Two years ago, a patient was wheeled into the intensive care unit of St. Elizabeth’s Medical Center in Boston, MA, and was hooked up to a cardiac monitor. At some point though, the cables from the patient’s chest to the machine slipped loose. A low-pitched alarm went off, but nurses didn’t hear it.

“They didn’t discover the patient had stopped breathing until it was too late,” according to an investigation on alarms published in the Boston Globe in February.

AAMI has created a new standards committee to help tackle the issue of alarms management, a growing problem in healthcare. The U.S. Food and Drug Administration (FDA) received 566 reports of patient deaths related to alarms on monitoring devices from 2005 to 2008.

The survey, conducted this past fall by a professional research firm, was handled via e-mail with questions sent to 2,522 hospital-based biomeds. More than 400 hospitals responded, and the poll results have a margin of error of plus or minus 4.62%.

Hospitals are looking for more places to cut costs, and that pressure often falls on the biomed department, experts say. Carol Davis-Smith, a director with Premier Consulting Solutions in Phoenix, has worked with many biomed departments.

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Committee to Tackle Alarms

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Many of the main problems is alarm fatigue, which occurs when nurses and other personnel get desensitized to alarms after experiencing and handling so many. And responding to any alarm takes up time, impacting the hospital staff’s ability to perform other clinical duties. Clinicians may also improperly modify alarms in an attempt to reduce overload.

FDA issued guidance in January on “preventing medical errors,” recommending several things to avoid alarm-related patient injuries and fatalities.” The recommendations include making sure healthcare personnel know the meaning of all alarm sounds, and checking on a patient before silencing any alarm.

Alarm fatigue is something that many manufacturers and standards haven’t really addressed, says Carl Pantiskas, a senior staff clinical engineer for Dräger Medical Systems in Andover, MA, and a member of the new AAMI committee. “A lot of the people who have worked on standards related to alarms and medical devices have focused on how you notify someone, and then largely ignore the question of when you need to notify someone.”

Take the case at St. Elizabeth’s. “How would things have happened differently if the ‘low-pitched alarm’ became that monitor’s highest priority alarm after 10 minutes?” he asks.

Even with such a design change, Pantiskas says the alarm could have still been ignored by the nurses. But, he says, it would then be harder to cite the “common design” of cardiac monitors as the issue.

This committee is looking for new members, particularly users and general interest, nurses, regulators, academia, and other non-industry interested parties. For more information, contact Jennifer Moyer at jmoyer@aami.org.

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Horizons Issue to Highlight Alarms

The upcoming issue of AAMI’s award-winning Horizons series will focus on alarm management. Horizons, which will be mailed to all AAMI members alongside the May/June issue of Biomedical Instrumentation & Technology (BI&T), will feature articles on using the Internet to distribute alarms, standardization, and other topics.

For more information, visit www.aami.org/publications/horizons.

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