

the **Playbook**

Better Care for People with Complex Needs

Using Population Identification Strategies to Tailor Care for Individuals with Complex Needs

May 17, 2021, 12:30-2 pm ET

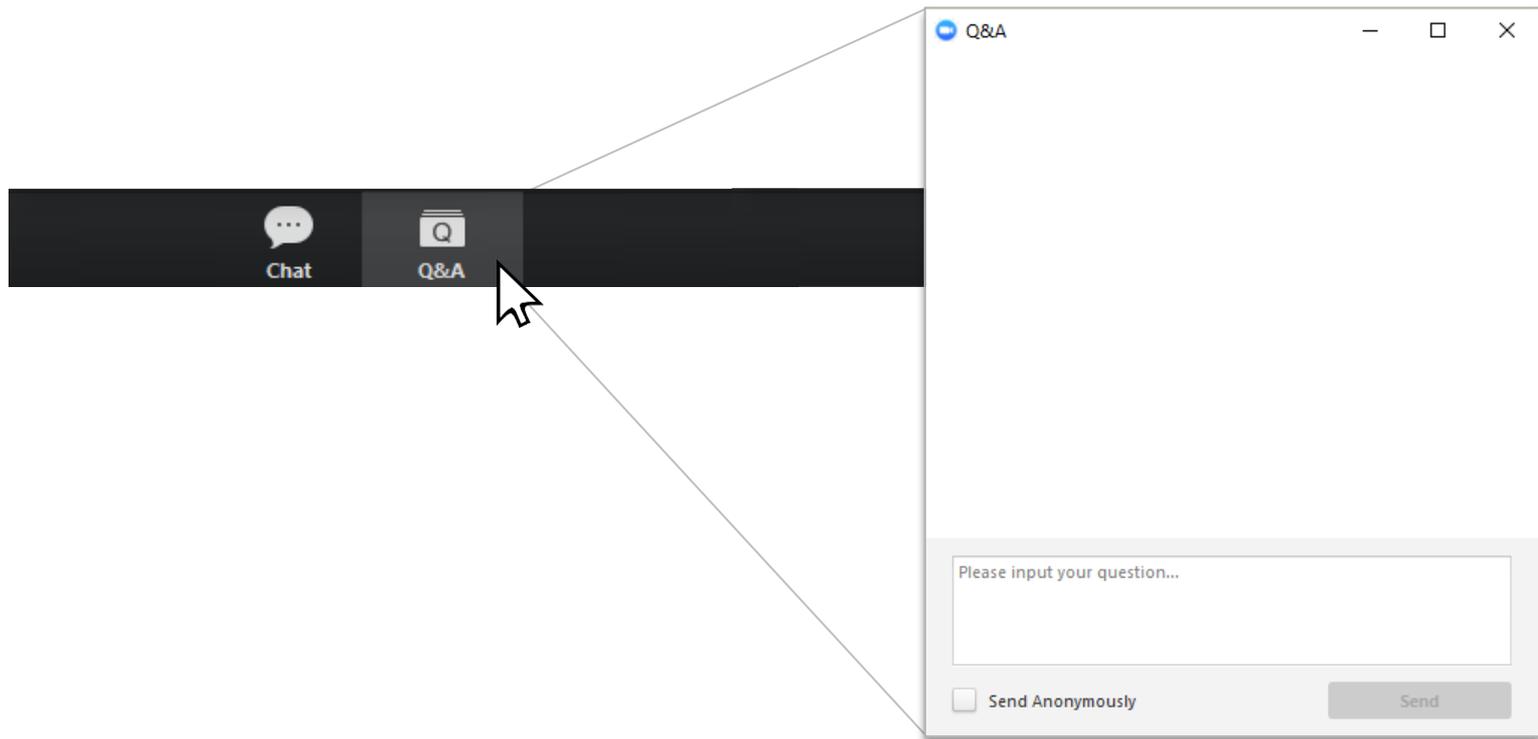
Made possible with support from the Seven Foundation Collaborative —Arnold Ventures, The Commonwealth Fund, The John A. Hartford Foundation, the Milbank Memorial Fund, Peterson Center on Healthcare, the Robert Wood Johnson Foundation, and The SCAN Foundation.

[BetterCarePlaybook.org](https://www.bettercareplaybook.org)

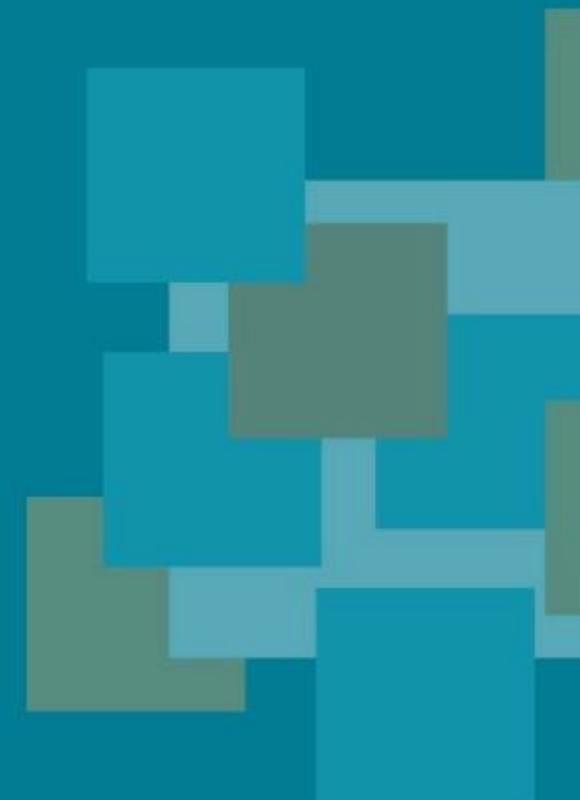
Questions?



To submit a question, click the Q&A icon located at the bottom of the screen.



