

Table 2

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

Source	Barriers
College of American Pathologists (2005)	<ul style="list-style-type: none"> RFID tags can be 10–15 times more expensive than barcode systems.
Juels (2006)	<ul style="list-style-type: none"> Literature review identified threats to security as rogue scanning, “eavesdropping” on either tag-to-scanner or scanner-to-tag communications.
Chao et al. (2007)	<ul style="list-style-type: none"> Literature review identified cost to implement and security concerns as barriers to RFID use.
Lahtela and Hassinen (2009)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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:

American Association of Blood Banks (AABB). “Annual Meeting Session Focuses on Bringing RFID to the Blood Industry.” http://www.aabb.org/events/annualmeeting/attendees/64amonline/Pages/tuesday_rfid.aspx (accessed October 5, 2014).

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College of American Pathologists (CAP). “Adding RFID Layer to Blood Safety Loop.” *CAP Today*, July 2005. Available at http://www.cap.org/apps/portlets/contentViewer/show.do?printFriendly=true&contentReference=cap_toda_y%2Ffeature_stories%2F0705RFID.html (accessed September 4, 2014).

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