End-to-end infusion safety

Safely manage infusions from order to administration
New demands and concerns

56% of medication errors are IV-related.¹

7% of high-risk IVs are compounded in error.²

$3.5B annually in additional healthcare costs result from adverse drug events.³

Ongoing hospital consolidations, new regulatory requirements, tight budgets and other changes add complexity and bring new demands that can stress existing processes and add to risks. Negative impacts to your organization and patients can be the undesirable result.
Risk at every step

Each step of the infusion medication workflow can be a risky one—from the time a physician first prescribes medication to the point when it is eventually administered to the patient. The reason? Manual steps along the way can introduce errors that are not only costly, but potentially life-threatening.

Pressure is building and so are risks

Your goal is to help deliver an optimal experience for every patient as cost-effectively as possible. And like other healthcare executives, you’re constantly looking for ways to leverage technology to support this outcome.

Past investments in technologies like CPOE and BCMA became even more valuable when they were later standardized and integrated into a single, easier-to-manage EMR system.

But while related workflows have seen major improvements, you’ve yet to address the risks associated with IV-related processes. The trouble is, your infusion medication workflows are composed of disconnected systems and processes that often call for manual intervention. This makes it difficult to uncover the root cause, leaving both your patients and your organization vulnerable.

With growing pressure to measurably improve patient safety and care, you need a more holistic approach for infusion medication management.
A better way forward

You may have considered implementing other point technologies or devices to help solve this problem. But taking that action won’t eliminate the manual hand-offs, discrepancies and errors caused by the use of siloed systems. And it won’t position you any better to determine where things have gone wrong in the process when mistakes occur.

Instead, you want to be able to mitigate safety risks across your entire infusion workflow. This requires a fully integrated process that allows you to seamlessly manage infusions from order to administration.
What if you could employ a standard, consistent approach for infusion therapy across your hospital?

At the same time, what if you could establish an integrated environment for your infusion and EHR systems?

And what if you could help prevent infusion safety risks from reaching patients, because you could detect and address them beforehand?

If you could, you’d be able to move the entire infusion order seamlessly across every touch point—from pharmacy to bedside—with all technologies acting as one with the EMR. Then you can capture and analyze meaningful data from across the entire continuum, to drive predictable and safe results for your patients. With BD, you can.
Every infusion order passes through many people and technologies on its way from the physician to the patient. Your pharmacy and nursing staff use multiple systems to interact with the order data and the physical medication as it moves from the IV cleanroom to the dispensing cabinet and the pump. Then at the bedside, your nurses must become experts at programming various infusion devices, from large-volume and syringe pumps to patient-controlled analgesia devices.

On top of your staff’s complex infusion workflows, patient acuity has been increasing. Treatment is more involved than ever. And as health systems consolidate and acquire more hospitals, these factors multiply across all the locations you manage. Every new hospital brings its own infusion workflows and technologies into the mix. You’re left with standalone systems that generate disparate data and varied workflows. All this complexity wastes time and can lead to infusion errors that risk harming your patients.

Errors abound

Half of nurses said they have witnessed a medical error because of lack of device coordination.

Nearly all (96 percent) agreed that medical errors could be reduced if medical devices were connected to share data with each other automatically.\(^4\)
The BD Solution:
Standardize infusion therapy across your hospital

Your physicians expect the medication order they place to be the medication administered to the patient, but disparate infusion technologies and manual workflows across most hospitals make compounding and administration complex and error-prone.

When you make BD your enterprise partner for infusion management, you can take a systems- and practice-level approach to infusion safety. First, you’ll standardize all your infusion devices and modalities at the bedside and your compounding equipment in the pharmacy. Then you’ll wirelessly connect all that hardware with software and data on one seamless platform. That foundation is the necessary starting point to ensure your patients get the meds they’ve been ordered.

Leave errors behind

The use of BD Cato led to a 74-fold increase in the ability to detect medication errors during IV compounding.\(^2\)
Challenge:
Manual data hand-offs leave patients vulnerable to medication errors

Patients today have benefited from computerized order-entry systems that help physicians check prescriptions up front for safety concerns, such as drug interactions and patient allergies. However, once that well-planned order makes its way to the infusion pump to be administered, the process becomes manual.

First, your nurses have to program the pump by entering multiple parameters, such as dose and volume to be infused. But it’s easy for them to select the wrong dose or concentration—or to transpose numbers—when they’re manually pressing keys.

And after starting an infusion, they must also document all the information about that administration manually in the electronic medical record. Any delay, inaccuracy or omission in documentation can be critical to future decisions that affect the patient’s care. Plus, if your nurses inaccurately record infusion administration start-and-stop time data, you may not be properly reimbursed for outpatient infusion services.

