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Progress Together

# Don't Get Spooked by Health Care Data: Tackling Zombie Rates and Ghost Networks

**Alex Bohl**, Mathematica

**Evelyn Li**, Mathematica

**Meghan Gaffney**, Veda

**November 2, 2023**



# Moderator and speakers



**Alex Bohl**

*Senior Client Partner,  
Mathematica*



**Evelyn Li**

*Senior Researcher,  
Mathematica*



**Meghan Gaffney**

*CEO and Co-founder,  
Veda*



# Agenda



1. Introduction



4. Discussion



2. Challenges and solutions for price transparency data



5. Q&A



3. Challenges and solutions for provider directory data



# Don't be spooked by bad data. Data validation holds the key.



**Zombie rates**

/ **Inaccuracies hinder access and usability of price and provider data.**



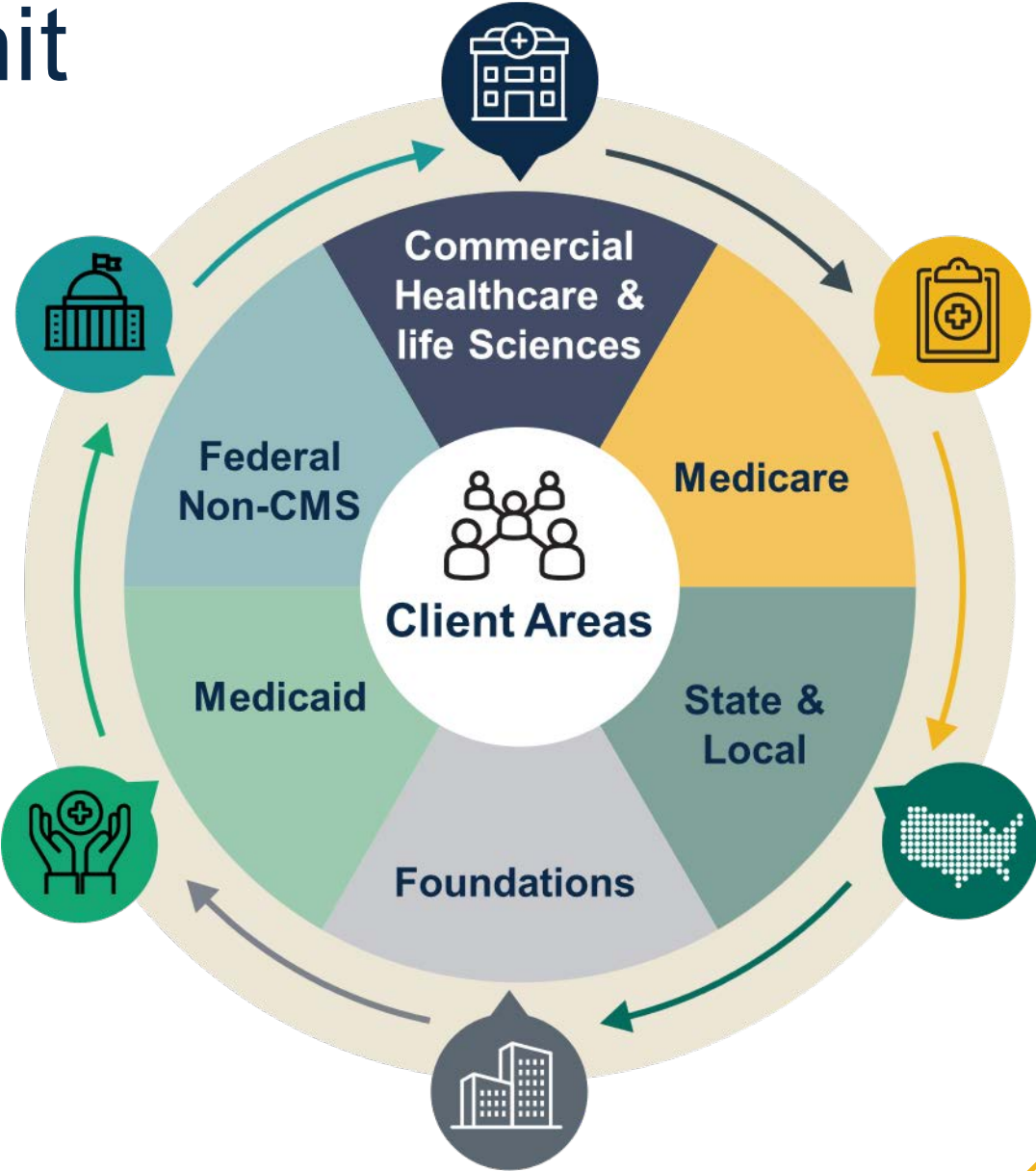
**Ghost networks**

/ **Mathematica and Veda are using innovative technology to combat data inaccuracy.**



# Mathematica's Health Unit

/ For over 50 years, Mathematica has been a trusted partner for providing unparalleled expertise in data, methods, and policy to answer the healthcare industry's toughest questions.





# Mathematica's Data Innovation Lab

**Mission:** Create streamlined access to Mathematica's data assets, expertise, and capabilities to enable data products, analytic services, and digital solutions.



## CMS data

- Approved DUA for access to 100% Medicare and Medicaid data
- Includes claims, encounters, enrollment, prescription, and assessments
- Allows from preliminary analysis for linkage studies



## Provider data

- Volume and utilization
- Referral and prescribing patterns
- Negotiated rates
- Networks
- System affiliations