Welcome & Introductions



About the Better Care Playbook



Robust online resource center offering the latest knowledge on evidence-based and promising practices for people with complex health and social needs



Provides practical how-to guidance to inform health system leaders, payers, policymakers and others on strategies to improve care for high-need, high-cost populations

Coordinated by the Center for Health Care Strategies through support from seven leading national health care foundations — **Arnold Ventures, The Commonwealth Fund, The John A. Hartford Foundation, the Milbank Memorial Fund, Peterson Center on Healthcare, the Robert Wood Johnson Foundation, and The SCAN Foundation.**

www.BetterCarePlaybook.org

Agenda



- Welcome and Introductions
- Kaiser Permanente: Using Population Identification Methods to Inform Complex Care Management
- New York City Health + Hospitals: Employing a System-Wide Tool to Identify and Treat Patients with Complex Needs
- CareOregon: Leveraging Data Analytics to Predict Rising Risk Populations within a Managed Care Plan
- Moderated Q&A

Today's Presenters



Rachel Davis, MPA
Director, Complex Care,
Center for Health Care
Strategies



Anna Davis, PhD
Research Scientist-
Investigator, Center for
Effectiveness and Safety
Research, Kaiser Permanente



Michelle Wong, MPH, MPP
Director, Care Management
Institute, Kaiser
Permanente



Anne Marie Young, MBA
Director of Complex Care,
New York City Health +
Hospitals



Jillian Diuguid-Gerber, MD
Lead Physician, Woodhull
Hospital Primary Care
Safety Net Clinic, New York
City Health + Hospitals



**Jonathan K. Weedman,
LPC, CCTP**
Vice President, Population
Health, CareOregon

Significance of Population Identification in Complex Care

- Individuals with complex health and social needs are a heterogeneous population.
- The effectiveness of specific complex care interventions depends on whether they engage the people who will most benefit from them. A “one size fits all” approach won’t work for everyone.
- Many complex care interventions have identified populations based on by cost/utilization measures, medical diagnoses, and/or insurance status- there is a lot more under the surface!
- Better understanding the population supports more targeted and tailored interventions.

Using Population Identification Methods to Inform Complex Care Management

Anna Davis, PhD, MPH

Research Scientist, Kaiser Permanente Center for Effectiveness and Safety Research
Instructor, Kaiser Permanente Bernard J Tyson School of Medicine

Michelle Wong, MPH, MPP

Director, Care Management Institute

May 17, 2021

The CORAL Research Program: **C**omplex **C**are **C**ollaboration: **O**perations, **R**esearch and **L**eadership

- **Goal: Pair KP research investigators with operational leaders to generate actionable evidence to improve Complex Needs care.**
- Administrative Lead: Elizabeth Bayliss, MD, MSPH
- Sponsor: Garfield Memorial Fund
- Four projects were funded in 2018; a second set of funded projects was launched in 2020

Today's talk focuses on two CORAL studies:

Operationalizing a Taxonomy of Populations with Complex Needs	PIs: Anna Davis & Michael Gould
Meaningful Outcomes & Missed Opportunities	PIs: Richard Grant, James Ralston, Elizabeth Bayliss

Operationalizing a Taxonomy of Populations with Complex Needs

Research Team

Anna C. Davis, PhD, MPH -- Co-PI

Michael K. Gould, MD, MS -- Co-PI

John Chen, MD -- Clinical Champion

Thearis Osuji, MPH -- Research Project Manager

Aiyu Chen, MPH -- Research Data Analyst

Sponsor: Garfield Memorial Fund

Project Overview

- This study explored the many ways in which complex populations have been conceptualized and operationalized
- Our goal was to provide insights to support informed population selection decisions for complex care interventions
- Rationale:
 - In practice, complex care programs generally use a set of criteria to select eligible patients, based on characteristics such as prior costs, prior utilization, or clinical conditions
 - Selection of a target population is central to intervention planning
 - Little consistency in how cohorts of patients with complex needs are defined or described

Two Stages of Work

Aim 1

Catalogue approaches to **conceptualizing** and **operationalizing** complex population definitions using pragmatic **review of the literature** and **key informant interviews**



Population Health
Management

Aim 2

Leverage available data to **explore the implications of using different approaches** for identifying patients with complex needs



Identifying Populations with Complex Needs: Variation in Approaches Used to Select Complex Patient Populations

Anna C. Davis , Thearis A. Osuji, John Chen, Lindsay Joe L. Lyons, and Michael K. Gould

Published Online: 17 Sep 2020

Question:

How varied are the approaches being used to define populations with complex needs?

Methods:

- Pragmatic review of the literature via PubMed and key informant interviews
- Data abstraction to capture specific criteria used for defining the study populations
- Thematic analysis guided by a deductive coding process and data displays

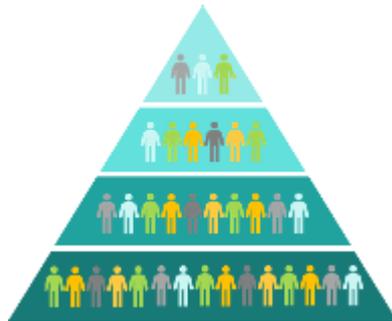
Anna C. Davis, Thearis A. Osuji, John Chen, Lindsay Joe L. Lyons, and Michael K. Gould. Identifying Populations with Complex Needs: Variation in Approaches Used to Select Complex Patient Populations. Population Health Management. Epub ahead of print <http://doi.org/10.1089/pop.2020.0153>

Deriving a Typology of Criteria

Davis & Gould

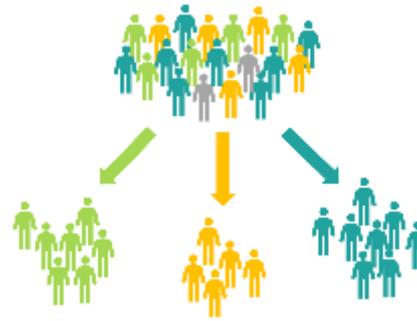
Typology

STRATIFICATION



Separate according to risk level

SEGMENTATION



Drive toward homogeneous clusters

TARGETING



Match people & services

Domains

Cost

Utilization

Age

Income

Health Conditions

Subjective Criteria

Sub-Domains



Detailed Criteria



Full text available from Population Health Management: <http://doi.org/10.1089/pop.2020.0153>

Common Themes

Most studies employed a combination of criteria across several domains to structure their complex population



75 of the 90 complex population definitions (83.3%) included a cost-based criterion, a utilization-based criterion, or both



35 of 90 complex population definitions (38.9%) included a health conditions-based criterion



19% - 20% of these population definitions also included a subjective component (e.g., referral or screening of the candidate patient list)

Full text available from Population Health Management: <http://doi.org/10.1089/pop.2020.0153>

Variation in Criteria Specifications

Even within the common conceptualizations of complexity, we observed an array of distinct criteria specifications

