Special Webcast

Predict and Disrupt:
Using Predictions to Improve Health and Lower Costs

September 9, 2021

THE **CONFERENCE BOARD**

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Some of the critical questions and issues we will be answering today

- Predictive analytics basics

- Building a cohesive analytic strategy for impact

- Example

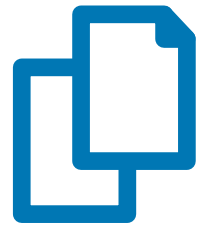- What do we do with the results?

- Leading indicators

Predict

Disrupt

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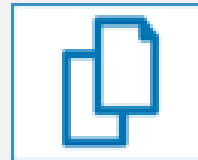
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(via the Q&A box)

Q&A

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Today's Speakers

Keith Wilton
Vice President of Product
Management
HDMS

Rani Aravamudhan
Head of Clinical Advisory
Services
HDMS

**Stacy Starkka, PhD
(Moderator)**
Distinguished Principal Research Fellow,
Human Capital
The Conference Board

Lita was at Sofia's recital.

And not in the ER.

DATA TELLS US:
Condition – Hypertension,
Care gaps, demographic risks
Falling medication adherence,
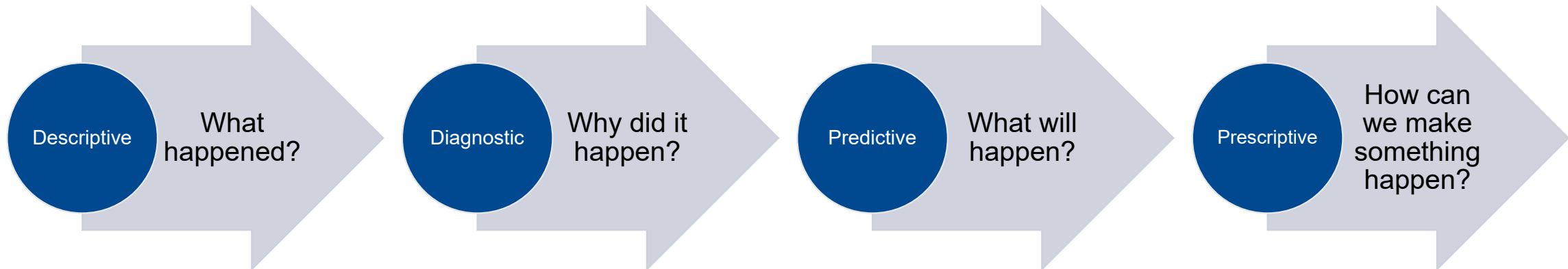No PCP in 12+ months
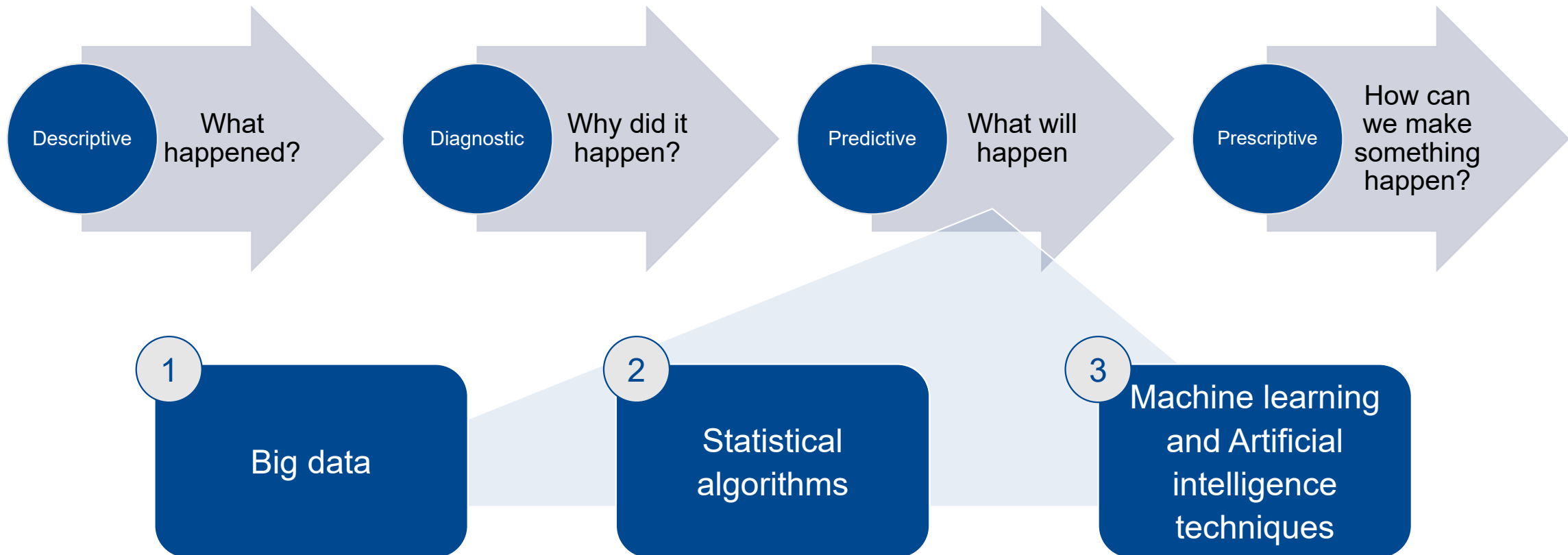
PREDICTION: ER visit

DISRUPTION: Digital monitoring

Let's talk about analytics

Every company has at least some analytic insights. What can you do easily today?

Descriptive — What happened?

Diagnostic — Why did it happen?

Predictive — What will happen?

Prescriptive — How can we make something happen?

Let's talk about predictive analytics

Three key elements we need for predictive analytics

Descriptive — What happened?

Diagnostic — Why did it happen?

Predictive — What will happen

Prescriptive — How can we make something happen?

1. Big data
2. Statistical algorithms
3. Machine learning and Artificial intelligence techniques

Connecting buzzwords

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Tools and techniques

It's HOW we build predictive models

Data science & mining

Machine Learning

Artificial Intelligence

Deep learning algorithms

Predictive Models
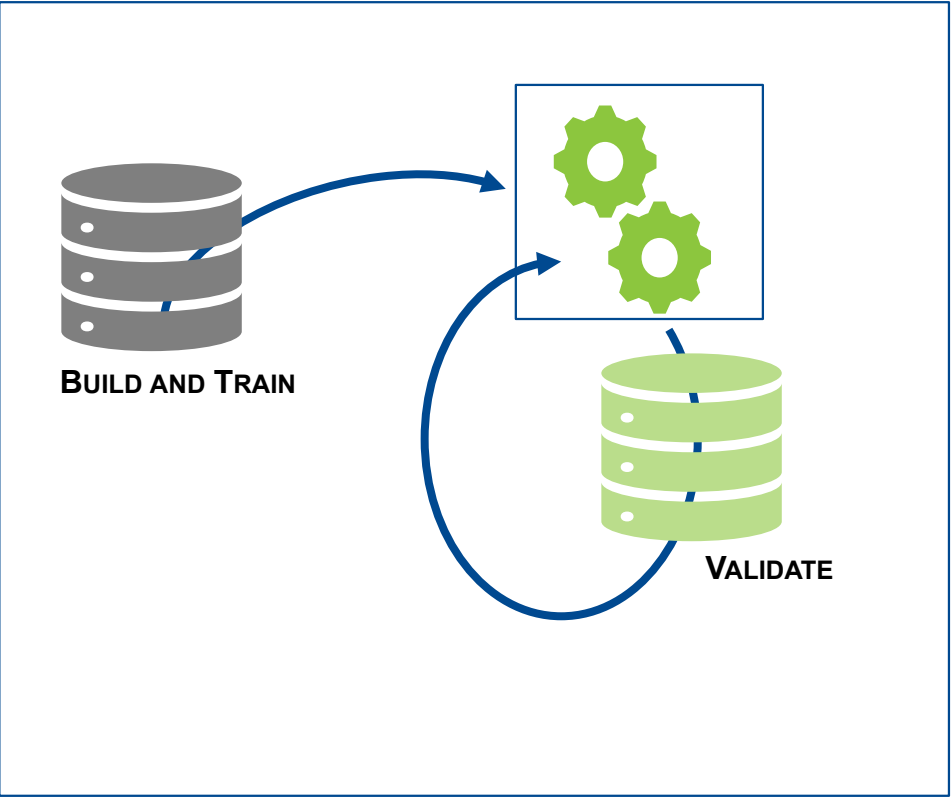
Models in production produce predictive analytics

