

**CLOUĐERA**

# **CVS Health and Cloudera**

Achieving Better Outcomes Through Data



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# CVS Health is Transforming Health Care

The merger of CVS Health and Aetna has opened up a new world of possibilities for the consumer health care business. As identified in the CVS Health Trends Report, 2020, “A new, unified presence across pharmacy, insurance, benefits and retail wellness sectors has brought with it a vantage unique in the current health landscape.” The report states, “Identifying which changes to watch — and which can lead to better, healthier outcomes for Americans” is a core part of CVS Health’s mission. Digital transformation and the increased usage of data are recognized as critical to drive new innovations in pursuit of better care.

At Cloudera, we also believe in the transformative capabilities of data in health care and across industries. We believe that data can make what is impossible today, possible tomorrow. We help innovative organizations use their data to tackle transformational use cases and extract real-time insights from an ever increasing amount of data to drive useful insights.

CVS Health is currently leveraging Cloudera’s platform as a data hub. Use of the Cloudera Data Platform has grown since Aetna initially selected Hortonworks in 2012. Since then, partners within the Office of the CTO, Analytics and Behavioral teams, Retail, Pharmacy, Insurance, Informatics and approximately 35 other tenants have recognized the value of the platform.

Cloudera is excited to continue the partnership with the new CVS Health organization and embrace the opportunities that lie ahead. In the following pages, we summarize our vision for some of the next steps we can take together to help CVS Health fully realize the potential of the data provided by your combined organization.

“A new, unified presence across pharmacy, insurance, benefits and retail wellness sectors has brought with it a vantage unique in the current health landscape.”

— CVS Health Trends Report, 2020

# Data Drives Actionable Insight

The volume and variety of data is increasing exponentially. The number of connected IoT devices is set to reach 31 billion by the end of 2020 and 75 billion by 2025.<sup>1</sup>

As an insurer and retailer, CVS Health already maintains an abundance of traditional data about your customers that forms the foundation for customer profiles. This data can now be complemented with real-time information from new data sources to better inform and predict customer needs. Recent innovations such as smart devices, patient wearables, 5G streaming devices and IoT ecosystems provide data sources that fuel AI and machine learning tools and platforms, predict and anticipate health concerns before they become an issue and improve your supply chain, hence your overall business.