- Structural characteristics



## Population data

- SDoH data and indices
- Program participation
- Avoidable utilization
- Climate and water quality



# Technology Helps people Help people





## Our Stats

- + Experts in provider data quality
- + 90%+ data accuracy
- + HIPAA and HITRUST certified
- + 99% rosters processed <4hr
- + Complete provider profiles on over 3.5 million U.S. providers
- + 5 patents granted; 22 patents pending worldwide
- + Accuracy and processing time SLAs contractually guaranteed







# Challenges of and solutions for price transparency data

Evelyn Li, Mathematica



# Price transparency data remains untapped by health care industry




Buyers and sellers cannot act rationally without knowledge of prices in a market. Yet, healthcare prices in America have always been opaque.



Providers can not negotiate effectively with payers, because they do not have systematic data demonstrating where their reimbursement stands relative to peers.



Health care prices vary widely among providers because consumers and employers do not have the information needed to look for low-cost, high-quality care.



**HHS Transparency in Coverage (TiC) Final Rule**

Starting July 2022, plans and issuers are required to disclose on a public website their in-network negotiated rates, billed charges and allowed amounts paid for out-of-network providers.



# Challenge #1: Data processing and storage

Consumers and providers wants to see price data like this



HCPCS 66821 (Cataract Removal)			
Negotiated contract rates by practice and plan			
Provider	Plan1	Plan2	Plan3
Provider A	\$626	\$578	\$792
Provider B	\$244	\$343	\$544
Provider C	\$616	\$235	\$416
Provider D	\$330	\$360	\$680



