Embracing Health Equity & Scaling Population Health: Lessons from Esse Health & UnityPoint Health

- Anna Keller, BSN, RN, Executive Director, Ambulatory Enterprise IntelliCenter at UnityPoint Health
- Carla Beckerle, DNP, APRN-BC, VP of Clinical Programs, Esse Health
- Blake Marggraff, Co-founder & CEO, CareSignal, a Lightbeam Company

October 19th, 2022
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Together we can administer 25 million vaccines by 2025

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October 19th, 2022
Introductions & Learning Objectives
Agenda

• Intros & Learning Objectives
• Introduction to CareSignal’s Deviceless Remote Patient Monitoring
• UnityPoint Health’s Vision for Population Health
  – Utilization Highlights & Outcomes
• Esse Health’s Vision for Population Health
  – Utilization Highlights & Outcomes
• What’s Next for Population Health?
• Q&A
Learning Objectives

- Explain the technological and staffing barriers to scaling population health initiatives and strategies to overcome them
- Describe how artificial intelligence (AI) models include non-clinical factors and the impact on predicting utilization and patient outreach precision
- Identify the ways in which real-time alert data are enabling top-of-license care management
Current Population Health Landscape
Market Trends: Population Health

- Expanding volume of value-based contracts
- Increasing exposure of downside risk
- Nursing Staff shortages
- Aggressive quality metric benchmarks
- Growing emphasis on health equity
Common Challenges Across Population Health

**Broad Risk Identification**
- Leveraging poor data sources to assess health equity
- Need for individual patient-level data to assess clinical and SDoH risk factors

**Disconnected SDoH Strategy**
- Current standard of care assesses SDoH factors infrequently
- Need for seamless connections to community resources

**Missing the Most Vulnerable**
- Relying on face-to-face visits
- App, portals, and telehealth struggle to engage patients who need the extra support most

**Staffing Capacity Challenges**
- Missed opportunities among rising risk populations
- Not scaling resources with population’s needs

**Balance Quality Metrics, Utilization, and Satisfaction**
- Utilization & satisfaction more challenging metrics than quality
### Health Equity Requirements are Growing Across CMS

<table>
<thead>
<tr>
<th>CMS Program</th>
<th>Health Equity Requirement</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACO REACH</td>
<td>ACO REACH entities must develop and submit a formalized Health Equity plan and collect social determinants of health</td>
<td>Active</td>
</tr>
<tr>
<td>MSSP ACO</td>
<td>Proposed Physician Fee Schedule rule that incentivizes adding rural and underserved beneficiaries, with an ADI-based health equity adjustment to the MIPS score</td>
<td>Proposed</td>
</tr>
<tr>
<td>End Stage Renal Disease PPS</td>
<td>Goal is to close health equity gaps by providing Medicare patients living with End-Stage Renal Disease (ESRD) with greater access to care and reduce health disparities</td>
<td>Active</td>
</tr>
<tr>
<td>Enhanced Oncology Care Model (EOM)</td>
<td>Submit a health equity plan detailing evidence-based strategies to collect ePROs and screening for SDOH to mitigate health disparities identified within their beneficiary populations.</td>
<td>Active</td>
</tr>
</tbody>
</table>

#### The Big Picture:

- **CMS Framework for Health Equity** to address health disparities across all aspects of its work over the next 10 years.

- The framework expands on a 2015 plan that focused on improving Medicare to now include all CMS programs.
Introduction to Lightbeam’s Jvion AI & CareSignal Deviceless RPM
Expanding to a Comprehensive View of the Patient

- Includes the combination of clinical, socioeconomic, behavioral, environmental and other non-clinical data points

- 60% of health-related outcomes are directly correlated to the social, environmental, and individual behavior of the patient

Patient-Level Insights

Meaningful & Actionable Insights

Lack of other adults in household
- May have dependents/children/minors.
- Research has found the single-parent homes may lack economic and social resources.
- Children who live in a household with a single parent have been found to be at an increased risk for negative health outcome

Likely to be digitally fluent
- Patients may have unanswered questions after a doctor’s visit (e.g., new dx, new med, or new treatment)
- Consider an open dialogue health condition and where to find resources

Above average particulate matter contributing to air quality
- Consider educating patient on methods to improve indoor air quality (i.e., air filters, ventilation for cooking indoors, carpets)

Smith, Susan
MRN – 12345
Vulnerability Category – Moderate
Vulnerability Score – 3
Vulnerability Percentile – 67.3

Short residence length
- Limited social support in close proximity.
- Feelings of anxiety associated w/ perceived neighborhood safety
- Consider evaluating home for health hazards (e.g., indoor air quality, carpets, pests, lead paint, etc.)

Education likely includes some college
- Consider readiness for change (higher levels of knowledge does not always result in behavior change).
- Likely has access to health insurance benefits.