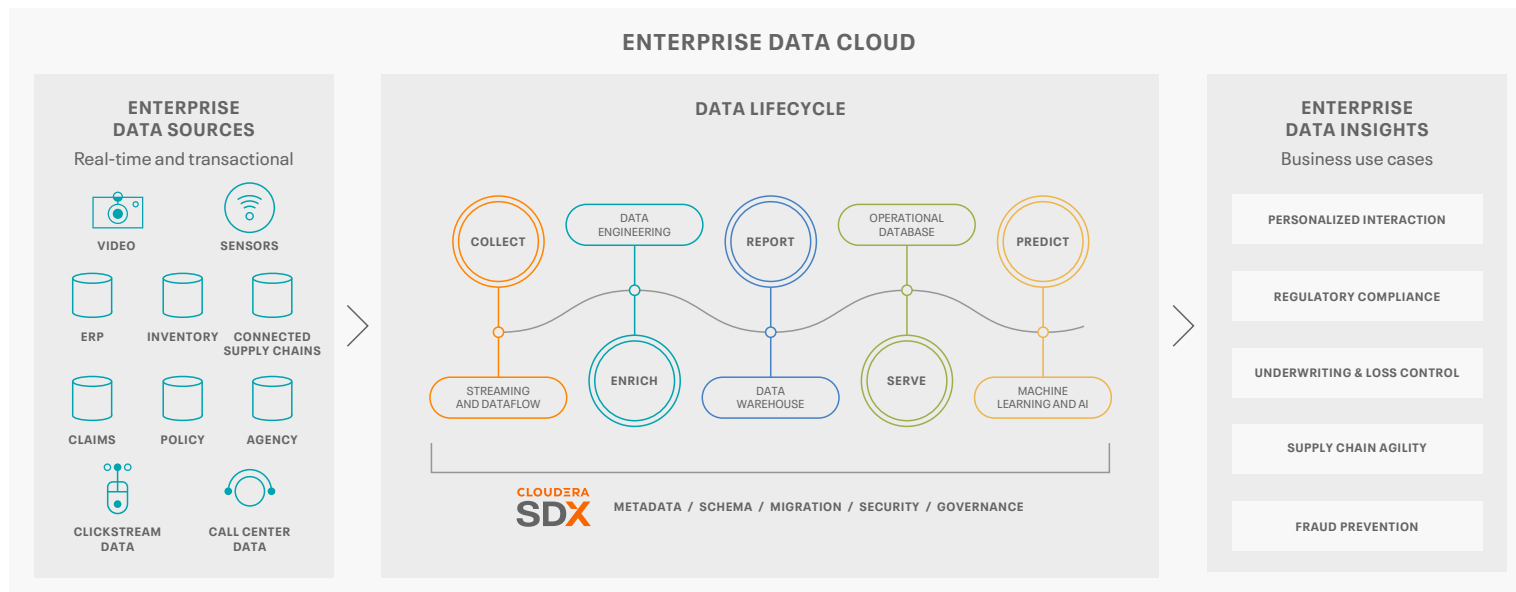


Cloudera sees this type of data being used across a variety of use cases within our customers to innovate, accelerate growth, and combat the disruptive forces surrounding them. Examples of such use cases are included in the chart below.

INSURANCE USE CASE EXAMPLES	RETAIL USE CASE EXAMPLES
Customer-Centric Offerings <ul style="list-style-type: none"><li>• Customer 360</li><li>• Usage-based insurance</li></ul>	Personalized Interactions <ul style="list-style-type: none"><li>• Next best offers</li><li>• Relevant contextual content</li></ul>
Digital Interactions <ul style="list-style-type: none"><li>• AI &amp; chatbots</li><li>• Claims processing</li></ul>	Customer-Centric Merchandising <ul style="list-style-type: none"><li>• Dynamic pricing</li><li>• Demand forecast accuracy</li></ul>
Loss Prevention <ul style="list-style-type: none"><li>• Fraud anomaly analytics</li><li>• Underwriting analysis</li></ul>	Supply Chain Agility <ul style="list-style-type: none"><li>• Inventory visibility</li><li>• Fulfillment route optimization</li></ul>
Regulatory Compliance <ul style="list-style-type: none"><li>• Compliance reporting</li><li>• Data privacy</li></ul>	Reimagining Stores <ul style="list-style-type: none"><li>• Frictionless commerce</li><li>• Loss prevention</li></ul>

Now the question becomes how to manage the quantity of data, secure and access the data and how to drive useful, actionable insights.

# Introducing Cloudera Data Platform



Cloudera has recognized the challenge for large enterprises to manage the increasing quantity of data, the need to secure and protect this data and the efficiencies offered by a cloud environment in data management.

As a result, Cloudera has been focused on [Cloudera Data Platform \(CDP\)](#). CDP combines the best of Hortonworks and Cloudera technologies to deliver the industry's first enterprise data cloud.

CDP offers an end-to-end data management, analytics, and machine learning platform that helps drive insights and action from any data, anywhere, in real-time.

- Ingest, process, analyze and deliver actionable insights from high volumes of real-time and batch data — including sensors (such as physical fitness bands), location, weather, news feeds, social media streams, supply chain data, enterprise data sources (policy, claims, ERP, CRM or call center systems), etc.

- Enable predictive analytics or apply machine learning algorithms to petabytes of data to drive real-time actions such as competitive pricing, fraud prevention or next best action.
- Provide multiple analytical options to facilitate improved and iterative modeling in areas such as risk management and regulatory reporting.
- Maintain strict enterprise data security, governance, and audit trails across on-premise and hybrid cloud environments.

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# CVS Health and Cloudera Drive Better Outcomes

The merger between CVS Health and Aetna offers a unified presence across the pharmacy, insurance and retail wellness sectors, and opens new opportunities to develop solutions that span the health care ecosystem — personalized recommendations, supply chain optimization, prescription use analysis and support, and leveraging online shopping or brick and mortar stores like never before.

