# Building a Fully Integrated Longitudinal Patient Record:

**How Payers are Leveraging the "Data Lake" Concept to Meet Interoperability Requirements and Advance Their Strategic Goals**

## Presented By:

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# THE RISE ASSOCIATION

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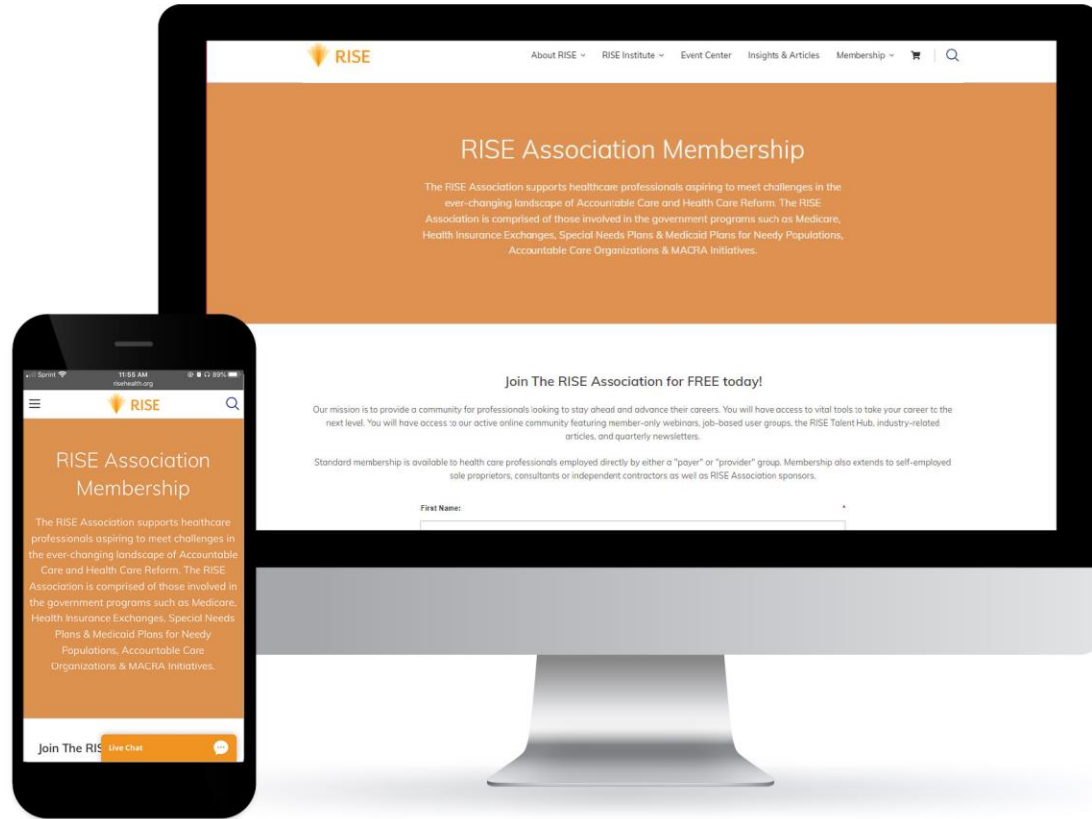# ONE ASSOCIATION
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- All participant lines are muted. To protect your privacy, you will only see your name and the presenters names in the participant box.

  - To submit a question to the presenters any time during the event;

  - In the Event window, in the Panels drop-down list, select Q & A.

  - Type your question in the Q & A box.

  - Click "Send".