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Deviceless Remote Patient Monitoring

Affordable | Accessible | Scalable

- No new devices required
- No apps, downloads, or passwords
- Accessible for all patients
- Promote & elevate health equity
- Clinically validated
- 13+ Peer reviewed publications
- 30 Programs | One Portfolio
- Pre-built & evidence-based
- Engagement powered by AI
- Predict & prevent drop-off
- White-labeled for patient/member
- High-quality, credible experience
CareSignal Portfolio & Results

30+ Evidence-Based Programs | One Portfolio

Chronic Conditions
- Heart Failure
- COPD
- Diabetes
- Hypertension
- Asthma

Behavioral Health
- Depression
- Anxiety
- Substance Use
- Opioid Management
- Caregiver Support

Specialty Support
- SDoH
- Maternal Health
- Dialysis
- Surgery
- HIV/AIDS

Post Discharge
- Post Discharge
- General Medical
- Vital Signs
- Pneumonia

Care Coordination
- Screening Reminders
- Appointment Reminders
- Referral

General Programs
- COVID Suite
- Influenza
- Fall Risk
- Wellness
- Medication Adherence

13 Publications in Peer-Reviewed Medical Journals

- 62% decrease in hospitalizations for patients with COPD
- 1.15% drop in HbA1c over 4 months
- 50% improvement in blood pressure control over 12 weeks
- 28% drop in PHQ-9 for patients with depression
- >2.1x increase in follow-up appointment adherence

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Deviceless Remote Patient Monitoring: Social Determinants of Health

Modules:
• Annual Introductory Screener
• Monthly Check-In

Screener(s):
• Food, Transportation, Employment, Housing, Financial Strain, Safety, Health Insurance, Health Literacy, Utilities, Childcare, Family and Community Support

Alerts:
• Alerts are trigged for any urgent need reported

Check-In Screener Features
• Users can text CONNECT to prompt question about urgent needs
• Users get a light-touch reminder each month about the CONNECT feature

In the next month, how likely is it that your food could run out before you get money to buy more?
1 Unlikely
2 Somewhat likely
3 Very Likely

Do you have any urgent needs?
0 - None at this time
1 - You have no food for today
Improving Health Equity with Familiar Technology

- Messages written at 4th - 6th grade reading level
- Dynamic messaging adjusts to each member
- Health Literacy
- Free-to-End-User
- CareSignal incurs cost of SMS texts and calls
- Minimize Member Fatigue
- Familiar Technology
- Members use their own phones
Workflow: From Insights to Outcomes

**Jvion**
Predictive analytics surface top health inequities and readmission risk

**Lightbeam**
Identifies cohort of target patients for CareSignal

**Engagement Specialists**
Enroll patients via text, email, mailers, and direct phone calls

**Patients**
Answer automated SMS and phone call prompts, sending in clinically-relevant data

**Deviceless RPM**
Categorizes at-risk patients and triggers alerts in real-time

**Client or LCS**
Care Managers monitor dashboard and follow standard operating procedures

**Providers**
Receive escalations, only as needed
Partnership Overview

Conditions:
• COPD
• Diabetes
• Post-Discharge

Populations:
• COPD + Diabetes: Rising Risk
• Post-Discharge: Low & Rising Risk
• Overall- Epic Integration
Scaling Engagement to Thousands of Patients Without New FTE

- **2,141** All-time patients engaged
- **115,349** Automated Touches
- **2,181** Proactive Alerts Triggered
- **89,097** Texts
- **26,252** Calls
- **1.9%** Alert Rate
Patient Participation Exceeding Goals:

- Enrollment conversion rate (goal: 40%) - currently 52%
- Acceptance rate -- anyone connected with via phone and consenting (goal: 70%) - 86%
- Activation rate -- begin responding (goal: 74%) - 88%
Reduced A1c

HbA1c Pre - Post Changes

Key Insights
Average baseline <7% remained below 6.5%
0.37 point average drop for Baseline 7%-8%
1.56 point average drop for Baseline 8%-9%
2.94 point average drop for Baseline > 9%

Updated 5/23/21 26
Lowering COPD Risk Across the Continuum

COPD Status Changes

# Red at Baseline  Most Recent Status  # Yellow at Baseline  Most Recent Status  # Green at Baseline  Most Recent Status

Key Insight(s)
100% of High Risk Improved
0% of High Risk Maintained
66% of Medium Risk Improved
30% of Medium Risk Maintained
4% of Medium Risk Worsened
72% of Low Risk Maintained
28% of Low Risk Worsened
Messages Have Improved Communication & Patient Satisfaction with Care

Patient Satisfaction

Care Satisfaction • You are getting the best possible care from UnityPoint Health.

N = 995
Average = 7.88

Improved Communication • These messages have improved your communication with UnityPoint Health.

N = 976
Average = 7.8

1 - Strongly Disagree  Strongly Agree - 9  1 - Strongly Disagree  Strongly Agree - 9
Message Frequency is Appropriate, Though Patients Prefer More Messages

Message Frequency · Messages from UnityPoint Health are sent at just the right frequency.

N = 45
Average = 6.04

Frequency Explained · Help us improve the message frequency. Why did you rate the message frequency as __?

