

# Artificial Intelligence: How ACOs are Using AI to Advance Population Health Goals



**October 21, 2024**

**3:00 – 4:00 PM ET**



## Q&A will take place at the end of the program

You can submit written questions using the **“Questions” tab** (not chat) at any time during the webinar.



## Webinar is being recorded

The recording and slides will be available on the [NAACOS website](#) within 48 hours.

# Speakers



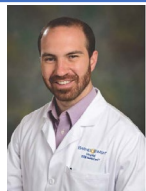
Brian Silverstein, MD  
Chief Population Health Officer  
Innovaccer



John Yeatts, MD MPH  
Chief Medical Officer/AVP, Population Health  
Duke Health



Eric Poon, MD MPH,  
Chief Health Information Officer/AVP  
Duke Health



Nathan Moore, MD  
Medical Director  
BJC Accountable Care Organization

# Putting Artificial Intelligence to Work: Our Journey at Duke Health

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**Eric Poon, MD MPH**

**Chief Health Information Officer/AVP**

**John Yeatts, MD, MPH**

**Chief Medical Officer/AVP, Population Health**



## DukeHealth



3 Hospitals / 300 locations



\$6bn+ Revenue



106 Operating Rooms



1,551 Beds



>23,000 Employees



890,000 Unique Patients



## DukeHealth

### Technology Solutions



Epic EHR  
HIMSS Stage 7 for



Inpatient &  
Ambulatory EHR



HIMSS Davies Award  
of Excellence



1000+ Applications  
Supported



75,000+ End User  
Devices Supported



946 Employees



\$250m Annual  
Operating Budget



## DukeHealth

### Population Health Management Office



DukeWELL provides care support to patients who get care through Duke Health and Duke Connected Care's clinics and hospitals.



## Duke Connected Care

[Home](#)

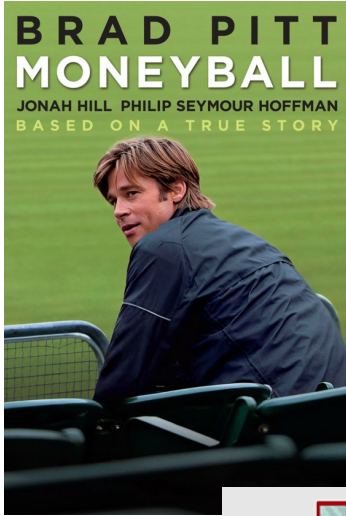
- ACO / CIN in central NC since 2013
- Approximately 3000 providers
- ~400,000 accountable lives across all population segments



# Challenges in Healthcare Today



# Potential Uses of AI in Health





## Direct Patient & Family Care

- Clinical Decision Support 
  - Care Pathways 
  - Care Gaps 
  - Diagnosis 
- Risk Stratification 
- Patient & Family Education 
- Emotional Support & Counselling 

## Administrative Simplification

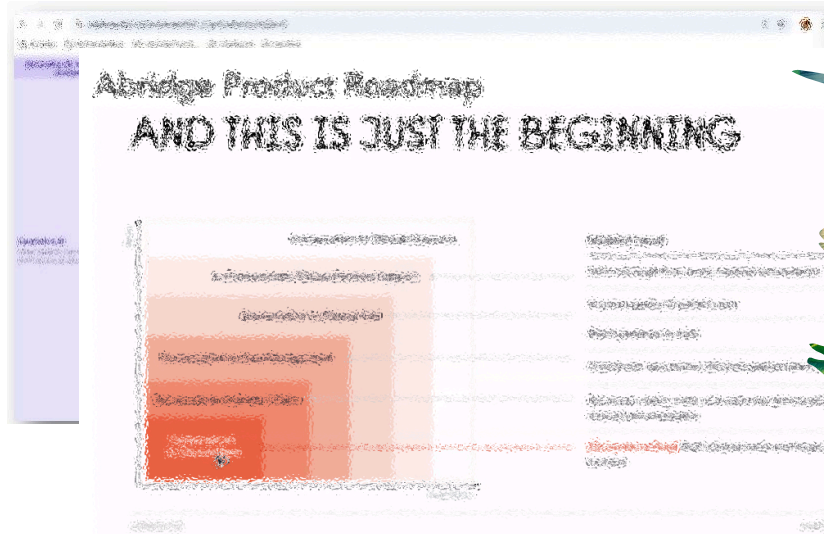
- Documentation   
- Pre-authorization 
- Billing 
- Reporting 
- Regulatory Compliance 
- Patient Scheduling Support 
- Staffing & Resource Planning 





