# HEALTHCARE INSIGHTS

Top trends driving the US healthcare industry

Volume # 1

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With the introduction of new healthcare acts and reforms, the healthcare industry in the US has undergone significant transformations brought on by challenges and solutions driven by new technology. This year, the industry can look forward to more innovation and advancements driven by new and existing trends, powered by technology.

However, all of these trends and technologies are made relevant by yet another powerful and critical driving force – the consumer, who demands, adopts, and expects nothing but the best, from the healthcare industry.

# The changing pulse of the US healthcare industry

The healthcare industry in the US is facing numerous challenges. Ageing populations, chronic diseases, and new players in the market are among the top issues. Of these, new entrants – including the young and existing technology companies, and most importantly, retailers – are creating the most impact. As consumers get comfortable with the one-click services provided by other industries, the healthcare technology companies and retailers are changing the way consumers experience healthcare. In surveys conducted by the Economist Intelligence Unit and PricewaterhouseCoopers 64% of respondents from the US indicated that they were open to seeking medical attention through new and non-traditional ways. To meet these changing expectations, the healthcare industry, which is increasingly becoming consumer-driven, is transforming the way it operates.

Today, healthcare delivery has taken on a new meaning in the US. For instance, no longer are patients forced to settle for consultations with healthcare providers in their locality.

They are being provided with alternate modes of consultation. If they want to discuss their health issues and get opinions from providers in other parts of the country, or even the world, they can get it in a few clicks. Patients are being empowered to seek expert medical advice – even if healthcare providers are miles away and unable to give face-to-face consultations – via e-visits.

Patients too are responding positively to the new trends in healthcare. Research shows that the US$9.59 trillion global healthcare market is receptive to these innovations that can supplement or replace traditional person-to-person clinical interaction and accommodate consumer care anywhere.

It is not just healthcare delivery that is transforming. Almost every aspect of healthcare is changing. From insurance coverage to consumerization of healthcare, from healthcare provider- and patient-friendly payment methods to healthcare data analytics for more effective treatment plans – everything is undergoing a seismic shift.

The common undercurrent passing through these changes is technological disruption.

> **“It is not just healthcare delivery that’s transforming. Almost every aspect of healthcare is changing.”**

Technology has now reached the core of healthcare and is changing the way it evolves. New players in the market are fuelling this change with the technology-based tools they bring to the market. For instance, technology companies’ mobile-based apps have made it easier for healthcare providers to share crucial information with patients. Similarly, social media platforms have bridged the huge gap that had long separated patient, healthcare providers, and insurance companies - it has helped create a vital connect.

The healthcare industry has come a long way in how it has leveraged technology to provide better and more cost-effective care for patients who have expensive treatment requirements and understand the population and its healthcare needs. Traditional healthcare companies are partnering with those who have a strong knowledge of healthcare and deep expertise in technology to help offer services and develop new products better aligned with patient needs.

# Key trends transforming the US healthcare industry

## Medicare and Medicaid Expansion

Besides a shift in power, the reform has brought a change in the way primary care is delivered.

## Regulatory compliance and fraud and abuse prevention

Compliance is essential to not just pass audits, but also to stay relatively safe against growing threats.

## Population health and care analytics

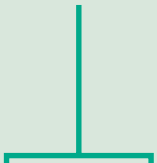
The aim of population health management is to enhance outcomes of a group's health by monitoring and tracking its members.

## ACO and new payment models

Achieving the triple goal that the ACO has set out can be quite challenging, when approached independently or in siloes.

## Retailization and digital transformation

Public exchanges are getting integrated in a stealthy but sure manner into the insurance industry.



## Legacy modernization, cloud, automation, and outsourcing

To keep up with ever-evolving needs of the healthcare industry, organizations must undertake legacy modernization.

OVERVIEW

# Empowering people with better control over healthcare

TREND #1

**MEDICARE AND MEDICAID EXPANSION**

One of the key objectives of the Patient Protection and Affordable Care Act (PPACA) is to reduce the number of Americans who are currently uninsured. In an effort to meet this objective, the PPACA offered incentives to those who signed up for health coverage under the Medicaid healthcare program.

To make the program more accessible for those who are below the eligibility criteria, the ACA has given states permission to expand the program to cover this section of people, too. This was achieved by creating uniform eligibility standards across the country. For those who were previously not covered under a private health insurance plan by their employer, a new program was launched. Also, the ACA established new rules mandating insurers to extend healthcare coverage to everyone who applies.

