VERTICAL MARKET BREAKOUT SESSION

HEALTHCARE

Sponsored by:

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Jeff Bohlin, Bank of America

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Digital Identity in Healthcare Present and Future

Linda Van Horn, BS, MBA
President/CEO
iShare Medical

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Linda Van Horn, BS, MBA

iShare Medical®

Founder, President / CEO

- Health Care and IT Expert and Serial Entrepreneur
- Former DirectTrust Executive Board Members
- Voting Member of 4 ANSI Consensus Bodies
  - Direct Standard™
  - TIM+ Standard
  - Notifications via Direct Standard
  - Privacy Enhancing Record Locator Service

Prior Experience

21st Century Edge | Founder

The Pain Institute | Co-Founder

Deloitte | Senior Manager IT Consulting & Development

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Johns Hopkins University School of Medicine

Preventable medical errors are the third-leading cause of death in the U.S. behind heart disease and cancer.

Source: Martin Makary, MD, MPH and Michael Daniel, MD Johns Hopkins University School of Medicine BMJ 2016;353:i2139 doi: 10.1136/bmj.i2139

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Identity and Trust in Healthcare: Present and Future Agenda

- About iShare Medical
- Three Standards
- Present Patient Matching
- The Future in on FHIR
  - Standards for Sharing Patient Medical Records
  - Scaling FHIR
  - The Rise of the Identity, Authentication, and Authorization Server
  - Mobile Drivers Licenses (mDL)

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iShare Medical®

iShare Medical is the trusted software platform for identity, interoperability, integration, and automation of workflow for patients, providers, payers, and devices to share medical records across our nationwide network of 2.8 million providers.

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iShare Medical is a DirectTrust Accredited Trust Anchor Health Information Services Provider (HISP)

Since 2015

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The secure sharing of medical information happens at the speed of trust.

If I don’t trust you,
I will not share medical information with you.

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Three Standards Used for Sharing Data

Direct | IHE | FHIR

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IHE Patient Matching

- Historically, patient matching has been performed using two data elements
  - Patients Name
  - Date of Birth
- Relies on the provider such as a doctor's office or hospital to check the person's identity

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DirectTrust Identity and Matching

- Federated Identity trusted throughout US healthcare
- Patients, providers, payers, and devices
  - ID Proofing at NIST 800-63-3 IAL2
  - Authentication at NIST 800-63-3 AAL2
- Real identity is bound to two X.509 Certificates; one for digital signature the other for encryption
- Can surgically remove bad actors by revoking the X.509 Certificates without impacting anyone else on the network
- You cannot spoof or spam a Direct Message as the sender and receiver are always known
- Seamlessly integrates with EHR systems delivering medical information to the provider to the patient's chart at the point of care

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IHE When More Than One Patient is Returned, Patient Matching is a Manual Process

"Traditionally, patient matching has been done by health information management (HIM) professionals who **manually review possible duplicate patients and manually update paper and electronic systems as needed**."

- AHIMA (American Health Information Management Association)

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Providers Match Patients Using Name and Date of Birth

Bipartisan Policy Center Study of Harris County Texas

3.4M

total patients in Harris County Texas

249,213

have the same first & last name

69,807

pairs share the same names and date of birth

2,488

patients named Maria Garcia

231

patients named Maria Garcia have the same date of birth

Matching patients using demographic data does not work.

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The Future is on FHIR

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Standards for Sharing Patient Medical Records
Analogy of Traveling on a Plane*

Identity Proofing

"Trust Credential"
NIST 800-63-3
IAL2

Authentication

"Trust Credential"
proves who you are
NIST 800-63-3 AAL2

Authorization

What you can access
OAuth 2.0 and
OpenID Connect

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* This is not an aviation example

Identity Proofing at NIST 800-63-2 IAL2 Issues a "Trust Credential"

Authentication at NIST 800-63-2
AAL2 Uses “Trust Credential”
Do Not Enter

Honolulu
Authorization
OAuth 2.0 and OpenID Connect

The Rise of the Identity, Authentication, and Authorization Server

Uses X.509 Certificates for:

- Identity real identity that can chain to a Trust Framework
- Jason Web Signatures (JWS) for assertions
- Jason Web Tokens (JWT) for Client Secret eliminating passwords
- Allows for surgical revocation of a single back actor
- Allows an app to dynamically register in real-time allowing FHIR to scale

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Mobile Drivers License (mDL)

- ISO-18013-5 compliant mobile drivers licenses are using cryptographic keys and are considered by NIST to be superior level
- Uses PKI Trust Framework
- AAMVA is developing Digital Trust Service (DTS), a scalable trust framework
- TSA leading Federal Agency accepting mDL's

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Scan Real ID mDL
Provider's View

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Relying Party Verifies with Issuer and Provider Staff Confirms Identity

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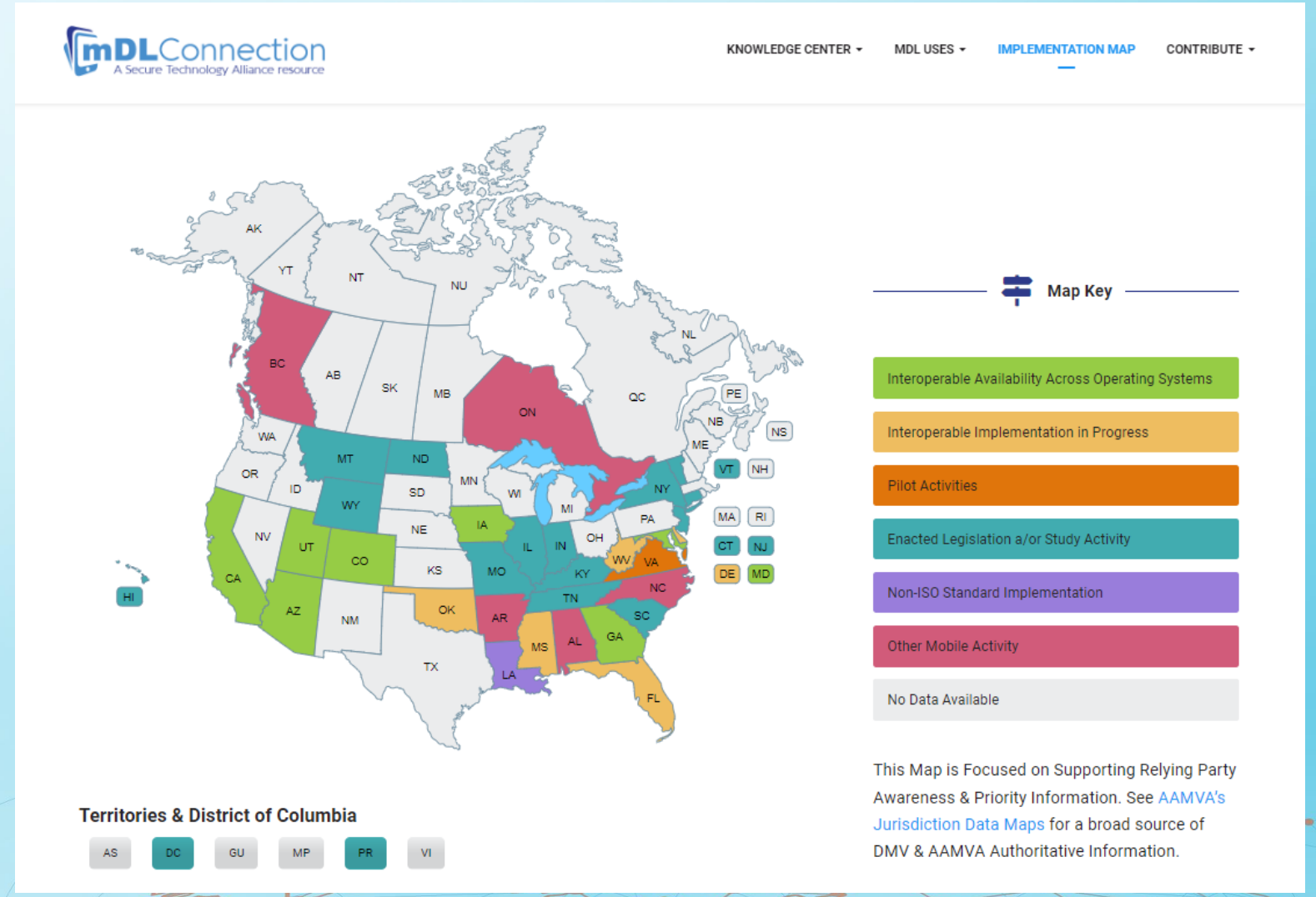
mDL Adoption



Source: https://www.mdlconnection.com/implementation-tracker-map/

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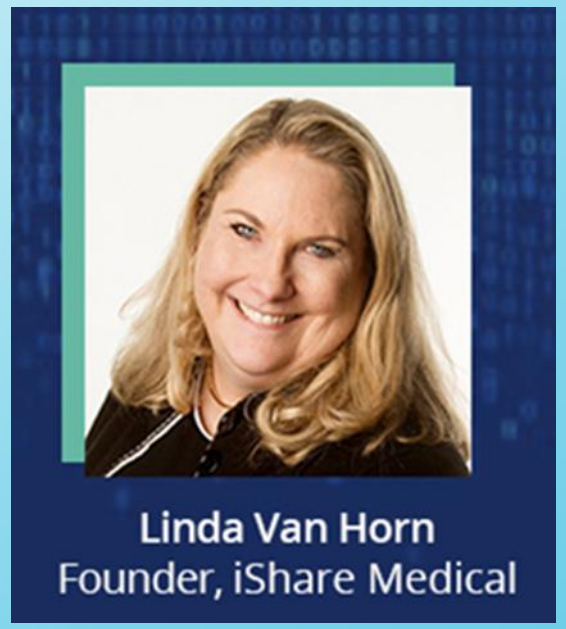
Thank You!

iShare® MEDICAL

INNOVATING THE FUTURE OF HEALTHCARE



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Introduction to Payments in Healthcare

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Merchant Services – a key digital receivable for healthcare providers today

The healthcare payments landscape for patients

- Patient responsibility for medical bills has increased as out-of-pocket healthcare expenses have grown.[1]
- Patients expect the same flexible, convenient payment methods that they use in the consumer market, and demand mobile-first communications from their doctors.[2]
- The introduction of retail health clinics (ie., those run by CVS, Walgreens, etc.) has given patients increased optionality in the market.[3]
- How patients pay for healthcare:[4]
  - 72% used a credit or debit card for their last healthcare payment
  - 54% are interested in email or text payment notifications
  - 43% are interested in automated digital payments

The healthcare payments landscape for healthcare systems

- As insurers have shifted more costs onto patients, healthcare systems have assumed more responsibility for billing and processing patient payments.
- Healthcare software, including electronic health record technologies (EHRs), has historically lived on separate platforms from digital payment solutions – creating a disconnect between two big components of provider back-offices.[5]
- At $10.93MM, healthcare has the highest average data breach cost across all industries[6]
- When it comes to payments, providers report that they need:[4]
  - Greater ease-of-use for patients making payments, including ability to accept digital wallets
  - Faster speed to revenue and optimized collections
  - Better integrations between software and patient collections workflow
  - Consolidated reporting across front-office and back-office payments

The bottom line

- Trends toward patient consumerism and digital experiences have created a unique opportunity for the healthcare industry to do things faster, easier, smarter and safer.
- Healthcare providers face inherent billing and back-office management challenges, due to a complex, fragmented healthcare system and an increasingly digital society.
- A provider's ability to offer digital functionality for online registration, bill pay and medical record access is instrumental in driving patient loyalty.
- If providers can't deliver positive, streamlined experiences, patients will find different options.

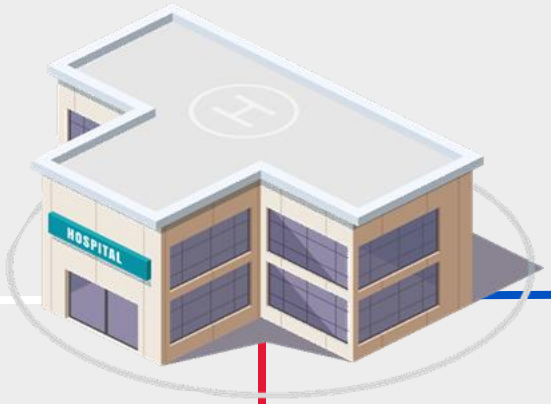
[1] "Consumers are unhappy with healthcare billing and payments," *Insider Intelligence*, Sept 2023.
[2] "Patients prefer digital channels for paying medical bills," *Insider Intelligence*, Sept 2023.
[3] "Health Trends to Watch in 2024," *Insider Intelligence*, Dec 2023.
[4] "Reducing Friction for Healthcare Payments Systems," The Strawhecker Group and Bank of America, 2022.
[5] "How to prepare for the inevitable changes to healthcare payments," Bank of America, Oct 2023.
[6] Cost of Data Break Report, IBM Security, 2023.

Healthcare systems contain a range of merchant touchpoints

Parking

Registration and admission

Card Present



Card Not Present

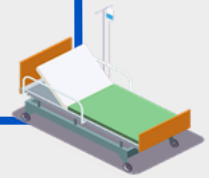
Revenue cycle team

After patient care

Donations

Emergency room visits

Online and telehealth services



Medical equipment rentals

Both Card Present and Not Present

Gift shop

Wellness visits

Pharmacy

Cafeteria

Treatments and procedures

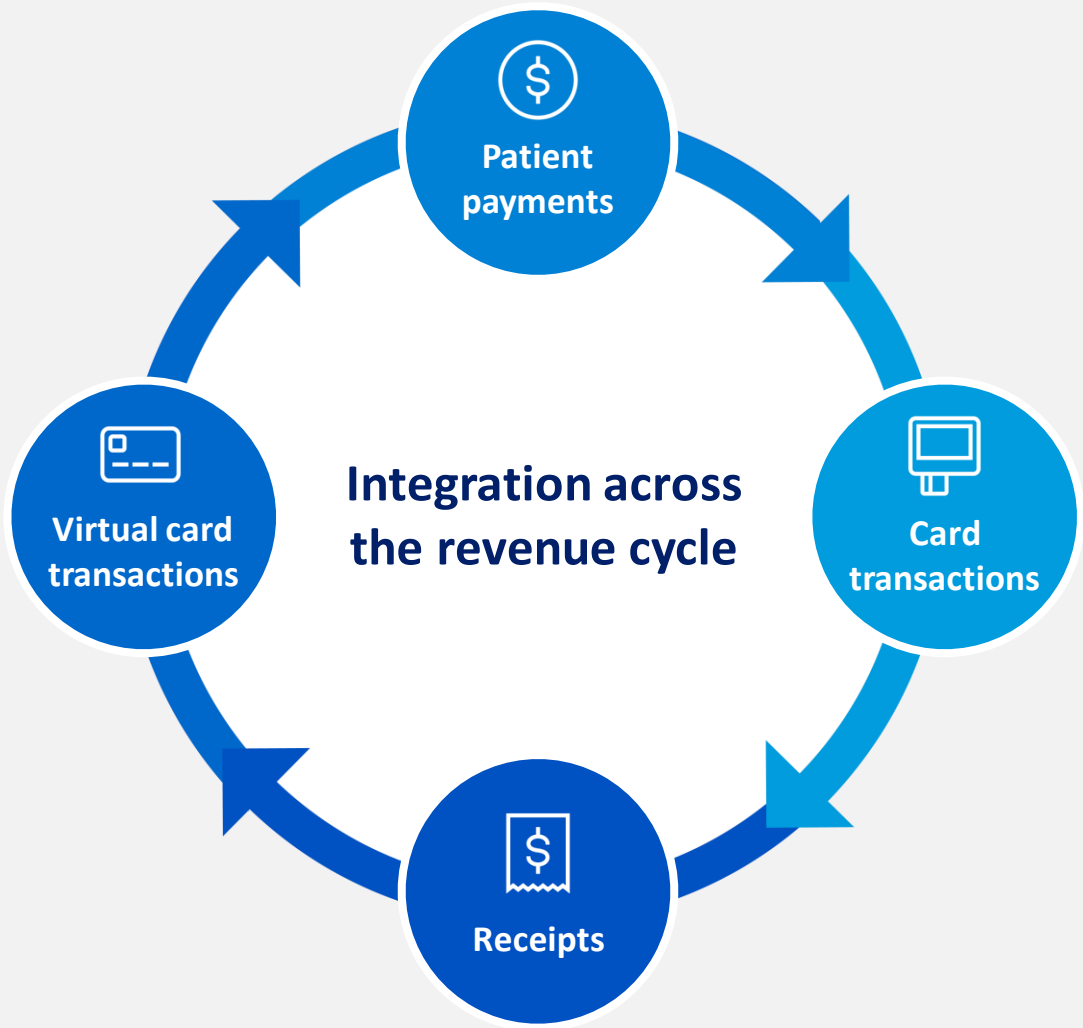
Home health services

Follow-up appointments

Diagnostic testing

Our Merchant and Treasury solutions work hand in hand

We offer a cohesive ecosystem for clients in the healthcare space, no customization or build required



Comprehensive, end-to-end suite of solutions enables clients to easily add locations, platforms and software modules

Healthcare Payment Solutions Platform
Cloud-based payment technology service addresses the top priorities of hospitals and health systems, including security infrastructure and enhanced revenue cycle workflow

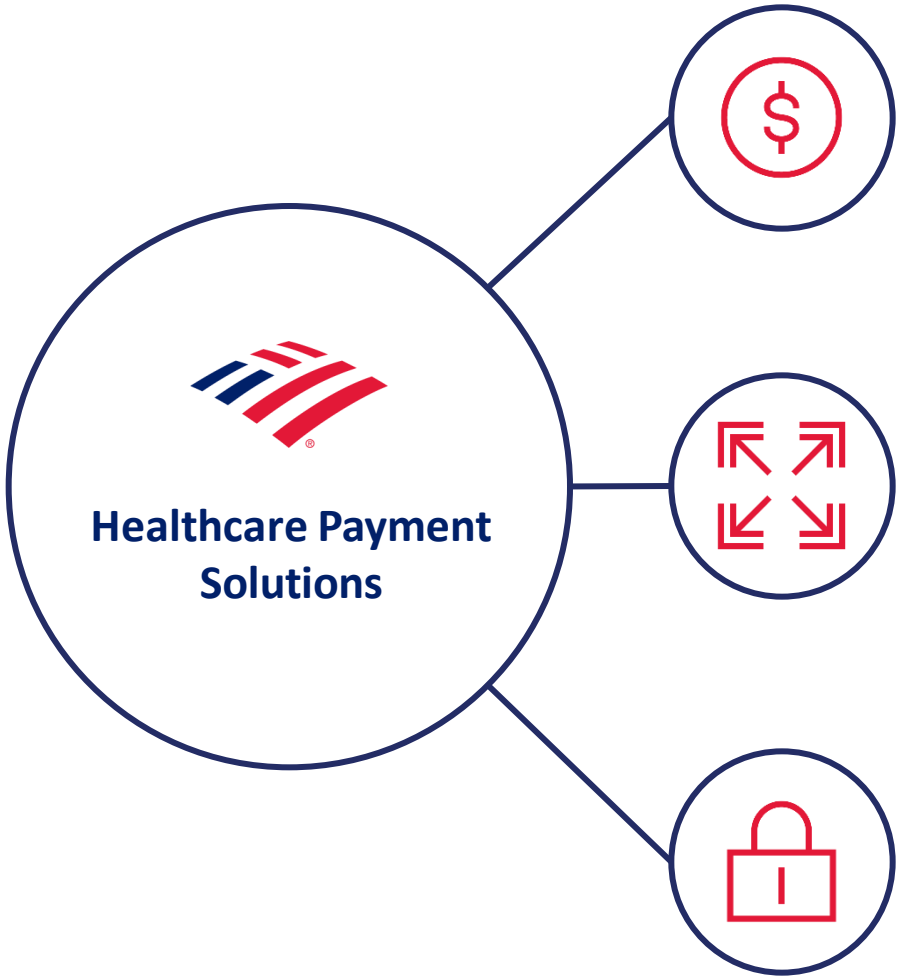
Terminal Application
Proprietary Healthcare Payment Terminal App on each payment device allows development control over the devices and seamless addition of new patient-engagement workflows

Merchant Acquiring
End-to-end provider for all major patient payment needs with a full suite of Merchant Services including front-end processing and batch settlements through Bank of America

Healthcare Payment Device Manager
Enterprise-level device management and reporting tool enables you to track and update devices remotely and access a variety of other control/reporting features

Reporting Reconciliation
Healthcare payments reporting offers standard prebuilt reports that are designed to address the robust requirements of enterprise healthcare systems

Highly scalable platform for large, complex health enterprises



Omni-channel payment platform

Secure and convenient payment options across card-present and card-not-present channels, including at point-of-care via integrated payment devices, online, and integrated patient financing.

Deep set of healthcare ISV integrations

API technology powers deep, multi-module integrations with a wide network of ISV partners that gives us access to some of the largest hospital systems in the U.S.

Highly scalable, end-to-end payments technology platform

Enterprise-grade Healthcare Payment Solutions platform owned and maintained by Bank of America is inclusive of a proprietary, certified PCI-validated P2PE gateway; cloud-based device management (including remote key injection and device encryption); merchant acquiring; and centralized reporting capabilities. Our Healthcare Payment Solutions address the end-to-end payment needs of hospitals and enterprise health systems.

Real-world example: large health system with 45+ hospitals and thousands of providers across multiple states[1]

Improved payment security[2] and reduced merchant processing complexity throughout the entire enterprise

Before Healthcare Payment Solutions	After Healthcare Payment Solutions
Security Risk Non-EMV® nor P2PE devices at POS, keyed transactions for Central Billing Office (CBO) collections	**PCI Validated P2PE** EMV® and PCI-validated P2PE devices across points of sale and business offices[2]
No Device Management No remote device-management tools were in use	**Healthcare Payment Device Manager** Enables enterprise-level device management across all POS solutions
Lack of Interoperability Silos in PMS, IVR and physician collection portal capabilities due to lack of interoperability between systems and solutions	**Multi-Module Integrations** Interoperable with other software applications utilized across systems
Disparate Reporting No centralized reporting	**Integrated Reporting** Centralized enterprise-level reporting tools that capture payment data across solutions, locations and systems
Payment Channel Silos Multiple processors and various gateways at POS and online portal, no solutions for payments on WOW carts or wireless payment workflows	**Omni-Channel Acceptance** Single system for online, IVR, and physician portal and collections payments plus wireless payment devices utilized on WOW carts and mobile payment workflows within the health systems

1 Example is based on actual work with a healthcare client. For illustrative purposes only and does not necessarily reflect every organization's experience (client experiences will be unique based on their needs and the solutions implemented).
2 Use of security solutions is not a guarantee that your systems will not be breached or guarantee that you will be compliant with the Payment Card Industry Data Security Standard or Payment Network Rules. May require eligible equipment.
Users of Healthcare Payment Solutions are responsible for any compliance with applicable federal or state laws governing the privacy and security of health or medical information, and governing the accessibility of payment solutions to individuals with disabilities.
EMV is a registered trademark in the U.S. and other countries, and an unregistered trademark elsewhere. EMV® is a registered trademark owned by EMVCo LLC.

References and disclosures

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