

# HIMSS<sup>®</sup>19

## CHAMPIONS OF HEALTH UNITE

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## Improving Provider Data Accuracy with Blockchain

Session 126, February 13, 2019

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Kyle Culver, Principal Blockchain Architect, Humana

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**synaptic**  
Health Alliance

# Conflict of Interest

- Dan D’Orazio, Chief Executive Officer, Sage Growth Partners
- Jason O’Meara, Senior Director Enterprise Management and Architecture, Quest Diagnostics
- Kyle Culver, Principal Blockchain Architect, Humana
- Mike Jacobs, Senior Distinguished Engineer, Optum

Has no real or apparent conflicts of interest to report.

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**WELCOME**



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# Today's learning objectives

1. Define the current state of provider data exchange.
2. Evaluate the use of blockchain technology to address healthcare challenges.
3. Demonstrate how healthcare organizations can work together to leverage blockchain technology to provide more effective patient care.



Mike Jacobs

Senior Distinguished  
Engineer  
Optum



Jason O'Meara

Senior Director Enterprise  
Management and Architecture  
Quest Diagnostics



Kyle Culver

Principal Blockchain  
Architect  
Humana

# Provider data management

## Maintaining Accurate Demographics Within a Provider Directory is a Required Capability for Health Plans

Provider directory information changes often, and is used by members and sales reps frequently



Over 18 months, half of directory entries have a change\*



One of a health plan member's most common interactions with their plan is searching its provider directory

### Example Demographic Elements

*Name*

*Address*

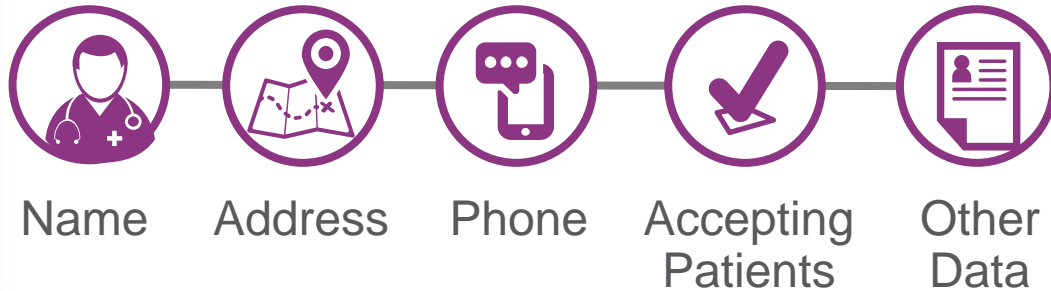
*Phone Number*

*Specialty*

*Accepting New Patients Indicator*



# Provider data challenges



**\$2.1  
Billion/Year  
Payers  
Collectively  
Spend Improving  
Provider Data\***

## Impact of Incomplete, Poor Quality Data

- Patients seek care from out-of-network providers
- Providers endure unnecessary billing and administrative complications
- Health information exchanges (HIEs) and organizations cannot effectively enable the secure sharing of patient information
- Health plans have higher than necessary administrative burden and costs, impact consumer costs and risk violating state and federal requirements



# Synaptic Health Alliance

**Aetna, Ascension, Humana, Multiplan, Optum, Quest Diagnostics** and **UnitedHealthcare** have formed the Alliance to explore how blockchain technology could help address some of the toughest problems in healthcare





# What we learned about an alliance



Alliance **complexity reduces velocity**: multi-party decisions, resource variability, compared to a single organization with a single agenda.



**Mutual respect** on hot-button topics is necessary: brand, finances, intellectual property, data access and resources.



**Governance** provides the framework for ongoing collaboration and decision-making.



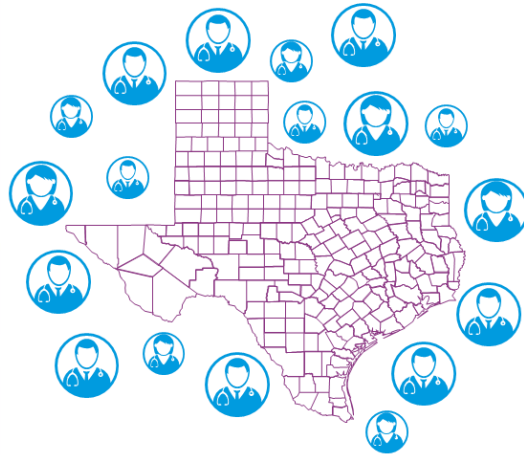
**Transparency** and open dialogue is critical the success of the alliance.



