Table 2

Barriers of Implementation and Utilization of Radio-Frequency Identification (RFID) Systems in Transfusion Medicine

<table>
<thead>
<tr>
<th>Source</th>
<th>Barriers</th>
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</thead>
<tbody>
<tr>
<td>College of American Pathologists (2005)</td>
<td>• RFID tags can be 10–15 times more expensive than barcode systems.</td>
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<tr>
<td>Juels (2006)</td>
<td>• Literature review identified threats to security as rogue scanning, “eavesdropping” on either tag-to-scanner or scanner-to-tag communications.</td>
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<tr>
<td>Chao et al. (2007)</td>
<td>• Literature review identified cost to implement and security concerns as barriers to RFID use.</td>
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</tbody>
</table>
| Lahtela and Hassinen (2009)                 | • Review of the structure and infrastructure of several RFID systems  
• Threat to patient-level data security was identified as a risk.                                                                                                                                     |
| Yao et al. (2012)                           | • Examination of cost to implement RFID in an 800-bed hospital  
• Found the start-up cost to be $20,000 to $1 million with $1,050 per day in medication tagging                                                                                                    |
| American Association of Blood Banks (2011)  | • Analysis of safety issues related to the use of RFID  
• Studies are required to test the ability of RFID tags to survive centrifugation, freezing, and gamma radiation procedures involved in the processing and storage of blood components.  
• Noted possible morphological and biochemical effects of RFID tags on blood components                                                                                                               |
| Lou et al. (2011)                           | • Additional costs involved with RFID system implementation include readers, middleware, and software applications.  
• RFID readers can cost $50 to $3,000 each.  
• Software applications can range in cost from $25,000 to more than $100,000 for facility-wide implementation.                                                                               |

Sources:
