Positive patient ID systems: What's new, what's now, what's next

Karen Wagner

Now that positive patient identification systems are becoming ingrained in the health care arena, marketers of such products are turning their attention to clients' requests for greater systems compatibility and enhanced functionality.

Product Guide
Positive patient identification products, pages 57–67

Users want these systems to work with their existing computer systems and with a variety of hardware platforms, say the PPID companies interviewed by CAP TODAY. What's more, they want features that improve workflow and offer flexibility and convenience. In response, vendors of PPID systems are releasing new products and updated functionality that are more efficient and user friendly.

What users want

"The [PPID] system must complement a hospital's existing systems and processes, not try to dramatically change them," says Ralph Moher, vice president of marketing for General Data Company, Cincinnati. If the system is not compatible, hospital staff may expend resources working around this issue, he adds.


Moher

"A good example would be if a hospital was using a tethered scanner attached to a COW [computer on wheels] to scan a bar code on the patient's wristband at the bedside but the COW was not designed to easily fit into some of the rooms," Moher explains. "In that situation, hospital personnel may leave the COW outside the room, go into the room to look at the patient's ID number, then go back out to the COW and manually type it in, rather than scanning the bar code on the wristband that has the patient ID number."

In addition to being able to run on different platforms, PPID systems must meet the needs of various types of users performing similar tasks, says Joseph Stabile, product marketing manager for the Horizon Laboratory system of McKesson Corp., San Francisco. "One size does not fit all for all applications," says Stabile. "The needs of a phlebotomist and a nurse to perform specimen collections may vary in different environments. In a similar fashion, nursing personnel performing a full medication pass and a respiratory therapist administering a treatment that involves medication administration may have different needs."

Users also want these systems to work in a wireless and wired environment, PPID companies reported to CAP TODAY. For example, some floors within a hospital, or buildings within a hospital campus, may operate in a wireless mode, while others use wired technology. "Your system needs to be able to work seamlessly in that sort of an environment," says Matthew Lund, director of sales and marketing for Korchek Technologies, Trumbull, Conn.

Automation, too, is key. Using such tools as scanners, rather than manually entering patient data, improves efficiency and safety. Users also want products that automatically transfer updates of lab orders, times of collection, and other information to various hospital computer systems, including the LIS, says Elinore Craig, manager of marketing communications for Sunquest Information Systems, Tucson.

"This automatic update has proven to be a huge timesaver for our customers . . . allowing them to take containers from a pneumatic tube system or a phlebotomy tray and put them directly on an automated line," says Craig. "So complete integration with the laboratory information system and producing instrument-ready labels is a key requirement to eliminate relabeling, another step that introduces risk of errors, and to bypass batch processing in the preanalytic area."


Craig

Other sought-after features, Craig continues, are the ability to cancel or reschedule orders that could not be obtained at the requested time and the option to print patient labels for tubes drawn without lab orders.

Medical personnel also want to be able to print labels at the bedside, stresses Theresa McGillvray-Dodd, a member of product marketing for Siemens Healthcare, a division of Siemens Medical Solutions USA, Kenmore, Wash. And they want access to mobile computer devices, she says. Such devices provide the user on the patient care floor with changes or updates to orders immediately, before the employee returns to the lab, McGillvray-Dodd explains.

Reporting capabilities for user productivity and other metrics are important as well, she adds. The ability to track the dates and times of collection, among other data, enhances decisionmaking relative to employee productivity, health care quality, and positive patient outcomes, McGillvray-Dodd says.

With regard to wristbands, users want "ease of use, durability, comfort, and the ability to carry both 2D bar codes as well as a 1D bar code," says Bob Chadwick, president and owner of Endur ID, Lawrence, Mass.

Two-dimensional bar codes are smaller, more robust, and contain more information, he explains. In addition, two-dimensional bar-code scanners are less susceptible to scanning problems. However, Chadwick says, one-dimensional bar codes are often necessary for glucometers because the manufacturers of these products are lagging behind in incorporating the ability to use two-dimensional bar codes. "There is also a great deal of older equipment in use that cannot be replaced when implementing a new bar-code system, so we often need to accommodate both," he explains.

What's new

Knowing what users of PPID systems want is only half the battle. Determining how to improve the speed, accuracy, and functionality of what's available to them is the other half.

"Our focus is to deliver a patient wristband system where the bar codes scan quickly, consistently, and reliably each and every time," Moher says. General Data is also working to help hospitals expand the assortment of information that can be printed on its wristbands and addressing user requests to print wristbands from a variety of locations, such as admissions, nursing stations, or mobile carts.

At McKesson, porting capabilities are taking center stage in PPID product development, Stabile says. The company is working on porting capabilities that will enable its applications to run on a variety of platforms, such as personal digital assistants, computer tablets, and full-screen monitors, allowing clients to use their existing equipment, instead of purchasing new hardware.

Last December Sunquest received FDA 510(k) approval for its Sunquest Transfusion Manager blood administration solution, says Craig. The product operates with Sunquest's specimen-collection and labeling solution and blood bank information system to make up the company's Closed Loop Transfusion Management system.

"This summer we will also release an upgrade to our specimen-collection system that creates an even more seamless workflow for our nursing counterparts," she explains. "Primarily, we are providing tools that will make the specimen-collection process easier for the nonlaboratory care provider." For example, rather than requiring the user to press a button to request instructions for drawing blood, the PPID system will automatically display the instructions, Craig says.

HT Systems, a developer of patient biometric identification software based in Tampa, has a feature on its Patient Secure system, which uses Fujitsu's PalmSecure palm vein-scanning hardware, that flags incidents of medical identity theft, according to company president David Wiener. It gives a red flag alert to the registrar or other hospital staff member responsible for identifying the patient, Wiener says. The feature, he adds, is important in light of the Federal Trade Commission's new identity theft red flag regulations, which require creditors such as hospitals to implement policies or technology to address identity theft.

A few manufacturers, including Korchek Technologies and Endur ID, plan to release PPID systems for the maternity ward and neonatal intensive care units. Endur ID has also released a PPID system for facilities with less than 100 beds,

such as skilled nursing, rehabilitation, and mental health facilities. "These systems are designed to be affordable, deploy very easily, and provide methods to meet all patient identification needs," Chadwick says.