4+ treat and release
emergency department visits
in the **prior year**

1+ inpatient stay
in the prior year

2+ emergency
department visits in the
prior **28 days**

3+ emergency department
visits or inpatient stays in
the prior year

Predicted inpatient readmission
risk score of ≥ 50 out of 100 within
the next year

Concept of
“frequent acute care utilizer”

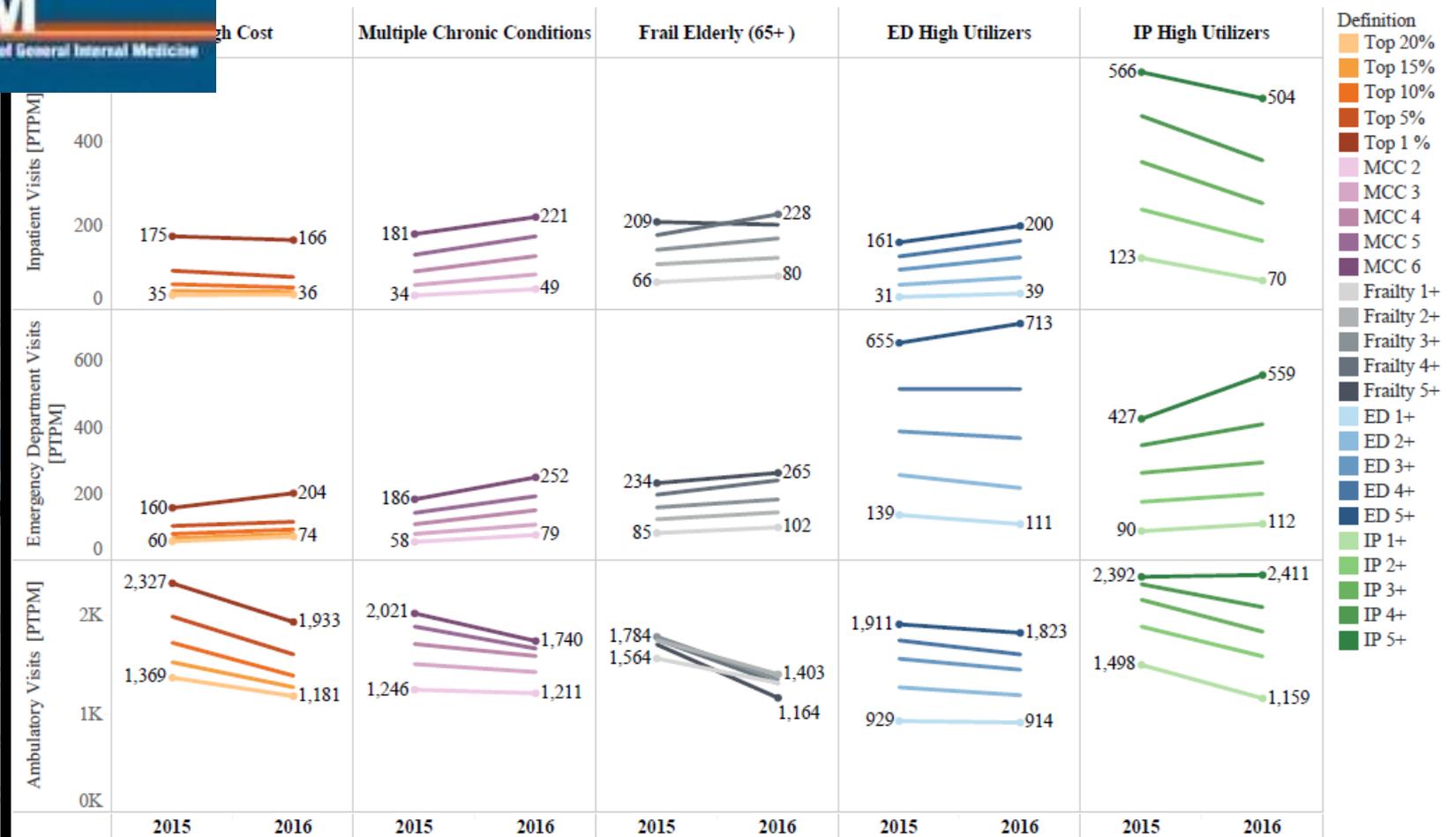
Full text available from Population Health Management: <http://doi.org/10.1089/pop.2020.0153>

Conclusions

- “Schools of thought” in population identification methods were unsurprising
- Variability in details of criteria specifications
- Very little information is available about how important such distinctions in criteria specifications are
- Vague language (e.g., “high utilizers”) creates potential confusion about comparability of seemingly similar cohort definitions
- Better understanding the implications of population selection decisions is critical to interpreting and comparing results of interventions



Full text available from Population Health Management: <http://doi.org/10.1089/pop.2020.0153>



Davis AC, Chen A, Osuji TA, Chen J, and Gould MK. Defining Complex Patient Populations: Implications for Population Size, Composition, Utilization, and Costs. Journal of General Internal Medicine. Forthcoming

Full text available from



Meaningful Outcomes & Missed Opportunities

Research Team

Richard W. Grant, MD, MPH -- Co-PI

James D. Ralston, MD, MPH -- Co-PI

Elizabeth A. Bayliss, MD, MSPH -- Co-PI

Sponsor: Garfield Memorial Fund

Original Investigation | Health Informatics

Use of Latent Class Analysis and k-Means Clustering to Identify Complex Patient Profiles

Richard W. Grant, MD, MPH¹; Jodi McCloskey, MPH¹; Meghan Hatfield, MPH¹; [et al](#)

December 11, 2020

Question:

What distinct patient profiles can be identified within a population of the most medically complex patients?