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```
root
|-- in_network: array (nullable = true)
|-- element: struct (containsNull = true)
|-- billing_code: string (nullable = true)
|-- billing_code_type: string (nullable = true)
|-- billing_code_type_version: string (nullable = true)
|-- covered_services: array (nullable = true)
|-- element: string (containsNull = true)
|-- description: string (nullable = true)
|-- name: string (nullable = true)
|-- negotiated_rates: array (nullable = true)
|-- element: struct (containsNull = true)
|-- negotiated_prices: array (nullable = true)
|-- element: struct (containsNull = true)
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|-- provider_references: array (nullable = true)
|-- element: long (containsNull = true)
|-- negotiation_arrangement: string (nullable = true)
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|-- provider_references: array (nullable = true)
|-- element: struct (containsNull = true)
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|-- provider_groups: array (nullable = true)
|-- element: struct (containsNull = true)
|-- npi: array (nullable = true)
|-- element: long (containsNull = true)
|-- tin: struct (nullable = true)
|-- type: string (nullable = true)
|-- value: string (nullable = true)
|-- reporting_entity_name: string (nullable = true)
```



# Challenge #2: Too much noise

Number of rates for a single  
billing code-metropolitan  
Area/payer network

1 billing code

X 48 service codes

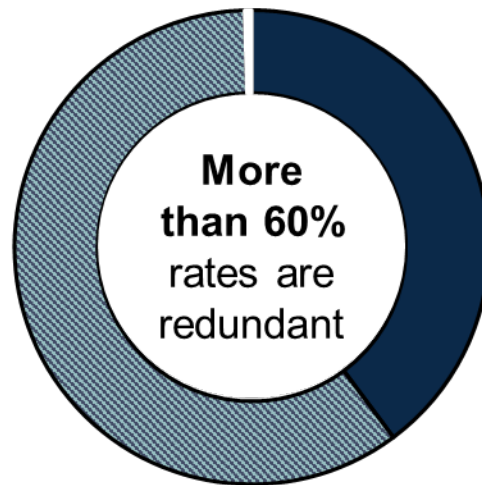
X 22 modifiers

X 46 TIN/NPIs

X 56 plans

2,720,256 rates

