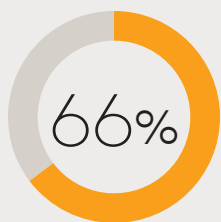# Mastercard® Healthcare Solutions

Contents

With Mastercard as a technology partner, focus on helping people enjoy healthy lives

Innovative technologies are delivering new insights and treatments that promise to transform health outcomes, and technology is also helping patients become more informed users of healthcare. As patients enjoy seamless, real-time digital experiences in nearly every aspect of their lives, their expectations for seamless healthcare processes rise accordingly. Unfortunately, many of the innovations we take for granted in daily life have not yet had much impact in healthcare. Furthermore, inefficiencies in the industry ultimately lead to higher costs for all. As U.S. healthcare costs are expected to rise 5.5% annually,[1] the challenges facing the industry are growing in proportion:
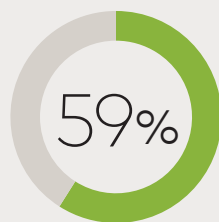
- Facing increased out-of-pocket responsibility for their medical expenses, patients struggle to afford their medical bills—forcing providers to send an average of 3.3 billing statements before receiving payment for an outstanding medical bill.[2]
- Claims that contain errors, lack documentation, or are fraudulent lead to overpayments by payers.
- Healthcare data is increasingly targeted by hackers, fetching a premium on the dark web and requiring heightened cybersecurity measures and redress from breaches.

| Healthcare payments are painful	Patient out-of-pocket expenses are growing	Fraud and waste are significant	Healthcare data is vulnerable
66%	59%	$240B	365
of healthcare IT executives and 48% of patients agree that healthcare payments are the most difficult vs. other industries[3]	of patients in 2018 were charged an out-of-pocket expense of between $501 and $1,000 per healthcare visit[4]	Fraud, waste, and abuse cost payers an estimated $240 billion annually[5]	large-scale healthcare data breaches were reported in 2018— 1 per day—more than any year since 2009[6]

Partner with tech innovators to stay ahead

A huge and rapidly growing opportunity, the healthcare industry is ripe for disruption. In fact, 9 out of 10 healthcare chief strategy officers (CSOs) think new technologies will upend their industry over the next five years.[7] It's no wonder that non-incumbents, from entrepreneurial startups to Silicon Valley giants, are looking for opportunities to change the game with new value propositions.
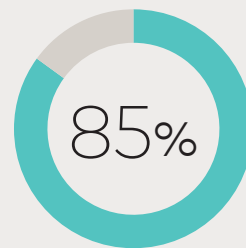
Tech disruption is around the corner

90%
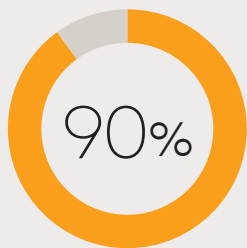
of healthcare CSOs think new technologies will upend their industry over the next five years[7]

Healthcare is behind the tech curve

87%
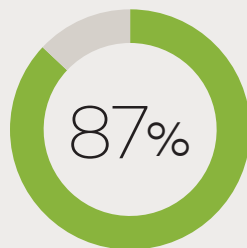
of healthcare CSOs feel their organizations are not prepared for new technologies upending their industry[7]

Tech companies are converging on the industry

85%

of technology companies and 77% of venture capitalists consider disrupting healthcare to be a top strategic priority[7]

Mastercard, a widely recognized technology innovator, has the technology and commitment to bring value to payers, providers, and patients. And unlike other new entrants to the industry, Mastercard is working to enhance and grow payers' and providers' business, not compete with them. Read on to see how we are bringing our expertise to healthcare.