- **Predictive Analytics**
  - May improve accuracy, “impactibility”, timeliness of insights
- **Care Gap Closure**
  - All of the above, plus more efficient intervention
- **Risk Adjustment**
  - Improving our ability to discern between valid vs invalid diagnoses
- **Care Management**
  - Allowing smaller teams to care for larger number of patients / improved efficiency
  - Goal generation, HRSN screening and connection to resources
- **Remote Monitoring**
  - Enhanced efficiency

# More Coming Our Way: AI Roadmaps from Existing Vendors



\*Artwork Generated by Microsoft Designer

# Risks Inherent in Deploying AI in Healthcare



## **AI/ML Tools Could:**

Offer Non-Actionable Predictions  
or Biased Recommendations

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Be Not Adopted or Blindly  
Followed by Clinicians

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Fail to Improve Patient Outcomes  
/ Current State

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Technically Malfunction

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Violate Government Regulations

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Thank you!



# Using AI to Improve End-of-Life Care

Nathan Moore, MD; Medical Director, BJC Accountable Care Organization

REFLECTION

# Background

- Advance care planning is critically important for improving quality of care, increasing patient/family satisfaction, and reducing unnecessary costs
- ACP and palliative care are significantly underutilized in nearly every health system in the US
- Major barriers:
  - Accurate identification of high-risk patients
  - Engaging providers to participate in goals of care discussions

# Algorithm

Epic data is obtained 24 hours after admission analyzing 500+ variables including:

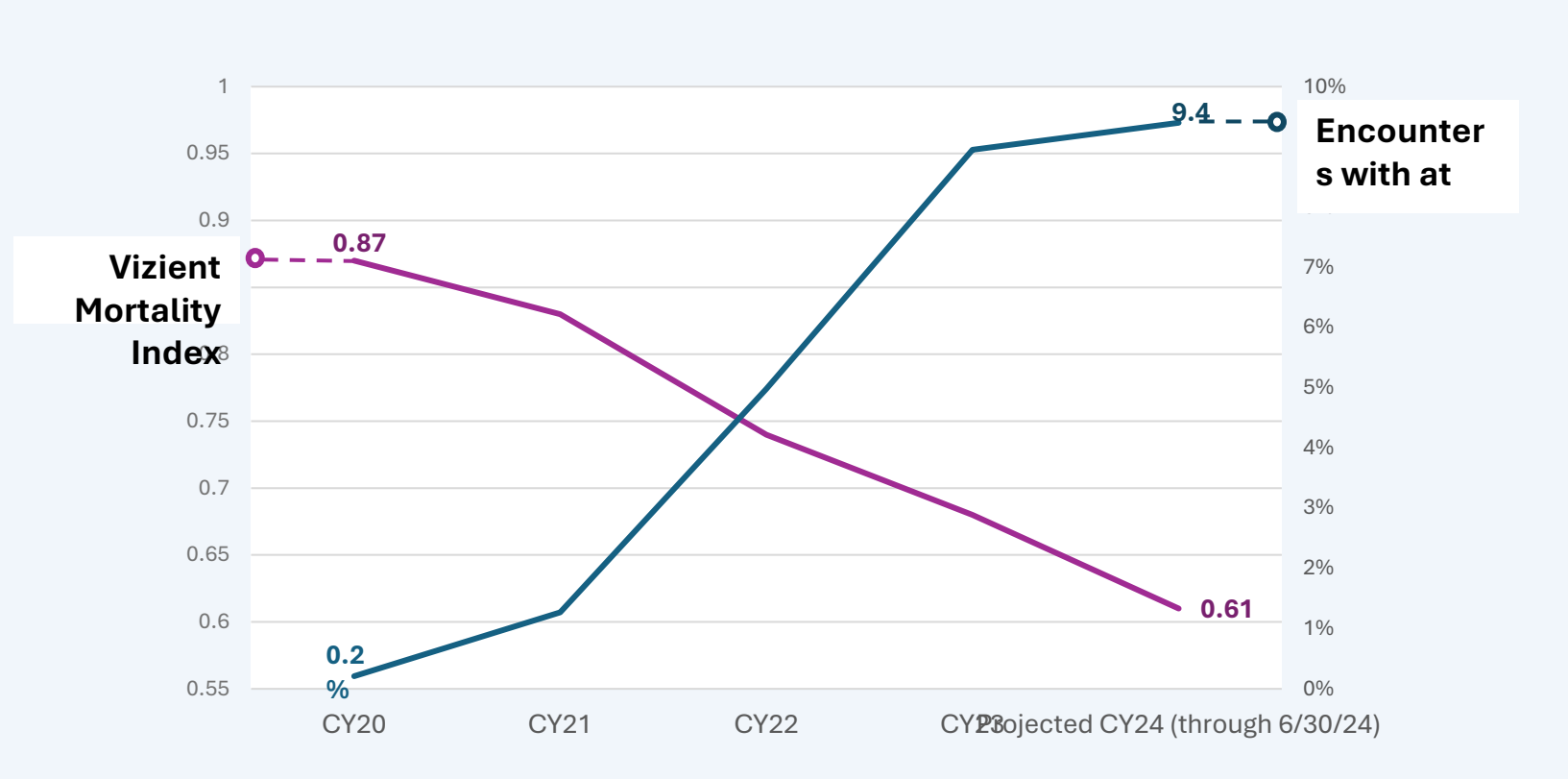
1. Diagnoses
2. Vitals
3. Labs
4. Medications/therapies