Models include multiple predictors (variables)
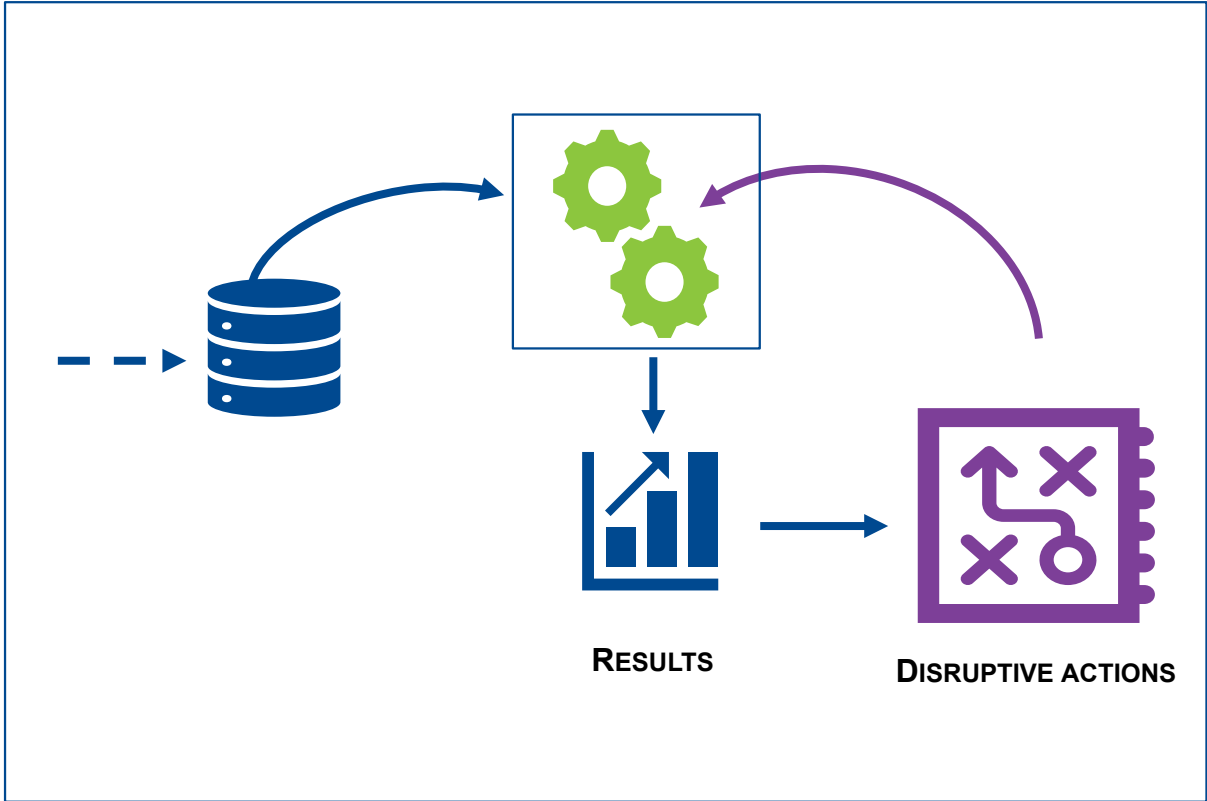*known to influence future results*

Predictive analytics

Building a predictive model

DEVELOPMENT ENVIRONMENT

BUILD AND TRAIN

VALIDATE

PRODUCTION ENVIRONMENT

RESULTS

DISRUPTIVE ACTIONS

Construct and test a SMART model

SMART models evolve and adjust using ML and AI

How important do you think high quality data is to all stages?

Relevance and sophistication
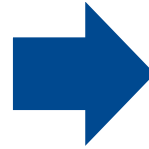
If accurate predictions were simple, we'd have more options by now

Relevance

What is the model for?

→ ACTIVATE: What is the organization able to do to influence change?

A critical element driving where to invest in predictive analytics.

- Interesting or useful?
- What can we control, influence, or help
- What is important? Why? Desired outcomes?

Sophistication

How well does it do its job?

→ BUILD or BUY: What are key considerations?

- What data to use for 1.) Training 2.) Testing
- Breadth of data and perspectives available to train the model
- Transparency – what's really happening, what are the considerations? What's in the black box?
- Infrastructure to scale

![HDMS logo]

Relevant applications of Predictive Analytics

What can we control, influence, or help?

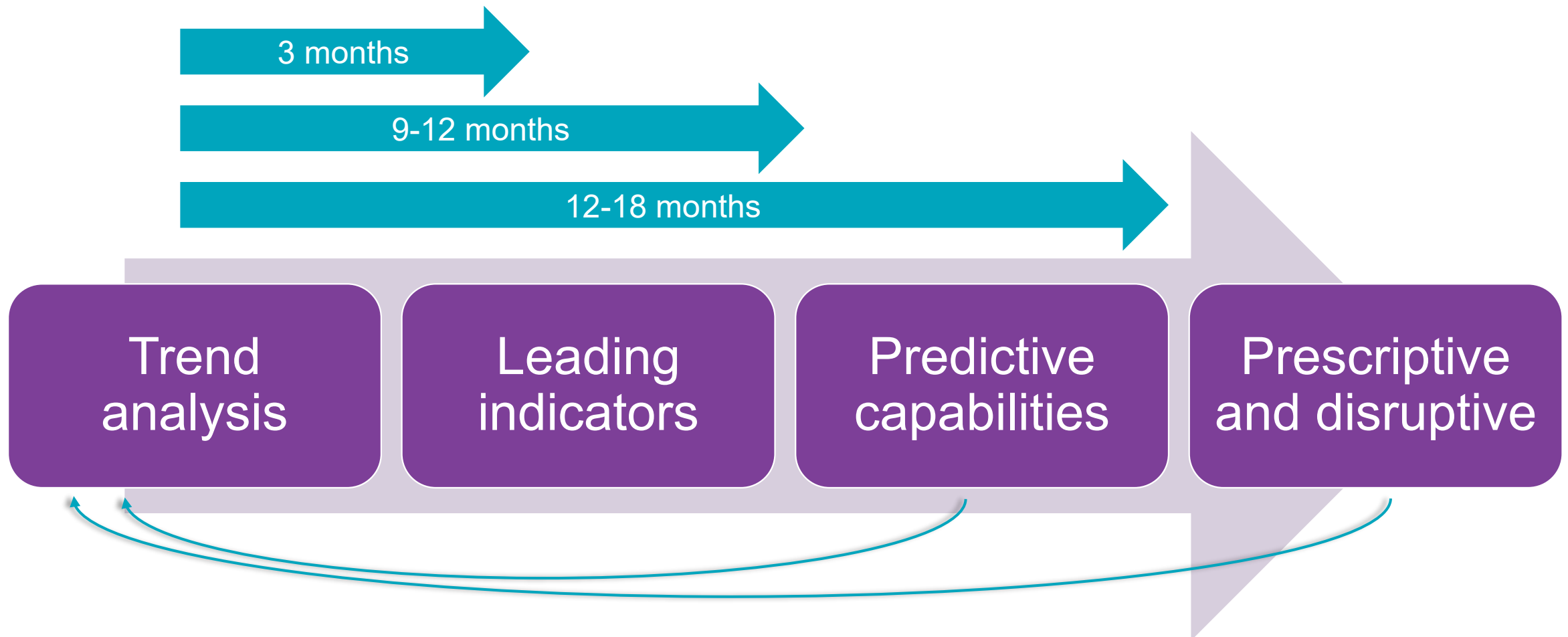Inpatient Admits

High-cost claimants

Frequent ER visits
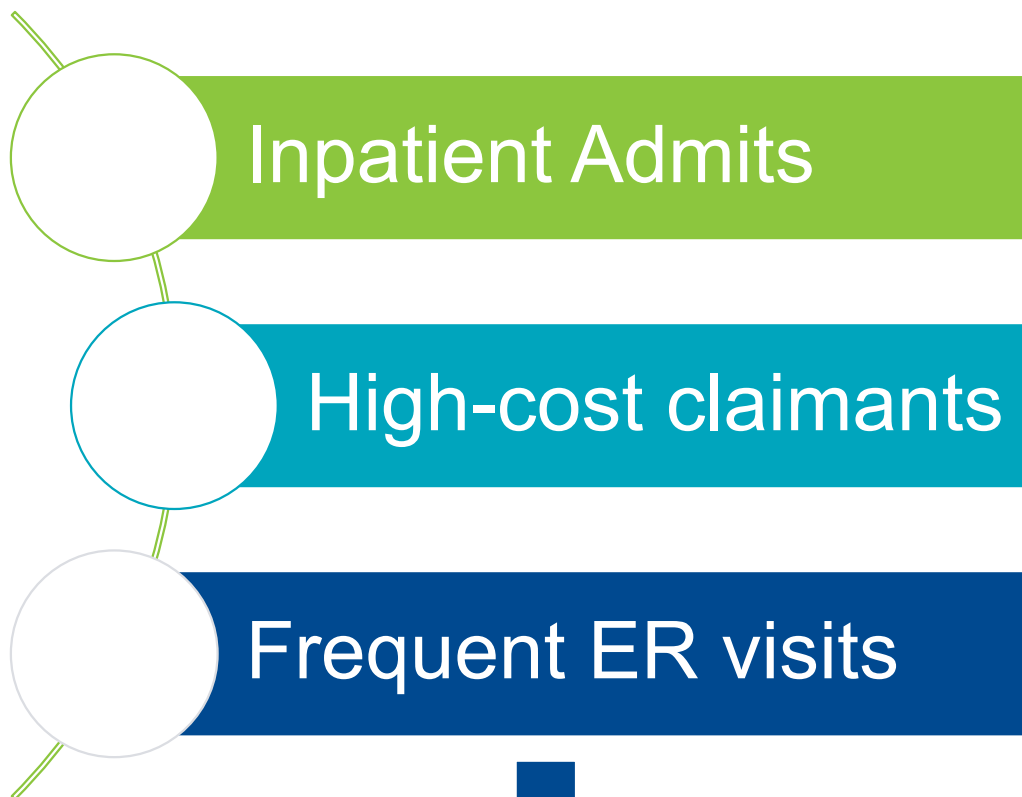
- ✓ Anticipate the probability of member/s ending up in one of these situations

- ✓ Based on patterns of past healthcare consumption experience

What are the actions and treatments we can offer to disrupt the predicted outcome?

Framework and an Example

Emerging trends

Deferred Care
(incl. preventative care)