**"The PPACA offered incentives to those who signed up for health coverage under the Medicaid healthcare program."**

These efforts have made a significant difference in a number of areas. For instance, the states and districts where healthcare organizations have carried out Medicare and Medicaid Expansions, have seen an increase in volume and revenue, and a decrease in unpaid care. In stark contrast, the states that have not expanded their insurance program, are witnessing the opposite effects.

At a time when the industry is under pressure to reduce healthcare spend, the US has identified a very small percentage of the country's patients, whose healthcare expenses make up a significant portion of the country's healthcare spend. Compounding this issue are the dual eligible, those who are eligible for both Medicare and Medicaid.

The money that the country spends on these patients continues to rise. To counter the effects of this spend, healthcare organizations and insurers are adopting new care models that move patients to care settings that are less expensive, and offer a more holistic approach to healthcare, rather than send them to emergency rooms or inpatient care.

With Medicare and Medicaid Expansion, the Affordable Care Act (ACA) has given back consumers control over their healthcare and has brought significant transformations in the industry. Besides a shift in power, the reform has brought new entrants to the economy, an increase in the retailization of health insurance,

and a change in the way primary care is delivered. To keep pace with these shifts, industry leaders should be flexible and forward-thinking.

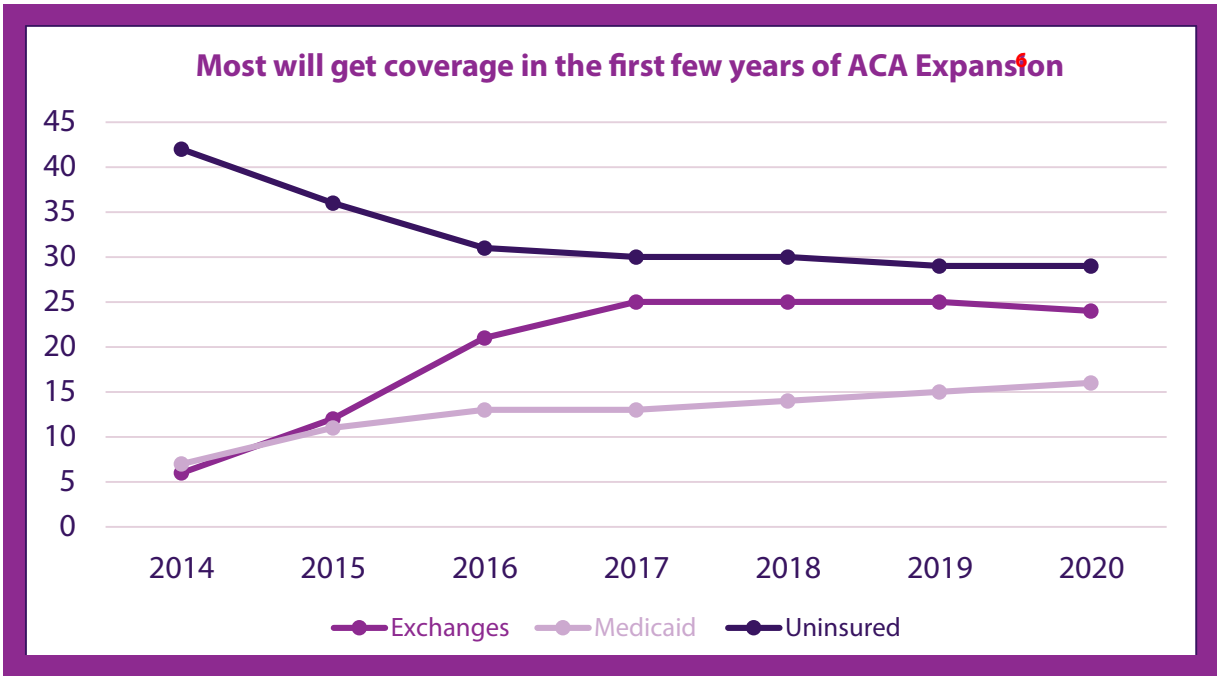
This is especially necessary in states that have not yet opted for Medicaid Expansion – in the coming years, they will experience a greater push to move towards expansion. By 2020, hospitals that serve in these states will see a decline in federal support, to the tune of US$39 billion.

According to a research by the Robert Wood Johnson Foundation and Urban Institute, if the 24 states that have not yet opted for Medicaid Expansion continue without change, 6.7 million of their population will be uninsured by 2016[3]. And, by 2022, the states would have paid close to US$23 billion in payment towards Medicaid[3]. Their expenses will continue to mount by about US$167 billion in enhanced payments towards Medicaid[3], to counter the reductions that they face from the federal government.

