Positive patient identification: more than a double check

We searched, we sorted, we strained our resources to compile our first-ever look at the positive patient identification market, primarily for clinical pathology, which begins on the following page. CAP TODAY *has a long history of publishing such product- and vendor-related data, but probing a new market, as we did for positive patient ID, is a nearly year-long endeavor. Zeroing in on what questions to ask the vendors—that is, knowing what you, the readers, need to know—and even who the vendors are (in an effort to include everyone) is no simple task. As always, we tapped invaluable experts—in this case, Suzanne Butch, CLDir(NCA), Walter Dzik, MD, Raymond Aller, MD, and Hal Weiner. And here it is at last, with, we assume (but hope not), an oversight or two, but also with our assurance that it will be refined from year to year. Let us know what you think.* —*The Editors*

Raymond Aller, MD

Positive patient identification systems and tools are not glitch-free, but they are a necessity. On rare occasions, errors pop up when such products are being used appropriately, but most studies of bar-code technology indicate error rates of less than one in 100,000, and that's orders of magnitude better than the average human error rate of one to three percent.

Automated systems to prevent medical personnel from drawing blood from, or infusing blood into, the wrong patient were introduced commercially in the early 1990s. In 1988, Karen Longe, at that time with the American Hospital Association, conducted a seminal demonstration at the AHA's annual meeting that focused on an integrated system for applying a bar-coded wristband and using that identifier to follow a patient through the entire admission/treatment/discharge process, including laboratory, radiology, and pharmacy tests and interventions.

During the next few years, several laboratory information systems vendors introduced positive patient ID systems for phlebotomy. But it wasn't long before the vendors realized that despite the unassailable case for knowing who it was that you were about to draw blood from, or give blood to, laboratories weren't interested in the products. Positive patient ID systems languished—to the point that, when one vendor's handheld device was found to lack Y2K compatibility, the vendor sunsetted the product instead of updating it. Laboratories seemed to be sending the following messages to vendors:

- We don't have a problem with patient misidentification.
- Nobody's complaining about patient misidentification.
- We need to address other areas in which our clients are complaining that we are lagging.

This outlook was based on a fallacious assumption—if we don't know about a problem, it must not exist. Typically only in disastrous cases where the wrong ABO type was infused into a patient did labs figure out they had a problem. And most laboratories did not experience such disasters because they used special blood bank wristbands, double-draw procedures before transfusion, and other measures to shore up their flawed phlebotomy identification process.

Yet laboratories that conducted studies of their own manual error rates found horrifying results. One lab manager found that seven percent of the blood specimens from his hospital's ICU were drawn from the wrong patient—and specimens from the hospital's med-surg units did not fare much better. But laboratories did not publish studies pointing out their high error rates—probably fearing that it would cast a bad light on their institution and that other institutions would consider them a bad apple, rather than the norm.

But times have changed, due in part to the Institute of Medicine publication series that began with *To Err Is Human*. Professional and public interest in the causes and prevention of medical errors has escalated. The medical field is increasingly recognizing that patient misidentification is a common, potentially deadly, and largely preventable error.

At the same time, a new cadre of positive patient identification systems are emerging, shifting the focus from whether you should install a positive patient identification system to which one you should purchase. To this end, CAP TODAY features on pages 27–33 a lineup of nine positive patient identification hardware and software systems and five related products, such as bar-code and radio-frequency identification wristbands. The systems featured focus primarily on inpatient phlebotomy and rely on a separate, highly reliable system to ensure that patients receive the correct wristband. This is followed below by a profile of printers and labels for producing bar-coded identification bracelets and other identifiers.

The information presented in the surveys is based on vendors' responses to a questionnaire. We encourage readers to verify the accuracy of all information before making a purchase. □

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Positive patient identification systems and products

Part 1 of 7

See accompanying article on page 26

	Baxter Healthcare Corp. **Tova Manett,** tova-manett@baxter.com **1 Yorkdale Rd., Suite 310** **Toronto, ON M6A 3A1, Canada** **416-784-4898,** www.baxter.com	**Becton, Dickinson and Company** **Dana Cogan,** dana_cogan@bd.com **1 Becton Drive, MC314** **Franklin Lakes, NJ 07417** **800-595-0257,**www.bd.com/bdid
Name of positive patient ID hardware/software system	**Baxter's Patient Care System**	**BD.id Patient Identification System for Specimen Management**
Name of positive patient ID product (wristbands, etc.)	—	—
First ever installation of positive patient ID system/product	—	**1999**
Most recent installation of positive patient ID system/product	—	**2005**
No. of contracts for U.S. sites where system/product is installed, operational	**5**	**5**
No. of contracts for foreign sites where system/product is installed, operational	—	**0**
No. of contracts signed since July 1, 2004	—	**3**
No. of facilities where system/product is installed and operational	**3**	**5**
Techniques to verify patient ID when creating a wristband on admission	**fingerprint**	—
Techniques for patient ID prior to each intervention/specimen collection	**one-dimensional bar-code wristband**	**one-dimensional bar-code wristband (The BD.id Patient Identification System for Specimen Management is used to verify information on wristbands containing linear bar codes for patient identification. This is a precondition for use of the system.)**
• How RFID tag is affixed to patient	—	—
• Approximate dimensions of RFID tag	—	—
• Data fields on RFID tag or wristband	—	**patient name, account No./MRN, whichever unique patient identifier the hospital designates to be bar-coded on the wristband**
System functionality	**patient and medication matching prior to medication administration**	**general laboratory specimen collection**
Techniques for specimen identification at the time of specimen collection	—	**bar-code label printed at bedside, applied to tube; bar-code label placed on tube in tube manufacturing process**
Data elements encoded on specimen label	—	**accession No., container ID/unique accession No.**
Bedside technology for blood transfusion offered via positive patient ID system/product	—	**n/a**
Symbology that system/product accepts for bedside transfusion	—	**n/a**
Techniques for reading labels on blood units	—	**n/a**
Medication tracking offered via positive patient ID system/product	**order for medication, intended recipient, history of allergies, correct dosage, route of administration, rate of administration**	**n/a**
Techniques used to read labels on medications	**one-dimensional bar code**	**n/a**
Handheld workstations		
• Approximate size of handheld workstation	**5¾ in × 3¼ in**	**PPT 8800: 1.3 in H × 3.1 in W × 5.7 in L**
• Approximate weight of handheld workstation	**8 oz**	**10.1 oz**
• How handheld workstation communicates with host LIS	**real-time infrared, real-time radio frequency**	**intermittent docking, specified protocol**
Is system/product designed to be used with EKGs?	—	**no**
Is system/product designed to be used with glucometers/other POC testing devices?	—	**no**
FDA 510(k) approval		
• Is positive patient ID system/product FDA 510(k) approved?	—	**no (not necessary)**
• Have applied for, but not yet received, FDA 510(k) approval?	—	**no**
• Intend to apply for FDA 510(k) approval?	—	**yes**
Required interface(s)	**HIS and LIS**	**HIS and LIS**
• Hospital information system interfaces	—	**Cerner, McKesson, Meditech, Siemens**
• Laboratory information system interfaces	—	**Meditech, Misys, Cerner, SCC Soft Computer, Siemens**
Cost		
• General license fee per facility	—	**depends on No. of users**
• Single handheld workstation	—	—
• Information system interface	—	—
Distinguishing features (supplied by vendor)		**• V-notch alignment technology to reduce misalignment errors • wireless, wired, or mixed synchronization modes provide patient information at bedside throughout facility • documented ROI—provides results generated from hospital-specific data using Lean and Six Sigma methodologies**

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Survey editors: Raymond Aller, MD, Hal Weiner, Walter Dzik, MD

Positive patient identification systems and products

Part 2 of 7 *See accompanying article on page 26*	**Bio-Logics (a St. John company)** **Steve McDermott,** sem@biologicsinc.com **7918 South 1530 West** **West Jordan, UT 84088** **801-561-9200,** www.biologicsinc.com	**Bridge Medical Inc. (Cerner)** **Grant Frazier,** gfrazier@bridgemedical.com **120 S. Sierra Ave.** **Solana Beach, CA 92075** **858-350-0100,** www.bridgemedical.com
Name of positive patient ID hardware/software system	**Identi-Match 1, 2, & 3, Identi-Print 1 & 2, Identi-Scan**	**MedPoint-MedAdmin, MedPoint-Specimen, MedPoint-Transfusion**
Name of positive patient ID product (wristbands, etc.)	**—**	**—**
First ever installation of positive patient ID system/product	**1973**	**1998**
Most recent installation of positive patient ID system/product	**2005**	**2005**
No. of contracts for U.S. sites where system/product is installed, operational	**~200**	**24**
No. of contracts for foreign sites where system/product is installed, operational	**0**	**n/a**
No. of contracts signed since July 1, 2004	**~20**	**4**
No. of facilities where system/product is installed and operational	**~250**	**45**
Techniques to verify patient ID when creating a wristband on admission	**ID card with or without a photograph**	**fingerprint**
Techniques for patient ID prior to each intervention/specimen collection	**ID card or other biometric technique, one-dimensional bar-code wristband, two-dimensional bar-code wristband, patient data or blood No. is printed directly from the patient's ID band**	**one-dimensional bar-code wristband**
• How RFID tag is affixed to patient	**n/a**	**n/a**
• Approximate dimensions of RFID tag	**n/a**	**n/a**
• Data fields on RFID tag or wristband	**patient name, patient medical record No.**	**patient account No., patient medical record No.**
System functionality	**general laboratory specimen collection, patient and blood unit matching prior to blood transfusion, patient and medication matching prior to medication administration**	**general laboratory specimen collection, patient and blood unit matching prior to blood transfusion, patient and medication matching prior to medication administration**
Techniques for specimen identification at the time of specimen collection	**bar-code label printed at bedside, applied to tube**	**bar-code label printed at bedside, applied to tube**
Data elements encoded on specimen label	**determined by customer**	**container ID, accession No., patient identifier, etc.**
Bedside technology for blood transfusion offered via positive patient ID system/product	**detection of potential mistransfusion, documentation of transfusion data, documentation of final transfusion record**	**verification that a physician order is on record for the transfusion, verification of informed patient consent, detection of potential mistransfusion, documentation of transfusion data**
Symbology that system/product accepts for bedside transfusion	**ISBT 128, Codabar, Code 39A**	**Codabar, Code 128**
Techniques for reading labels on blood units	**one-dimensional bar code**	**one-dimensional bar code**
Medication tracking offered via positive patient ID system/product	**intended recipient**	**order for medication, intended recipient, history of allergies, correct dosage, route of administration, rate of administration**
Techniques used to read labels on medications	**one-dimensional bar code**	**one-dimensional bar code, two-dimensional bar code**
Handheld workstations		
• Approximate size of handheld workstation	**—**	**3 in W × 6 in H × 1.25 in D**
• Approximate weight of handheld workstation	**—**	**11 oz**
• How handheld workstation communicates with host LIS	**no communication, intermittent docking**	**real-time radio frequency**
Is system/product designed to be used with EKGs?	**no**	**no**
Is system/product designed to be used with glucometers/other POC testing devices?	**yes**	**no**
FDA 510(k) approval		
• Is positive patient IDsystem/product FDA 510(k) approved?	**no**	**no**
• Have applied for, but not yet received, FDA 510(k) approval?	**no**	**no**
• Intend to apply for FDA 510(k) approval?	**uncertain**	**yes**
Required interface(s)	**interface not required**	**HIS and LIS**
• Hospital information system interfaces	**Cerner, Misys, Meditech**	**Cerner, Meditech, McKesson, Siemens, others**
• Laboratory information system interfaces	**Cerner, Misys, Meditech**	**Misys, Cerner**
Cost		
• General license fee per facility	**0**	**—**
• Single handheld workstation	**$25 to $1,500**	**—**
• Information system interface	**client dependent**	**—**
Distinguishing features (supplied by vendor)	**• systems range from a stand-alone blood bank or emergency department patient and sample labeling system to fully integrated, hospitalwide patient ID systems** **• provide patient ID systems for plastic card-based and label-based admitting systems** **• in-service training program to ensure smooth product implementation**	**• displays ISMP high-risk drug alerts, such as look-alike and sound-alike warnings, and maximum daily dose warnings** **• age- and weight-based checking for specialty populations, such as pediatrics and geriatrics** **• displays medication-specific, pharmacist-controlled formulary comments**

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Positive patient identification systems and products

Part 3 of 7

See accompanying article on page 26

	Care Fusion Robert Finizio, robertf@carefusion.com 1430 Spring Hill Rd., Suite 510 McLean, VA 22102 703-714-0730 ext 226, www.carefusion.com	Cerner Corp. Angela Betts, abetts@cerner.com 2800 Rockcreek Parkway Kansas City, MO 64117 816-201-2771, www.cerner.com
Name of positive patient ID hardware/software system	wCareMed, wCareView, wCareCollect, wBloodCare, wCareAssist, wCareCapture	Cerner Millennium Handheld Specimen Collections and Power POC
Name of positive patient ID product (wristbands, etc.)	—	—
First ever installation of positive patient ID system/product	2002	1992
Most recent installation of positive patient ID system/product	2005	2005
No. of contracts for U.S. sites where system/product is installed, operational	30+	42
No. of contracts for foreign sites where system/product is installed, operational	1	0
No. of contracts signed since July 1, 2004	—	10
No. of facilities where system/product is installed and operational	30+	55
Techniques to verify patient ID when creating a wristband on admission	n/a	n/a
Techniques for patient ID prior to each intervention/specimen collection	ID card or other biometric technique, one-dimensional bar-code wristband, two-dimensional bar-code wristband, passive radio-frequency identification, active radio-frequency identification, picture, date of birth, medical record No., bed, location, etc.	one-dimensional bar-code wristband, two-dimensional bar-code wristband
• How RFID tag is affixed to patient	wristband	—
• Approximate dimensions of RFID tag	—	—
• Data fields on RFID tag or wristband	n/a	—
System functionality	general laboratory specimen collection, patient and blood unit matching prior to blood transfusion, patient and medication matching prior to medication administration	general laboratory specimen collection
Techniques for specimen identification at the time of specimen collection	bar-code label printed centrally, added to tube; bar-code label printed at bedside, applied to tube; peel-off label removed from wristband; radio-frequency tag printed centrally, added to tube; radio-frequency tag printed at bedside, applied to tube	bar-code label printed centrally, added to tube; bar-code label printed at bedside, applied to tube
Data elements encoded on specimen label	60+ data elements, including test type, order No., patient location, tube color, time label was printed, etc.	accession No., patient No.
Bedside technology for blood transfusion offered via positive patient ID system/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	n/a
Symbology that system/product accepts for bedside transfusion	two-dimensional, ISBT 128, Codabar, others	—
Techniques for reading labels on blood units	one-dimensional bar code, two-dimensional bar code, radio-frequency identification	—
Medication tracking offered via positive patient ID system/product	order for medication, intended recipient, history of allergies, correct dosage, route of administration, rate of administration	order for medication, intended recipient, history of allergies, correct dosage, route of administration, rate of administration
Techniques used to read labels on medications	one-dimensional bar code, two-dimensional bar code, radio-frequency identification	one-dimensional bar code, two-dimensional bar code, radio-frequency identification, RSS (reduced space symbology), Aztec
Handheld workstations		
• Approximate size of handheld workstation	—	varies
• Approximate weight of handheld workstation	11 oz	16 oz–26 oz
• How handheld workstation communicates with host LIS	real-time radio frequency	intermittent docking, real-time radio frequency, specified protocol
Is system/product designed to be used with EKGs?	uncertain	no
Is system/product designed to be used with glucometers/other POC testing devices?	yes	no
FDA 510(k) approval		
• Is positive patient ID system/product FDA 510(k) approved?	yes	no
• Have applied for, but not yet received, FDA 510(k) approval?	—	no
• Intend to apply for FDA 510(k) approval?	—	yes
Required interface(s)	HIS and LIS	interface not required
• Hospital information system interfaces	Cerner, Misys, Wyndgate, Mediware, Vista, CPRS, Meditech, Siemens, MS Meds, Citation, others	n/a
• Laboratory information system interfaces	Cerner, Misys, Wyndgate, Mediware, Vista, CPRS, Meditech, Siemens, MS Meds, Citation, others	n/a
Cost		
• General license fee per facility	—	—
• Single handheld workstation	—	—
• Information system interface	—	—
Distinguishing features (supplied by vendor)	• solutions are designed by health care providers to be intuitive, easy to use, and blend seamlessly with clinical processes • product suite designed for easy expansion • all applications are accessible from one highly portable handheld or tablet device	• full integration with Cerner PathNet LIS—no interfaces or redundant database needed • specimen label bar codes are compatible with all medical device and robotics interfaces • real-time display of active patient orders at point-of-care

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Positive patient identification systems and products

Part 4 of 7 *See accompanying article on page 26*	**Digi-Trax Corp.** **John Kling,** jkling@digi-trax.com **650 Heathrow Drive** **Lincolnshire, IL 60069** **800-356-6126,** www.digi-trax.com	**Korchek Technologies** **Gregory Francis,** greg@korchek.com **30 Treeland Rd.** **Shelton, CT 06484** **203-944-9556/877-567-2435,** www.korchek.com
Name of positive patient ID hardware/software system	—	CareChek
Name of positive patient ID product (wristbands, etc.)	HemaTrax ID for Transfusion	—
First ever installation of positive patient ID system/product	1996	2005
Most recent installation of positive patient ID system/product	2005	2005
No. of contracts for U.S. sites where system/product is installed, operational	all Veterans Administration hospitals	1
No. of contracts for foreign sites where syst./product is installed, operational	—	0
No. of contracts signed since July 1, 2004	40	1
No. of facilities where system/product is installed and operational	300	1
Techniques to verify patient ID when creating a wristband on admission	ID card with or without a photograph	—
Techniques for patient ID prior to each intervention/specimen collection	ID card or other biometric technique, one-dimensional bar-code wristband, two-dimensional bar-code wristband, passive radio-frequency identification, active radio-frequency identification	ID card or other biometric technique, one-dimensional bar-code wristband
• How RFID tag is affixed to patient	wristbands	n/a
• Approximate dimensions of RFID tag	11 in × 1¼ in	n/a
• Data fields on RFID tag or wristband	patient name, medical record No., patient ID No.	n/a
System functionality	general laboratory specimen collection, patient and blood unit matching prior to blood transfusion, patient and medication matching prior to medication administration	general laboratory specimen collection, patient and blood unit matching prior to blood transfusion, patient and medication matching prior to medication administration
Techniques for specimen identification at the time of specimen collection	peel-off label removed from wristband	bar-code label printed centrally, added to tube; bar-code label printed at bedside, applied to tube; bar-code label placed on tube in tube manufacturing process; peel-off label removed from wristband
Data elements encoded on specimen label	—	specimen/accession No.
Bedside technology for blood transfusion offered via positive patient ID system/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 system/product accepts for bedside transfusion	two-dimensional, ISBT 128, Codabar	ISBT 128, Codabar
Techniques for reading labels on blood units	one-dimensional bar code, two-dimensional bar code, radio-frequency identification	one-dimensional bar code
Medication tracking offered via positive patient ID system/product	—	order for medication, intended recipient, history of allergies, correct dosage, route of administration, rate of administration
Techniques used to read labels on medications	—	one-dimensional bar code
Handheld workstations		
• Approximate size of handheld workstation	—	3 in × 5 in × 1 in
• Approximate weight of handheld workstation	—	14 oz
• How handheld workstation communicates with host LIS	—	HL7
Is system/product designed to be used with EKGs?	no	no
Is system/product designed to be used with glucometers/other POC testing devices?	yes	no
FDA 510(k) approval		
• Is positive patient IDsystem/product FDA 510(k) approved?	no	no
• Have applied for, but not yet received, FDA 510(k) approval?	no	yes
• Intend to apply for FDA 510(k) approval?	no	n/a
Required interface(s)	HIS	interface not required
• Hospital information system interfaces	Meditech, Epic, Eclipsys, Siemens	—
• Laboratory information system interfaces	Meditech, Mediware, Wyndgate, Systec, McKesson	—
Cost		
• General license fee per facility	—	based on No. of handhelds
• Single handheld workstation	—	~$3,500
• Information system interface	—	included
Distinguishing features (supplied by vendor)	• allows for decentralized admitting by printing wristbands at any location in hospital as well as transfusion area	• standard HL7 interface • specimen verification • ease of use

See “Newsbytes,” page 90, for information on CareChek Tx, Korchek’s latest patient identification system module to receive FDA clearance.

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Positive patient identification systems and products

Part 5 of 7 ***See accompanying article on page 26***	**Lattice Inc.** **Peter Muzzy,** peter.muzzy@lattice.com **1751 S. Naperville Rd.** **Wheaton, IL 60187** **630-949-3250,** www.lattice.com	**McKesson** **Stacy Block,**stacy.block@mckesson.com **5995 Windward Parkway** **Alpharetta, GA 30005**
Name of positive patient ID hardware/software system	**MediCopia**	**Horizon MobileCare Phlebotomy**
Name of positive patient ID product (wristbands, etc.)	**—**	**—**
First ever installation of positive patient ID system/product	**1996**	**2003**
Most recent installation of positive patient ID system/product	**2005**	**2005**
No. of contracts for U.S. sites where system/product is installed, operational	**9**	**3**
No. of contracts for foreign sites where system/product is installed, operational	**0**	**0**
No. of contracts signed since July 1, 2004	**7**	**~20**
No. of facilities where system/product is installed and operational	**12**	**3**
Techniques to verify patient ID when creating a wristband on admission	**—**	**n/a**
Techniques for patient ID prior to each intervention/specimen collection	**ID card or other biometric technique, one-dimensional bar-code wristband, two-dimensional bar-code wristband, passive radio-frequency identification**	**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	**—**	**—**
System functionality	**general laboratory specimen collection, patient and blood unit matching prior to blood transfusion**	**general laboratory specimen collection**
Techniques for specimen identification at the time of specimen collection	**bar-code label printed at bedside, applied to tube**	**bar-code label printed centrally, added to tube; bar-code label printed at bedside, applied to tube**
Data elements encoded on specimen label	**determined by each hospital**	**patient ID No., patient location, accession No., specimen type, container type, etc.**
Bedside technology for blood transfusion offered via positive patient ID system/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 system/product accepts for bedside transfusion	**two-dimensional, ISBT 128, Codabar**	**—**
Techniques for reading labels on blood units	**one-dimensional bar code, two-dimensional bar code, radio-frequency identification**	**—**
Medication tracking offered via positive patient ID system/product	**order for medication, intended recipient, history of allergies, correct dosage, route of administration, rate of administration**	**—**
Techniques used to read labels on medications	**one-dimensional bar code, two-dimensional bar code**	**—**
Handheld workstations		
• Approximate size of handheld workstation	**1 in H × 3 in W × 6 in L**	**1.3 in H × 3.1 in W × 5.7 in L**
• Approximate weight of handheld workstation	**11 oz**	**10.8 oz**
• How handheld workstation communicates with host LIS	**intermittent docking, real-time radio frequency, specified protocol**	**specified protocol**
Is system/product designed to be used with EKGs?	**no**	**no**
Is system/product designed to be used with glucometers/other POC testing devices?	**no**	**no**
FDA 510(k) approval		
• Is positive patient ID system/product FDA 510(k) approved?	**no**	**n/a**
• Have applied for, but not yet received, FDA 510(k) approval?	**yes**	**no**
• Intend to apply for FDA 510(k) approval?	**—**	**no**
Required interface(s)	**HIS and LIS**	**LIS**
• Hospital information system interfaces	**IDX, Siemens, Meditech, Keane, First Coast, McKesson, TDS, KPDS**	**n/a**
• Laboratory information system interfaces	**GE, SCC, Meditech, Cerner, Misys, McKesson**	**McKesson**
Cost		
• General license fee per facility	**based on No. of licensed beds**	**—**
• Single handheld workstation	**based on No. of caregivers**	**$4,000**
• Information system interface	**based on which system is being interfaced**	**—**
Distinguishing features (supplied by vendor)	**• system maintains data (encrypted with DES3) on the mobile computer** **• if a hospital moves to another LIS, the only change required is deployment of an interface to the new LIS** **• a robust platform for the deployment of additional applications**	**• integrated with Horizon Lab LIS** **• wireless** **• integration with Horizon Admin-Rx for medication administration on the same handheld device**

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Positive patient identification systems and products

Part 6 of 7 ***See accompanying article on page 26***	**Precision Dynamics Corp.** **Paula Moggio,** paulam@pdcorp.com **13880 Del Sur St.** **San Fernando, CA 91340** **818-897-1111,** www.pdcorp.com	**Precision Dynamics Corp.** **Paula Moggio,** paulam@pdcorp.com **13880 Del Sur St.** **San Fernando, CA 91340** **818-897-1111,** www.pdcorp.com
Name of positive patient ID hardware/software system	**—**	**—**
Name of positive patient ID product (wristbands, etc.)	**bar-code wristbands (many types)**	**Smart Band RFID wristbands**
First ever installation of positive patient ID system/product	**—**	**2003**
Most recent installation of positive patient ID system/product	**—**	**—**
No. of contracts for U.S. sites where system/product is installed, operational	**—**	**—**
No. of contracts for foreign sites where system/product is installed, operational	**—**	**—**
No. of contracts signed since July 1, 2004	**—**	**—**
No. of facilities where system/product is installed and operational	**—**	**4**
Techniques to verify patient ID when creating a wristband on admission	**ID card with or without a photograph**	**—**
Techniques for patient ID prior to each intervention/specimen collection	**one-dimensional bar-code wristband, two-dimensional bar-code wristband, passive radio-frequency identification**	**passive radio-frequency identification**
• How RFID tag is affixed to patient	**—**	**wristband**
• Approximate dimensions of RFID tag	**—**	**1 in × 1 in**
• Data fields on RFID tag or wristband	**hospital-specific but can include patient name, medical No., physician name, allergies, blood type, etc.**	**hospital-specific but can include patient name, medical No., physician name, allergies, blood type, etc.**
System functionality	**general laboratory specimen collection, patient and blood unit matching prior to blood transfusion, patient and medication matching prior to medication administration**	**general laboratory specimen collection, patient and blood unit matching prior to blood transfusion, patient and medication matching prior to medication administration**
Techniques for specimen identification at the time of specimen collection	**bar-code label printed centrally, added to tube; bar-code label printed at bedside, applied to tube**	**radio-frequency tag printed centrally, added to tube; radio-frequency tag printed at bedside, applied to tube**
Data elements encoded on specimen label	**patient name, specimen type, date, patient medical No., etc.**	**patient name, specimen type, date, patient medical No., etc.**
Bedside technology for blood transfusion offered via positive patient ID system/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**	**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 system/product accepts for bedside transfusion	**two-dimensional**	**radio-frequency identification**
Techniques for reading labels on blood units	**one-dimensional bar code, two-dimensional bar code**	**radio-frequency identification (RFID label on bag)**
Medication tracking offered via positive patient ID system/product	**order for medication, intended recipient, history of allergies, correct dosage, route of administration, rate of administration**	**order for medication, intended recipient, history of allergies, correct dosage, route of administration, rate of administration**
Techniques used to read labels on medications	**one-dimensional bar code, two-dimensional bar code, radio-frequency identification**	**radio-frequency identification**
Handheld workstations		
• Approximate size of handheld workstation	**—**	**—**
• Approximate weight of handheld workstation	**—**	**—**
• How handheld workstation communicates with host LIS	**—**	**—**
Is system/product designed to be used with EKGs?	**no**	**yes**
Is system/product designed to be used with glucometers/other POC testing devices?	**no**	**yes**
FDA 510(k) approval		
• Is positive patient IDsystem/product FDA 510(k) approved?	**—**	**—**
• Have applied for, but not yet received, FDA 510(k) approval?	**—**	**—**
• Intend to apply for FDA 510(k) approval?	**—**	**—**
Required interface(s)	**HIS and LIS**	**HIS and LIS**
• Hospital information system interfaces	**—**	**—**
• Laboratory information system interfaces	**—**	**—**
Cost		
• General license fee per facility	**—**	**—**
• Single handheld workstation	**—**	**—**
• Information system interface	**—**	**—**
Distinguishing features (supplied by vendor)	**• introduced patient bar-code wristbands 20 years ago and continue to pave the path for auto ID wristband solutions**	**• introduced patient bar-code wristbands 20 years ago and continue to pave the path for auto ID wristband solutions**

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Positive patient identification systems and products

Part 7 of 7

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	The St. John Companies **Adam Preisach,** apreisach@stjohninc.com 25167 Anza Drive Valencia, CA 91355 **800-435-4242,** www.stjohninc.com	Zebra Technologies **Debbie Murphy,** dhmurphy@zebra.com 333 Corporate Woods Parkway Vernon Hills, IL 60061 **847-793-2600, 800-426-0442,** www.zebra.com
Name of positive patient ID hardware/software system	—	—
Name of positive patient ID product (wristbands, etc.)	Conf-ID-ent	Z-Band wristbands
First ever installation of positive patient ID system/product	2001	~1986
Most recent installation of positive patient ID system/product	2005	—
No. of contracts for U.S. sites where system/product is installed, operational	400	unknown †
No. of contracts for foreign sites where system/product is installed, operational	0	unknown †
No. of contracts signed since July 1, 2004	100	unknown †
No. of facilities where system/product is installed and operational	500	unknown †
Techniques to verify patient ID when creating a wristband on admission	ID card with or without a photograph	ID card with or without a photograph, fingerprint
Techniques for patient ID prior to each intervention/specimen collection	ID card or other biometric technique, one-dimensional bar-code wristband, two-dimensional bar-code wristband, visual verification	ID card or other biometric technique, one-dimensional bar-code wristband, two-dimensional bar-code wristband, passive radio-frequency identification, others
• How RFID tag is affixed to patient	n/a	on patient wristband or on adhesive label at surgery site
• Approximate dimensions of RFID tag	n/a	as small as ½ in × 1 in
• Data fields on RFID tag or wristband	patient name, patient medical record No., etc.	depends on the software used
System functionality	general laboratory specimen collection, patient and blood unit matching prior to blood transfusion, patient and medication matching prior to medication administration	general laboratory specimen collection, patient and blood unit matching prior to blood transfusion, patient and medication matching prior to medication administration
Techniques for specimen identification at the time of specimen collection	bar-code label printed centrally, added to tube; peel-off label removed from wristband	bar-code label printed centrally, added to tube; bar-code label printed at bedside, applied to tube; radio-frequency tag printed centrally, added to tube; radio-frequency tag printed at bedside, applied to tube
Data elements encoded on specimen label	user defined	any amount of data can be specified
Bedside technology for blood transfusion offered via positive patient ID system/product	detection of potential mistransfusion, documentation of transfusion data, documentation of final transfusion record	verification that a physician order is on record for the transfusion, verification of informed patient consent, detection of potential mistransfusion, documentation of final transfusion record
Symbology that system/product accepts for bedside transfusion	two-dimensional, ISBT 128, Codabar, Code 39A	two-dimensional, ISBT 128, Codabar
Techniques for reading labels on blood units	one-dimensional bar code	—
Medication tracking offered via positive patient ID system/product	intended recipient	order for medication, intended recipient, history of allergies, correct dosage, route of administration, rate of administration
Techniques used to read labels on medications	one-dimensional bar code	—
Handheld workstations		
• Approximate size of handheld workstation	n/a	—
• Approximate weight of handheld workstation	—	—
• How handheld workstation communicates with host LIS	—	—
Is system/product designed to be used with EKGs?	no	no
Is system/product designed to be used with glucometers/other POC testing devices?	yes	uncertain
FDA 510(k) approval		
• Is positive patient ID system/product FDA 510(k) approved?	no	no
• Have applied for, but not yet received, FDA 510(k) approval?	no	no
• Intend to apply for FDA 510(k) approval?	uncertain	no
Required interface(s)	interface not required	interface not required (but typically is connected)
• Hospital information system interfaces	Cerner, Meditech, Siemens, Misys	— †
• Laboratory information system interfaces	Cerner, Siemens, Misys	— †
Cost		
• General license fee per facility	0	n/a
• Single handheld workstation	—	n/a
• Information system interface	$2,500	n/a
Distinguishing features (supplied by vendor)	• clear laminate allows for high scan rates • durable—lamination protects patient information and can be wiped clean • bands can be printed to directly by any laser or ink jet printer	• extreme ruggedness and reliability of products • advanced wireless and mobile security offerings (WPA, VPN, etc.) • widest range of printers and compatible specialty supplies developed for health care market

† sell products through health care integrators

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Printers/labels for positive patient identification