Methods:

- 104,869 KPNC members with COPS > 14 and high ED or LOH
- Latent Class Analysis (LCA)
- 97 clinical variables from multiple domains (medication classes, procedures, lab results, utilization, SES, durable medical equipment)

Grant RW, McCloskey J, Hatfield M, et al. Use of Latent Class Analysis and k-Means Clustering to Identify Complex Patient Profiles. *JAMA Netw Open*. 2020;3(12):e2029068. doi:10.1001/jamanetworkopen.2020.29068

Seven Patient Profiles Derived From Latent Class Analysis: Defining Features and Suggested Management Strategies

Profile	Key defining features
Highest acuity	Patients with highest utilization (both inpatient and outpatient) with most comorbid conditions
Older patients with CVD	Older patients with high prevalence of CVD-related conditions and complications
Frail elderly	Oldest group with highest 1-y mortality and most frailty-related needs
Chronic pain management	High outpatient utilization and medical needs complicated by mental health needs
Active cancer treatment	Intensive oncologic therapy with associated medical and pain management issues
Psychiatric illness	Severe mental illness complicated by low income, social needs, and pain management
Less clinically engaged	Prevalent comorbidities but fewer visits

Full text available from JAMA Network Open: <http://doi.org/10.1001/jamanetworkopen.2020.29068>

Conclusions

- Highly medically complex patient populations may be categorized into distinct patient profiles
- Patient clusters may be amenable to varying intervention strategies
- Although some group profiles were labeled by a key distinction, such as undergoing chemotherapy, every patient in each profile also had multiple other chronic conditions
- Care programs focused on supporting a single issue are not likely to fit the full range of needs in this medically complex patient population

Full text available from JAMA Network Open: <http://doi.org/10.1001/jamanetworkopen.2020.29068>

Reflections

Kaiser Permanente Complex Needs Strategic Direction



Kaiser Permanente's Complex Needs initiative identifies health care delivery models that improve care for individuals who experience a combination of medical, functional, behavioral, and social needs.

This work:

- Builds **bridges across system-level siloes** between research, care delivery, and clinical decision makers
- Tests and evaluates **patient-centered interventions** and systems across Kaiser Permanente
- Partners with external organizations to advance the field and **evidence-base** for Complex Care

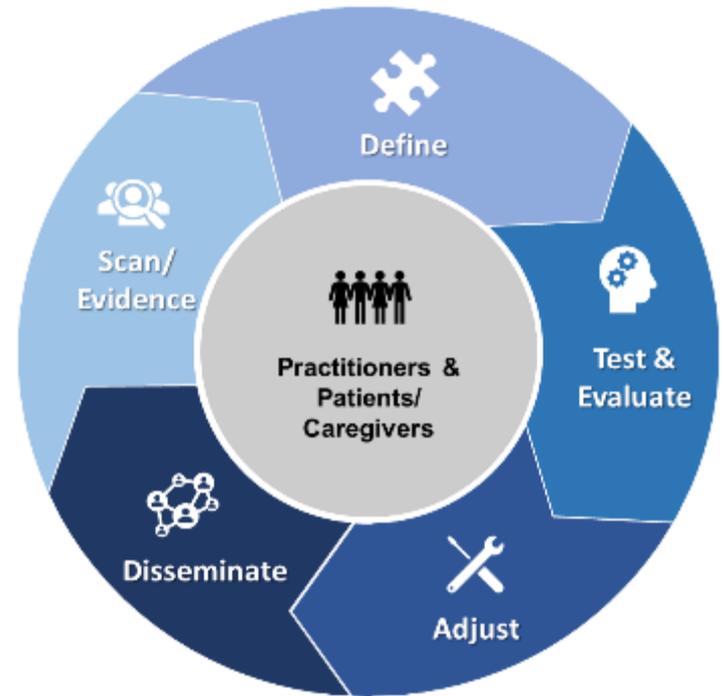
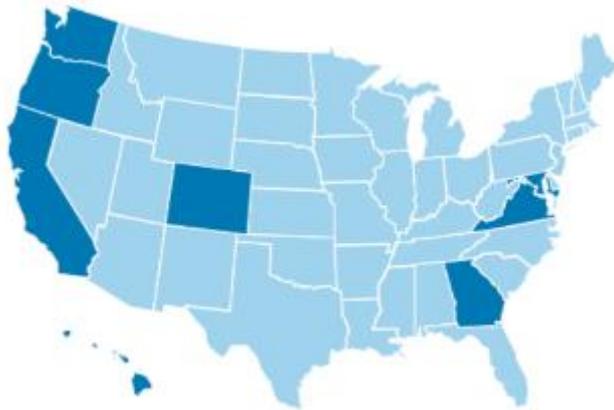
Kaiser Permanente Complex Needs Learning Approach

Health Plan and Medical Group Executive Sponsors

Local
Operational
Leaders

Complex Needs
Research
(CORAL)

Community of
Practice



Evidence Reviews

Evaluation

Patients & Caregiver
Ethnography

Operational Playbooks

CME and Workforce
Training

Thank you!

Contact: Anna.Davis@KP.org

Complex Care at NYC H+H

An Overview of our Operational Guide for Health Systems and
Experience with Designing a Safety Net Clinic Program for
Complex Care

CHCS Webinar

May 17, 2021

Jillian Diuguid-Gerber, MD, *Lead Physician Safety Net Clinic Woodhull*

Anne Marie Young, MBA, *Director Complex Care*

NYC
HEALTH+
HOSPITALS

POPULATION
HEALTH

Key Elements of Our Operational Guide

<i>Identify</i>	Risk scoring and stratification: using data and analytics to identify patients with complex needs
<i>Understand</i>	Segmentation: combining analytics with clinical insight to understanding patients with complex needs
<i>Treat</i>	Targeting: tailoring care models to fit needs and behaviors of patients with complex needs

[Complex Care Operational Guide](#) contains open-source implementation tools which can be customized and used to support health systems' efforts to identify, understand, and treat patients with complex needs.

Identify

Risk scoring and stratification: using data and analytics to identify patients with complex needs

H+H Selected Approach: *Predictive Modeling*

Predictive modeling allows for proactive population risk scoring, which could be used to identify people who will generate the majority of costs or service utilization in the future or are at highest risk for poor health outcomes.

- NYC Health and Hospitals developed a payor-agnostic risk model for super-utilization using administrative and clinical data. This did not require advanced EHR functionality or proprietary claim-based rules, making it timely and affordable for our system.
- Access H+H's nonproprietary, open source predictive model here: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5910357/>

An All-Payer Risk Model for Super-Utilization in a Large Safety Net System

Jeremy Zhang, BA¹, Spitho Gogoi, PhD, MPH, Ramie Newton-Dame, MPH, Jesse Singer, DO, MPH, and Dove A. Choudhri, MD, MSc^{1,2}

¹NYU School of Medicine, New York, NY, USA; ²NYU Health + Hospitals, New York, NY, USA

DOI: 10.1093/fampra/fay008

© The Author(s) 2019. This article is an open access publication

INTRODUCTION

Identifying patients at high risk for super-utilization of inpatient and emergency services, and proactively managing these care – are key challenges for health care systems aiming to improve population health and control costs. Traditional claim-based risk scores are inadequate for uninsured patients and patients with insurance claims, and many safety net systems do not have an electronic health record (EHR) capable of advanced analytics.