What's next

As PPID systems become more widely accepted, they increasingly will be used to tackle various aspects of medical identity theft, such as insurance fraud, in which patients share insurance cards or providers submit false claims, says HT's Wiener. In fact, Wiener adds, payers may even require that medical providers show proof of positive patient identification to receive reimbursement. "That's where it's going to be a high priority for organizations," he says.

Biometric identification, such as palm vein authentication, can help prevent such abuse, Wiener continues, because it's impossible to duplicate or falsify the veins of a palm since such authentication is a face-to-face process.


Wiener

Sunquest's Craig asserts that the future of PPID adoption will be driven in part by the pharmacy industry, through an initiative by the American Society of Health-System Pharmacists to improve pharmacy practices in health care systems.

The laboratory is in a position to develop closer working relationships with its pharmacy and nursing peers, Craig says. "Indeed, the laboratory should take a leadership role in selecting and implementing specimen-collection and transfusion solutions to ensure that the laboratory workflow is being considered," she adds. Craig stresses the need to give "special consideration to the preanalytic to eliminate relabeling as much as possible and to ensure transfusion information is communicated accurately to the blood bank information system." The laboratory, she continues, "can bring years of learned lessons in process improvement methodologies, such as Lean and Six Sigma, to the projects, helping to educate and guide their peers."

The desire to "go green" will also shape the role of PPID systems, Korchek's Lund says. Moving to a paperless environment drives the need to digitally record such data as a patient's vital statistics, provider comments, and time elements, for example, which can be done using the type of handheld devices that are often used with PPID systems, he explains.

Perhaps the most powerful influence on the direction and acceptance of PPID systems is the federal government, says McKesson's Stabile. Providers will have to implement patient safety strategies to be eligible for incentives offered through the American Recovery and Reinvestment Act, he explains.


Stabile

"While every health care organization recognized the need for these solutions, in the past these solutions were 'nice to have,'" Stabile says. "But as the government strives to remove costs from the health care system, applications that assist organizations in not only creating safer patient processes but also support cost avoidance will continue to become a necessity." □

Karen Wagner is a freelance writer in Forest Lake, Ill.

Positive patient identification products

Part 1 of 7	Cerner Bridge Medical Jen Cisar jen.cisar@cerner.com 2800 Rockcreek Parkway Kansas City, MO 64117 816-201-1024
See survey of printers/labels/wristbands for positive patient ID, page 67	www.cerner.com
Name of positive patient ID product	Cerner Bridge Medical
• Previous name(s) of product	Bridge MedPoint
• Previous marketer(s) of product	Bridge, AmerisourceBergen
Components of positive patient ID product	software for positive ID of medications, specimen collections, blood transfusions, programming of IV smart pumps, breast milk identification
Company is a reseller of this product(s)?	sell Cerner products and resell other companies' products
• For whom is company a reseller?	Honeywell, Motorola, Intermec, Zebra Technologies, others
Company sells its products through distribution partners?	no
• With which vendors does company partner?	—
First ever/most recent installation of positive patient ID product	1998/2009
Date of last major product release	April 2009
No. of contracts for U.S. sites where product is installed and operational	—
No. of contracts for foreign sites where product is installed and operational	—
No. of contracts signed since May 1, 2008	—
No. of facilities where product is installed and operational	60
Techniques to verify patient ID when creating a wristband on admission	—
Techniques for patient ID prior to each intervention/specimen collection	patient photo on wristband, one-dimensional bar-code wristband, two-dimensional bar-code wristband, passive RFID, active RFID, manual entry of ID No. from wristband
• How RFID tag is affixed to patient	wristband
• Approximate dimensions of RFID tag	depends on RFID tag chosen
• Data fields on RFID tag or wristband	—
• Type of biometric application	—
• Safeguards for manual entry of ID No.	ID No. clearly distinguishable in database; can prevent manual entry of ID No.
Product functionality	general laboratory specimen collection, patient and medication matching prior to medication administration, IV smart pump programming, patient and blood unit matching prior to blood transfusion, nursing data collection, breast milk matching
Techniques for specimen identification at time of specimen collection	bar-code label printed centrally and added to tube, bar-code label printed at bedside and applied to tube
Data elements encoded on specimen label	accession No., container ID, specimen type, patient name, tube type, collector ID, patient location, date, tests ordered, patient account/admission No., patient medical record No.
Bedside technology for blood transfusion offered via positive patient ID product	verification that a physician order is on record for the transfusion, verification of informed patient consent, detection of potential mistransfusion, documentation of transfusion data, documentation of final transfusion record
• Symbology that product accepts for bedside transfusion	two-dimensional, Codabar, ISBT 128
• Techniques for reading labels on blood units	one-dimensional bar code, two-dimensional bar code
• Manual entry of patient ID permitted for matching blood units for transfusion	no
Medication tracking offered via positive patient ID product	order for medication, history of allergies, route of administration, intended recipient, correct dosage, rate of administration
• Techniques used to read labels on medications	one-dimensional bar code, two-dimensional bar code
Handheld workstations	
• Approximate size of handheld/point-of-care workstation	depends on hardware chosen
• Approximate weight of handheld/point-of-care workstation	depends on hardware chosen
• How handheld workstation communicates with host LIS	local area wireless (802.11a, 802.11b, 802.11g)
• Systems that ID-matching software runs on	general-purpose PC, pocket PC, mobile tablet PC
FDA 510(k) approval	
• Is positive patient ID product FDA 510(k) approved?	yes
• Have applied for, but not yet received, FDA 510(k) approval?	no
• Intend to apply for FDA 510(k) approval?	unnecessary
Hospital and/or laboratory information system interface(s)	Sunquest, Cerner, Meditech, McKesson, Siemens, Pyxis, Eclipsys, A4, Mediware, GE Healthcare, SCC Soft Computer
Cost	
• General license fee per facility	—
• Single handheld workstation	—
• Information system interface	—
Distinguishing features (supplied by vendor)	• real-time order updates for requested specimen collections at the point of care via a wireless network with support for remote label printing at the patient's bedside • integrated medication reconciliation process provides complete support for JCAHO mandates • Bridge IV smart pump auto-programming functionality is live and installed