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*The data generated in the healthcare industry increases by 48 percent every year. The amount produced in 2020 alone could exceed 2.3 zettabytes, or 2.3 trillion gigabytes. That's the amount of data it would take to watch 262 million years straight of HD movies. This tsunami of data, along with industry inefficiencies, make healthcare ripe for digital innovation that will enable stakeholders to transform the rich amounts of disparate and siloed patient data into insightful and actionable data across the continuum."*

# Healthcare Data Lake Design – How did we get here?

Payers have historically operated in in a loose, disparate patch work of different operating systems that typically did not speak to each other – a patient-centered, holistic view of the patient is not common and yet greatly needed given the current cost, regulatory and analytic demands.
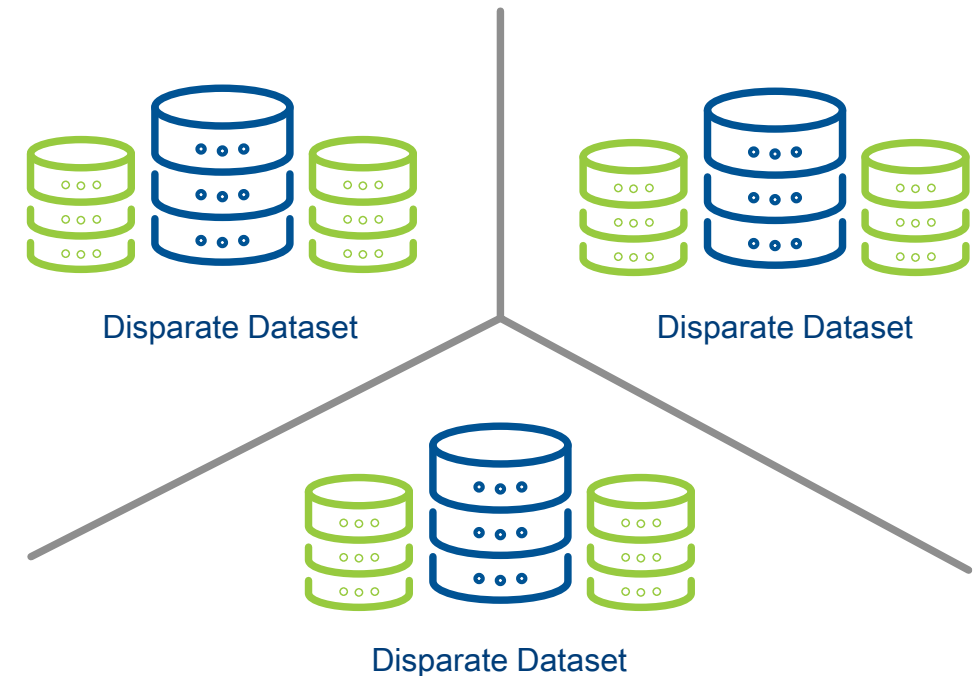
**Operating Processes**

- Siloes across payers are still pervasive with different data models/ taxonomies, data inputs and governance