With insurance coverage at the heart of the matter, hospitals interested in offering Americans the provision to gain healthcare coverage, will soon have to go down the Expansion path. The sooner this transition is made, the faster a larger section of the population can access better healthcare while avoiding huge expenses in the coming years. Fortunately there are a host of new technologies and business models that can help them speed up the process.

**"Ever since the ACA was signed in 2010, more than 90 new companies have been created[4]."**

**"Primary care physicians, surgeons, and other specialists in Expansion states saw a higher percentage of Medicaid patients during the first three months of 2014 than were seen in non-Expansion states[5]."**



# Technological imperatives

Some of the challenges the healthcare industry faces, technologies that enable healthcare organizations to overcome them and deliver benefits to providers, payers, and patients, by leveraging Medicare and Medicaid Expansion:

## Big data and analytics

### Challenge

Every day, vast amounts of data – on billing, payments, treatments, etc. – are generated under Medicare and Medicaid across the country. How can this information be leveraged to benefit the healthcare industry?

### Solution

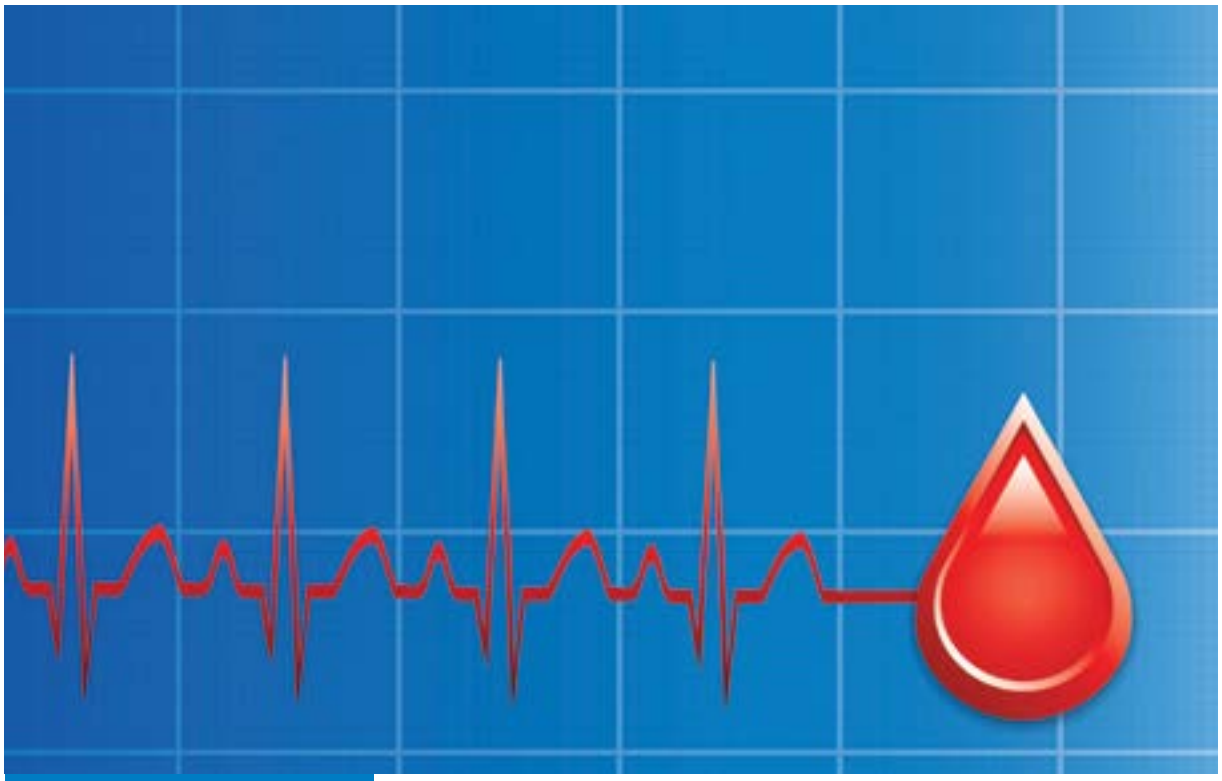
Big data in healthcare is extremely valuable. Analyzed and interpreted the right way, it will offer insights that can help take the healthcare industry to the next level.