Note: a dash in lieu of an answer means company did not answer question or question is not applicable

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Survey editors: Raymond D. Aller, MD, and Hal Weiner

Positive patient identification products

Part 2 of 7 See survey of printers/labels/wristbands for positive patient ID, page 67	Cerner Corp. Jen Cisar jen.cisar@cerner.com 2800 Rockcreek Parkway Kansas City, MO 64117 816-201-1024 www.cerner.com	Endur ID Robert Chadwick info@endurid.com 360 Merrimack St., Bldg. 9 Lawrence, MA 01843 978-686-9700 www.endurid.com
Name of positive patient ID product	Cerner Millennium point-of-care solutions, CareAdmin, CareMobile, Millennium Specimen Collections, RxStation	Endur ID
• Previous name(s) of product	—	IndentifOR, AdministratOR
• Previous marketer(s) of product	—	—
Components of positive patient ID product	software for positive ID of medications, specimen collections, programming of IV smart pumps, integration with automated dispensing devices	software (see also printers/labels/wristbands product guide, page 67)
Company is a reseller of this product(s)?	sell Cerner products and resell other companies' products	sell Endur ID products and resell other companies' products
• For whom is company a reseller?	Honeywell, Motorola, Intermec, IBM, Dell, Zebra Technologies, others	Bio-Optronics, Samsung
Company sells its products through distribution partners?	no	yes
• With which vendors does company partner?	—	—
First ever/most recent installation of positive patient ID product	1998/2009	2004/March 2009
Date of last major product release	April 2009	May 2009
No. of contracts for U.S. sites where product is installed and operational	—	7
No. of contracts for foreign sites where product is installed and operational	—	—
No. of contracts signed since May 1, 2008	—	3
No. of facilities where product is installed and operational	45	43
Techniques to verify patient ID when creating a wristband on admission	—	ID card without a photograph, ID card with a photograph, bar code
Techniques for patient ID prior to each intervention/specimen collection	ID card, patient photo on wristband, one-dimensional bar-code wristband, two-dimensional bar-code wristband, passive RFID, active RFID, biometric	ID card, patient photo on wristband, one-dimensional bar-code wristband, two-dimensional bar-code wristband
• How RFID tag is affixed to patient	wristband	—
• Approximate dimensions of RFID tag	depends on RFID tag chosen	—
• Data fields on RFID tag or wristband	—	medical record No.
• Type of biometric application	fingerprint	—
• Safeguards for manual entry of ID No.	manual entry not an option	manual entry not an option
Product functionality	general laboratory specimen collection, patient and medication matching prior to medication administration, IV smart pump programming, EKG reporting, nursing data collection	patient and medication matching prior to medication administration, bedside point-of-care testing, breast milk matching
Techniques for specimen identification at time of specimen collection	bar-code label printed centrally and added to tube, bar-code label printed at bedside and applied to tube	bar-code label printed at bedside and applied to tube, peel-off label removed from wristband
Data elements encoded on specimen label	accession No., container ID, specimen type, patient name, tube type, collector ID, patient location, date, tests ordered, patient account/admission No., patient medical record No.	—
Bedside technology for blood transfusion offered via positive patient ID product	—	—
• Symbology that product accepts for bedside transfusion	—	—
• Techniques for reading labels on blood units	—	—
• Manual entry of patient ID permitted for matching blood units for transfusion	—	—
Medication tracking offered via positive patient ID product	order for medication, history of allergies, route of administration, intended recipient, correct dosage, rate of administration	order for medication, history of allergies, route of administration, intended recipient, correct dosage, rate of administration
• Techniques used to read labels on medications	one-dimensional bar code, two-dimensional bar code	one-dimensional bar code, two-dimensional bar code
Handheld workstations		
• Approximate size of handheld/point-of-care workstation	depends on device chosen	—
• Approximate weight of handheld/point-of-care workstation	depends on device chosen	—
• How handheld workstation communicates with host LIS	local area wireless (802.11a, 802.11b, 802.11g)	—
• Systems that ID-matching software runs on	general-purpose PC, pocket PC, mobile tablet PC	—
FDA 510(k) approval		
• Is positive patient ID product FDA 510(k) approved?	no	unnecessary
• Have applied for, but not yet received, FDA 510(k) approval?	no	—
• Intend to apply for FDA 510(k) approval?	yes	unnecessary
Hospital and/or laboratory information system interface(s)	no interfaces required (integrated with Millennium solutions)	Vista, Meditech, Cerner
Cost		
• General license fee per facility	—	—
• Single handheld workstation	—	—
• Information system interface	—	—
Distinguishing features (supplied by vendor)< *Note: a dash in lieu of an answer means company did not answer question or question is not applicable*	• real-time order updates for requested specimen collections at the point of care via a wireless network with support for remote label printing at the patient's bedside • seamlessly integrated with RxStation automated dispensing device, requiring zero interfaces and no duplication of formulary maintenance • ability to auto-program infusion devices and accept data from bedside devices for inclusion in the electronic health record	distinguishing features not provided

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Positive patient identification products

