



First Look

ICU Medical Plum Duo 2025

Enhancing Infusion Accuracy & Efficiency Through Pump Cassette & Cloud-Based Technology



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Why This First Look?

When it comes to infusion pumps, healthcare organizations grapple with medication delivery accuracy, safety issues, and system integration, leading to potential errors and inefficiencies. Built off the foundation of ICU Medical's Plum 360, the Plum Duo (LVP) is intended to address these challenges through cassette-based technology, cloud-enabled updates, and advanced safety features, ensuring precise dosing and streamlined workflows. This report examines customer experiences with the Plum Duo, assessing its effectiveness and impact on the healthcare infusion pump market.

What Does the Plum Duo Do?

(a customer explains)

"The Plum Duo utilizes cassette technology so that the user does not have to rely on their technique or gravity. . . . It more accurately delivers medication and infusion volumes to the patient, and we are able to set concentration limits, set infusion hard limits and soft limits, and get down to individualized, no-drug-selected parameters. . . . The system is cloud based. . . . The thing that is different . . . from other pumps we have used is that the Plum Duo does allow that initial rate field to be defaulted in the drug library, and it also has loading dose functionality." —Director

Bottom Line

Respondents view the Plum Duo as a reliable and user-friendly infusion pump that significantly enhances patient safety and dosing accuracy. They appreciate its advanced safety features and cloud-based updates, which streamline workflows and improve data management. Interviewed customers say the cassette-driven technology and intuitive interface make the pump easy for nurses to use, while responsive customer support ensures ongoing satisfaction. Some users suggest improvements in pump location identification and initial equipment requirements.

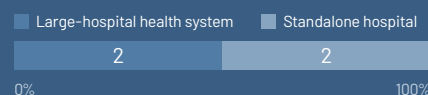
Top Reasons Selected

User-friendly interface, safety features, EHR integration, touch-screen technology

of Customers Interviewed by KLAS

6 individuals from 4 organizations (ICU Medical shared a list of 4 unique organizations; the list represents 100% of the customers that are eligible for inclusion in this study)

Survey Respondents—by Organization Type

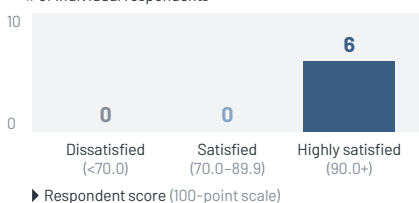


ICU Medical Plum Duo Customer Experience: An Initial Look

Distribution of Overall Performance Score

Based on individual respondents, not unique organizations

▼ # of individual respondents



Key Performance Indicators

Supports integration goals	Product has needed functionality	Executive involvement	Likely to recommend
A-^{**} (n=3)	A+^{**} (n=4)	A+^{**} (n=4)	A+^{**} (n=4)
Software grading scale (1–9 scale)			
A+ = 8.55–9.0	B+ = 7.65–7.91	C+ = 6.75–7.01	D+ = 5.85–6.11
A = 8.19–8.54	B = 7.29–7.64	C = 6.39–6.74	D = 5.49–5.84
A- = 7.92–8.18	B- = 7.02–7.28	C- = 6.12–6.38	D- = 5.22–5.48
F = <5.22			

^{**}Emerging data

Would you buy again? (n=4)

Percentage of respondents who answered yes



Note: Percentages are calculated based on individual respondent counts, not unique organizations.

Outcomes Expected by Customers

- ✓ Achieved
- ★ Unexpected outcome
- ⏸ Pending
- ✗ Not achieved

- ✓ Easily collected data
- ✓ Less space dedicated to pumps
- ✓ Reduced burden for nurses
- ✓ Safer infusions

Adoption of Key Functionality

Percentage of interviewed organizations using functionality (n=4)

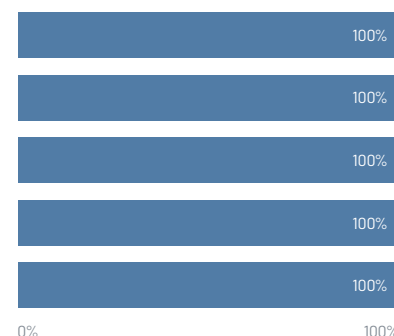
Air management: Air is removed with syringe or from cassette's air trap when secondary tubing is attached; primary line isn't required to be disconnected from patient