**Patient-Level Analysis /Insights**

- Creating patient profiles that link different payer segments (member services, care mgmt, Quality, etc.) is very cumbersome and fraught with error
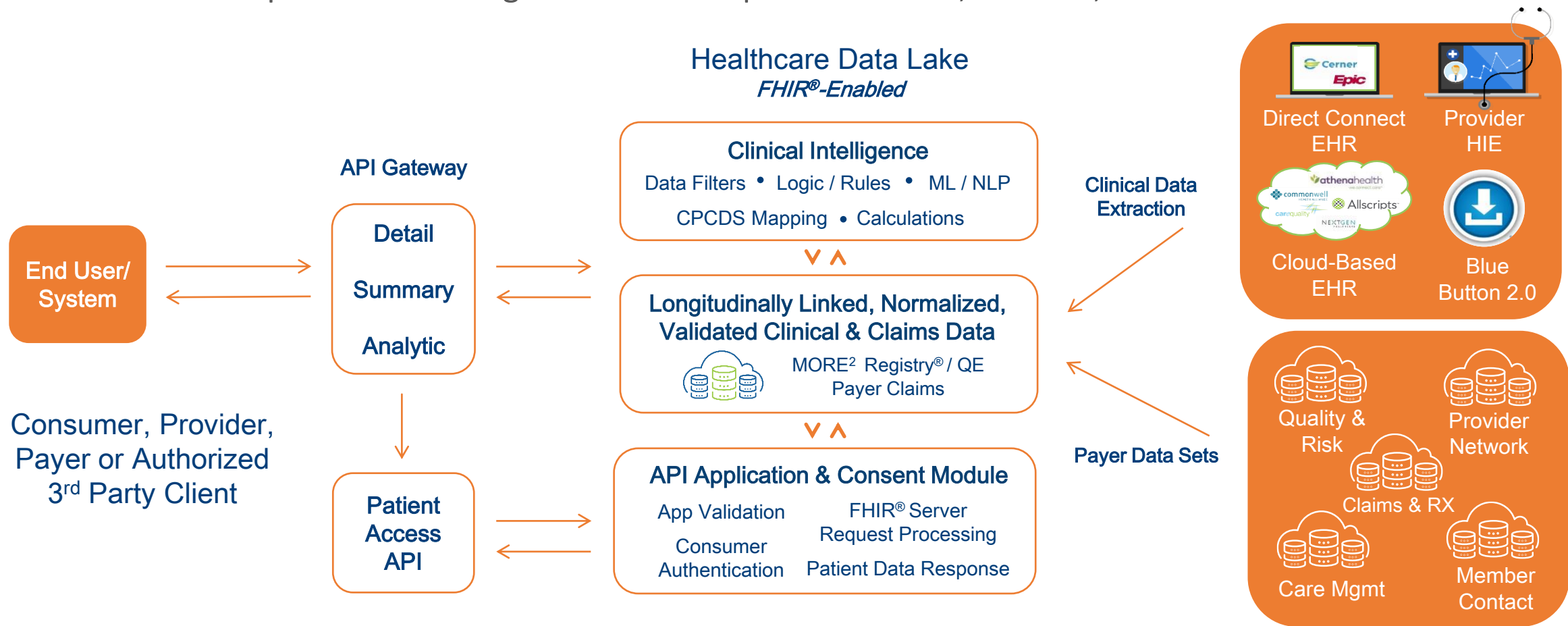
**Technology Considerations**

- Typically data access tools are inconsistently applied
- Data center, data storage approaches are typically not very scalable, extensible
- Overhead to manage data, permissions, operations is high



Disparate Dataset

Disparate Dataset

Disparate Dataset

# Healthcare Data Lake Design – Breaking it down

A holistic approach that includes engaging the right stakeholders across the payer landscape from "data in" to "data consumption" – ensuring the solution is patient-centric, scalable, extensible and secure.



Healthcare Data Lake
*FHIR®-Enabled*

**Clinical Intelligence**
Data Filters • Logic / Rules • ML / NLP
CPCDS Mapping • Calculations

**Longitudinally Linked, Normalized, Validated Clinical & Claims Data**
MORE² Registry® / QE
Payer Claims

**API Application & Consent Module**
App Validation     FHIR® Server Request Processing
Consumer Authentication     Patient Data Response

API Gateway

Detail
Summary
Analytic

End User/ System

Patient Access API

Consumer, Provider, Payer or Authorized 3rd Party Client

Clinical Data Extraction

Payer Data Sets

Direct Connect EHR     Provider HIE
Cloud-Based EHR     Blue Button 2.0

Quality & Risk     Provider Network
Claims & RX
Care Mgmt     Member Contact

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Creating a cohesive member experience starts with cohesive, comprehensive data powering technologies that improve health plan accessibility, responsiveness and personalization.