Part 3 of 7 See survey of printers/labels/wristbands for positive patient ID, page 67	HT Systems David Wiener davidw@patientsecure.com 19239 N. Dale Mabry, #107 Lutz, FL 33548 813-777-9888 www.patientsecure.com	Iatric Systems John Danahey john.danahey@iatric.com 27 Great Pond Drive Boxford, MA 01921 978-805-4153 www.iatric.com
Name of positive patient ID product	PatientSecure	MobiLab
• Previous name(s) of product	—	—
• Previous marketer(s) of product	—	—
Components of positive patient ID product	biometric authentication system	software for handheld devices and PCs, including mobile laptops on carts
Company is a reseller of this product(s)?	no	no
• For whom is company a reseller?	—	—
Company sells its products through distribution partners?	no	no
• With which vendors does company partner?	—	—
First ever/most recent installation of positive patient ID product	July 2007/April 2009	November 2004/April 2009
Date of last major product release	January 2009	November 2008
No. of contracts for U.S. sites where product is installed and operational	4	76
No. of contracts for foreign sites where product is installed and operational	0	2 (Canada)
No. of contracts signed since May 1, 2008	2	19
No. of facilities where product is installed and operational	~200	78
Techniques to verify patient ID when creating a wristband on admission	hand veins	—
Techniques for patient ID prior to each intervention/specimen collection	biometric	one-dimensional bar-code wristband, two-dimensional bar-code wristband, manual entry of ID No. from wristband
• How RFID tag is affixed to patient	—	—
• Approximate dimensions of RFID tag	—	—
• Data fields on RFID tag or wristband	—	patient account/medical record No.
• Type of biometric application	hand veins	—
• Safeguards for manual entry of ID No.	manual entry not an option	ID No. clearly distinguishable in database; can prevent manual entry of ID No.
Product functionality	general laboratory specimen collection, patient and medication matching prior to medication administration, bedside point-of-care testing, IV smart pump programming, patient and blood unit matching prior to blood transfusion, EKG reporting, nursing data collection, breast milk matching	general laboratory specimen collection
Techniques for specimen identification at time of specimen collection	—	bar-code label printed at bedside and applied to tube
Data elements encoded on specimen label	—	accession No., container ID, specimen type, patient name, tube type, collector ID, patient location, date, tests ordered, patient account/admission No., patient medical record No., others
Bedside technology for blood transfusion offered via positive patient ID product	—	—
• Symbology that product accepts for bedside transfusion	—	—
• Techniques for reading labels on blood units	—	—
• Manual entry of patient ID permitted for matching blood units for transfusion	—	—
Medication tracking offered via positive patient ID product	intended recipient	—
• Techniques used to read labels on medications	—	—
Handheld workstations		
• Approximate size of handheld/point-of-care workstation	—	1.28 × 3.22 × 5.75 in.
• Approximate weight of handheld/point-of-care workstation	—	11.1 oz.
• How handheld workstation communicates with host LIS	—	local area wireless (802.11a, 802.11b, 802.11g)
• Systems that ID-matching software runs on	—	general-purpose PC, pocket PC, mobile tablet PC
FDA 510(k) approval		
• Is positive patient ID product FDA 510(k) approved?	unnecessary	unnecessary
• Have applied for, but not yet received, FDA 510(k) approval?	—	—
• Intend to apply for FDA 510(k) approval?	—	—
Hospital and/or laboratory information system interface(s)	Siemens, McKesson, Meditech, GE Healthcare, homegrown HISs	Meditech, other LISs via HL7 or custom interfaces
Cost		
• General license fee per facility	depends on platform and customizations	based on size of facility
• Single handheld workstation	—	depends on hardware
• Information system interface	depends on platform and customizations	depends on LIS vendor
Distinguishing features (supplied by vendor)	• utilizes Fujitsu PalmSecure, which reads vein information from the palm without direct contact with the skin • integrates with all HIS platforms and crosses all platforms; operates like a biometric enterprise master patient index (EMPI) system • helps prevent medical identity theft, medical insurance card sharing, duplicate medical record Nos., and MPI/EMR mismatches; speeds the registration/admissions process	• ranked No. 1 in the KLAS specimen collection bar coding category for the third year in a row • supports multiple hardware platforms, including such handheld devices as the Symbol PPT 8846, as well as any PC workstation, including laptops and computers on wheels (COWs) • suite of management reports includes turnaround time, workload, user activity detail, and specimen-management reports, providing supervisory tools to monitor and proactively manage phlebotomy processes

Note: a dash in lieu of an answer means company did not answer question or question is not applicable

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Positive patient identification products

Part 4 of 7 See survey of printers/labels/wristbands for positive patient ID, page 67	Korchek Technologies Gregory Francis greg@korchek.com 115 Technology Drive, Suite B206 Trumbull, CT 06611 203-452-8295 www.korchek.com	Lattice Pat Heniff pat.heniff@lattice.com 1751 Naperville Rd. Wheaton, IL 60187 630-949-3250 www.lattice.com
Name of positive patient ID product	CareChek	MediCopia
• Previous name(s) of product	—	—
• Previous marketer(s) of product	—	—
Components of positive patient ID product	workstations, handhelds, HL7 interface (see also printers/labels/wristbands product guide, page 67)	handheld computers, bedside specimen-collection software (see also printers/labels/wristbands product guide, page 67)
Company is a reseller of this product(s)?	no	sell Lattice products and resell other companies' products
• For whom is company a reseller?	—	Intermec, Motorola, Zebra Technologies
Company sells its products through distribution partners?	yes	no
• With which vendors does company partner?	Digi-Trax	—
First ever/most recent installation of positive patient ID product	2004/May 2009	1996/February 2009
Date of last major product release	May 2009	November 2008
No. of contracts for U.S. sites where product is installed and operational	1	92
No. of contracts for foreign sites where product is installed and operational	0	0
No. of contracts signed since May 1, 2008	1	34
No. of facilities where product is installed and operational	1	78
Techniques to verify patient ID when creating a wristband on admission	—	bar code
Techniques for patient ID prior to each intervention/specimen collection	one-dimensional bar-code wristband, two-dimensional bar-code wristband, manual entry of ID No. from wristband	ID card, patient photo on wristband, one-dimensional bar-code wristband, two-dimensional bar-code wristband, passive RFID, ADT-Census Check
• How RFID tag is affixed to patient	—	—
• Approximate dimensions of RFID tag	—	—
• Data fields on RFID tag or wristband	medical record No.	—
• Type of biometric application	—	—
• Safeguards for manual entry of ID No.	double-blind manual entry	manual entry not an option
Product functionality	general laboratory specimen collection, patient and medication matching prior to medication administration, patient and blood unit matching prior to blood transfusion, nursing data collection, breast milk matching	general laboratory specimen collection, patient and blood unit matching prior to blood transfusion
Techniques for specimen identification at time of specimen collection	bar-code label printed centrally and added to tube, bar-code label placed on tube in tube manufacturing process, bar-code label printed at bedside and applied to tube, peel-off label removed from wristband	bar-code label printed at bedside and applied to tube, radio-frequency tag created at bedside and applied to tube
Data elements encoded on specimen label	accession No., container ID, specimen type, patient name, tube type, collector ID, patient location, date, tests ordered, patient account/admission No., patient medical record No.	accession No., container ID, specimen type, patient name, tube type, collector ID, patient location, date, tests ordered, patient account/admission No., patient medical record No.
Bedside technology for blood transfusion offered via positive patient ID product	verification that a physician order is on record for the transfusion, verification of informed patient consent, detection of potential mistransfusion, documentation of transfusion data, documentation of final transfusion record	—
• Symbology that product accepts for bedside transfusion	two-dimensional, Codabar, ISBT 128, others	—
• Techniques for reading labels on blood units	one-dimensional bar code	—
• Manual entry of patient ID permitted for matching blood units for transfusion	yes	—
Medication tracking offered via positive patient ID product	order for medication, history of allergies, route of administration, intended recipient, correct dosage, rate of administration	—
• Techniques used to read labels on medications	one-dimensional bar code, two-dimensional bar code	—
Handheld workstations		
• Approximate size of handheld/point-of-care workstation	—	6.25 × 3.25 in.
• Approximate weight of handheld/point-of-care workstation	—	1.1 lbs.
• How handheld workstation communicates with host LIS	intermittent docking, local area wireless (802.11g)	intermittent docking, real-time radio frequency, local area wireless (802.11a, 802.11b, 802.11g)
• Systems that ID-matching software runs on	general-purpose PC, mobile tablet PC, Windows Mobile	general-purpose PC, pocket PC, Palm handheld, mobile tablet PC
FDA 510(k) approval		
• Is positive patient ID product FDA 510(k) approved?	yes	unnecessary
• Have applied for, but not yet received, FDA 510(k) approval?	—	yes
• Intend to apply for FDA 510(k) approval?	—	—
Hospital and/or laboratory information system interface(s)	—	Cerner, Meditech, McKesson, Sunquest, SCC Soft Computer, GE Healthcare, homegrown
Cost		
• General license fee per facility	based on No. of handhelds	—
• Single handheld workstation	varies	—
• Information system interface	included	—
Distinguishing features (supplied by vendor)	distinguishing features not provided	• ease of use • unique feature set • custom design flexibility

Note: a dash in lieu of an answer means company did not answer question or question is not applicable

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Positive patient identification products

Part 5 of 7 See survey of printers/labels/wristbands for positive patient ID, page 67	McKesson Kerry Bruning kerry.bruning@mckesson.com 5995 Windward Parkway Alpharetta, GA 30005 515-992-3186 www.mckesson.com/laboratory	McKesson Joseph R. Stabile joseph.stabile@mckesson.com 5995 Windward Parkway Alpharetta, GA 30005 404-338-4363 www.mckesson.com/laboratory
Name of positive patient ID product	Horizon Admin-Rx	Horizon MobileCare Phlebotomy
• Previous name(s) of product	Care Manager	—
• Previous marketer(s) of product	—	—
Components of positive patient ID product	software to support positive patient identification and five rights of medication administration	software to support positive patient identification for specimen collection, handheld devices, portable bar-code printers
Company is a reseller of this product(s)?	sell McKesson products and resell other companies' products	sell McKesson products and resell other companies' products
• For whom is company a reseller?	Motorola, Zebra Technologies	Motorola, Zebra Technologies
Company sells its products through distribution partners?	no	no
• With which vendors does company partner?	—	—
First ever/most recent installation of positive patient ID product	1988/March 2009	1988/March 2009
Date of last major product release	March 2009	March 2009
No. of contracts for U.S. sites where product is installed and operational	180	35
No. of contracts for foreign sites where product is installed and operational	2 (Canada)	0
No. of contracts signed since May 1, 2008	—	0
No. of facilities where product is installed and operational	180	53
Techniques to verify patient ID when creating a wristband on admission	—	—
Techniques for patient ID prior to each intervention/specimen collection	—	one-dimensional bar-code wristband, two-dimensional bar-code wristband
• How RFID tag is affixed to patient	—	—
• Approximate dimensions of RFID tag	—	—
• Data fields on RFID tag or wristband	—	patient account/encounter No.
• Type of biometric application	—	—
• Safeguards for manual entry of ID No.	manual entry not an option	manual entry not an option
Product functionality	general laboratory specimen collection, patient and medication matching prior to medication administration, IV smart pump programming in pilot testing	general laboratory specimen collection, patient and medication matching prior to medication administration
Techniques for specimen identification at time of specimen collection	—	bar-code label printed centrally and added to tube, bar-code label printed at bedside and applied to tube
Data elements encoded on specimen label	—	accession No., container ID, specimen type, patient name, patient location, date, tests ordered, patient account/admission No., tube type, collector ID, patient medical record No., others
Bedside technology for blood transfusion offered via positive patient ID product	—	—
• Symbology that product accepts for bedside transfusion	—	—
• Techniques for reading labels on blood units	—	—
• Manual entry of patient ID permitted for matching blood units for transfusion	—	—
Medication tracking offered via positive patient ID product	order for medication, history of allergies, route of administration, intended recipient, correct dosage, rate of administration	order for medication, history of allergies, route of administration, intended recipient, correct dosage, rate of administration
• Techniques used to read labels on medications	one-dimensional bar code, two-dimensional bar code	one-dimensional bar code, two-dimensional bar code
Handheld workstations		
• Approximate size of handheld/point-of-care workstation	6 × 3.1 × 1.5 in.	6 × 3.1 × 1.5 in.
• Approximate weight of handheld/point-of-care workstation	12 oz.	12 oz.
• How handheld workstation communicates with host LIS	local area wireless (Tri-mode IEEE 802.11a, 802.11b, 802.11g)	local area wireless (Tri-mode IEEE 802.11a, 802.11b, 802.11g)
• Systems that ID-matching software runs on	general-purpose PC, pocket PC, mobile tablet PC	general-purpose PC, pocket PC on the Symbol 8846 and Motorola MC70 devices, mobile tablet PC
FDA 510(k) approval		
• Is positive patient ID product FDA 510(k) approved?	unnecessary	unnecessary
• Have applied for, but not yet received, FDA 510(k) approval?	no	no
• Intend to apply for FDA 510(k) approval?	unnecessary	unnecessary
Hospital and/or laboratory information system interface(s)	McKesson, Sunquest, Cerner, SCC Soft Computer, Meditech	add-on module to McKesson Horizon Lab (no interface required)
Cost		
• General license fee per facility	depends on size	depends on size
• Single handheld workstation	~$1,700/unit	~$1,700/unit
• Information system interface	integrated with Horizon Lab LIS (no additional cost)	integrated with Horizon Lab LIS (no additional cost)
Distinguishing features (supplied by vendor)	• complete integration with enterprise clinical information system • continuity of information flow from computerized physician order entry to pharmacy to administration • depth and history of experience	• co-exists with McKesson's solution for medication administration, Horizon Admin-Rx, on the same handheld device • integrated with Horizon Lab • supports nurse-centric and lab-centric collection models with support for preprinted and point-of-care printed specimen labels
Note: a dash in lieu of an answer means company did not answer question or question is not applicable		