Percentage of redundant  
rates in the network



## / Massive duplicates

- Endless permutation of rates for millions of provider references and plan combinations
- Repeated rates due to service codes and modifier codes
- Redundant rates for the same provider, service, and plan

## / Erroneous/missing provider attributes

## / Zombie rates

- Rates attached to providers who never furnish certain services, such as colonoscopy rates for an ophthalmologist



# Use case: Detect zombie rates

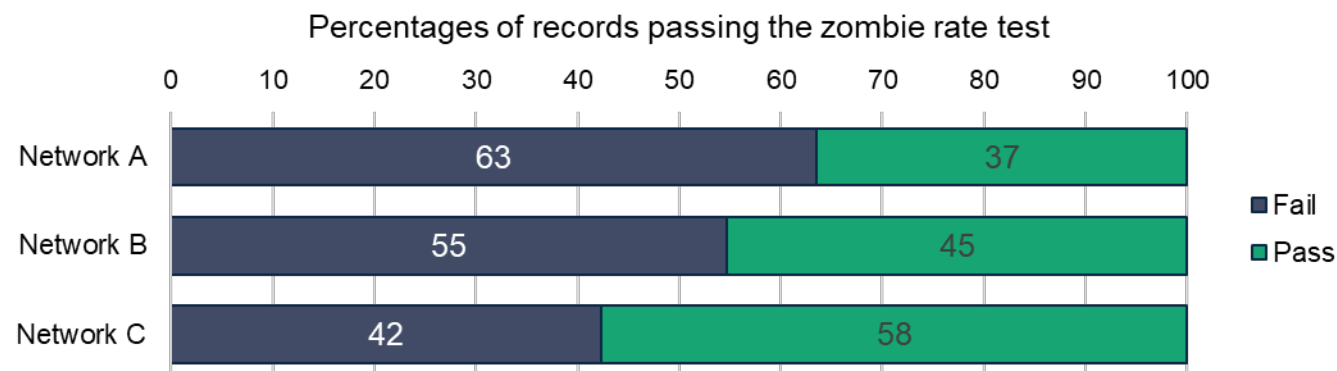
## / Analyze prices for cataract removal procedures in Texas

- Services: HCPCS codes 66984 (removal of cataract w/ insertion of lens) and 66821 (removal of recurring cataract in lens capsule using laser)
- Data sources: Three major payer-networks in Texas

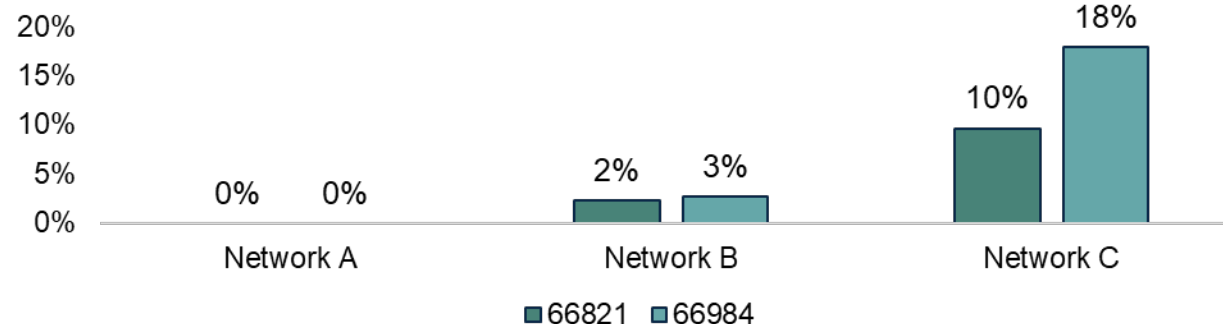
## / Approach

- Identify probably provider specialty-service pairs from claims data
- Exclude improbable providers-service rows in payer price data

## The Result



The impact of removing zombie rates on median prices for cataract removal procedures





# Mathematica's solution to price transparency



Raw data from external data sources



User question



Know what's on the data



Obtain data/solution



# Mathematica's solution to price transparency

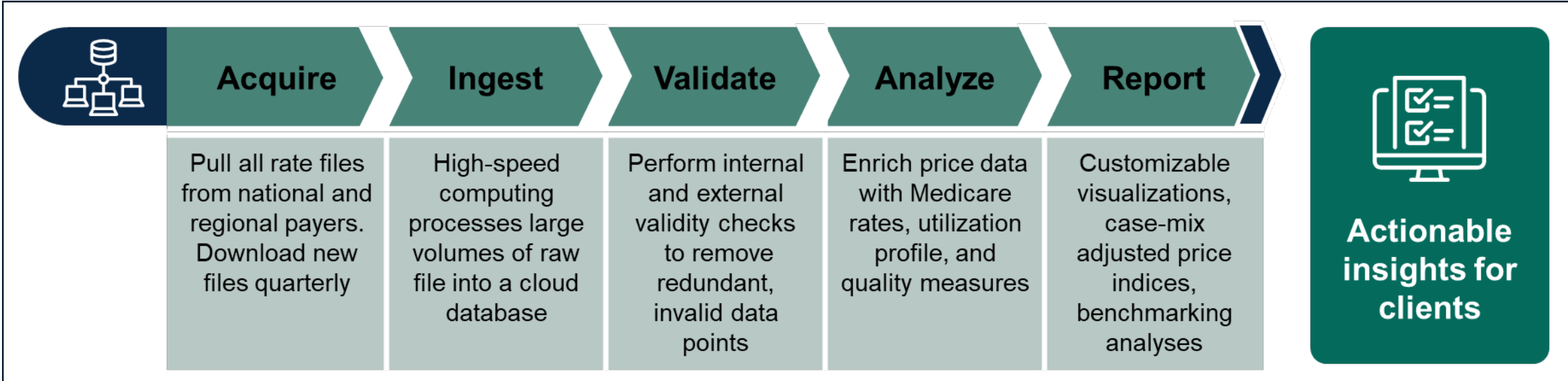
**Raw data from external data sources**

**User question**



**Know what's on the data**

**Obtain data/solution**







# Eradicating ghost networks

Meghan Gaffney, Veda



# Yale Law & Policy Review

“