Mental Health

Virtual Care

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A Cohesive Analytic Strategy
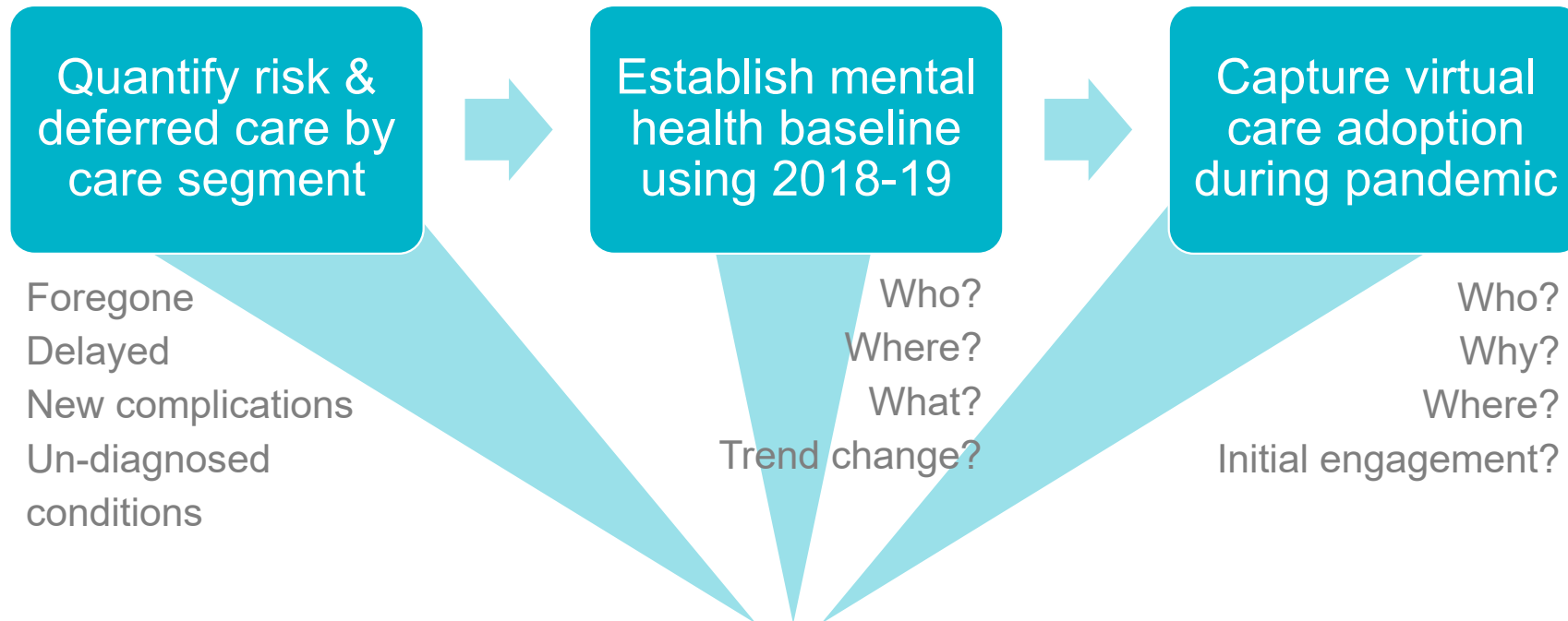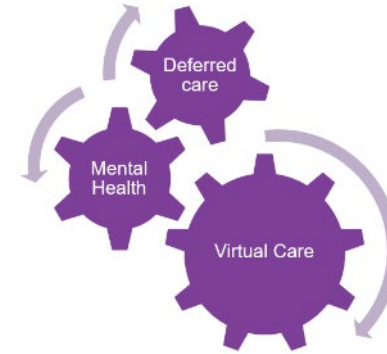
Mental Health example

Analytics	What we can see in data
Trends	• 27% members had MHSUD Dx → 47% of all costs • Medical + Rx costs over 2x higher for non- mental health comorbid conditions

Leading Indicators	• New Prescription Rates
	   • Anti-anxiety agents, anti-depressants up 15%
	• New diagnoses
	   • Anxiety Disorders up 16%
	   • Severe Stress & Adj. Disorder up 13%
	   • Unspecified Mood Disorders up 24%
	• PCP utilization: PCP visits down 20%
	• Unscheduled Absenteeism: up by 10%

Predictive Models	• ER visits increase • Higher Risk index • Increase in total cost of care (become a high-cost claimant)
Disruptive Actions	Target actions: PCP visit reminders, Rx auto-refills, proactive engagement with EAP and/ or Case management services

What's the Analytic Strategy?

| Quantify risk & deferred care by care segment | → | Establish mental health baseline using 2018-19 | → | Capture virtual care adoption during pandemic |

Foregone
Delayed
New complications
Un-diagnosed conditions

Who?
Where?
What?
Trend change?

Who?
Why?
Where?
Initial engagement?

Where are the most significant immediate opportunities for virtual care to reduce future costs?

Create actionable leading indicators

Get started now with the data you have!

Look forward: Mental Health

Higher costs

Co-morbidities

Higher risk

↑ Claims for symptoms related to Stress → impending new mental health diagnoses

↑ Telehealth utilization for chronic condition mgmt. → opportunity for engagement

↓ Acupuncture & chiropractic visits → impending increase scripts for pain medications

Look forward: Deferred care Impact

Leading indicators to watch

Analysis area	Zoom in on	Data is showing
Prescriptions (all Rx)	Renewals rates	Down 20%
New diagnosis	Diabetes, Hypertension, Hyperlipidemia	Down 15%
Preventative care	Utilization	Down 10 – 15%
PCP utilization	Engaged vs. control	Down 27%
Physical med utilization	Physical therapy, Chiro, Acupuncture	Down 31%
Virtual care adoption	Specifically, for those with impactable conditions	Up 52%

Disrupt the predictions

Prescriptive and disruptive actions

Care and case management

Health coaching

Reminders for PCP visits and preventative care

Auto refill enrollment

Zero cost share for virtual care

EAP benefits

Individualized targeted communication

I didn't know we had that benefit

I use my cell phone to manage my life

Make it easy for me!