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Positive patient identification products

Part 6 of 7 See survey of printers/labels/wristbands for positive patient ID, page 67	Niceware International Maggie Allen maggie.allen@nicewareintl.com 10437 Innovation Drive, Suite 147 Milwaukee, WI 53226 414-476-6423 http://healthcare.nicewareintl.com	Siemens Healthcare Theresa McGillvray-Dodd theresa.mcgillvray-dodd@siemens.com 18724 66th Ave. N.E. Kenmore, WA 98028 425-487-0179
Name of positive patient ID product	NiceLabel Enterprise series, LabelClinic	Siemens Patient Identification Check
• Previous name(s) of product	—	BD.id Patient Identification System
• Previous marketer(s) of product	—	Becton, Dickinson and Company
Components of positive patient ID product	software	software, handheld device, PC cart on wheels (see also printers/labels/wristbands product guide, page 67)
Company is a reseller of this product(s)?	no	no
• For whom is company a reseller?	—	—
Company sells its products through distribution partners?	yes	no
• With which vendors does company partner?	Cerner, Wyndgate, Leica Microsystems, Computype, General Data Company, Ingram Micro	—
First ever/most recent installation of positive patient ID product	2003/2009	2003/2009
Date of last major product release	2008	2009
No. of contracts for U.S. sites where product is installed and operational	1,000+	6
No. of contracts for foreign sites where product is installed and operational	unknown	0
No. of contracts signed since May 1, 2008	200+	5
No. of facilities where product is installed and operational	1,000+	6
Techniques to verify patient ID when creating a wristband on admission	ID card without a photograph, ID card with a photograph, bar code	bar code
Techniques for patient ID prior to each intervention/specimen collection	—	one-dimensional bar-code wristband, manual entry of ID No. from wristband
• How RFID tag is affixed to patient	—	—
• Approximate dimensions of RFID tag	—	—
• Data fields on RFID tag or wristband	—	—
• Type of biometric application	—	—
• Safeguards for manual entry of ID No.	manual entry not an option	ID No. clearly distinguishable in database; can prevent manual entry of ID No.
Product functionality	—	general laboratory specimen collection, patient and blood unit matching prior to blood transfusion, temp ID function
Techniques for specimen identification at time of specimen collection	bar-code label printed centrally and added to tube, bar-code label placed on tube in tube manufacturing process, radio-frequency tag created centrally and added to tube, bar-code label printed at bedside and applied to tube, peel-off label removed from wristband, radio-frequency tag created at bedside and applied to tube	bar-code label printed at bedside and applied to tube
Data elements encoded on specimen label	accession No., container ID, specimen type, patient name, tube type, collector ID, patient location, date, tests ordered, patient account/admission No., patient medical record No., others	accession No., patient account/admission No., patient medical record No.
Bedside technology for blood transfusion offered via positive patient ID product	—	detection of potential mistransfusion, documentation of final transfusion record
• Symbology that product accepts for bedside transfusion	—	Codabar, ISBT 128
• Techniques for reading labels on blood units	—	one-dimensional bar code
• Manual entry of patient ID permitted for matching blood units for transfusion	—	yes
Medication tracking offered via positive patient ID product	—	—
• Techniques used to read labels on medications	—	—
Handheld workstations		
• Approximate size of handheld/point-of-care workstation	—	6 × 3.1 × 1.5 in.
• Approximate weight of handheld/point-of-care workstation	—	11.2 oz.
• How handheld workstation communicates with host LIS	—	intermittent docking, local area wireless (802.11a, 802.11b, 802.11g)
• Systems that ID-matching software runs on	—	general-purpose PC, pocket PC, mobile tablet PC
FDA 510(k) approval		
• Is positive patient ID product FDA 510(k) approved?	unnecessary	yes
• Have applied for, but not yet received, FDA 510(k) approval?	—	—
• Intend to apply for FDA 510(k) approval?	unnecessary	—
Hospital and/or laboratory information system interface(s)	Cerner, Sunquest, Wyndgate, Mediware, configurable HL7 interface	Siemens, McKesson, Meditech, Cerner, Sunquest
Cost		
• General license fee per facility	$4,000+	—
• Single handheld workstation	—	—
• Information system interface	—	—
Distinguishing features (supplied by vendor)	• configurable HL7 interface allows any HIS/LIS data to be printed into a bar code • printer-agnostic so facility can output to any thermal or laser printer • flexible document design allows facility to make changes to printed documents independent of vendor	• assists the provider in linking the specific blood collection tube type to the test that has been ordered • decreases the potential for container mislabeling and removes a potential bottleneck within the laboratory when receiving specimens • reporting capability provides health care providers with an overview of specimen collection and processing workflow that managers can use to identify opportunities for process improvement

Note: a dash in lieu of an answer means company did not answer question or question is not applicable

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Positive patient identification products