> The U.S. healthcare market will face unprecedented disruption over the next 10 years. The combined momentum from rising consumer expectations, value-based care regulation, recent technology advancements and mounting political pressure for reform is already reshaping the market.[8]
>
> *Accenture*

Patient Payments

$ $
$ $ $ Patient out-of-pocket costs keep rising as
$ $ $ providers strive to collect payment

The flow of data and funds throughout the cycle of patient care and billing is complex, lengthy, and confusing. Faced with patient frustration and lacking a data-driven billing strategy, many providers struggle to collect what they are owed. The result: providers send an average of 3.3 billing statements before receiving payment for an outstanding medical bill.[2] It's not surprising that providers' debt and charity care have risen steeply since 2009[9] as patients' out-of-pocket costs have risen to double digits—up to 12% in 2018 alone.[10]

**Many patients
fail to pay**

68%
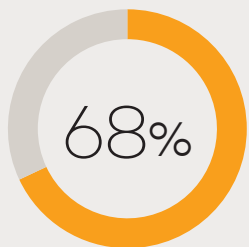
of patients with bills of $500 or less failed to pay off their hospital bills in full in 2016[11]

**Patients often
surprised by bill**

59%
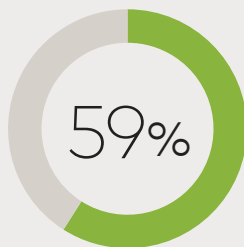
of all patients report being surprised by an unexpectedly high medical bill in the last 12 months[3]

**Much provided healthcare
goes unpaid**

$38.4B

Community hospitals provided $38.4 billion in uncompensated care in 2017[9]

Optimize billing with predictive analytics that consider patients' unique circumstances

Mastercard **Test & Learn**® predictive analytics can help providers differentiate their billing strategies so that they choose the most effective approach for each individual patient. Imagine being able to:

- Segment patients based on payment burden, services received, individual behaviors, and other factors.
- Analyze relevant business drivers and past behaviors to determine the optimal billing approach.
- Develop new billing strategies customized to the patient's propensity and willingness to pay.
- Measure the impact of differentiated billing strategies.

Mastercard is a world leader in predictive analytics

> 200

More than 200 leading companies around the world use Mastercard predictive analytics to make business decisions

HERE ARE SOME OF THE COMPANIES LEVERAGING MASTERCARD TEST & LEARN

Walgreens · CVS Health · Boots · Coca-Cola · DUNKIN' · GNC LIVE WELL · McDonald's · P&G · Starbucks · Walmart Save money. Live better.

Offer discounts to the *right* patients to capture more revenue

Mastercard offers analytics which we do not have the bandwidth or expertise to do on our own. **Test & Learn** helped us quantify the impact of different interventions showing how we help bridge the continuum of care, and how we can maximize the value of our actions.

COO, Large Regional Health System

$25M

Mastercard analytics helped a multibillion-dollar hospital system identify $25 million in potential incremental revenue from patient payments[12]
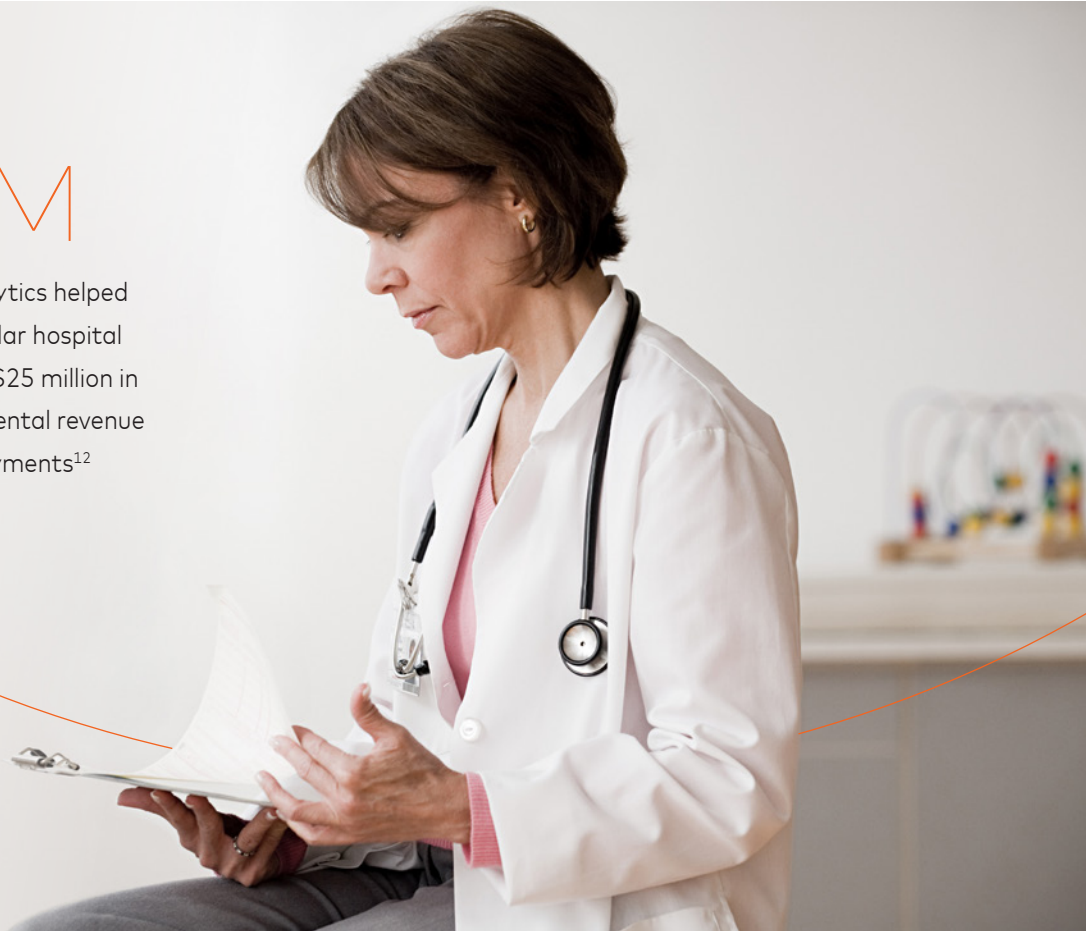
Payment Integrity

