Initiators and Recipients of Interruption in Workflow: A Role-Based Event

Juliana J. Brixey, PhD, RN1,2, David J. Robinson, MD2,3, MS, James P. Turley, PhD, RN2, Jiajie Zhang, PhD2
1University of Kansas School of Nursing, Kansas City, KS
2University of Texas Health Science Center at Houston, Houston, TX
3Memorial Hermann Hospital, Houston, TX

Abstract
The purpose of this case study was to examine the roles of medical doctors (MDs) and registered nurses (RNs) working in a level one trauma center during interruption events. The ethnographic technique of shadowing was used to record observations. Medical doctors and RNs were found to be the role initiator less often than that of recipient. The role of initiator should be considered when developing strategies to mitigate or decrease the negative effects of interruption.

Introduction
An interruption is a role-based event between the initiator and the recipient. The initiator has the role of originating the interruption by forming the intent to interrupt.1 The event continues as a physical signal which passes a threshold test of detection by the recipient’s sensory system. This is needed in order for the recipient become aware of the interruption. Furthermore, the recipient’s role entails accepting or rejecting the interruption. Through acceptance of the interruption, the recipient must choose a strategy to manage the interruption.2 Moreover, research studies have examined the role of recipient because of the negative impact on task performance.3 However, it is equally important to understand the role of the initiator. Therefore, the purpose of this study was to examine the roles of medical doctors (MDs) and registered nurses (RNs) working in a level one trauma center during interruption events.

Methods
This case study was conducted in a level one trauma center using the ethnographic technique of shadowing. A convenience sample of MDs and RNs were observed with observations being recorded on a minute-by-minute basis. Grounded Theory methods were used to guide the categorization of roles.

Findings
Five MDs were observed for a total of 29 hours, 31 minutes. Eight RNs were observed for a total of hours 40 hours, 9 minutes. The role of the MDs and RNs in an interruption event is summarized in Table 1.

Table 1. The Role of MDs and RNs during an interruption event

<table>
<thead>
<tr>
<th>Professional Role</th>
<th>Interruption Role</th>
<th>Non-role Interruption</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD</td>
<td>19.87%</td>
<td>42.98%</td>
</tr>
<tr>
<td>RN</td>
<td>35.36%</td>
<td>51.21%</td>
</tr>
</tbody>
</table>

Other interruptions were attributed to environmental conditions.

Conclusion
This is one of few studies that examined interruptions by considering the role that MDs and RNs selected or performed during interruption events. It is important to understand the role of initiator of interruptions and the interaction with the recipient in order to develop strategies to mitigate or decrease the negative effects of interruptions.

Acknowledgement
This project has been supported by a training fellowship from the Keck Center for Computational and Structural Biology of the Gulf Coast Consortium (NLM Grant No. 5 T15 LM07093) and Grant R01 LM07894 from the National Library of Medicine.

REFERENCES