Part 7 of 7 See survey of printers/labels/wristbands for positive patient ID, page 67	Sunquest Information Systems Elinore Craig elinore.craig@sunquestinfo.com 250 S. Williams Blvd. Tucson, AZ 85711 877-239-6337 www.sunquestinfo.com
Name of positive patient ID product	Sunquest Collection and Transfusion Manager
• Previous name(s) of product	—
• Previous marketer(s) of product	—
Components of positive patient ID product	handhelds, laptops, computer on wheels
Company is a reseller of this product(s)?	no
• For whom is company a reseller?	—
Company sells its products through distribution partners?	no
• With which vendors does company partner?	—
First ever/most recent installation of positive patient ID product	2004/2009
Date of last major product release	2009
No. of contracts for U.S. sites where product is installed and operational	99
No. of contracts for foreign sites where product is installed and operational	1 (Bahamas)
No. of contracts signed since May 1, 2008	22
No. of facilities where product is installed and operational	~120
Techniques to verify patient ID when creating a wristband on admission	—
Techniques for patient ID prior to each intervention/specimen collection	one-dimensional bar-code wristband, two-dimensional bar-code wristband, manual entry of ID No. from wristband
• How RFID tag is affixed to patient	—
• Approximate dimensions of RFID tag	—
• Data fields on RFID tag or wristband	—
• Type of biometric application	—
• Safeguards for manual entry of ID No.	ID No. clearly distinguishable in database; can prevent manual entry of ID No.
Product functionality	general laboratory specimen collection, patient and blood unit matching prior to blood transfusion
Techniques for specimen identification at time of specimen collection	bar-code label printed centrally and added to tube, bar-code label printed at bedside and applied to tube
Data elements encoded on specimen label	accession No., container ID, specimen type, patient name, tube type, patient location, date, tests ordered, patient account/admission No., patient medical record No.
Bedside technology for blood transfusion offered via positive patient ID product	detection of potential mistransfusion, documentation of transfusion data, documentation of final transfusion record
• Symbology that product accepts for bedside transfusion	two-dimensional, Codabar, ISBT 128
• Techniques for reading labels on blood units	one-dimensional bar code, two-dimensional bar code
• Manual entry of patient ID permitted for matching blood units for transfusion	yes
Medication tracking offered via positive patient ID product	—
• Techniques used to read labels on medications	—
Handheld workstations	
• Approximate size of handheld/point-of-care workstation	1.3 × 3.1 × 5.7 in.
• Approximate weight of handheld/point-of-care workstation	10.5 oz.
• How handheld workstation communicates with host LIS	intermittent docking, local area wireless (802.11a, 802.11b, 802.11g)
• Systems that ID-matching software runs on	general-purpose PC, pocket PC, mobile tablet PC, Windows CE 3.0, Windows CE 4.0
FDA 510(k) approval	
• Is positive patient ID product FDA 510(k) approved?	yes
• Have applied for, but not yet received, FDA 510(k) approval?	—
• Intend to apply for FDA 510(k) approval?	—
Hospital and/or laboratory information system interface(s)	Sunquest
Cost	
• General license fee per facility	—
• Single handheld workstation	—
• Information system interface	—
Distinguishing features (supplied by vendor) *Note: a dash in lieu of an answer means company did not answer question or question is not applicable*	• accommodates lab-based and nursing workflow in acute and ambulatory settings • proven to reduce specimen-identification errors to zero, even in busy emergency departments • combines with Sunquest's blood bank to create a closed-loop transfusion process

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For positive patient ID, success comes at last

Raymond Aller, MD

If the history of how positive patient identification systems have come to be accepted in the practice of health care were reflected in a song title, "The Long and Winding Road," by the Beatles, would be apropos.

The medical profession began talking up positive patient identification in the 1980s, and several companies introduced such products in the early 1990s. Yet, despite the benefits afforded by such tools, few labs purchased these solutions, and one vendor let its bedside positive ID product lapse in anticipation of Y2K.

So why, when positive patient ID clearly benefits patient safety, has it taken decades to mainstream these products into health care institutions?

• *The narrow focus.* Software from the 1980s and 1990s was heavily focused on the internal operation of the entity being served by that product. Therefore, pharmacy systems focused solely on pharmacy operations and laboratory systems solely on lab operations. To interact with other areas of the hospital, such as the nursing unit, was beyond the scope of many software solutions.

• *Not in my hospital!* This was the consensus of many hospitals years ago relative to the misidentification of patients. And when mistakes did occur, medical personnel played the blame game: "What a stupid thing for that nurse to have done!" Few, if any, institutions tracked their misidentification rates, and what isn't recognized can't be managed.

• *Non-return on investment.* Until publication of the Institute of Medicine report "To Err is Human: Building a Safer Health System," most institutions did not give budgetary priority to patient safety considerations. The mindset: Why spend $500,000 on a complex, multidepartmental interlocked system to solve a problem we don't have when we can spend the same amount on a new radiology scanner or laboratory instrument that will generate an immediate revenue stream?

• *Less-than-cutting-edge technology.* The hardware and software available in the late 1980s was less reliable and more costly than the tools available today. Error-free scanning of bar-coded wristbands was not a given. Wireless communication was nonstandardized and erratic. The thought of connecting a positive patient ID system to a legacy information system could be overwhelming.

• *The chicken-or-the-egg theory.* Laboratories and other hospital departments didn't use bar coding routinely until this century because patient wristbands didn't have bar codes, because that would take a hospitalwide initiative via the admitting office. Admitting offices didn't budget for adding bar codes to wristbands because hospital departments did not have tools that could read them. Nor were admitting offices inclined to ask for funds for a technology that appeared to be of greater benefit to other hospital departments and therefore should be covered by their budgets.

• *Blaming the other guy.* An impediment to pharmacy's use of bar coding in the past was that no medications came in a bar-coded unit-dose package. Unlike in general retail and other marketplaces, there was no giant health care provider requiring suppliers to provide bar coding as a condition of doing business.

• *Good manners before safety.* A prevailing thought many years ago was that bar codes are too impersonal—it's better to be polite and ask the patient for his or her name. This despite the fact that many a patient has answered yes when asked if she is Mrs. Jones, even though she is Mrs. Adams.

If history is a timeless teacher, then those unnamed cutting-edge health care technologies yet to come should benefit from the lessons provided by the adoption of positive patient identification systems. □

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Dr. Aller wishes to thank Karen Longe, president of Karen Longe and Associates, Lake Bluff, Ill., and formerly of the American Hospital Association, for her contributions to this article. As program manager at the AHA, Longe was instrumental in introducing the concept of bar coding into positive patient identification.