## Payers struggle to keep up with claims-related fraud, waste, and abuse (FWA)

The healthcare industry loses tens of billions of dollars each year to fraud alone.[13] Payers detect only a subset of suspicious claims, resulting in rising healthcare costs and higher premiums for patients. Furthermore, payers are largely pursuing suspicious claims *post-adjudication—the* result being that they recover only a small percentage of these lost dollars. Compounding these challenges, analyzing large amounts of healthcare data is complex and payers may lack the resources or bandwidth to do so. It comes as no surprise, then, that payers' fraud investigators struggle to keep up with alerts.

Improper payments

$240B

Fraud, waste, and abuse cost payers an estimated $240 billion annually[5]

Fraud and waste are significant

28%
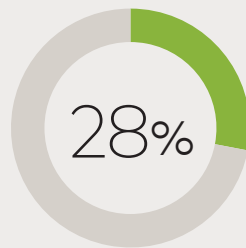
of all improper Medicare spending on durable medical equipment in FY 2018 was due to insufficient documentation[14]

**Surging data requires analysis**

15X

The volume of healthcare data is expected to be 15X greater in 2020 than it was in 2013[15]

Detect more fraud—*before* reimbursing claims

What if you could prevent an overpayment before it occurs? At Mastercard, fraud detection can begin the moment a claim is received for analysis. Processing more than 1 billion transactions per day, we use artificial intelligence, machine learning, and other tools to analyze thousands of data points and hundreds of decision points to flag suspicious activity. These same tools can be applied to healthcare claims data, identifying anomalies that require investigation.

Increased accuracy

↑19%
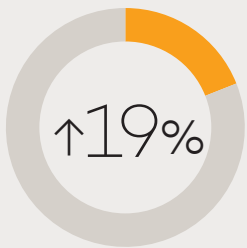
In the U.S., Mastercard Decision Intelligence uses advanced scoring algorithms to detect 19% more payments fraud than standard tools

AI-powered anti–money laundering (AML)

3X

Mastercard AML Net helped a financial institution detect 3X more suspicious activity while reducing daily alerts from 8,300 to 300 per day

Next generation fraud protection

1B/DAY

Mastercard's Decision Management Platform processes 1+ billion fraud assessment transactions per day—99.99968% in under one second

Security

Healthcare data breaches have been steadily increasing each year

Digital data promises to eliminate time-consuming, error-prone, costly paper records while enabling delivery of important information in near real-time to all stakeholders. But with the digitization of data comes an increase in the risk of data breaches, which have been rising steadily since 2009.[16] While healthcare providers are targeted more frequently, the greatest number of medical records are breached at payers. Points of vulnerability include email (33% of breaches) and network servers (20%).[6]