#### *Reduce care-delivery cost*

One of the biggest challenges the healthcare industry faces is in reducing the cost of care delivery. With the help of big data generated under the Medicare and Medicaid Expansion, organizations will get the insights that will enable them to understand where money is being spent. With this information, they can adopt the right tools and solutions that would be better suited to tackle problem areas.

### *Treatment effectiveness and physician dues*

Besides gaining insights on expenses and cost reduction opportunities, organizations can also use big data to understand types of treatments most effective for specific illnesses and identify healthcare providers who are not getting their dues. Big data can show how different kinds of providers are getting paid per visit vs. on a daily basis. For instance, information generated in the past year and released by the US government recently, shows that specialists get paid more on a per-visit basis, while family practise physicians get paid better on a daily basis.



> **"This level of big data mining has helped authorities in the USA to prosecute fraudsters and save billions of dollars."**

### *Population health*

For both healthcare providers and payers, knowing what ails the country, is critical. To get this information, they can leverage big data and get a better understanding of the illnesses affecting specific age groups. This can then be used to create awareness and urge people to take preventive measures, if possible, especially if they are in a risk group.

### *Fraud control*

The Department of Justice (DoJ), the Federal Bureau of Investigation (FBI), and the Department of Health and Human Services (HHS), have been using real-time big data to understand factors costing the Medicare program money. The DoJ has already identified fraudsters in the healthcare industry, responsible for draining resources. This level of big data mining has helped authorities in the US to prosecute fraudsters and save billions of dollars.

As part of the Big Data and Development Initiative by the government, the Centers for Medicare and Medicaid Services (CMS) started a Virtual Research Data Center. This will provide researchers anytime access to encrypted files that would otherwise have to be shipped to them on request. The data center will contain all the information that it collates from different sources. Researchers can analyze and interpret the data from their systems. This initiative will help reduce costs, increase access, decrease time of research, and increase overall efficiency of the process.

Since 2008, hospital outpatient departments (HOPDs) and ambulatory surgical centers (ASCs) have been taking on the role of treating a large section of the country's population. A research conducted by the Centers for

Medicare and Medicaid Services indicates that by 2008, 3.3 million Medicare eligible citizens were being treated by just 5,175 ASCs[7].

## Challenge

How can ASCs and HOPDs effectively meet the needs of these ever-increasing number of patients with limited resources, while decreasing costs and increasing revenue?

## Solution

The best way to do this is to harness the power of data by analyzing it. A few areas that ASCs could direct their analytic focus on, would include the following:

> **"Data can help identify trends and changes in staffing, a critical area which takes up a lot of most organizations' spend."**

### *Optimizing labor cost*

These healthcare organizations should leverage metrics to get a better understanding of their staffing capacity. Data can help identify trends and changes in staffing, a critical area which takes up a lot of most organizations' spend. Using analytics, healthcare providers can identify organizational structure weaknesses, alter staffing schedules for better efficiency, and reduce spend on areas like overtime

### *Accurate forecasting*

If an organization is able to predict supplies and medication requirements, their stock can be more closely aligned with patient needs. If not, the organizations may have more of what is not essential, and less of crucial medication and equipment. Analyzing the organization's metrics, based on aspects like physician performance and utilization of ancillary tests, will help them stay more accurately prepared.

### *Prevention of fraud and resource drainage*

One of the biggest roadblocks healthcare organizations face when it comes to precisely allocating funds is fraud. Data analytics can reveal departments into which money is being funnelled and highlight potential problem areas – which act as hot spots for fraud.

## Telehealth and mobile

With healthcare organizations facing increasing pressure to reduce hospital readmissions and improve patient health outcomes, they are on the lookout for smarter processes and tools. Mobile technology can be the answer to these problems. Telehealth, mobile apps, SMS, and remote patient-monitoring can help organizations decrease instances of hospital readmissions and extend care beyond the hospital.

> **"Telehealth, mobile apps, SMS, and remote patient monitoring can help organizations decrease instances of hospital readmissions and extend care beyond the hospital."**

Medicare supports consultations provided via a two-way telecommunication system enabling real-time video and audio interaction between a patient and physician who is not located in the same area. When a patient needs follow-up consultations, he does not have to visit the hospital and get readmitted to get the healthcare attention she needs. It also helps organizations avoid penalties for readmissions.

Mobile too can help reduce hospital readmissions – however, not by taking the traditional reimbursement route that most healthcare organizations like to take, as mobile is currently not covered by Medicare. They will offer bundled payments, wherein, instead of a hospital focusing on gaining reimbursements, it works to get a share of the savings.

