What Works to Improve Staff Compliance with Multi-drug Resistant Organism (MDRO) Screening

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DISCLOSURE

• AUTHOR: Monina Hernandez

• LEARNER OBJECTIVES:
  - The learner will be able to identify the impact of multi-modal interventions on the multi-drug resistant organism (MDRO) admission screening compliance of nurses
  - The learner will be able to enumerate the various interventions that would increase staff admission screening compliance rate for MDRO

• CONFLICT of INTEREST: None

• EMPLOYER: School of Nursing, Massey University, New Zealand

• SPONSORSHIP: None
What are the effects of multi-modal infection prevention and control interventions on staff MDRO screening compliance rate in various departments of a tertiary public hospital?
• DESIGN:
  - Retrospective review of monthly MDRO admission screening audits done to compare the compliance rate before and after the intervention

• SETTING:
  - Care of older people and elective surgical department of a public hospital in Auckland, New Zealand from December 2010 to November 2014
METHODS

• Monthly MDRO admission screen audits done in a representative ward of two hospital departments

• Twenty patients randomly selected from monthly list of patients eligible to be screened for MDRO within 24 hours of admission
METHODS

Multi-modal interventions include:
- monthly MDRO admission screen compliance audits,
- regular reporting of audit result,
- regular feedback,
- regular education sessions
- staff encouragement from both the infection control practitioner and nurse manager
METHODS

- Compliance rates reported to charge nurse managers monthly
- Rates > 90% were celebrated and reinforced
- A drop in compliance or a rate < 90% was followed up with the manager and staff
- Regular 10-15 minute-education sessions at staff handovers were conducted
# RESULTS

The average compliance rate from October, 2012 to November, 2014 in the elective surgical department is 85.75% compared to 75.91% from December, 2010 to September, 2012.

<table>
<thead>
<tr>
<th>Surgical Department</th>
<th>Before*</th>
<th>After**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>75.909090</td>
<td>85.75</td>
</tr>
<tr>
<td>Median</td>
<td>80</td>
<td>87</td>
</tr>
<tr>
<td>Mode</td>
<td>90</td>
<td>80</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>14.388848</td>
<td>9.003622</td>
</tr>
<tr>
<td>Range</td>
<td>50</td>
<td>33</td>
</tr>
<tr>
<td>Number of patient records audited</td>
<td>1670</td>
<td>2058</td>
</tr>
<tr>
<td>Number of monthly audits completed</td>
<td>22</td>
<td>24</td>
</tr>
</tbody>
</table>

* Period coverage is from December, 2010 to September, 2012  
** Period coverage is from October, 2012 to November, 2014
RESULTS

Surgical Department MRO Admission Screen Compliance Rate, December 2010 – October, 2014

Start of quality improvement activities

Time (Month, Year)
The average compliance rate from August, 2013 to October, 2014 is 96.80% compared to 83.84% from December, 2010 to July 2013.

<table>
<thead>
<tr>
<th>Care of Older People</th>
<th>Before***</th>
<th>After****</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>83.838709</td>
<td>96.8</td>
</tr>
<tr>
<td>Median</td>
<td>90</td>
<td>100</td>
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<tr>
<td>Mode</td>
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<td>100</td>
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<tr>
<td>Standard Deviation</td>
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<tr>
<td>Range</td>
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<td>15</td>
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<tr>
<td>Number of patient records audited</td>
<td>2599</td>
<td>1452</td>
</tr>
<tr>
<td>Number of monthly audits completed</td>
<td>31</td>
<td>15</td>
</tr>
</tbody>
</table>

*** Period coverage is from December, 2010 to July 2013
**** Period coverage is from August, 2013 to October, 2014
RESULTS

Care of Older People MRO Admission Screen Compliance Rate, December 2010 – October, 2014

Start of quality improvement activities
RESULTS

Statistical analysis of the overall MDRO admission screening compliance rate before and after the interventions showed a significant difference \((P < 0.05)\) in compliance rate in both departments.

<table>
<thead>
<tr>
<th>Departments</th>
<th>Before</th>
<th>After</th>
<th>T-Test ((P &lt; 0.05))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Audits</td>
<td>Mean Compliance Rate</td>
<td>Number of Audits</td>
</tr>
<tr>
<td>Surgical</td>
<td>22</td>
<td>75.91</td>
<td>24</td>
</tr>
<tr>
<td>Care of Older People</td>
<td>31</td>
<td>83.84</td>
<td>15</td>
</tr>
</tbody>
</table>
DISCUSSION

Variability in staff compliance may be due to patient acuity, staff mix, thorough history-taking of the patient, review of previous admissions, completeness of handover, staff knowledge of the organisational policy, staff motivation to adhere to organisational policy and availability of staff support.
CONCLUSION

The implementation of multi-modal interventions had a significant impact on the compliance rate for MDRO admission screening in various departments of a tertiary public hospital. While various factors affect the compliance rate, it could be kept at a high level through regular audits, regular reporting of audit result, regular education sessions and consistent staff encouragement.
REFERENCES


THANK YOU!