As real-time data and analytics flourish, retail and health care touchpoints at CVS locations are becoming a cornerstone for innovation. Cloudera has the ability to unite data from the variety of sources to pave the way for smarter, potentially life-saving decisions.

Essentially, we facilitate distilling customer data into a single view, leveraging data that is unstructured and enable it to make sense to build a more complete picture of a patient, condition, or trend. This enables personalization at every level, cross-referencing big trends and personal needs to determine personalized solutions, so that CVS Health can facilitate more productive interactions with customers.

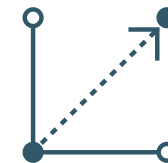
In addition to focusing on the wellness of your customer, Cloudera enables you to run your overall retail business better. Starting with information gleaned from your customers, store lay-out can be improved, supply chains will become more agile as fulfillment routes are optimized or stores can be reimaged in this time of the global pandemic to provide frictionless commerce without a loss of customer engagement.

## What can the [Cloudera Data Platform](#) do for CVS Health?

- Enable a single view of consumer and patient data across the multitude of sources available to provide personalized product recommendations, treatment interactions and determine the next best course of action.
- Improve operations with supply chain optimization, order fulfillment, demand forecast accuracy, supply chain route truck and delivery route optimization.
- Support a strategic infrastructure for the combined organization — enable a truly hybrid cloud strategy — aligned with your enterprise data strategy, lowering the costs of hardware infrastructure and eliminating shadow IT.

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of the world's top 20  
global retailers rely  
on Cloudera



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### Maintain Data Privacy and Compliance

The goal to use the data balanced against the complex data storage environments and privacy issues is a challenge we recognize at Cloudera. As cited in the CVS Health Trends Report, 2020, **“Trust needs to exist for people to be willing to make data about themselves available, and many of these advances depend on the availability of DATA.”**

With the rise in hacking, data breaches, and other cyber threats, security and data governance has become paramount, particularly in the health industry which deals with massive amounts of highly sensitive — and valuable — data. This, alongside increasingly stringent data governance and general data protection regulation (GDPR, CCPA and others), has made security a key focus for organizations in a range of industries.

Cloudera’s approach to the data security and privacy challenge is SDX — Shared Data Experience. SDX enables a common security, governance and compliance that is manageable and provides confidence that the data is protected. SDX enables safe and compliant self-service access to data and analytics. Users can set data and metadata security and governance policies once, and SDX will automatically enforce them across data and analytics in hybrid environments as well as multi-clouds. This helps achieve and maintain regulatory compliance, offering consistent security and governance across all data and environments.

We welcome the opportunity to discuss these opportunities and our approach to data security and privacy in greater detail.

**“Trust needs to exist for people to be willing to make data about themselves available, and many of these advances depend on the availability of DATA.”**

— CVS Health Trends Report, 2020



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# Customer Success Stories

Health care companies around the world are partnering with Cloudera to enable faster, smarter decision making, reduce cost, improve patient outcomes, and more.



## Case Study: Personalized Experiences Require 'Segments of One' Challenge

### Challenge

A leading global pharmacy chain filling 900M prescriptions annually to 87M loyalty customers desired to boost sales through digital interaction with their customers by the use of targeted email offers. To their dismay, these offers were essentially irrelevant due to a 3 to 5 day lag between their last interaction and delivery of the offer. **The time delay was caused by a sluggish analytic workload and the high costs of their legacy data platform.**

### Solution

In order to improve business capabilities and customer relevance, they turned to Cloudera to establish a modern data architecture based upon the Cloudera Data Platform capable of handling massive data workloads. **This new platform leveraged 365 days of customer purchase history, including in-store POS (point-of-sale) and ecommerce data across all loyalty customers.**

### Results

The Cloudera Data Platform enabled new capabilities that **reduced the time of insight from 3 to 5 days to less than 3 hours.**

The Cloudera Data Platform allowed integration of all data across the enterprise from a variety of data inputs, rapid analytic model iteration, and development with built-in governance and security. The result: increased value to customers with relevant and timely content while the business gained more rapid time to market and a scalable and cost effective data platform for further customer insights and analytics. In addition, the modernization program (anchored by Cloudera) attracted new IT talent, refreshing and upskilling for future growth.