Mobile app developers should focus on creating paid solutions closely aligned with patient needs, to help them reduce hospital visits and readmissions. Once app developers are able to convince patients about the benefits they gain with the app, the uptake of these apps will increase. If successful, hospitals will reduce readmissions, and get a percentage of the savings, the solution will generate.

# Social media

## Challenge

There is a pressing need for Medicare and Medicaid programs to reach the masses in an effective and impactful way. How can this be achieved?

## Solution

In an effort to reach the population, drivers of the Medicare program have created a channel on YouTube that serves as a platform where payers, providers, and most importantly, patients, can get information they need.

### *Information sharing*

Videos are short and easy-to-understand. They present details on most of the critical aspects of Medicare, like how to enroll for it, when and how to use it, and how the program is beneficial for them. Through the YouTube channel, Medicare Made Clear, people can learn about enrollment in the program and know more about the benefits they can receive through online resources.

Videos also educate viewers on how they can share this information with friends and family through other social media platforms, too. They encourage people to continue the conversation with friends and family on blogs, via Pinterest, Skype, and LinkedIn. This is an effective way of increasing reach and getting attention of people.

Besides this dedicated channel, there are more videos about Medicare and Medicaid Expansion that other organizations have shared on YouTube. Both patients and physicians can benefit a lot from these videos. Some of the videos take a look at why Medicaid Expansion is essential for healthcare organizations, and provide statistics on benefits other organizations and states have experienced post-expansion.

### *Connecting with and keeping track of customers*

Medicaid agencies for states can hire analytics service providers to gather important information; for instance, people's opinion on the programs, on social media.

**"Through the YouTube channel, Medicare Made Clear, people can learn about enrollment in the program and know more about the benefits they can receive through online resources."**

This will help program drivers understand general perception of the population about the programs. It will also provide crucial insights into which users are having problems with their health coverage.

Based on this information, customer service can be changed for the better. The way healthcare industry uses social media is quite similar to how private companies do. They are connecting with customers, monitoring public data, and interpreting it with analytics tools to get insights that can help deliver better care.

**"AHIP's Coalition for Medicare Choices (CMC) – more than 1.8 million seniors and counting – are writing letters and emails, making phone calls, attending events, and engaging on social media to urge policymakers to protect Medicare Advantage as lawmakers consider policies that could impact their coverage[8]."**

OVERVIEW

# Paving the way to more rewarding experiences

TREND #2
**ACO AND NEW PAYMENT MODELS**

Currently, leaders across organizations are trying to create one payment model that incentivizes physicians and motivates them to achieve the three-pronged aim the ACO has set: enhancing care quality, improving patient outcomes, and reducing costs. Accountable Care Organizations (ACO) generally follow one of the five key traditional payment models based on a healthcare provider's performance. The five models are: one-sided shared savings, two-sided shared savings, episode payments, partial capitation, and global payments.

Achieving the three-pronged goal can be quite challenging when approached independently or in siloes. This is especially true, for the US, where healthcare costs are rising and quality of care varies drastically. The challenge is compounded further for organizations in which the fee-for-service model is deeply ingrained. The impact is felt most by healthcare payers.

**"Besides bringing increased savings, the model has continued to ensure that patients get high quality care"**

They have to make the transition to a model where the healthcare provider is reimbursed on the basis of quality of service provided, not the quantity. If adopted the right way with the right technology, payment models under the ACO can bring financial benefits to payers.

Recent reports by HHS indicate that a payment model – Pioneer Accountable Care Organization (PACO) that was developed as part of the Affordable Care Act (ACA), has brought significant savings of more than US$384 million over two years. This means that over the course of the year, about US$300 has been generated per beneficiary each year.

Adding more credibility to this payment model is a finding by CMS that shows that this is the first patient care model to meet expansion criteria of Medicare beneficiaries. Besides bringing increased savings, the model has continued to ensure that patients get high quality care. The dual benefits that the model brings are likely to convince the HHS to integrate the model into other programs under Medicare.

The CMS developed another program, the Advance Payment ACO Model, through which organizations participating in the Shared Savings Program receive payments in advance, which will be retrieved from the shared savings they generate. It was created to motivate more organizations to participate and offer better patient care, by offering advance payments.Medicare Shared Savings Program was created to encourage greater cooperation and coordination

among healthcare providers, to offer better healthcare to beneficiaries of Medicare Fee-for-Service and bring down costs. Through this program, ACOs can enhance healthcare value by promoting greater accountability among providers, better coordination of healthcare services, and more investment in new healthcare processes and infrastructure that improve physician efficiency.