## **Laying ghost networks to rest: Combating deceptive health plan provider directories**

But all too often...these directories are deeply flawed.

Inaccurate directories are known as “ghost networks” or “phantom networks” and are a pervasive issue in the American health care system.

A three-phase study of the accuracy of the Medicare Advantage directories, which included over 15,000 providers, found that between forty-five and fifty-two percent of provider directory listings 10 had errors, with some individual plans having error rates as high as ninety-eight percent.

”





# Seattle Times

“

## How insurance companies fill their networks with “ghost” therapists

...For someone looking for a provider who shares their racial or ethnic background or understands their sexuality or gender identity, **it can be difficult to determine that information from the insurance directories or even by phone.**

Jami Benson, a 44-year-old Federal Way resident, said she called 15 providers listed in-network with her insurer over a two-month period to find a therapist who could understand her needs as a tech worker and a member of the LGBTQ+ community

**“It was barrier after barrier,” she said.**

”



# Provider data is difficult to manage



## Heavily manual process

Attestation is flawed and incredibly abrasive. In all aspects, provider data is a resource burden that is incredibly error-prone and weighing down precious resources.



## Data changes quickly

Rapid changes to large sets of data present challenges for No Surprises Act compliance. Penalties for the inability to process updates/changes create significant business risks.



## Poor data quality

No “sources of truth” makes it hard to assess the quality of data coming from providers. Audits are done manually and are cost intensive and often in actionable.



Attestation is required for compliance. **But it doesn't ensure quality.**

- / **20–30% of providers are unresponsive**
- / **Heavily manual workflows cause delay in data updates**
- / **Human error degrades data quality**
- / **Provider abrasion**
- / **Long turnaround time**



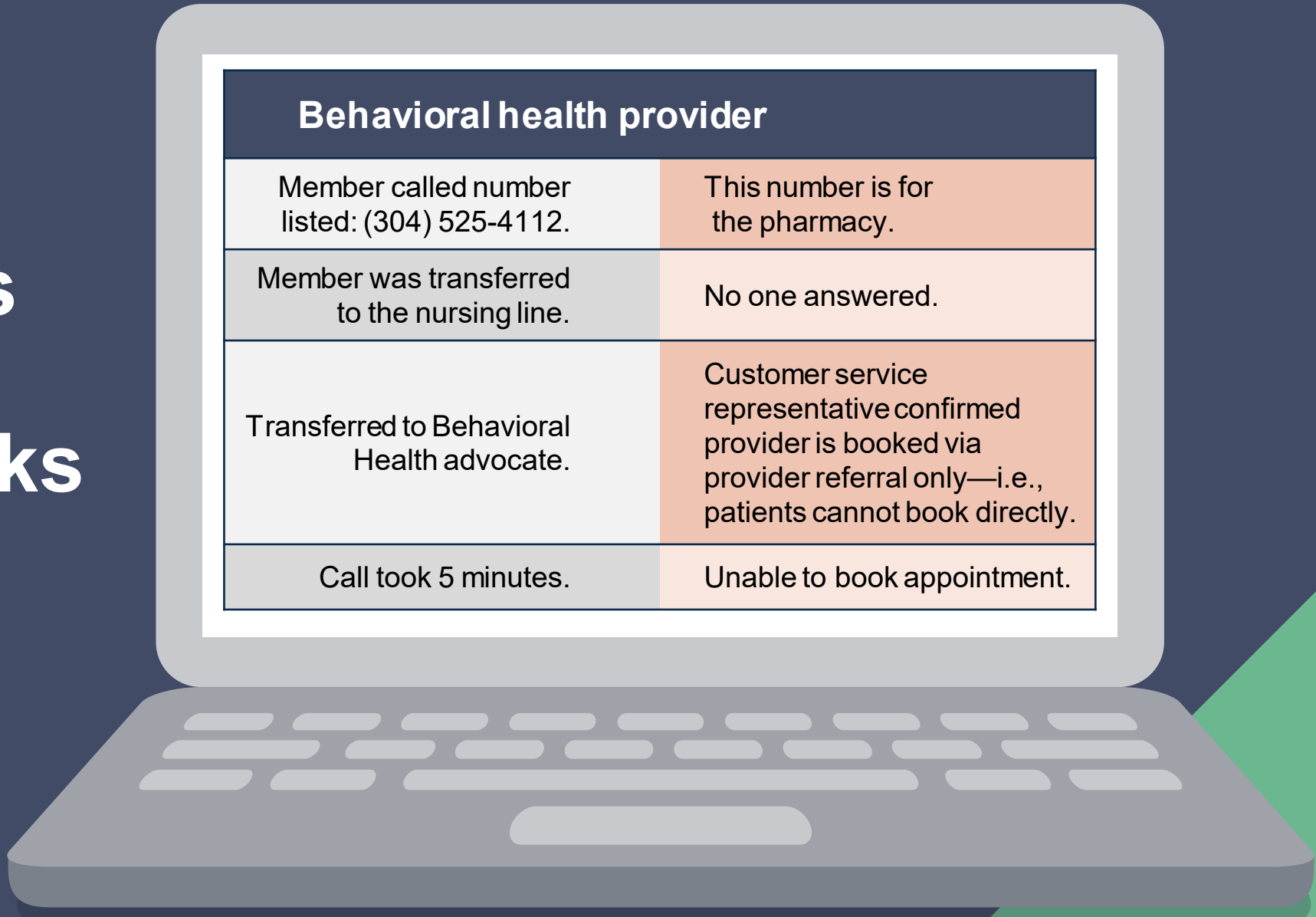
# 90% of data inaccuracies can be accounted for by the following errors:

- / **Provider should not be listed at any of the directory-indicated locations**
- / **Provider should not be listed in the directory at this location**
- / **Provider should not be listed in the directory as treating patients for this specialty**
- / **Phone number needs to be updated**
- / **Provider is NOT accepting new patients**
- / **Address needs to be updated**





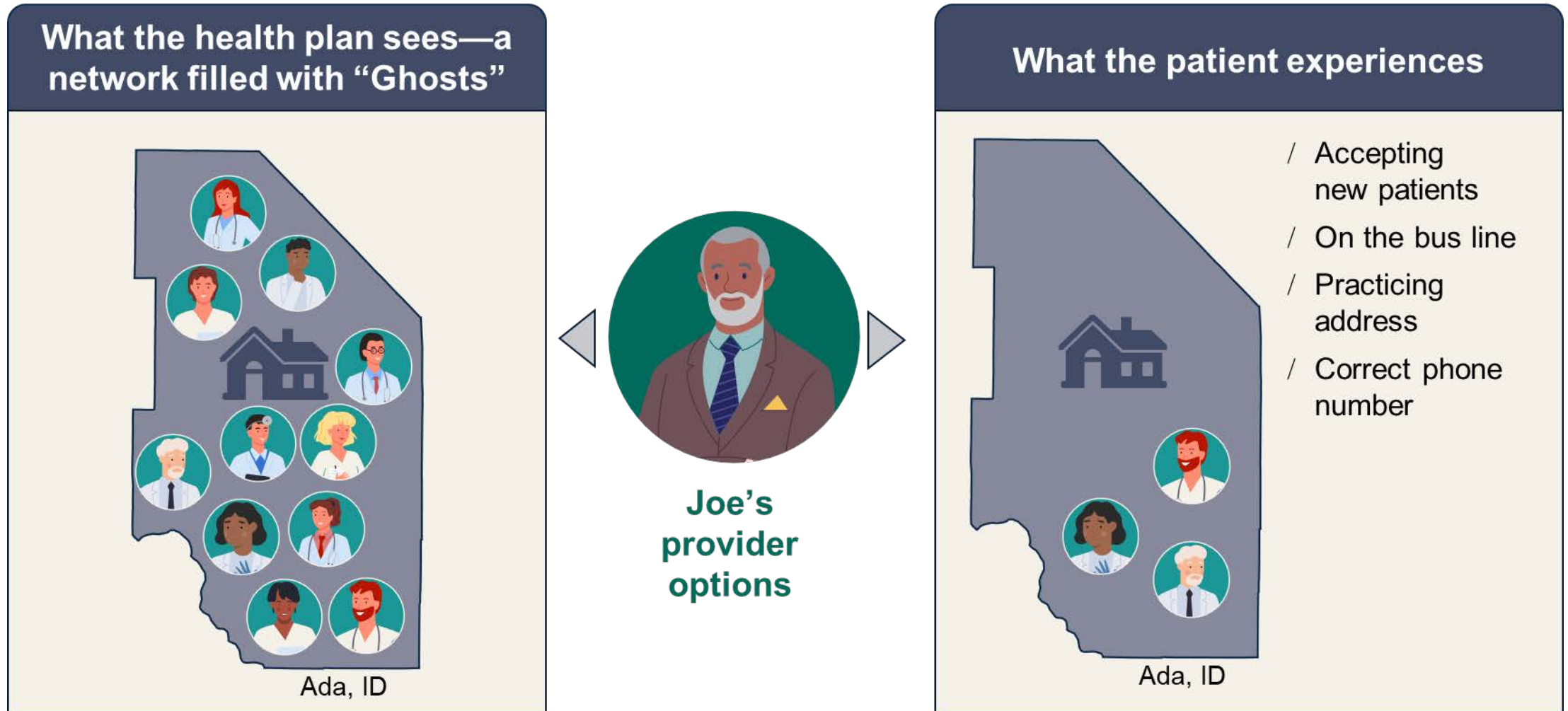
# The problems presented by ghost networks are real



Behavioral health provider	
Member called number listed: (304) 525-4112.	This number is for the pharmacy.
Member was transferred to the nursing line.	No one answered.
Transferred to Behavioral Health advocate.	Customer service representative confirmed provider is booked via provider referral only—i.e., patients cannot book directly.
Call took 5 minutes.	Unable to book appointment.