# Why a Data Lake?

## Common Clinical Data Challenges

× Dependence on claims data, which is limited and lagged

× Data is siloed within teams or systems without a single, comprehensive source of truth

× Novel sources of data require new skills and technologies to curate and integrate

× Existing data platforms designed for administrative data; may require extensive retrofitting or new build

× Applications exist across wide range of business functions where decision making is often siloed

## Desired Future State

✓ Integration of traditional and novel data sets to create comprehensive, accurate, timely view of the member

✓ Consistent data set feeds all downstream applications and analytics

✓ Meets regulatory/audit requirements for use across business functions (HEDIS, risk adjustment, UM)

✓ Accelerate value realization to support investment

✓ Flexible foundation that can adapt in dynamic environment

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# Multiple Business Applications for the Data Lake

## Care Management

1. Create a "single source of truth" data source to define program qualification for array of care management programs
2. Develop reports to identify highest value CM/DM programs for member enrollment
3. Provide case managers and call center staff with integrated Rx data to facilitate targeted member outreach
4. Provide care gap data to care management team for inclusion in discussions with members and QIP development
5. Equip care managers with access to real-time clinical data to proactively intervene to prevent avoidable ED visits, hospitalizations, etc.
6. Identify members most likely to actively engage in care management plans to support targeted outreach
7. Furnish care managers with real-time notifications of inpatient admissions or POC transitions to improve care transitions

## Quality & Risk Management

12. Evaluate clinical data to ensure formulary design is supporting, not hindering, improvements in HEDIS, STARS, and member outcomes
13. Pull diagnosis codes and charts directly from EMR to identify gaps to improve efficiency and risk score accuracy
14. Leverage clinical data to identify populations or diagnoses that may be under-reported for risk and quality programs
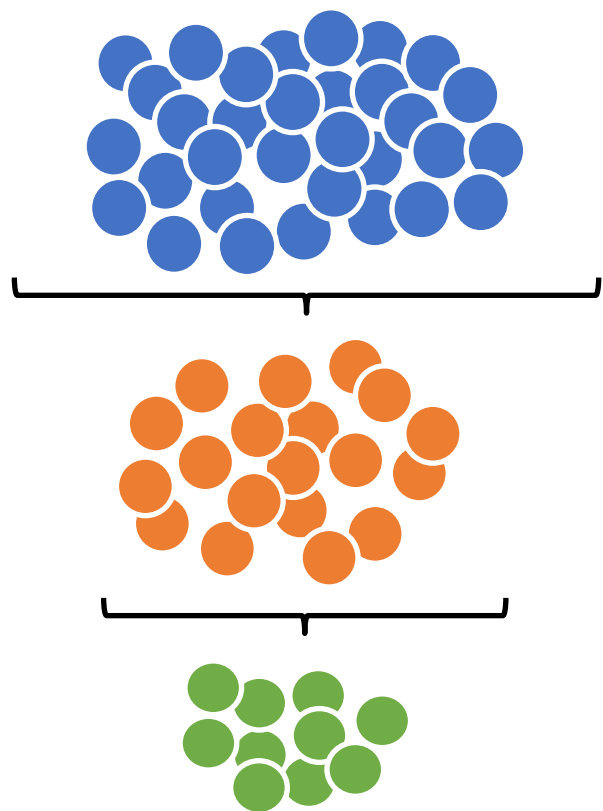
## Pharmacy

8. Reduce prior authorization volume by sourcing critical provider information from CCDs
9. Monitor physician prescribing patterns to identify positive prescribing approaches and red flags
10. Monitor opioid prescribing patterns to identify potential patient safety issues and FWA detection
11. Evaluate prescribed Rx versus filled to monitor outcomes and inform formulary decisions

## Provider Network

15. Extract provider data to enhance current performance benchmarking and develop new clinical outcomes measures
16. Evaluate provider data to determine network performance gaps
17. Leverage performance gap data to inform networking decisions (identify providers to include/exclude from networks)
18. Track PCP referral patterns to identify referrals to high-value or low-value specialists
19. Integrate meaningful clinical outcomes into provider report cards
20. Monitor provider treatment patterns to ensure they are following evidence-based protocols
21. Evaluate member care-seeking patterns for us in benefit design, network, and quality initiatives

# Healthcare Data Lake Design – Approach for Success

Inovalon and BSC worked with BSC subject matter experts to understand how BSC teams' currently use data, the value of having access to clinical data and other data resources, and innovative uses of new data that could transform BSC's business and clinical operations.