"The Cloudera Data Platform enabled new capabilities that reduced the time of insight from 3 to 5 days to **less than 3 hours.**"



## Case Study: CZ Group

### Challenge

**CZ Group's data infrastructure prevented it from adequately processing hundreds of millions of daily user data points** due to organizational silos and a lack of a modern infrastructure. Current systems prevented insurers from analyzing both semi-structured and unstructured data. Data played a key role in predicting and addressing customer behavior, fraud detection, and demand generation. Legacy data infrastructures prevented them from making informed predictions.

### Solution

With the increasing importance of relying on data to remain competitive, CZ was looking for an analytics solution able to sustain its journey towards becoming fully data-driven while delivering a superior customer experience. They decided to standardize their analytics capabilities on Cloudera.

### Results

Processing data in real time has increased the speed at which medical treatment can be authorized. Customer communication is delivered faster with superior quality due to the vast amount of information provided at the right time to employees. **With the ability to ingest data at scale from heterogeneous sources in real-time, CZ has aligned with organizational KPIs** by analyzing customer sentiments, gaining unprecedented visibility into its customer base, and achieving faster decision making.

[Read the full case study here](#)

"The Cloudera platform has proved to be an invaluable tool within our business, enabling the group to obtain a centralized view of our datasets leading to increased agility and compliance."

— Fleur Hasaart, Data Science Manager, CZ





## Case Study: How Cloudera used machine learning to help Cerner Corporation demystify their data and maximize its value

Cerner Corporation set out to assimilate and normalize big healthcare data (EHRs) to reduce cost, increase efficiency, and improve patient outcomes. They partnered with Cloudera to build a comprehensive view of population health on a big data platform powered by Cloudera's Enterprise Data Hub (EDH).


"The Cloudera platform is the technology that's driving the value and it's allowing us to build applications that help healthcare systems improve how they manage the chronic conditions of their populations. We're now able to aggregate the information, stratify it, and offer the opportunity to look at this data in a way that has never been possible before," said Edwards.

[Read the full case study here](#)

"Our vision is to bring all of this information into a common platform and then make sense of it — and it turns out, this is actually a very challenging problem."

— David Edwards, Vice President and Fellow at Cerner





While the coming changes will bring challenges, the health care sector is also faced with a period of profound transformation.”

— CVS Health Trends Report, 2020

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# Working Together to Transform the Health Experience

Big data analytics hold the key to the future of health care, both in terms of managing rising costs and securing the excellent outcomes for consumers that we know are possible. CVS Health is uniquely suited to unlock the power of that data and drive a new era in advancing the way intelligent, preventative health care is offered.

As a strategic partner, Cloudera is accelerating the CVS Health digital innovation roadmap by removing silos and transforming complex data, from all aspects of their operation into clear actionable insights. Cloudera delivers this through an open source platform — thus eliminating your worry of vendor lock-in. From the Edge to AI, Cloudera can help break down data barriers to better enable CVS Health to capitalize on data opportunities while delivering value across all aspects of the consumer health care experience.

With CVS Health driving innovation and a consumer-centric approach underpinned by the Cloudera Data Platform, together we can usher in a new era of consumer health care.

Discover how Cloudera's data solutions can help CVS Health at [Cloudera.com](https://cloudera.com)

“Navigating the way forward calls not only for the ability to read the road, but excitement about where the road leads.”

— CVS Health Trends Report, 2020

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# Learn More

It all starts with a data platform that enables you to say “yes”. Yes to the analytics your people want to use. Yes to operating on any cloud your business requires. Yes to the future with a cloud-native platform that flexes to meet your needs today and tomorrow. And we have delivered.

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## About Cloudera

At Cloudera, we believe that data can make what is impossible today, possible tomorrow. We empower people to transform complex data into clear and actionable insights. Cloudera delivers an enterprise data cloud for any data, anywhere, from the Edge to AI. Powered by the relentless innovation of the open source community, Cloudera advances digital transformation for the world’s largest enterprises.

Learn more at [cloudera.com](https://cloudera.com) | US: +1 888 789 1488 | Outside the US: +1 650 362 0488

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