Alarm management: Detailed alarm messages provide suggested resolution options; visual indicator shows which channel the alarm is for and suggests troubleshooting options

Cassette-supported secondary infusion workflow: Allows for automated secondary delivery without adjusting head height for secondary piggyback to infuse; controls whether pump draws from primary or secondary container

Secure cloud-hosted LifeShield safety software: Enables medication and infusion device management from anywhere; allows end user to manage drug libraries across the facility and generate and customize real-time reports

Two-channel pump: Two primary and two secondary channels allow pump to have four compatible infusions running simultaneously



Time to See Outcomes

- Immediately
- Within 6 months
- 6–12 months
- Over 12 months
- No outcomes yet



Strengths

Excellent customer support and responsive team

"ICU Medical's implementation services and training were great. Also, ICU Medical always gets back to us with support. We are still emailing the go-live team if we have any questions, and our go-live team finished a while back, but they still actually get back to us. When we email them because we have a question, they are fantastic." —Director

Easy-to-use system

"Everything has been really good with the Plum Duo. It is successful and easier to use than our old pump system. The Plum Duo is probably one of the easiest systems to use. If someone can use a smartphone, they can use the system. One outcome we expected was ease of use from the nurse side for physically using the pump, and we are seeing that." —Director

Cloud-based technology and capabilities

"The Plum Duo is intuitive to use, and the touch screen is great. It is really nice that LifeShield is cloud based; that allows us to actually work on the drug library at the same time as another user if we need to. . . . I really like the loading dose functionality and concentration limits. The ability to disable the secondary line is a nice safety option. I also like the post-piggyback flush feature. . . . I also like the analytics, and the reporting is easy to use." —Director

Opportunities

Troubleshoot during implementation

"With the tubing, there was some troubleshooting at the beginning, and we hadn't worked out all the kinks. We had educated the nursing staff one way, and then when it came down to it, we had to switch things up. Everything is working fine now, but I think if we had been able to work stuff out beforehand, that would have been better." —Manager

Identify pump locations in LifeShield

"There is one other thing I might recommend to ICU Medical; they should identify which pumps are going into what areas because we have pumps all over the hospital, but I would like to be able to, in LifeShield, identify where those pumps are so I can exclude them from the library or have a way to separate units. That is one thing that is not available in LifeShield but that I would like." —Director

Make clear the need for special IV poles

"It was not clear to us when we bought the Plum Duo that, in certain areas, we would have to have special IV poles. If we are going to have more than one pump on a pole, from a stability standpoint, the pumps are a little bigger, and they require a special pole that we have to get from ICU Medical. It would have been great if that had been part of the initial capital request because we had to have the poles. Doing that pole count and covering that in the initial estimate would have been very helpful." —Executive

Points to Ponder

What Does a Customer Need to Do to Be Successful with This Solution?

Customers explain

- **Invite the vendor back initially for hands-on experience to test the product:** *"ICU Medical was really great in terms of what they offered us and in terms of meetings. . . . The advice I would give another customer is to keep inviting the vendor back. . . . With all the pumps we tried out, we had to go back two or three times while we were discussing what our options were." —Manager*
- **Train all staff and swap out pumps unit by unit:** *"We did training for all staff before the pump rollout, and that helped us. . . . A piece of advice is for the customer to go unit by unit when switching out the pumps because the old pumps are still running." —Director*
- **Ensure IT team understands Wi-Fi requirements:** *"With the Plum Duo, the customer should make sure that their IT team understands the Wi-Fi requirements needed to add the pumps. . . . With the Plum Duo, we can do updates by Wi-Fi. It is important to make sure that there is Wi-Fi where we are going to store the pumps as we are bringing them in and setting them up; the Wi-Fi needs to be able to handle hundreds of pumps in one place at one time." —Executive*

ICU Medical explains

- Ensure executive leadership engagement and develop a leadership team that is prepared to work with ICU Medical to drive the implementation across the organization at every level
- Establish strong, dedicated, cross-functional teams to facilitate collaboration between PM, pharmacy, nursing, IT, biomed, and risk management teams
- Designate superusers early in the process to not only provide training but also serve as clinical expert resources
- Understand current clinical workflows, policies and procedures, and the impact on drug library development and end-user training
- Prepare IT team to collaborate on the implementation of the software and make sure they understand the technical requirements of the system

