods were incorporated.
• Clinical interventions were broken down into nine categories being clarifications, information/education, pharmaceutical interchanges, lab evaluations, quality assurance, renal assessment, patient safety, therapeutic and other. Primary focus was placed on patient safety and clarifications and were further subcategorized as follows:
  - Patient safety: medication reconciliation, dose evaluation, computer Physician Order Entry (CPOE) corrections, etc.
  - Clarifications: patient allergy profiling, physician orders clarification, drip rate verification
• A survey was distributed to emergency team personnel to assess the impact of the ED pharmacist through various measures including:
  - Emergency department's overall workflow
  - Effect on patient safety
  - Degree of assistance to other team members in optimizing patient care
  - Improvement in adherence to institutional standards of medication reconciliation
• ED CPOE turn-around time for the above time periods were compared.

Results

I. Clinical Interventions
Clinical Interventions Performed by ED Pharmacist
October - December 2008

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II. ED Survey Results
Survey on ED Workflow After Implementation of an ED RPh

Survey on Increase in Patient Safety After Implementation of an ED RPh

ED Survey on the Role(s) of an ED Pharmacist

Below is a bar chart showing the percentage of respondents who thought that an ED Pharmacist was essential for various roles.

- Assist in optimizing patient care
- Assist in selecting appropriate drug therapy
- Help with medication reconciliation process
- Profile medication orders
- Provide drug information not needed in the ED

According to the ED survey, 72% of responders always thought there was an essential need of an ED pharmacist, whereas 24% who previously did not see a need now think the ED pharmacist is essential after the implementation.

Discussion
• The ED clinical interventions prior to the implementation of an ED pharmacist was not well documented. A comparison of total pharmacy interventions between the two parallel time periods was therefore utilized. An increase in 2008 for both total number of interventions and total cost-savings/avoidance was noted. This certainly would be in part, a result of the implementation of the ED pharmacist.
• The survey results highly suggest the value of an ED pharmacist through enhancing the overall workflow, patient safety, and medication reconciliation adherence to institutional standards.
• The average time to profile ED CPOE orders was consistently longer during the months of October and November 2007 prior to the implementation of an ED pharmacist. The hours captured correlates to the current work schedule of the ED RPh in order to minimize bias. In December 2007, a pilot study of a pharmacist in the ED was conducted and therefore data shown is also a reflection of the pilot study.

Conclusions
The results of this study convey the benefits of having an ED pharmacist are multifaceted including enhanced workflow, improved patient safety, and increased compliance in medication reconciliation. These would additionally translate into financial cost-savings/avoidance for the institution.

References

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