**Death or hospice occurred in 1.4% of low-risk patients, 5.2% of medium-risk patients, and 18% of high-risk patients (AUC = 0.89).**

# Workflow

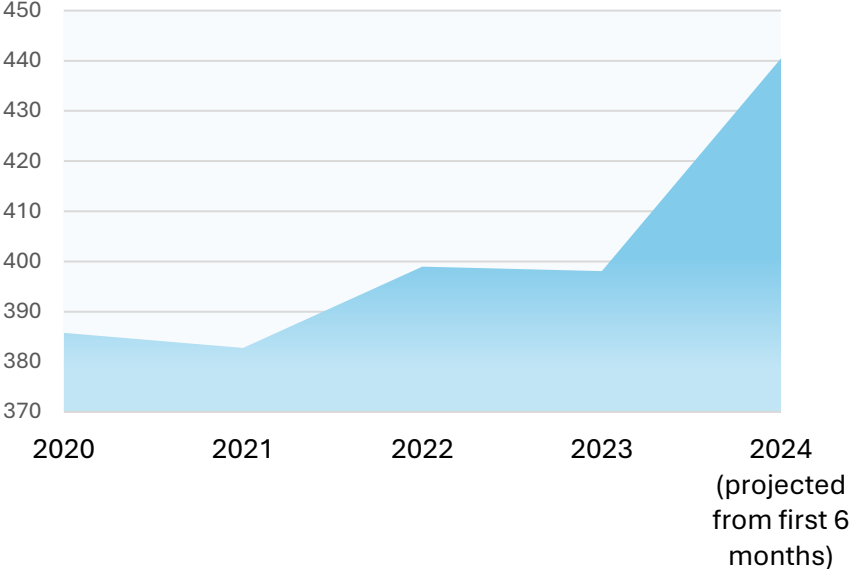
- Identification of high risk patients with no ACP completed
- Semi automated opt-out messages to providers
  - Hospital floor
  - ICU
  - Primary Care
- Phased rollout to 8 hospitals of various types
- Small group, in person trainings with standardized patients