At the largest safety net system in the country, NYC Health + Hospitals serves a high need population, including three wards of patients with multiple, unmet needs, between social health, and social issues. More than half of the system's patients had an emergency room (ER) visit in the past year. Seventeen percent had two or more visits, and 250 patients averaged at least 4 days a week in one of our emergency rooms. NYC Health + Hospitals also provides half of all uninsured emergency and urgent care for New Yorkers, including more than 50% of uninsured emergency services.¹ In the successful, risk predictor strategies must encompass NYC Health + Hospitals' entire patient population.

METHODS

The objective was to develop a payor-agnostic risk model for super-utilization using administrative and clinical data from the largest safety net system in the USA. We selected adults that resided at NYC Health + Hospitals at a home, community health center, or skilled nursing facility in 2014 (index year) and were not designated pregnant or actively incarcerated during the study period. Patients were randomly assigned to a development (DEV) or validation (VAL) cohort, using SAS Enterprise Miner 7.11 (SAS Institute). Inset of administrative data provided utilization, demographic and scheduling data, and diagnosis codes from a clinical data. Our primary outcome was super-utilization within our system during 2015 (prediction year), defined as ≥10 days in inpatient care or the emergency room. To identify candidate variables, we aligned available data elements to key factors in the literature and clinical

guidelines.² Stepwise selection identified the final logistic model and generated algorithmic weights. Model discrimination was assessed using the c-statistic. Our large sample size precluded the Hosmer-Lemeshow test.³ We assessed weights as a risk algorithm using methods described by Sullivan et al.⁴ Risk score performance was assessed as the validation set using positive predictive value for 2015 super-utilization among the top 1% of 2014 patients (high risk). Figure was generated using Tableau 10.1 (Tableau Software).

RESULTS

We trained 663,472 NYC Health + Hospitals patients in the development cohort, of which 15,306 super-utilized. 44,960 were enrolled in Medicaid in their most recent visit in 2014, and

Table 1. Payor-agnostic Risk Score from a 2014/2015 NY-Cohort

Variable	Value	Risk points
All visits in 2014	≥2 visits	24
	1-1 visits	17
Emergency visits in 2014	≥4 visits	161
	3 visits	87
	2 visits	82
	1 visit	81
≥16 inpatient ED days in 2014	≥4 visits	153
Medicaid status emergency	Single, never married	15
	Married, widowed, and divorced	44
Gender	Male	17
Age emergency	41-60	74
	61-80	63
	≥81	42
Diagnosis ICD9	Alcohol disorders	42
	Substance abuse	17
	Mood disorders	17
	Heart disease	14
	Substance disorders	74
	Chronic kidney disease	24
	Tuberculosis	17
	Hypertension	17
	Stroke cod	14
	Other cod	10
7-2 annual outpatient medicine clinic visits	≥2 zip changes	14
	20+ changes	23
Peer changes	1-2 peer changes	16
	3-4 peer changes	14
	≥4 peer changes	20

PM

Understand

Segmentation: combining analytics with clinical insight to understanding patients with complex needs

Example: Early Data Driven Segmentation at H+H



1) Action Segments were based on eligibility criteria for existing care management programs, matched to EHR data on conditions.

- Action Segments included serious mental illness, high ED utilizer, high IP utilizer, and homeless.

2) Financial data helped us understand generally where high risk people were seeking services (Emergency Department, Inpatient, and Primary Care)

Understand

Segmentation: combining analytics with clinical insight to understanding patients with complex needs

Tool: Qualitative Segmentation

Critical point in time

Mixed medical and behavioral health needs with acute utilization driven by recent life event

- Recent onset, illness exacerbation
- Change in health, lifestyle, environment, social status
- High ED (psych, CD, and medical), low IP, some ambulatory
- “Undertreated,” potentially undiagnosed

Capable, but conflicted

Primarily medical needs, with utilization driven by preference and perception

- Primary care sensitive conditions
- “Avoidable” utilization
- Patient preference/beliefs/values not aligned with existing ambulatory care offerings

Struggling to self-manage

Mixed behavioral and medical health needs, compounded by limited ability to live independently

- Mixed BH and medical complexity
- Functional limitations, DME and skilled nursing needs
- High IP admissions, outpatient MH and geriatrics utilization, polypharmacy

Disconnected by disparity

Mostly medical needs, potentially underlying SUD, with significant social risk as barrier to aftercare

- Appropriate ED/IP utilization
- Unable to follow-up with aftercare
- Social risk (uninsured, undocumented)
- Conditions worsen, result in readmissions and revisits in ED

Seeking relief from serious illness

High disease burden, mostly medical, but also serious, persistent mental illness, with limited insight into prognosis

- Advancing illnesses, palliative care needs for symptom management
- High IP admissions, ED visits, and specialty

Basic needs for better health

Significant behavioral health, with some chronic medical conditions, but lacking basic resources to get well

- Lacking basic fundamentals: housing, social support, food security
- Health outcomes limited by resources

Treat

Targeting: tailoring care models to fit needs and behaviors of patients with complex needs

Model Domains:

- Enhanced Medical Home
- Home and Community Models
- Transitional Care Models

Match available care model programs to patient segments; identify the gaps in health system.

Matching Models to Segments: Intensive Primary Care

Critical point in time

Mixed medical and behavioral health needs with acute utilization driven by recent life event

Capable, but conflicted

Primarily medical needs, with utilization driven by preference and perception

Struggling to self-manage

Mixed behavioral and medical health needs, compounded by limited ability to live independently

Disconnected by disparity

Mostly medical needs, potentially underlying SUD, with significant social risk as barrier to aftercare

Seeking relief from serious illness

High disease burden, mostly medical, but also serious, persistent mental illness, with limited insight into prognosis

Basic needs for better health

Significant behavioral health, with some chronic medical conditions, but lacking basic resources to get well

NYC H+H Complex Care Pilot: Designing the Primary Care Safety Net Clinic, An Intensive Primary Care Model

Clinic Mission:

1. To effectively engage homeless patients with complex barriers to primary care.
2. To provide dignified, trauma-informed care focused on patient-oriented care goals while addressing addiction, mental health, and chronic disease.
3. To implement an interdisciplinary care team model in a safety-net health care system combining primary care, social work, care coordination, and nursing.