And you won’t fix these gaps in the process by transmitting partial information to your EMR or cutting and pasting information.

Multiple vulnerabilities

68% of medication errors occur during administration, and of that, 20% were attributed to manual infusion programming errors.6
Digital infusion orders can often flow from the physician to the pharmacy—but then the automation breaks down at the patient’s bedside, where the nurse has to manually program the pump and document the results.

When you work with BD, you can integrate your infusion system with your EMR to establish a seamless, bidirectional data flow. All systems act as one, which means you can prepopulate infusion pumps with the order parameters and accurately document the status in near real-time. With an integrated, mission-critical system like this, you need a sustainable support model—BD provides 24/7 technical support. With this truly interoperable approach, you’ll help to protect your patients from manual programming errors and enable your providers to make decisions with near real-time data, while maximizing your HIT system investments.

“[By using BD Alaris with EMR interoperability,] we reduced manual key strokes by 86% by eliminating almost 42-million key presses annually across eight hospitals.”

Jennifer Biltoft, PharmD, BCPS, SCL Health System

Put safety first

75% of infusion-related medication errors are avoided with interoperability. Only 28% can be averted with dose error-reduction software alone.

The BD Solution:
Interoperability with your infusion system and EMR
Challenge:

Errors in IV compounding and administration put patient safety at risk

Patients sometimes react unexpectedly to medications or suffer surprising setbacks that lengthen their stay at your hospital. When this kind of incident occurs, you must determine the root cause to help the patient and to prevent the issue from happening again. Otherwise, you risk harming future patients, exposing yourself to liability, and negatively affecting your HCAHPS scores. But a lack of certain documentation and data in the pharmacy and on the nursing floor can make it difficult to figure out the source of the problem.

Most pharmacies use manual processes in their IV cleanrooms. For example, many pharmacists still rely on the syringe pull-back method to verify compounded medications. At the bedside, nurses trust that the bag contains what it says on the label. That means that without the right data, it’s too easy to attribute a sentinel event to nurse error instead of a compounding mistake or a patient’s undiagnosed comorbid condition that’s outside of the nurse’s control.

Compounding the problem

7% of high-risk IVs are compounded in error.\(^2\)
The BD Solution:
Detect and address infusion safety risks before they reach the patient

Errors in IV compounding and administration can put patient safety at risk, and when a patient reacts unexpectedly to a med, it’s difficult to pinpoint the root cause of the problem.

Because we’ve built in safety features like hard stops and monitoring throughout our infusion platform, you can detect and help to address safety risks before they reach the patient. Your clinical teams can monitor practices from the cleanroom to the bedside to mitigate the risk of medication errors. And when incidents do happen, you can analyze continuously captured data to help uncover the hidden causes of incidents. This enables you to make data-driven decisions while helping you take a more proactive approach to infusion safety and risk reduction.

“BD Cato prevented a medication error that could have easily slipped through the cracks ... [H]ad BD Cato™ not been in place to make this correction, it would have been easy to miss the odd concentration yielding two times above the ordered dose.”

Nathan Barnes, PharmD, Lead Pharmacist, UNC HealthCare
Why BD?

When you partner with BD, you can seamlessly manage infusions and benefit from more predictable results through the ability to:

**Standardize infusion therapy across your hospital:** With BD, you can take a systems- and practice-level approach to infusion safety. First, you’ll standardize all your infusion devices and modalities at the bedside and your compounding equipment in the pharmacy. Then you’ll wirelessly connect all that hardware with software and data on one seamless platform. That foundation is the necessary starting point to ensure your patients get the meds they’re prescribed.

**Interoperability your infusion system and EMR:** When you work with BD, you can integrate your infusion system with your EMR to establish a seamless, two-way data flow. All systems act as one, which means you can prepopulate infusion pumps with the order parameters and accurately document the infusion status data in near-real time. You’ll also receive 24/7 technical support to sustain this integrated, mission-critical system. Through this interoperable approach, you’ll protect your infusion patients from manual programming errors and enable your providers to make decisions with near-real-time data, while maximizing your HIT system investments.

**Detect and address infusion safety risks before they reach the patient:**

With safety features like hard stops and monitoring built into our infusion platform, you can proactively detect and help to address safety risks before they reach your patients. Your clinicians can monitor practices from the cleanroom to the bedside to mitigate the risk of medication errors. And when incidents do happen, you can analyze the system’s continuously captured data to uncover their hidden causes.
Ready to experience seamless, end-to-end infusion management?

Visit us at mms.bd.com

References