Printers/labels/wristbands for positive patient identification

Company contact information	Product(s) for positive patient ID	Year company entered market	Printers reseller? / Brand name of printers	Labels reseller? / Brand name of labels	Wristband reseller? / Brand name of wristbands	Percentage of customer base in U.S. / Outside U.S.	Distinguishing characteristics of printers, labels, wristbands
AMT Datasouth Corp. Kim Stovall, kstovall@amtdatasouth.com 803 Camarillo Springs Rd., Suite D Camarillo, CA 95667 800-215-9192 www.amtdatasouth.com	printers, labels, and wristbands	1990	no / Fastmark	no / AMT Datasouth	yes / Precision Dynamics	100% / 0	printers: compatible with all software platforms; intelligent PAL printers
CognitiveTPG Angela Mansfield, angela.mansfield@cognitivetpg.com 25 Tri-State International, Suite 200 Lincolnshire, IL 60069 847-383-7900 www.cognitivetpg.com	printers, labels, and wristbands	1970s	no / EZ LP, C series, Advantage LX, Advantage DLX	yes / —	yes / Precision Dynamics	—	distinguishing characteristics not provided
DataRay Brent Scales, brents@datarayusa.com 1141 S.E. Grand Blvd., Suite 107 Oklahoma City, OK 73129 800-477-5317 www.datarayusa.com	printers, labels, and wristbands	1986	sell DataRay and other companies' printers / DataRay, OKI, Zebra Technologies	sell DataRay and other companies' labels / DataRay, Precision Dynamics, TimeMed, Zebra Technologies	yes / Precision Dynamics, Zebra Technologies	97% / 3%	printers: rugged thermal printers designed specifically for bar-code printing; seamless integration with pharmacy/hospital system; cost efficient; quick return on investment labels: meet any specification/application wristbands: meet any specification/application, including antimicrobial coating to resist infection
Endur ID Robert Chadwick, info@endurid.com 360 Merrimack St., Bldg. 9 Lawrence, MA 01843 978-686-9700 www.endurid.com	printers and wristbands	2003	yes / Samsung	—	no / Endur ID	98% / 2%	wristbands: waterproof; durable; no clips or laminates; easy to use
General Data Company Ralph Moher, rmoher@general-data.com 4354 Ferguson Drive Cincinnati, OH 45245 513-752-7978 www.general-data.com/healthcare	printers, labels, and wristbands	1990	yes / Zebra Technologies, CognitiveTPG, Datamax, Intermec, Citizen	no / StainerShield	no / General Data Company	90% / 10%	labels: xylene resistant; designed to withstand harsh lab protocols wristbands: durable; easy to use; comfortable; deliver immediate first-time scans of bar codes
Identification Systems Group Tom Stiles, tstiles@identificationsystemsgroup.com 7630 Commerce Way Eden Prairie, MN 55344 816-582-1596 www.identificationsystemsgroup.com	printers, labels, and wristbands	1990	yes / AMT Datasouth, CognitiveTPG, Citizen, Datacard	yes / TimeMed, The St. John Companies, Process Label, CognitiveTPG, others	yes / Precision Dynamics, The St. John Companies	98% / 2%	printers: accept any data stream; produce desired result without IT staff programming data; on-site installation and service support labels: vinyl or paper; variety of sizes, including custom; price competitive wristbands: comfortable; scannable; durable; cost effective; adult, pediatric, and baby sizes; patient condition bands; snaps or labels
Korchek Technologies Gregory Francis, greg@korchek.com 115 Technology Drive, Suite B206 Trumbull, CT 06611 203-452-8295 www.korchek.com	printers, labels, and wristbands	2007	yes / Zebra Technologies	yes / Digi-Trax	yes / Digi-Trax	—	distinguishing characteristics not provided
Lattice Pat Heniff, pat.heniff@lattice.com 1751 Naperville Rd. Wheaton, IL 60187 630-949-3250 www.lattice.com	printers and labels	1996	yes / Zebra Technologies	yes / proprietary	—	100% / 0	printers: size; durability labels: matte finish; adhesive
Siemens Healthcare Theresa McGillvray-Dodd, theresa.mcgillvray-dodd@siemens.com 18724 66th Ave. N.E. Kenmore, WA 98028 425-487-0179	printers and labels	2007	yes / Zebra Technologies	yes / Zebra Technologies, BD	—	100% / 0	labels: V-notched label alignment
The St. John Companies Karen Joseph, kjoseph@stjohninc.com 25167 Anza Drive Valencia, CA 91355 800-435-4242 www.patientidexpert.com	printers, labels, and wristbands	1965	no / Bio-Logics	no / Conf-ID-ent	sell The St. John Companies and other company's wristbands / The St. John Companies, TabBand	99% / 1%	labels: developed over 50,000 labels exclusively for health care wristbands: can handle imprints, labels, bar codes
Typenex Medical, LLC Jessica Holmes, jholmes@typenex.com 303 E. Wacker Drive, Suite 300 Chicago, IL 60601 866-897-3639 www.typenex.com	wristbands	—	—	—	no / Typenex Medical	87% / 13%	wristbands: mainly used for transfusion recipient verification, as trauma I patient IDs, and in facilities that need general recipient verification; bar-code blood bands are tamper evident, provide a unique alphanumeric code in linear GS1-128 bar-code format, and provide a dedicated specimen tube label and an area to place patient information labels where they can be sealed with a shield for protection
Zebra Technologies Corp. Jill Kaz, jkaz@zebra.com 333 Corporate Woods Parkway Vernon Hills, IL 60061 800-423-0442 www.zebra.com	printers, labels, and wristbands	1985	no / Zebra Technologies	no / Zebra Technologies	no / Zebra Technologies	45% / 55%	printers: HC100 wristband printer has quick and easy media cartridge loading, automatic media loading, and 300 dpi resolution with Ethernet and wireless 802.11 networking connectivity labels: direct thermal or thermal transfer; paper or polypropylene wristbands: antimicrobial; nontearable; highly durable

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