Staffing Model for Safety Net Clinic Pilot

Hospital-Based Staff



Primary Care
Provider



Clinic Nurse



Patient Care
Associate



Front Desk

Support Staff via Partnerships



Care Coordinators



Housing Navigator



Social Worker



= 1 Full Time Equivalent
(FTE)

Tips: Replicating a Pilot Program for Patients with Complex Needs

- Conduct a needs assessment to determine what subpopulations may not have existing resources or lack sufficient resources within the health system or community.
- Identify existing resources (space, staffing) that may be underutilized or in the process of being phased out.
- Start small and iterate based on experience, patient feedback, and provider feedback.
- Target outreach to external organizations with shared mission or population focus; prioritize internal stakeholder outreach (just as important!)

CareOregon: Leveraging Data Analytics to Predict Rising Risk Populations

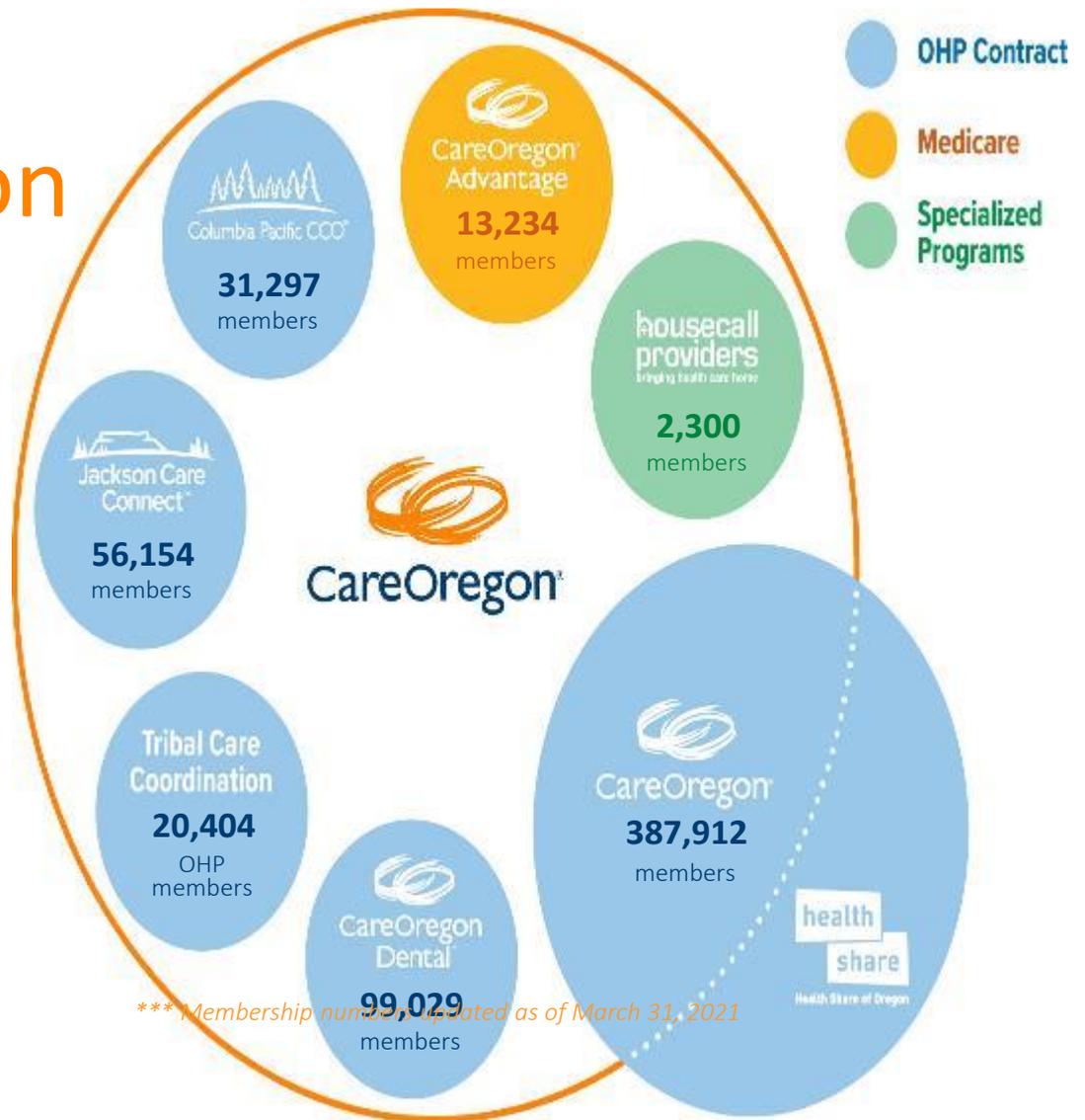
Jonathan Weedman, LPC, CCTP
Vice President, Population Health

careoregon.org
twitter.com/careoregon
facebook.com/careoregon



The CareOregon Family

For more than 25 years, CareOregon has offered health services and community benefit programs to Oregon Health Plan members. Today, we support the needs of 450,000 Oregonians through three coordinated care organizations, a Medicare Advantage plan, a Tribal Care Coordination program, a dental care organization, and in-home medical care with Housecall Providers. CareOregon members have access to integrated physical, dental and mental health care, and substance use treatment. We believe that good health requires more than clinics and hospitals, so we also connect members to housing, fresh food, education and transportation services. CareOregon is a mission-driven, community non-profit with offices in Portland, Medford and Seaside, Oregon.



CareOregon's Mission

Why we exist

Inspire and partner to create quality and equity in individual community health.

CareOregon's Vision

Where we are going

Healthy communities for all individuals, regardless of income or social circumstances.



Population Segmentation

Rising Risk



CareOregon®

A Brief History



Collective Medical-Stayer,
Joiner, leaver



Marrying the right
intervention with the right
population



Using data to guide our
process



Historical State



Acute episode identified members for care coordination



Interventions were reactive to ED visit or IP hospitalization



Criteria-based programming (x ED visits in x time) rather than proactive identification



Proactive Future

Identifying members prior to acute episodes (IP hospitalization, ED, etc.)