Another payment model by the ACO is the Investment Model, which is based on prepaid shared savings. It takes forward learnings that the CMS has with the Advance Payment Model to provide new ACOs joining this year or in 2016, the motivation to move into areas that are under-served.

**"ACOs will be offered savings in prepayments at the beginning and on an ongoing basis."**

It also provides for current ACOs participating in the Medicare Shared Savings program to shift to systems with increased financial risks. These ACOs will be offered savings in prepayments at the beginning and on an ongoing basis.

The CMS recently introduced a new payment initiative for ACOs – Next-Generation ACO Model. This is best suited for organizations with prior experience in coordinating care for different patient populations. This new model is more aligned with CMS' focus on looking into payment models encouraging healthcare providers to take on bigger financial risks while rewarding them well for positive healthcare outcomes. The new model is an alternative to the Pioneer ACO Model and Medicare Shared Savings Program. The CMS, which largely oversees different payment models and their effectiveness, shares savings generated from a program with the ACO that adopts it. The criteria for this is: the ACOs should keep their spend below a specific level – a benchmark – over the course of three years. This is one of the key factors that drives ACOs to adopt new payment models – which may bring in better savings than older models.

**"Physicians say that their payment models are changing. 51% of clinicians said that in five years, 3/4th of their total revenue will come through channels other than fee-for-service[9]"**

**"24% of clinicians stated that their practice was likely to partner or merge with a hospital, resulting in full employment by the hospital[9]"**

# Technological imperatives

Here are some of the challenges the healthcare industry faces, and the technologies that enable healthcare organizations to overcome them and deliver benefits to providers, payers, and patients in the area of ACO payments.

## Big data

### Challenge

How can big data be used to help the healthcare industry leverage information about the ACO payment models?

### Solution

One of the technology-based trends that has caught the attention of the healthcare organizations is big data. While not many have the tools, resources, or skills necessary to make the most of it and the benefits it brings, the few that have adopted it are seeing good returns

#### *Recommending the ideal model*

Healthcare agencies like CMS gather information about different payment models used

by ACOs, money spent and saved, and benchmarks for each ACO. This information is then accessed, analyzed, monitored, and interpreted to get a better understanding of which models work best.

CMS and other organizations can share this information with ACOs, who can then retain existing models (if they are beneficial) or adopt new ones.

### *Developing outcome-based reimbursement models*

Organizations can create payment models that reward healthcare providers for effectively delivering good patient outcomes. The programs will leverage big data to create a better match between healthcare providers and companies based on how positive healthcare outcomes of the former have been.

**"This information is then accessed, analyzed, monitored, and interpreted to get a better understanding of which models work best."**

This will allow companies to pay less on group insurance for employees, even for those who have preexisting conditions, as healthcare providers who have been matched with them show greater potential for delivering positive health outcomes. For the quality of care they offer employees, healthcare providers will be rewarded by the companies.

### *Reducing patient readmissions*

In 2012, the ACA started the Hospital Readmissions Reductions Program, to bring down incidences of patient readmissions that can be avoided. To align better with this program, organizations are adopting big data tools that will enable them to aggregate data capable of providing insights to help them avoid unnecessary readmissions.

In the coming years, organizations will have to invest more in technology that will support better big data analysis, as penalties and payment reductions for hospitals are increasing every year. Compounding this issue are healthcare challenges that plague the country. For instance, hospitals face a 3% penalty on reimbursement they receive regularly for excessive patient readmissions within thirty days for predominant health issues[10].

# Analytics and business intelligence

## Big data

### Challenge

Large amounts of patient data is generated each day. Physicians will not have time to look through all of it, understand what is essential, and leverage it to offer better healthcare to patients. How can this data be used by ACOs?

### Solution

Over the past few years, the concept of accountable healthcare has made a significant impact on the industry. According to the ACO Model, the government allocates specific funds for organizations to care for their pool of patients. Based on the number of patients they see and kind of healthcare they deliver, organizations will be able to save a specific amount of money. This money then gets split among the organization's members.

This is in contrast to the capitation-based Health Maintenance Model that prevailed prior to the ACO model, according to which a healthcare provider is given a fixed revenue based on preventing illnesses and related costs. However, this model failed, as healthcare providers did not have data they needed to measure performance. Data that was available was retrospective, and was neither accurate nor timely.

Having learnt from inefficiencies of this data, healthcare organizations are now integrating data analytics into the system to not only bring greater coherence to payer and provider data, but also bring in efficiency into physician workflows. Analytics will help organizations sift through mountains of data generated and bring meaning to all that information. This means that physicians do not have to look through reams of data – just what is identified as essential.