**Data breaches
more frequent**

1/DAY

365 healthcare data breaches, involving 13.2 million records, were reported in 2018[6]

**Threats grow
bigger**

32M

breached patient records in first half of 2019—double the total for all of 2018[17]

**Industry ranks
near bottom**

15th

The healthcare industry ranks 15th in cybersecurity preparedness compared to 17 major U.S. industries[18]

Controlling access to data with 99.99%+ accuracy

Mastercard knows that big data carries big responsibility. We have been securing personal, commercial, and payment data successfully for decades. That's why we continually invest in people and advanced tools like artificial intelligence, machine learning, behavioral biometrics, and digital identity to secure over 18 petabytes of sensitive data. The healthcare industry can benefit from Mastercard's data, cybersecurity, network, and AI security solutions to protect financial, health, personal, and business information. Examples include:

- Securing access to HSA accounts, call centers, and patient portals in mobile applications.
- Mitigating automated cyber attacks and data exposure on websites and mobile applications.
- Authenticating patients for new account enrollment.
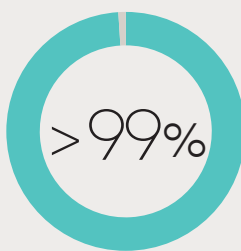- Auditing cybersecurity threats in real time.

Stay ahead of the threats so your business and patients are protected
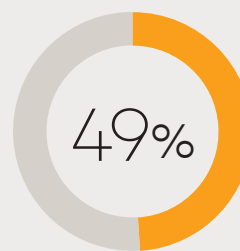
>200

Mastercard detects and defeats 200 attacks on our network every minute of every day

3.2M

Mastercard fends off 3.2 million phishing attempts on our network annually

>99%

Mastercard behavioral biometrics, device intelligence, and user analytics detect automated fraud attacks with > 99% accuracy

49%

Mastercard biometric solutions could help mitigate data breaches from web applications and privilege misuse, which account for 49% of all healthcare data breaches[19]

About Mastercard Healthcare Partnerships

💬 Because they have a healthcare team that specializes in what we do, they have a better understanding of that than most of the vendors that we work with.

Anne Richter
President, Accresa

💬 I think, historically, Mastercard's healthcare vertical is a differentiator when comparing them to their competition.

Tami Eckstein,
VP of Innovation and Growth,
Optum Financial Services

💬 Mastercard is a clear leader in healthcare payments. We share the mission to enhance consumer value for the industry. They are the best partner to accelerate our business growth.

William Short
CEO, AmeriFlex

To learn more about how Mastercard is bringing its expertise to healthcare, visit mastercard.us/healthcare-solutions

ENDNOTES

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5   Low estimates of fraud, abuse, and overtreatment in 2011. Donald M. Berwick and Andrew D. Hackbarth,
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6   Data breaches of 500 or more records. HIPAA Journal, "Analysis of 2018 Healthcare Data Breaches,"
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7   Accenture, "Healthcare CSOs Feel Unprepared as Disruption Surges," 2017.

8   Accenture, "Healthcare's Future Winners and Losers," 2018.

9   Bad debt and charity care. American Hospital Association, Uncompensated Hospital Care Cost Fact
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10   2018 OOP costs: TransUnion Healthcare, "Out-of-Pocket Costs Rising Even as Patients Transition to
      Lower Cost Settings of Care," Jun 25, 2019.

11   "TransUnion Patients May be the New Payers, But Two in Three Do Not Pay Their Hospital Bills in Full,"
      Jun 26, 2017.

12   Case study conducted in 2018. Future results may vary based on a number of variables.

13   National Health Care Anti-Fraud Association.

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      Improper Payment Data, Mar 2019.

15   Stanford University, "Stanford Medicine 2017 Health Trends Report: Harnessing the Power of Data in
      Health," Jun 2017.

16   HIPAA Healthcare Data Breach Statistics 2019.

17   Protenus 2019 Mid-year Breach Barometer.

18   SecurityScorecard, "2018 Healthcare Report."

19   Verizon Data Breach Investigations Report 2019.