Role Network Analysis of Critical Care Medicine Teams

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Introduction

• VTE (Venous Thromboembolism), which encompasses DVT (Deep Vein Thrombosis) and PE (Pulmonary Embolism), accounts for approximately 10% of in-hospital mortality in the US¹.
• An estimated 900,000 cases occur each year with 1/3 of cases being fatal¹.
• The American College of Physicians has recommended the use of VTE pharmacologic prophylaxis to prevent the occurrence of VTE².
• Despite past efforts to increase VTE prophylaxis such as electronic reminders, clinical decision support, and education, VTE prophylaxis continues to be a problem³.

Objective

• To understand team members’ individual activities and interactions involved in VTE prophylaxis management.

Methods

• 13 interviews (total: 9 hours) were conducted at GMC and 11 interviews (total: 10 hours) were conducted at UWMC to gather information on VTE prophylaxis management processes.
• Interview data were coded and transferred into the diagramming software, Lucidchart®, to create the role networks.
• Social network metrics (reciprocity, centrality, in-degree centrality, and out-degree centrality) were measured for the networks and for each role within the networks.

Results

• VTE prophylaxis care decisions involve many team members and require multiple team interactions.
• During the admission process, UWMC includes 6 roles to discuss VTE prophylaxis, and GMC includes 4 roles.
• UWMC has a higher number of team interactions than GMC (13 versus 7) and a higher reciprocity score (1 versus 0.5).
• The pharmacist at UWMC is more likely to be involved in two-way communication with other healthcare team members.

Conclusion

• Use information from role network analyses to determine design requirements for clinical decision support to support VTE prophylaxis.

References


Funding/Acknowledgements: This research is supported by the Agency for Healthcare Research and Quality (AHRQ) Grant # R01HS022086. The project described was supported by the Clinical and Translational Science Award (CTSA) program, through the NIH National Center for Advancing Translational Sciences (NCATS), grant UL1TR000427.