## Cloud

### Challenge

Big-data-based insights generated by analytics tools should be easily accessible to physicians. How can organizations make this happen?

### Solution

Healthcare organizations employ cloud-based services to make ACO payment alignment more seamless. With cloud, ACOs can carry out functions like health information exchange and credentialing more effectively. It also helps with case management and quality performance registries. These capabilities come together as viable alternatives to bring down dependency on hosting systems for ACOs to meet specific requirements.

To run payment-related programs, healthcare organizations have to secure electronic protected health information (ePHI) aggregated from companies and healthcare providers, to ensure compliance with the requirements Health Insurance Portability and Accountability Act (HIPAA) has set out. Organizations can opt for HIPAA-compliant cloud services, which will offer necessary flexibility without compromising on security or wasting resources.

## Mobile

### Challenge

How can a healthcare provider, payer, or group ensure they are implementing a payment model the right way, especially with the many rules and regulations evolving and becoming complex with time?

### Solution

#### *Payment model implementation*

To help in implementation of certain payment models – like Open Payments that was started as part of a move to increase transparency in the industry with adoption of the Sunshine Act – mobile apps have been developed for both healthcare providers and payers. With such apps, users can collaborate to record, track, share, and store important information.

**"The payments can be captured and recorded in the system through the app, which can also send receipts to patients acknowledging their payment."**

#### *Better alignment with fee for quality of service model*

Mobile technology can also be used in other ways to align healthcare providers better with their fee for the quality of service provided. How? A factor that plays a big role in affecting health outcomes is patients' intake of prescribed medicines.

By using mobile apps to remind patients to take their medicines on time, healthcare providers increase the chances of better healthcare outcomes. This could in turn bring better reimbursements for them through the new payment models.

#### *Development of a seamless payment pathway*

Besides apps leveraging to align with payment model implementations, they are also being developed to make the payment process more seamless and comprehensive. Healthcare providers use these apps to safely collect payments from patients. Payment collection is enabled at any interaction point – from an emergency room to a home office – with mobile apps. Payments can be captured and recorded in the system through the app, which can also send receipts to patients acknowledging their payment. The information can also be synced with other devices that the organization uses for healthcare needs.

OVERVIEW

# Ensuring effective and authorized use of valuable resources

TREND #3

**REGULATORY COMPLIANCE AND FRAUD AND ABUSE PREVENTION**

There is a rise in the integration of new rules and regulations at local, national, and international levels. Organizations of all sizes are being affected by these regulations, which have to be complied with. Those that do not comply, will be subject to penalties and enforcement actions. At a time when they are facing penalty threats for other factors too – like unnecessary patient readmissions – health organizations are feeling the pressure to align more closely with regulatory requirements.

> **"Nearly 29 million patient records that have violated HIPAA codes have been affected, based on a 2013 Redspin Breach report[12]."**

Regulatory compliance is essential to not just pass audits, but also stay safe against growing healthcare-information-related threats stemming from technological integration in nearly all aspects of the industry. In 2009, over 800 patient data breaches occurred within five months of a new state law[11]. Nearly 29 million patient records that have violated HIPAA codes have been affected, based on a 2013 Redspin Breach Report[12].

These figures indicate that there is a pressing need for regulations to protect patients, payers, and providers against security threats that leave critical information shared by and among these players exposed. Besides security threats, there are other issues that mandate the need for strong regulations – Fraud, Waste, and Abuse (FWA). A direct implication of FWA is an increase in healthcare costs, which is borne by the patient, payer, or provider. Other implications of FWA are resource and time wastage.

To prevent this, healthcare organizations must align closely with the latest regulations. This can be quite an expensive deal for most healthcare organizations. The healthcare system in the US sees millions of patients every year and subsequently large amounts of data are generated. Most organizations want to leverage this data to increase returns and decrease risks. However, achieving both outcomes independently can be quite challenging and time-consuming for organizations.

They can leverage technological innovations developed to comply better with the regulations and gain benefits that they bring. While complying with rules can help organizations avoid penalties and damage to their reputation, it also provides opportunities to fortify and make their structure stronger. Organizations that take proactive steps like employee training, benchmarking, technology adoption, and best practices, will be at an advantage.

> "A study by the Institute of Medicine estimates healthcare fraud at a massive US$75 billion a year. Increasing litigation and financial reimbursement models that pay per procedure have increased wasteful expenditure[13]."