# Ghost networks and patient experiences







# Veda's one-two punch to eradicate ghost networks



## 1. Find the Ghost

**Veda's Quantym Platform identifies the errors in a provider directory**

High-volume audit solution that delivers comprehensive, real-time scoring of provider data quality to identify bad data and significantly improve provider directory accuracy



## 2. Fill the gaps with accurate data

**Veda's Vectyr Tool supplies accurate data to replace the bad data**

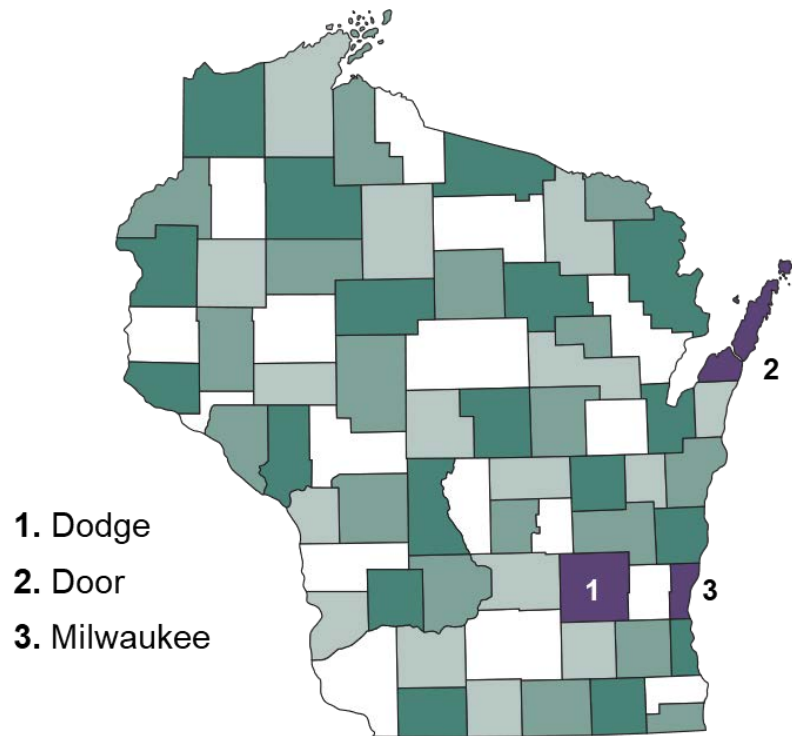
The most up-to-date, comprehensive, and accurate source of data on healthcare providers, groups, and facilities on the market



# Identifying and filling provider network gaps

## / Example provider network gap:

- Insufficient number of pediatric dermatology providers available in 3 counties in Wisconsin



## / Veda analyzes current network information with Vectry data to identify providers that will satisfy network gaps:

Name		Location		Provider Taxonomy	
First	Last	County	City	Specialty	Sub- specialty
Stuart	Giseler	Dane	Madison	Dermatology	Pediatric Dermatology
Janet	Norman	Milwaukee	Milwaukee	Dermatology	Pediatric Dermatology
Paul	Pierce	Milwaukee	Milwaukee	Dermatology	Pediatric Dermatology
Peter	Harris	Brown	Green Bay	Dermatology	Pediatric Dermatology

Veda's staff fulfills ad hoc, specific requests as well as ongoing monitoring for specific network needs.



# Discussion



# Questions?





# Contact us

**Explore how technology solutions can unlock the combined power of price transparency and provider directory data.**

**Evelyn Li, [ELi@mathematica-mpr.com](mailto:ELi@mathematica-mpr.com)**

**Meghan Gaffney, [hello@vedadata.com](mailto:hello@vedadata.com)**