Merging Informatics and Respiratory to Improve Research and Patient Care Outcomes

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Merging Informatics and Respiratory to Improve Research and Patient Care Outcomes

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LEHIGH VALLEY HEALTH NETWORK, ALLENTOWN, PENNSYLVANIA

WHO WE ARE

- Largest academic community hospital in PA
- Largest Level 1 Trauma Center in PA
- Certified Stroke Center
- Employees – 9,656
- Medical Staff – 1,100+
- Nurses – 2,334
- Respiratory Therapists – 110
- Magnet Hospital
- 154,792 ED visits / 63,743 admissions
- 988 acute care beds
- 3 hospital campuses
- Revenues over $1 Billion

INTRODUCTION

Our hospital had a major change involving the electronic medical documentation system. This change impacted the Respiratory Care Department given that the new system collects data from medical devices, including mechanical ventilators.

Our department’s goal was to have a designated departmental individual, an Application Analyst (AA), who would have the ability to transform the information into usable reports.

The Clinical Information System Specialist (CISS) would assess which parameters have the greatest impact in our clinical practice and optimize patient outcomes.

METHODS

- Initially, the AA was a part-time position. Inevitably, the AA became full-time due to number of sites, the reports desired, QA/PI requirements, development of a departmental website, monthly reporting needs, etc.
- The AA has an Information Technology (IT) background.
- The CISS is a full-time position that works with the IT Department on the continuous development of the electronic medical documentation system. They are also responsible for respiratory order entry and quality reviews.
- The CISS has an RRT background.

RESULTS

- Since the creation of the AA and CISS, the Respiratory Care Department has become an integral member of the hospital’s Critical Care Research Team.
- Reports are now created and results (that took a considerable amount of time in the past) can be assessed in minutes. (See table below.)

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>PRE</th>
<th>POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventilator Rounds Report</td>
<td>2 hrs</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Q/A Data Collection/ Compiling</td>
<td>1-2 weeks</td>
<td>3 hours</td>
</tr>
<tr>
<td>Reintubation/ Self Extubation Data</td>
<td>2-3 weeks</td>
<td>1-2 hours</td>
</tr>
<tr>
<td>VAPS Compliance/ Month</td>
<td>1-2 hours/day</td>
<td>2 hours/month</td>
</tr>
</tbody>
</table>

EXAMPLE: Ventilator Rounds Report

- Generated on a daily basis.
- Critical to optimizing patient outcomes and reduce ventilatory duration.
- Allows for the development of databases to track trends and outcomes.
- Promotes research ideas and streamlines data collection during research projects.
- Insures therapist compliance to policy and procedures.

COLLECTION TOOLS

- Paper/pencil
- Microsoft Excel
- Spreadsheet
- Lifebook
- Laptop
- Metavision iMDSoft Documentation System

BENEFITS OF THE VENTILATOR ROUNDS REPORT

- Reduction in ventilatory duration.
- Improvement in QA/PI.
- Increased bedside education and discussion.
- Development of research projects and abstract presentations.
- Enhanced customer relationships.

CONCLUSION

The AA and CISS have allowed our department to offer invaluable information on how clinical interventions affect outcomes and how to improve those outcomes, with increased efficiency.

These positions may not be feasible for every Respiratory Care Department, but they may be something that needs further investigation by some Directors.

Creative thinking and the ability to obtain additional clinical positions may allow departments to offer more factual data to their Administration and allow re-evaluation of their clinical practices.