**Efficiencies** when working together to tackle an industry problem vs. working in our own siloes.



# Business value assessment approach



**100,750**

Unique providers covered  
19% in Texas pilot

- Overlap analysis to select single market: **Texas**
- Single market to **minimize impact** on operational resources
- **Point-in-time** snapshot of data
- **Independent theories** of where to discover value
- Traditional outbound call campaigns to **test theories**
- Small sample sizes (e.g. 1,900 records per org.) provided **directional guidance**
- **Decoupled** business value assessment from technology development to move faster



# What we learned with the technology



**We evolved with the technology.** Initial experiences with several blockchain technologies led us to select Quorum.



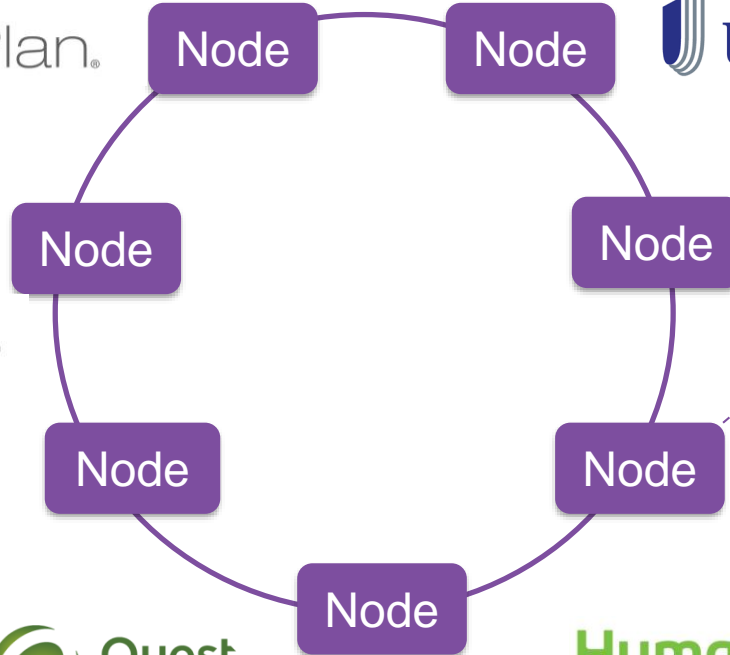
**How to optimize smart contract data structures.** Novel contracts that can work with data between all organizations.



**How to deploy for enterprise-class needs.** A truly decentralized **multi-cloud, multi-enterprise** blockchain network was proven out.



## Synaptic network



Node

- Smart Contracts
- Quorum Blockchain

All nodes are the same but owned by different alliance members

# Overall finding and relevance



The most immediate benefits were found to be the identification of **inactive locations** and **mismatched addresses**.



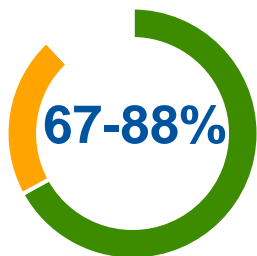
Findings provide directional guidance toward **coordinating provider directory work** across alliance members.



CMS considers inactive locations listed in a provider directory to be a **deficiency of the highest weight**.\*

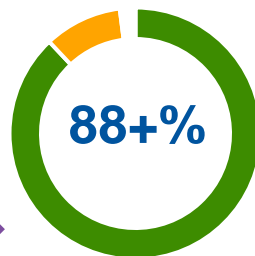


## Representative Findings: Inactive Locations



Percent of the time a member's active provider record should be changed to inactive based on shared data.

+ *Claim Data*  
+ *Attestation*



Potential percentage with the correlation of additional business data.

**4-5x**

Anticipated increase in the outreach call effectiveness when removing inactive locations compared against typical phone outreach.



## Representative Findings: Address Mismatches



Some members found the potential for write-off recovery opportunities that could put real dollars back into the business.



Questions?

Answers.

