Developing Productive Partnerships With Technology and Device Vendors To Improve the Training of Staff

Matthew Grissinger, RPh, FASCP

Mr. Grissinger, an editorial board member of P&T, is Director of Error Reporting Programs at the Institute for Safe Medication Practices (ISMP) in Horsham, Pennsylvania (www.ismp.org).

When a new medication-related technology or device is implemented in an organization, staff training is critical to optimize its use, employ all of its safety features, and prevent misuse that might lead to medication errors. And who better to partner with to teach staff how to use the technology or device than the vendor of the product?

“Whoa! Hold on!” you might be saying to yourself—allowing vendors direct access to staff is often problematic, particularly given the number of different vendors health care organizations deal with and the risk of unwanted marketing of products to staff during vendor-run educational programs. Furthermore, relying on a vendor’s training program has been cited as a key mistake organizations make when implementing new technology or devices.1 The vendor may not understand the organization’s processes and culture and, therefore, cannot effectively teach users how the technology or device will specifically operate within the organization’s workflow. While these concerns regarding vendor-run education have merit, health care organizations that simply prohibit vendor access to staff for training purposes or ban vendors from visiting key staff to discuss safety issues with their products are missing out on what could be a valuable and necessary resource while controlling for the aforementioned concerns.

From a vendor’s perspective, front-line clinicians may not know how to use their technology or devices fully and safely. Users rarely read vendors’ written directions for use, and organizations may not have an effective mechanism in place to get ongoing critical user information to front-line clinicians, particularly after an initial wave of training has been accomplished. Efforts to use vendors to train just a few key individuals in an organization who, in turn, must train the rest of the staff have often been unsatisfactory. These trained individuals rarely possess the depth or breadth of knowledge necessary for training new users and may pass along incorrect information or suggest unsafe practices. A discussion of these and other drawbacks of not partnering with knowledgeable vendors to help provide the training necessary to promote proper use of new technology or devices follows.

Excluding Vendors

Failing to engage vendors as an integral partner during training may lead to poor optimization of the technology or device. For example, we have observed smart infusion pumps being utilized at a base level of functionality—a bolus feature that helps deliver a dose safely may not be known or the dose-checking software may be bypassed. Thus, staff using the device may be missing key information about features that can prevent serious errors.

Failing to utilize vendors during training may also result in misuse of the technology or device. For example, the Carpuject syringe system (Hospira) has been misused as vials from which doses have been removed. Insulin pens have been misused to administer doses of insulin to multiple patients after just changing the needle. Or there may be known risks with using the technology or device that are never communicated to front-line users, such as the risk of injecting air into the vascular system when using a contrast media injector, pressurized bags for infusion of fluids, or pressurized spray devices used too close to the tissue surface.

According to researchers who received government funding for Transforming Healthcare Quality Through Information Technology, one important lesson learned about partnering with vendors is that there were some things the vendor had already experienced during other technology or device implementations that the researchers had never considered.2 For example, an infusion pump “low concentration” alert may be largely ignored and misunderstood as a “low dose” alert, thus allowing a potentially fatal overdose.3 Also, new information that comes to light during post-marketing surveillance of technology and medical devices may need to be communicated to users, including label updates and revisions. (Vendors serve as one key source of such information, although other sources may be available.) The vendor may be aware of a new source of infusion rate errors, for example, caused by tubing misplacement that could result in rapid or slow infusion rates. The vendors may also be aware of a process step that can help reduce risks when utilizing their technology or devices. For example, a vendor may recommend modifying a confusing alert or implementing a time-out procedure before utilizing a contrast media injector to ensure that all recommended risk-reduction measures to prevent air emboli are in place.

Additionally, technology or device implementation requires more than just a once-and-done training effort—it is a gradual process in which users tend to learn what they need to know to do their jobs first and then, as use of the technology or device becomes routine, they need to learn all that is feasible with the technology or device. This second wave of training, in particular, may be more effective when partnering with the vendor. Also, staff trained years ago may have forgotten about an infrequently used option or risk-reduction step. Ongoing optimization of the technology or device requires repetitive training and competency verification.

Partnering With Vendors

Because neither vendor-run nor organization-run training efforts alone are optimal, it is advisable to work collaboratively with the vendor to plan...
and deliver initial training and periodic follow-up training to all staff who will use the technology or device. Keep in mind that a one-way exchange of information from the vendor to staff is not optimal; training will be much more effective by working closely with the vendor as a partner to adapt the technology or device to the specific organization. Taking the steps that follow will help minimize risks and enhance the overall implementation of technologies or devices.

Set the Ground Rules
Health care organizations should develop written expectations for vendor-assisted staff training programs that specify how the partnership will work, the key contact(s) within the organization, the methods for communicating with the key contact(s), and ground rules regarding the actual training programs (e.g., no marketing of technology or devices beyond the scope of currently agreed-upon use; no marketing of other vendor products; deference to organization-specific processes and requirements, such as barcode scanning or independent checks). These expectations should be provided to vendors at the earliest opportunity, including in requests for proposals and purchasing agreements.

Include Details in the Agreement
Make sure your purchasing agreement clearly details the training to be provided, including the number of trainers being provided, where and when the training will occur, time commitments, details regarding follow-up training, and so on. It is a good idea to set the ground rules and then have the vendor provide education to one area first, so the training can be critiqued before giving the vendor access to the entire staff that needs to be trained. Any issues that arise should be remedied from the start.

Use FMEA Results
After introduction to a new technology or device, but before actual implementation, the health care organization should conduct a failure mode and effects analysis (FMEA) to identify potential risks. Device vendors are required to conduct an FMEA, and the predominant risks should be shared with the organization. Results from both the organization’s and the vendor’s FMEA should be used collectively to plan the initial and follow-up training programs. After initial and follow-up training occur, prioritize the most critical elements to plan for annual or semiannual retraining and competency verification.

Collaborate With the Vendor
All training for medication-related technology and devices should be coordinated by the pharmacy or nurse educators in collaboration with the vendor. No vendor-assisted training programs should be presented to users without pharmacy knowledge and attendance, even if the training involves only prescribing or administration aspects of the medication-use process.

Preview the Training
Representatives from pharmacy and all disciplines that might use the technology or device should preview any videos, webinars, or other media the vendor may want to use during training to ensure the content is appropriate given the processes, culture, and organizational expectations of the health care organization. Key organizational representatives should also interview the vendor representatives who will be assisting with the training to validate, to the extent possible, the vendor’s thorough understanding of the technology or device. Discussion points around each topic on the training agenda should be shared and clarified if necessary. If problems with specific vendor trainers are experienced, the organization should immediately interact with the vendor and ask for new trainers to be assigned.

Keep Vendor Relationships Positive
Establish open lines of communication with the vendor and encourage updates regarding issues with the technology or device that may arise in the field. Also provide feedback to the vendor regarding any enhancements that would be helpful.

REFERENCES