Proactively outreach to members likely needing more attention
(yours, mine and ours)

Use data to identify the physical, social and behavioral health needs
of members and how they contribution to the health decline process

Successfully disrupt or delay the process of health decline



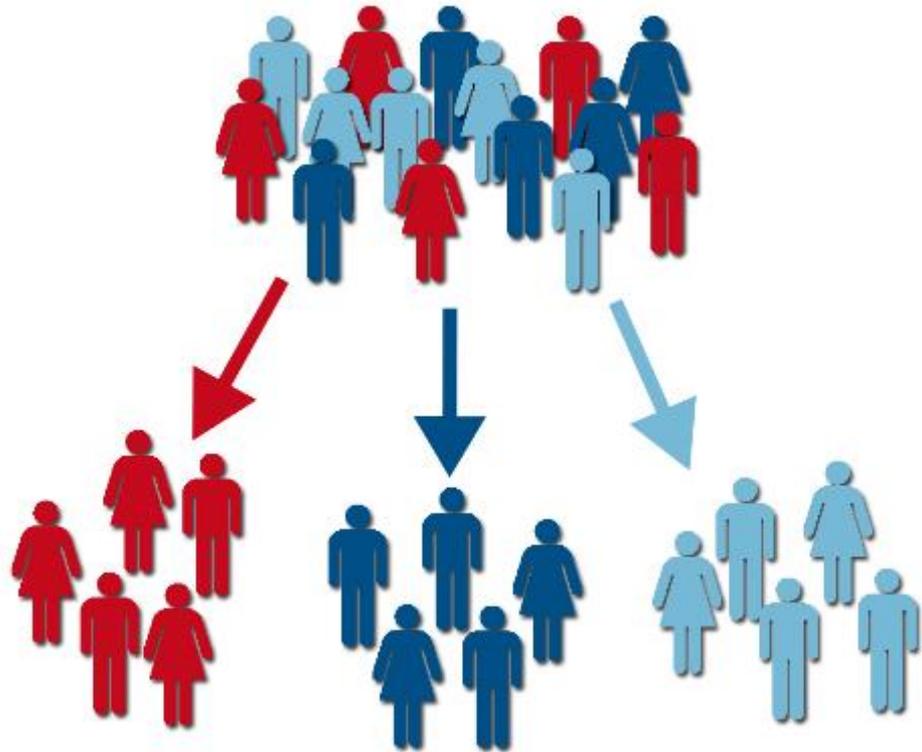
Current Model - Pop Seg 1.0



What is Segmentation?

Process of putting
people into groups
based on *similarities*

Commonly used in
marketing

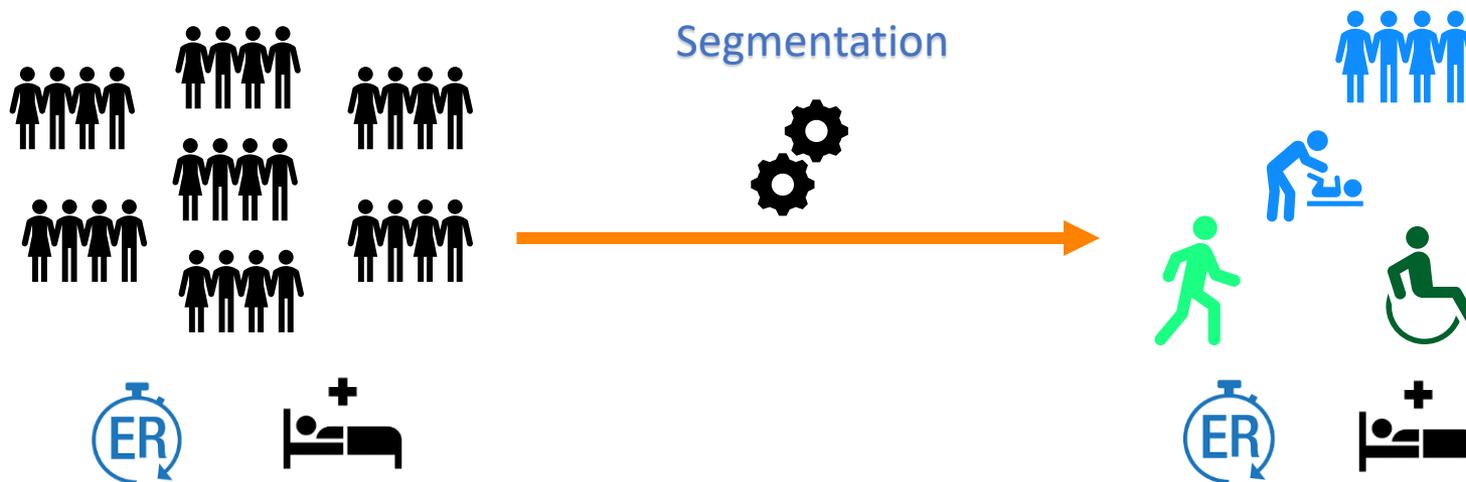


Why Segment?

- Understanding our population based on specific patterns/behaviors/needs
- Inform resource allocation to address those specific needs
- Observe population level trends over time (are members collectively getting more healthy, more sick, etc.)
- Identify member-level trends by provider/clinic to inform opportunities for quality improvement and support



How Segmentation Works



That's only 0.5% of our population!!!

What about the remaining 99.5% of our population?