**Step 1**

A total of 72 Use Cases were identified across 10 business operating units
- A full list of all original Use Cases can be found in the Appendix of this report

**Step 2**

A subset of 21 Use Cases were highlighted based on the length of time needed to implement and impact on BSC business goals
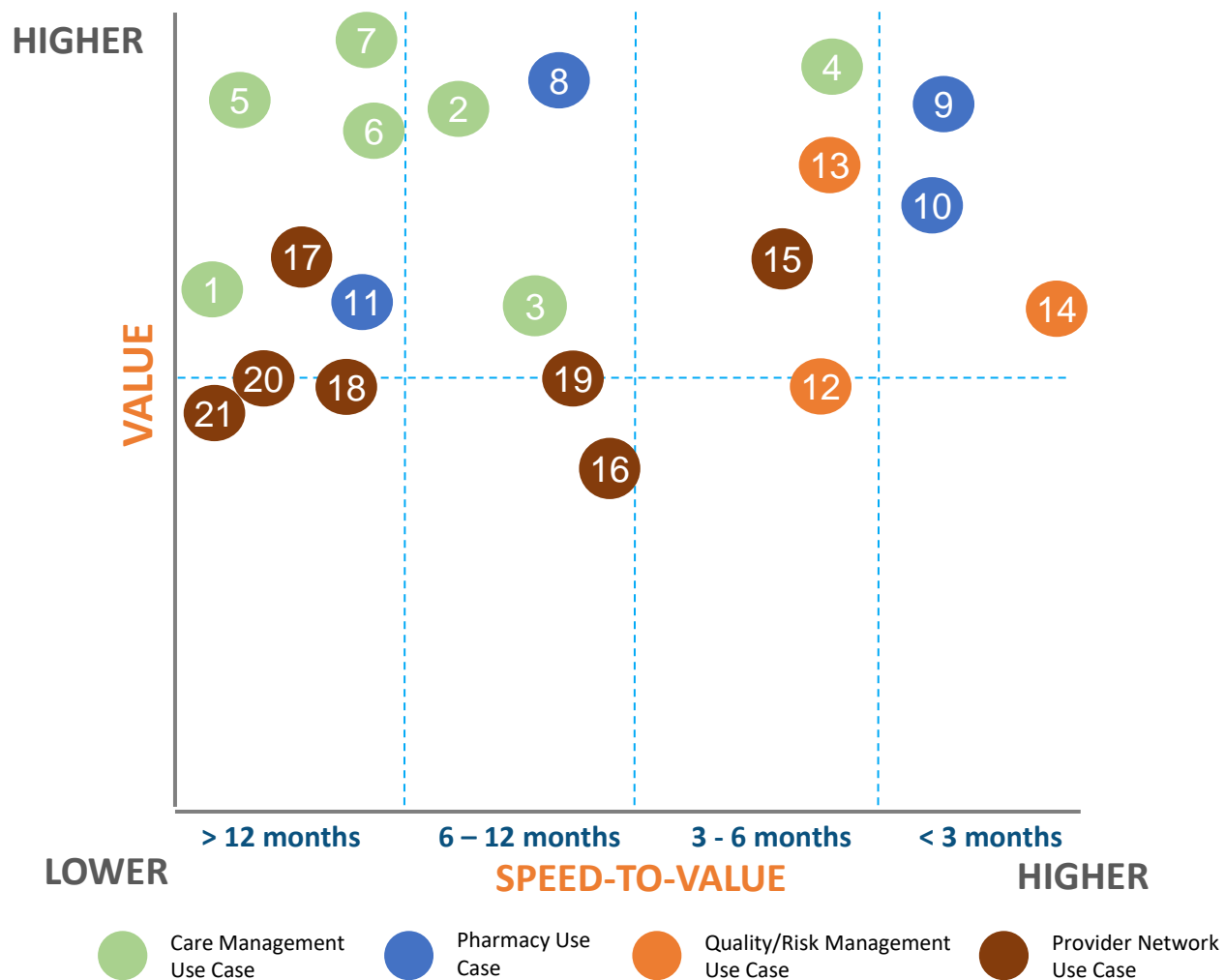- Slides 6 and 7 describe the Use Cases prioritized using the speed-to-value construct