> "The top five security challenges in 2014 were identity management and access control (35%), prevention of data leakage (30%), cloud computing (30%), encryption during transit and storage (27%), and regulatory requirements (23%). The same year, security incidents soared to 60% and costs related to this rose to an unprecedented 282%[14]."

# Technological imperatives

Here are some of the challenges the healthcare industry faces, technologies that enable healthcare organizations to overcome them and deliver benefits to providers, payers, and patients, in the area of regulatory compliance and FWA:

## Social media

### Challenge

What is an innovative method of sharing information about regulatory compliance across a healthcare organization?

### Solution

Organizations in several other industries across the globe are adopting social media for communicating important information with a wide network and maintain dialogues. The healthcare industry too can follow in their footsteps.

#### *Communicate with healthcare providers about compliance and ethics*

Healthcare organizations can start internal channels, which are protected, on social media, to connect and discuss about the latest in rules and regulations. Employees can get updates about ethics, address concerns, or answer questions about this. Such internal channels on social media will not only connect people, but also provide the opportunity to start conversations with each other.

> "In 2013, 41% In 2014, 51% Organizations said they communicate about compliance and ethics topics through internal social media channels[15]."

> "In 2013, 45% In 2014, 40% Organizations said they review public social media and other sources as part of pre-hiring due diligence[15]."

# Cloud (compliant with HIPAA)

## Challenge

Cloud plays an important role in today's healthcare industry, which generates large amounts of data. Organizations need the cloud to store, retrieve, and share healthcare and patient information. But how can they ensure that the cloud is secure?

## Solution

Organizations covered under HIPAA and considering moving to the cloud should ensure that the provider is HIPAA-compliant. If the provider has essential procedures and policies in place to stay compliant, organizations can worry less about security of data either in transit or at rest. What are the criteria that healthcare leaders should look for in cloud providers they are using, before initiating a cloud strategy?

A few requirements that HIPAA-compliant cloud providers should meet:

- Data should be located / stored in the United States of America, not in foreign countries where information may be analyzed by other governments.
- Disaster recovery plan in the event of a calamity (natural or man-made)
- Operational procedures that monitor data round-the-clock for security threats
- Data should be encrypted in transit and at rest

HIPAA-compliant cloud service providers typically have policies in place to meet different challenges and tackle various situations, like change management. The service providers also create incident response processes that help them take care of security breaches without much delay. Procedures they follow are documented thoroughly and are ready to be presented, especially in case of audits. They also have strong credentials that prove their expertise and are willing to enter into a Business Associate Agreement.

**"The service providers also create incident response processes that help them take care of security breaches without much delay."**

Most cloud service providers who are aligned with HIPAA compliance offer two factor authentication systems, where both healthcare providers and the service providers have joint access to the stored information. They also encrypt data (including patient, billing, and payment information) with latest techniques to ensure that information is reasonably protected.

## Business Intelligence

Emergence of the Affordable Care Act brings twofold mandates that organizations have to align with – ACA, and existing requirements that are part of the organization's systems. To achieve this, they have to streamline all requirements into one framework – a task that can be best performed only by business intelligence tools. The right tools can positively impact their bottom line and experience that patients have.

## Gamification

Besides EHRs, analytics, and big data, gamification has become an important element for stakeholders in organizations. One of the reasons gamification has gained importance is that it helps organizations reduce healthcare costs and enable compliance and adherence more effectively. It brings big benefits for patients, too – encourages them to make healthier lifestyle choices, stay educated about treatment plans, take ownership of their health, and more. Below are other benefits of integrating gamification in healthcare:

### *Educating physicians*

According to a recent research, physicians who used specific health-related video games to learn were able to deliver better patient care than most others who used traditional methods of education. A game that the former used consisted of online trivia

which provided physicians their scores and ranking in terms of other players. Such games can reduce time physicians spend on learning and fast-track them to delivering better results.

### *Enhancing surgical precision*

Video games targeted at surgeons can help them increase their precision and aim. Surgeons can use these video games to practice anytime. It gives them a better edge to handle surgical instruments like laparoscopic devices, more precisely.

### *Influencing patient adherence*

With the help of patient-focused games, people can set health goals for weight loss or gain. These games chart the path that patients take to reach their goals more effectively. It also tells them best practices that can get them to their goals faster. One such instance of gamification helping patients is Packy and Marlon, a game that was developed to help children manage juvenile diabetes. It has been successful in reducing the need for urgent care and emergency visits to healthcare facilities due to diabetes-related conditions, by 70%[16].

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