# System Wide Results

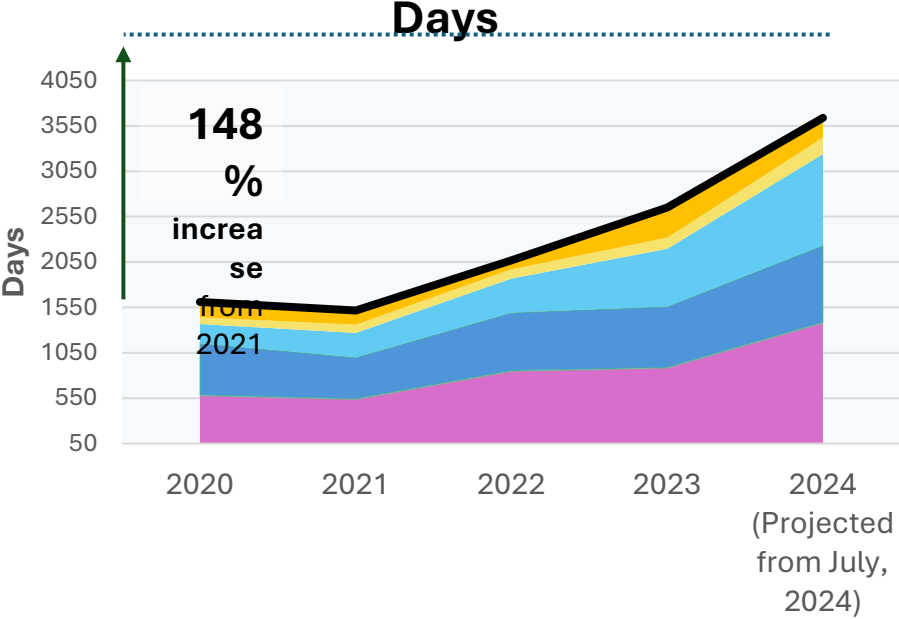


# System Wide Results

## Average Daily Hospice Census



## General Inpatient Hospice (GIP) Days



# Lessons Learned

- Work backwards (problem → workflow → algorithm)
- Prediction alone is worthless without a realistic/usable intervention
- Is interpretability important to your users?
- Make it “as painless as possible” for the end users

# Lessons Learned

- Data pre-processing is key
- Track model performance and retrain the model regularly
- Get to know your data team very well
- Compliance concerns

## Lessons Learned

- Strive for high signal:noise to drive provider engagement
- Will your algorithm model be robust to upgrades to other parts of your IT infrastructure?
- Consider going live in the background for a trial period
- Track outcomes of interest from the beginning

Questions?



Contact:

Nathan Moore, [Nathan.Moore@BJC.org](mailto:Nathan.Moore@BJC.org)

# Questions



# Upcoming Events



## Virtual Affinity Group Meetings - [Register here](#)

- **Operations Affinity Group**

Meets: October 29, 2024, from 3–4 pm ET.

Participants should include managers and others who oversee day-to-day aspects of running an ACO such as building provider networks, engaging patients, practice transformation, and implementing projects to achieve the ACO's financial and strategic goals, etc.

- **Quality Affinity Group**

Meets: November 5, 2024, from 3–4 pm ET.

Participants should include managers and others who implement initiatives designed to improve, measure, and report the quality of care in an ACO, etc.

- **Data and Analytics Affinity Group**

Meets: November 12, 2024, from 3–4 pm ET.

Participants should include managers within ACOs who are responsible for integration, using data to analyze performance, creating and integrating data from sources like EMRs, claims and registries, etc.

# Upcoming Events



## Virtual Affinity Group Meetings

- **Executive Affinity Group**

Meets: November 19, 2024, from 3–4 pm ET.

Participants should include CEOs, CFOs, Executive Directors, Chief Value Officers, and others who oversee the ACO's finances, budget, strategy, contracting, etc.

- **CMO and Clinical Affinity Group**

Meets: December 3, 2024, from 3–4 pm ET.

Participants should include CMOs, CNOs, Pop Health Officers, and others who manage patient care, and clinical care redesign, etc.

- **Compliance and Legal Affinity Group**

Meets: December 10, 2024, from 3–4 pm ET.

Participants should include those who ACO leaders and staff members who deal with compliance documentation, operations, or events as well as those who deal with ACO contracting with payers and participants.

# Upcoming Events



- [Practice Transformation Learning Lab Register Here](#) - fourth Friday of each month from 12:00-1:30 pm ET)
- Topics include:
  - Where to start in practice transformation
  - Managing the care team: Taking action on practice redesign
  - Understanding available population health data
  - Combining data for population health initiatives
  - Developing or redesigning clinical care models
  - Population health tools: What works for your practice/ACO
  - Payor/Provider contracts and financial distribution models
  - Managing ED and hospital events
  - Developing a post-acute network
  - Advanced care models (home care, BH, SDOH support)