N = 45
Average = 1.71

1 - Strongly Disagree  Strongly Agree - 9 1 - Too Few  5 - Perfect  Too Many - 9
Patient Quotes

Timely care
• “That it helps keep everyone updated and if something is wrong a representative calls immediately and help provide the care you need when you need it.” 08/05

Convenient for Patients
• “I think they are a great way to check up on a patient without taking a lot of time. Especially if an in-person appt. is not warranted at that time. Thank you!” 08/04

Patient Self-Management
• “That it keeps me aware of my health and helps me address any concerns that I might have.” 07/20
COPD Patient Story

Alert

Coaching

ED Avoided
Diabetes Patient Story

Low engagement

Insulin uncertainty

Endocrinologist & Home Health
Esse Health Partnership & Outcomes
Achieve Health Equity with the Right Technology: Deviceless RPM

Familiar technology builds trust, patients engage with systems they trust and can access

Esse Patient Communication Preference by Age

- Ages: 60-79
  - Phone Call: 200
  - Text Message: 1200

- Ages: 80+
  - Phone Call: 1800
  - Text Message: 200

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Congestive Heart Failure

Inclusion Criteria: LACE, HCC, Diagnosis

Alert Notifications:
• Worsening breathing
• Worsening swelling
• Excessive weight gain

46%
Average Reduction in ED visits (N > 1,000)
COPD

Inclusion Criteria: LACE, HCC, Diagnosis with ED visit within 12 months

Alert Notifications:
• Worsening breathing
• Worsening cough
• Change appearance of cough
• Risk classification: Danger

31%
Reduction in COPD hospitalizations

Are you breathing better, significantly worse or the same compared to normal? If better, please press 1. If significantly worse, please press 2. If the same as normal, please press 3.

Based upon your response, we’ll be reaching out to you about your symptoms. Someone from our team will contact you, but if you wish to speak with someone sooner, call XXX-XXX-XXXX during normal business hours. After hours please call your provider, or if emergency dial 911.
All Claims Analysis: 1,527 Patients

- $3.6M Total Savings
- 8.0x ROI
- $124 Savings PMPM
- $P = 0.017

Paid Claims (Aggregate)

Pre-CareSignal: $35.46
Post-CareSignal: $31.31

11% improvement
Latest: ED Reductions (2020-2021)

- Total Savings: $457,200
- Mean ED visit cost of $1,800
- 254 admits prevented*

*Non-claims analysis, care manager self-reported ED visits averted
Key Learning #1: Sustained Capacity Improvement of Existing Care Management with Deviceless RPM

Question: Can we sustainably increase the capacity of existing care management by adding remote patient engagement technology (SMS texts and IVR phone calls)?

Measures:
- Caseload
- Care manager and patient satisfaction

Outcomes: One Care Manager Sustainably Grew Their Caseload 15x With Deviceless RPM

Before: 100
After: 1,500
Key Learning #2: Patient-reported Outcome Automation to Improve Outreach Timing & Impact

**Question**
Can the collection of patient-reported symptom data and automated alerts improve the timing of care management outreach and result in clinical impact?

**Measures**
- # of alerts
- Clinical measures (BP, A1c)
- ED rate

**Outcomes**
- 13,395 proactive alerts received
- -14.75mmHg sBP / -7.55mmHg dBP
- 2.91% avg. A1c reduction among those with baseline A1c of >9%
- 31% reduced COPD ED rate, 46% reduced CHF ED rate
ACO REACH & Social Determinants of Health

Proactively Monitor SDOH

• **Survey Cohort:**
  – Eight-question SDOH survey is sent to all engaged patients from all chronic disease populations

• **Intervention:**
  – Patients who answer "yes" to 1 - 2 questions have outreach sent directly to home
  – Patients who answer "yes" to 4 - 5 questions will have an interview to determine if Social Worker intervention is needed

• **Follow-up**
  – Further interventions are scheduled 3 months after initial outreach

![Automated Screenings](chart.png)

**SDOH Needs Reported**

<table>
<thead>
<tr>
<th>Support</th>
<th>Food</th>
<th>Housing</th>
<th>Health Literacy</th>
<th>Safety</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>117</td>
<td>89</td>
<td>66</td>
<td>57</td>
<td>29</td>
<td>12</td>
</tr>
</tbody>
</table>
New Initiative: Push Messaging to Educate and Re-Engage Hard-to-Reach Patients

- Care managers choose from a pre-written message bank to send directly to one Individual or a small group
  - No typing required; however, content can be customized as needed.
- Push Messages are sent based on the care manager’s discretion
- Push Messaging encourage patient self-reporting, share timely education, and prompt inbound calls
- Tailored to risk status (low/medium/high).

Reminder: It is important to check your weight every morning. Call your doctor if you gain more than 3 pounds in 1 day or 5 pounds in 1 week.

Hi, I really enjoyed our recent call. I look forward to talking with you again soon.

The Information Advantage: How to reduce high-risk ED visits and drive savings

The platform gave patients a simple way to ask for help and feel in control of their health. This improved self-management behaviors and strengthened trust between care teams and patients.

Figure 1
Aggregate Paid Claims Pre- and Post-CareSignal

Paid claims per patient per day

Pre-CareSignal
$35.46

Post-CareSignal
$31.31

11% Improvement

Published in December 2020 edition of AMGA’s GPJ
Q&A

Self-guided Demo: try.caresignal.health

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