

Executives will need to sort through some of the distorted reporting on recent studies of RFID's impact on hospital equipment.

By Mark Roberti

July 21, 2008—Mark Twain, the great American writer, famously stated: "A lie can travel halfway around the world while the truth is still putting on its shoes." Well, when it comes to radio frequency identification, bad news travels around the World (Wide Web) before good news even gets out of bed.

We recently covered two stories involving studies of RFID's impact on hospital equipment. One study, conducted by researchers at the [University of Amsterdam's Academic Medical Center](#) in the Netherlands, was published in the [Journal of the American Medical Association \(JAMA\)](#). This study concluded that RFID could disrupt the operation of defibrillators and other medical equipment, occasionally inducing "potentially hazardous incidents in medical devices."



RFID, the *JAMA* report claimed, could shut down equipment patients rely on (see [Researchers Warn RFID May Disrupt Medical Equipment](#) and [A Sobering Warning on RFID in Hospitals](#)). The study, while providing an important warning, may not have tested RFID as it's really used in hospitals. What's more, it didn't test the type of technology most commonly used in hospitals, opting instead for the type of RFID that poses the highest risk of generating electromagnetic interference (EMI) in nearby devices (see [Dutch RFID Interference Study Is a Worst-Case Test](#)).

We then published an article regarding a clinical study conducted in March of this year at [Community North Hospital](#) in Indianapolis, by researchers at [Indiana University Purdue University Indianapolis \(IUPUI\)](#) and RFID consulting and systems integration firm [BlueBean](#). That study, entitled "RFID Usage in the Patient-Care Environment," found RFID systems did *not* interfere with hospital equipment (see [New RFID Study Finds No Interference With Medical Devices](#)).

I conducted a search of Google for *JAMA* and RFID, and found 150,000 references to the first study, which portrayed RFID negatively. A second search, however, turned up only nine references to the more positive Purdue University study.

Now, we can debate the different methodologies used in the two studies—they're spelled out in detail in our [July 11 article](#)—but it's clear the media and bloggers adore negative news about RFID. This is not a surprise. The media loves negative news about anything—the war in Iraq, the economy, the environment and so forth. The fact that the negative study was published in *JAMA* also lent it some credibility. Still, I have no doubt that if *JAMA* had published the positive report, it would not have been widely picked up.

As a result, there is a danger that a hospital executive considering the use of RFID to improve operations and patient safety might see the reports on the study published by *JAMA*, but nothing on the Purdue research, and conclude that perhaps the hospital should hold off deploying RFID because the technology isn't safe. That would be unfortunate, as RFID can clearly be used safely.

The Purdue study showed no effect when ultrahigh-frequency (UHF) systems were kept at a reasonable distance from medical equipment. So placing readers in utility rooms, near elevators and above doors between hospital wings or departments to track assets is not a problem. Moreover, high-frequency (HF) systems used for identifying patients, and for tracking stents and other medical devices, do not cause a problem—and there is no indication that low-power active RFID systems will interfere with medical equipment, either.

Both studies are valuable. The *JAMA* article alerted people to potential problems, while the Purdue report showed RFID can be used safely if not deployed too close to medical systems. I know, from the many articles *RFID Journal* has published over the years, that radio frequency identification can improve patient safety and medical outcomes while reducing costs for health-care providers. So smart executives running hospitals need to read both studies carefully—and if they deploy an RFID system, they should do so in ways that avoid the problems cited in the *JAMA* study. But I hope that they won't read all the distorted reporting on the *JAMA* study and jump to the wrong conclusion.

Mark Roberti is the founder and editor of RFID Journal. If you would like to comment on this article, click on the link below. To read more of Mark's opinions, visit the [RFID Journal Blog](#) or click [here](#).

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