How does a cohesive analytics strategy help?

– Predictions are member-specific, actions are targeted

– Personalization - Who needs what intervention?

– Build predictive analytics into an overall platform

– Able to zoom out, what investments need to be made for the population as a whole?

Change lives, one by one

The Big Win!

Does our strategy work?

Who	Members with a MHSUD diagnosis
What	Probability of having a preventable ER Visit
When	Within the next 12 months
How	Based on metrics from the previous year and leading indicator trends
Actions	Proactive engagement, Tele-therapy sessions, medication adherence, etc.
Why	Reduce disease progression and control costs

1200 members X **$2900** Avg. per person/ ER visit X **0.5** (50% intervention success rate) =

$1,740000 (Cost savings),   **600** fewer ER visits

3 key takeaways

Lead your organization:

PREDICT
Build an integrated analytic strategy that includes predictive analytics

DISRUPT
Invest your time in places where you can drive impactful alternatives

EVOLVE
Design or use models that may adapt

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Thank you

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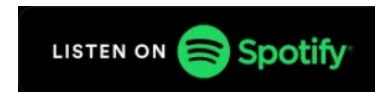
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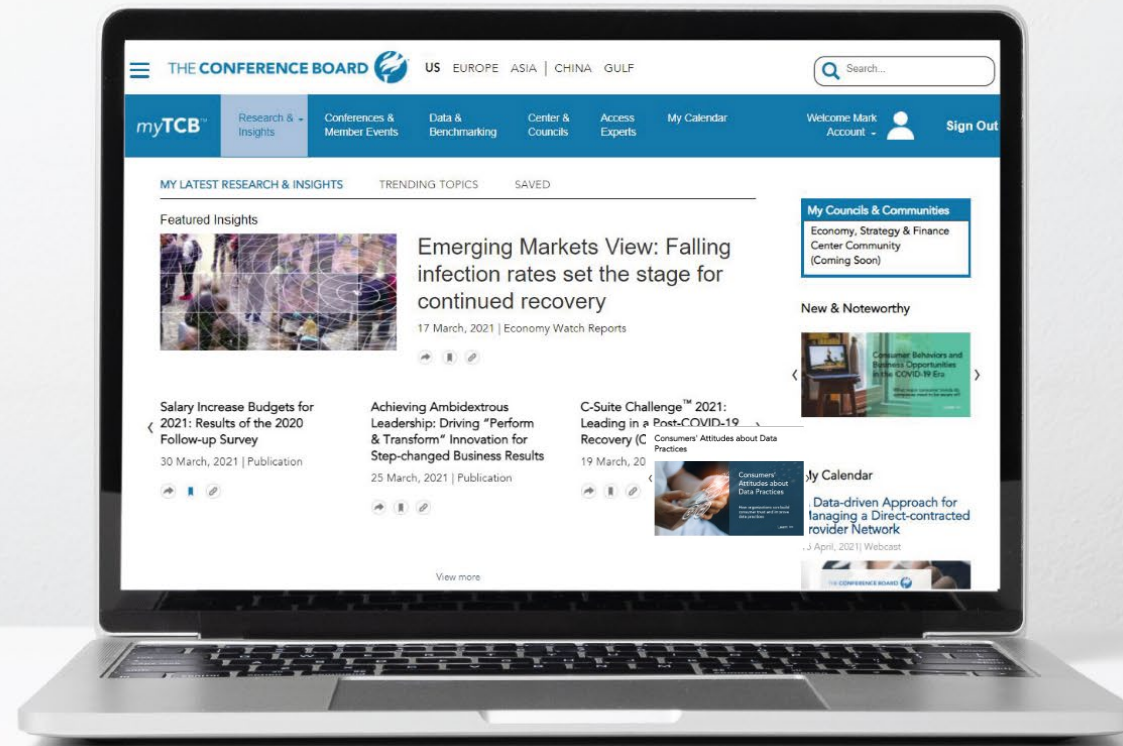
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