Other Relevant Commentary

"One outcome of using the Plum Duo was to be able to bring the pump integration into the organization. The safety features and the ability to ease some of the documentation burdens from the nurses were key drivers. Another outcome was to try to better manage alarms and consistency with our pumps. The pumps that we have been using are quite old, so I definitely feel that we are meeting that objective." —Executive

"Our working relationship with ICU Medical has been really great. They have been very responsive to any complaints. If we have had any infusion-related events that we have needed their input on, they have been super responsive. We have had nothing but positive experiences, so they definitely would be a contender for the future. When we have asked ICU Medical for things, they have gone back to see if those things were in or could be worked into the original contract; they have also provided us with a good number of equipment pieces before charging us for additional ones. They make an effort not to charge for every little thing." —Director

"We are utilizing the reporting and analytics from LifeShield. There are lots of options for looking at the 300-foot view from a compliance standpoint to the drug library standpoint. We are able to figure out how often providers are using no-drugs-selected parameters, and then we can get a snapshot of the top 10 drugs with the most overrides. We can use the reporting to delve down even to the programming sequence where if they hit a hard alarm, we can see what they did next and look at the soft alerts a little more closely." —Director

ICU Medical: Company Profile at a Glance

Founder

George Lopez, MD

Year founded

1984

Headquarters

San Clemente, CA

Key competitors

Baxter, B. Braun, BD, Fresenius Kabi

Number of Plum Duo customers

9

Number of employees

Approximately 14,000 employees located in over 35 countries

Estimated revenue

\$2.3B

Funding

ICU Medical is a publicly traded company

Revenue model

ICU Medical offers a range of purchasing options. Typically, pumps are acquired through a capital purchase with infusion disposables purchased from operational budgets. Vendor's safety software platforms operate on a modified SaaS basis.

Target customer

Acute care hospitals



Healthcare Executive Interview

Chad Jansen,
Corporate Vice President

Who is ICU Medical?

ICU Medical is a company that specializes in the development, manufacturing, and distribution of intravenous (IV) therapy products, systems, and services. Our core focus lies in providing healthcare professionals with innovative solutions to safely and effectively administer medications and fluids to patients through IV delivery. Our portfolio includes a variety of IV pumps, dedicated and nondedicated sets, connectors, and related accessories that are meticulously designed to cater to the varied needs of healthcare facilities. With a steadfast commitment to quality, safety, and efficiency, ICU Medical plays a vital role in facilitating the delivery of essential IV therapies to patients on a global scale.

Why was ICU Medical started?

Founded with the goal of eliminating preventable harm, ICU Medical has a pedigree of pioneering solutions that address significant clinical challenges. From creating the first safe IV connector, developing modern cassette-based infusion therapy, and inventing IV-EHR interoperability to our latest milestone of developing precision infusion devices with robust, secure connectivity, our innovations have always aimed to drive care forward.

What is ICU Medical's biggest differentiator?

- Precise infusion pumps that are simple and delightful to use
- Precision infusion pumps that deliver expected volume medication across the breadth of environmental and situational variations
- Logical, easy-to-use workflow designed with nurses to guide users through setup and programming while streamlining complex tasks

Solution Technical Specifications Information provided by ICU Medical

Cloud environment

Amazon Web Services

Development platform

Various

LifeShield connectivity adapter

Windows server/SQL-server database

LifeShield application

AWS, including S3, DynamoDB, EC2, and Aurora with MySQL backend

Mobile application environment

Not native mobile application support; user access via web browser, including Chrome and Edge

Security platform

LifeShield is HITRUST certified within the secure AWS environment; users utilize multifactor authentication for secure login

Confidentiality

HITRUST

Data encryption

TLS and AES-256

Integration approach

HL7 & IHE

HITRUST certification

Yes

AI

No

Report Information

Sample Sizes

Unless otherwise noted, sample sizes displayed throughout this report (e.g., n=6) represent the total number of *unique customer organizations* that responded to a particular question. Some respondents choose not to answer all questions, meaning the sample size may change from question to question.

Sample sizes of 15+ unique organizations are considered fully rated. When the sample size is 6–14, the data is considered limited and marked with an asterisk (*). If the sample size is 3–5, the data is considered emerging and marked with a double asterisk (**); no overall performance score is shown for emerging data. No data of any kind is shown for questions with a sample size of less than 3. Note that data marked as limited or emerging has the potential to change significantly as additional surveys are collected.

ICU Medical Plum Duo Performance Overview

All standard software performance indicators