Company contact information	Product(s) for positive patient ID	Year company entered market	Percentage of customer base in U.S. / outside U.S.	Product reseller? / For which companies?	Brand name of printers / brand name of labels	Distinguishing characteristics of printers and labels
AMT Datasouth Corp. **Kim Stovall,** kstovall@amtdatasouth.com **4765 Calle Quetzal, Camarillo, CA 93012** 800-215-9192 ext. 129, www.amtdatasouth.com	printers and labels	1990	90% / 10%	No	Fastmark / n/a	compatible with all software platforms; can be programmed to add bar codes even if software does not support bar coding
Becton, Dickinson and Company **Dana Cogan,** dana_cogan@bd.com **1 Becton Drive MC 314, Franklin Lakes, NJ 07417** 800-595-0257, www.bd.com/bdid	printers and labels	1997	100% / 0	No	BD.id 4600, C200, Z3844S, Z2844, QL220 / BD.id Patient Identification System for Admissions and Labeling	Printers: accept different, multiple, data streams and reprogrammed easily; modify the label format, size, position, and content of the information; print a direct thermal or thermal transfer label / Labels: small size bar code is ideal for use on microscope slides
Bio-Logics (a St. John company) **Steve McDermott,** sem@biologicsinc.com **7918 South 1530 West, West Jordan, UT 84088** 801-561-9200, www.biologicsinc.com	printers and labels	1997	100% / 0	No	Bio-Logics / Bio-Logics	Printers: maintenance free; portable and wall-mountable; easy to sterilize; 10-year warranty / Labels: self-imaging labels
Cognitive Solutions Inc. **Angela Mansfield,** angela.mansfield@cognitive.com **4403 Table Mountain Drive, Suite A** **Golden, CO 80403** 303-273-1400, www.cognitive.com	printers and labels	1986	80% / 20%	No	Advantage LX, Advantage RFID, Code Range / no brand name	Printers: small footprint; high performance; all-metal mechanism for added durability and reliability; media roll guide for wristband label production; large memory; label design software for easy label configuration / Labels: price; availability
DataRay Inc. **Pamela J. Millican,** pamelam@datarayusa.com **1141 S.E. Grand Blvd., Suite 105** **Oklahoma City, OK 73129** 405-677-5317, www.datarayusa.com	printers and labels	—	97% / 3%	No	DataRay / DataRay	Printers: thermal and wristband printers designed as plug-and-play with hospital's internal systems
Digi-Trax Corp. **John Kling,** jkling@digi-trax.com **650 Heathrow Drive, Lincolnshire, IL 60069** 800-356-6126, www.digi-trax.com	printers and labels	1986	90% / 10%	Yes (for printers) / Cognitive Solutions, Zebra, Sato	Advantage LX / Lab-Tuf	Printers: ability to print Aztec, Data Matrix, and internal Ethernet / Labels: xylene resistant; withstand liquid nitrogen
General Data Company Inc. **Ralph Moher,** moher@general-data.com **4354 Ferguson Drive, Cincinnati, OH 45245** 800-733-5252, www.general-data.com/healthcare	printers and labels	1985	90% / 10%	No	StainerShield / StainerShield	Printers: 600 dpi; direct thermal; small footprint; easy to load; antimicrobial coating; ideal for lab bench or desktop / Labels: highly resistant to solvents and stains; simple direct thermal printing; no printer ribbon or overlaminate flap
Korchek Technologies **Gregory Francis,** greg@korchek.com **30 Treeland Rd., Shelton, CT 06484** 877-567-2435, www.korchek.com	printers and labels	2005	100%	Yes / Printers: Zebra Labels: multiple vendors	—	—
Peak Technologies **Craig Fleischmann,** craig.fleischmann@peaktech.com **9200 Berger Rd., Columbia, MD 21046** 800-458-7772 ext. 5109, www.peaktech.com	printers and labels	1995	75% / 25%	Yes / Printers: Zebra, Intermec, Printronix, Kyocera Labels: Peak, Zebra, Intermec, limak, others	— / —	Labels: can withstand chemical wash, autoclaves, severe cold, extreme high temperatures, bleaching, other environments
The St. John Companies **Adam Preisach,** apreisach@stjohninc.com **25167 Anza Drive, Valencia, CA 91355** 661-257-0233 ext. 245/800-435-4242 www.stjohninc.com	printers and labels	2001	100% / 0	Yes (for printers) / Zebra, others	— / St. John	Labels: direct thermal, thermal transfer, laser, piggy back, chemical resistant; any color or color border available; permanent or removable adhesive, cold temperature and freezer-grade adhesive
Zebra Technologies Corp. **Debbie Murphy,** dhmurphy@zebra.com **333 Corporate Woods Parkway** **Vernon Hills, IL 60061-3109** 847-793-2600/800-426-0442, www.zebra.com	printers and labels	1985	54% / 46%	No Zebra markets its products through its authorized health care partners	Zebra / Zebra	Printers: extreme ruggedness and reliability; wireless and mobile security offerings (WPA, VPN, etc.); wide range of printers, from mobile and desktop to high-performance industrial models, including RFID printing/encoding / Labels: extreme high- and low-temperature resistance; glove compatible; infrared viewable; adheres to glass; can be sterilized; extreme resistance to smearing, abrasion, blood, and solvents; latex-free wristbands

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