**Step 3**

Inovalon prioritized a list of 12 Use Cases based on the value to the business and ability to implement the functionality by the end of Q1 2020
- These Use Cases are described in slides 8 - 20

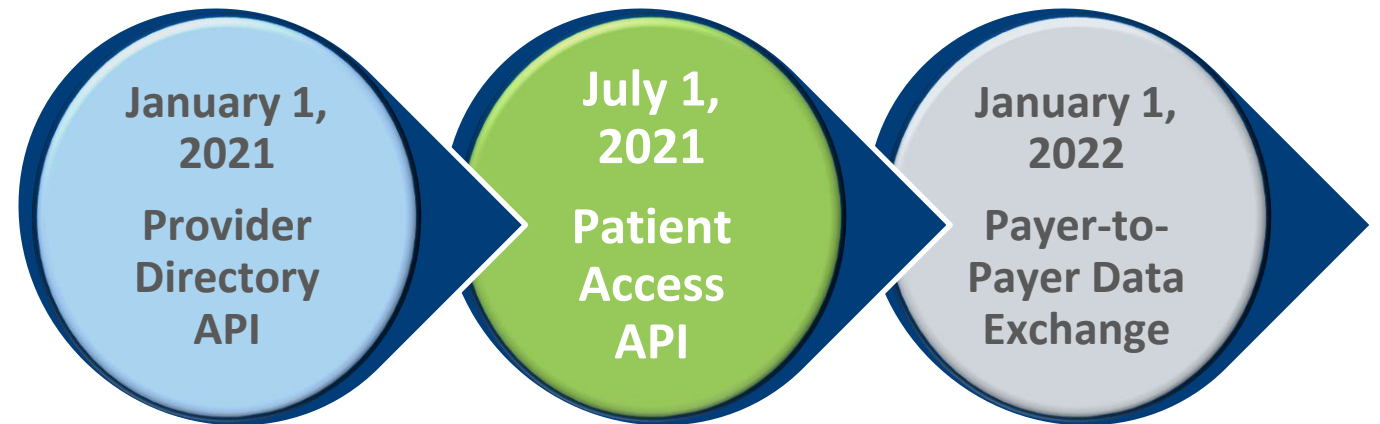# Healthcare Data Lake Design – Approach for Success



## Key Considerations

- Quick-impact opportunities exist in the quality/risk adjustment and pharmacy activities

- Care management activities have universally high value but will take longer to implement due to (1) reliance on clinical data from more sources; (2) desire for more real-time functionality which will take time to build; and (3) need to integrate data into clinical workflows

- A staged approach for implementation may be considered for some use cases

# CMS Interoperability Rule:
# How will Payers approach the 2021 mandates?

❑ Top-down, mandated "Use Cases"

❑ More than just a technology play – how are Payers approaching this holistically

❑ How can a healthcare data lake be leveraged to meet the requirements?

❑ What technical and SME expertise is required (i.e. FHIR)?

❑ How does this model be leveraged to improve Payer-Consumer engagement?

❑ How can the 3rd party, provider and payer authentication and data exchange approach be further leveraged by a Payer?

**January 1, 2021**

**Provider Directory API**

**July 1, 2021**

**Patient Access API**

**January 1, 2022**

**Payer-to-Payer Data Exchange**

> **We don't have to engage in grand, heroic actions to participate in the process of change. Small acts, when multiplied by millions of people, can transform the world.**
>
> **HOWARD ZINN**
>
> from *You Can't Be Neutral On a Moving Train*

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# Questions?

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# Thank you

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