Segmentation – Model Development

Data Sources

Input Variables

Algorithm Output

Medical Claims

Age

Inpatient Admissions

ED Visits

Outpatient Other Visits

Pharmacy Claims

Pharmacy Cost

+ Other derived variables

ACG

Hospital Dominant Count

Chronic Condition Count

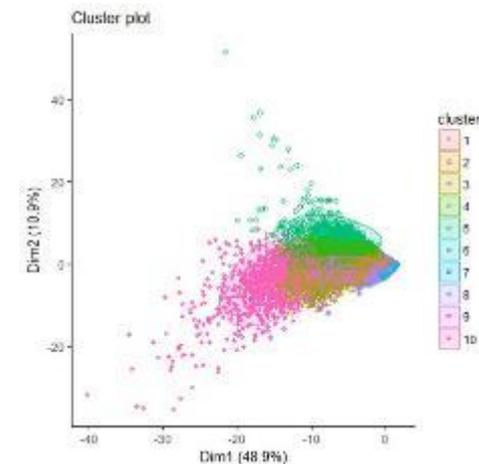
Major ADG Count

Diagnoses Used

Active Ingredient Count

Total Providers Seen

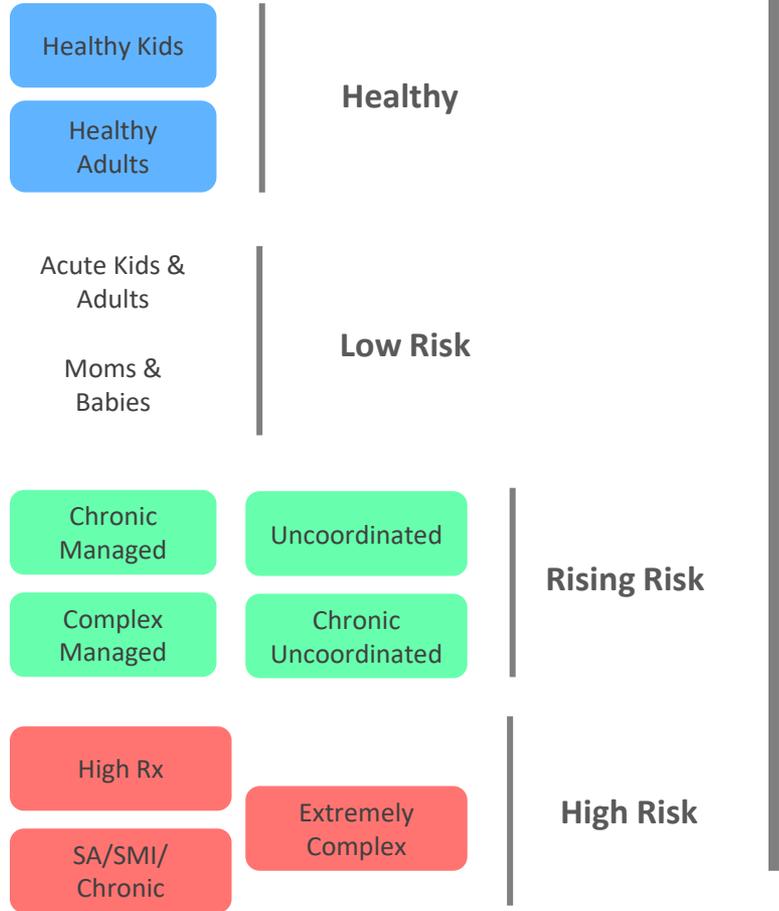
Cluster Analysis



Human assigned Labels



Segments



Total Care Oregon Population

- Utilization patterns of members/patients
- Provides framework for how we can communicate and match the correct intervention with the need



Understanding Segments: Rising Risk



Chronic Managed



At least 4 chronic conditions, 20% have severe mental health issues, have one hospital dominant condition, prevalent conditions are diabetes, hypertension, low back pain, and asthma



Engagement with PCP/Specialists and OP care, no significant ED/IP use



- 1) Member may need to connect with BH specialist at clinic and/or need referral to specialty MH
- 2) Make sure member's conditions/medications are reviewed



Complex Managed



Has multiple medical conditions



Have high engagement with PCP/Specialists (on average 30+ OP visits), few IP/ED visits



- 1) Clinic does review of patient on a regular cadence to ensure medical issues are addressed



Highest rate of specialist visits than any other segment



Highest prevalence of Cancer & Rheumatoid Arthritis compared to other segments



Understanding Segments: Rising Risk



Uncoordinated



Mostly in their 30's with no chronic conditions, 30%-40% have SUD and half use tobacco.



On average has 5+ ED visits, less likely to engage with PCP



- 1) Connect member to SUD treatment and/or PCP
- 2) Connection to community resources that are age appropriate



Chronic Uncoordinated



Has at least 4 chronic conditions and 2 hospital dominant conditions, and on average takes medications with over 20 ingredients



Has had at least one unplanned IP stay, a couple ED Visits



50% of members in Chronic Uncoordinated segment are frail & 50% of them also use Ambulance (~n=1,800)

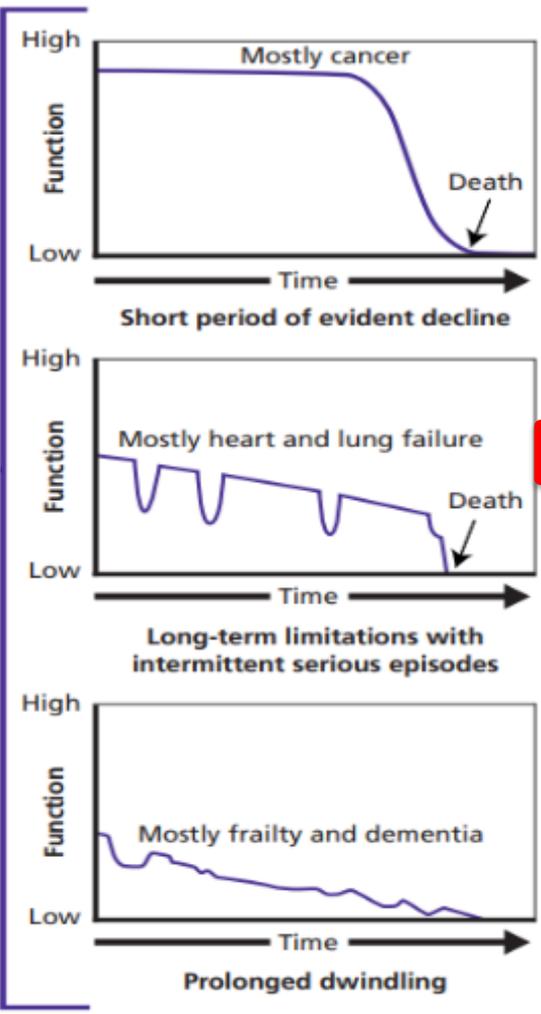


- 1) Focus on IP transitions to ensure member has f/u appointment with PCP and med rec happens
- 2) Clinic focuses on medications and makes sure member's meds are correct and being taken
- 3) Ensure member is attending appointments and has support as needed to make sure they get needs met



Application Concept





High Risk: Extremely Complex

Rising Risk: Chronic Uncoordinated

Rising Risk: Chronic Managed

Rising Risk: Complex Managed

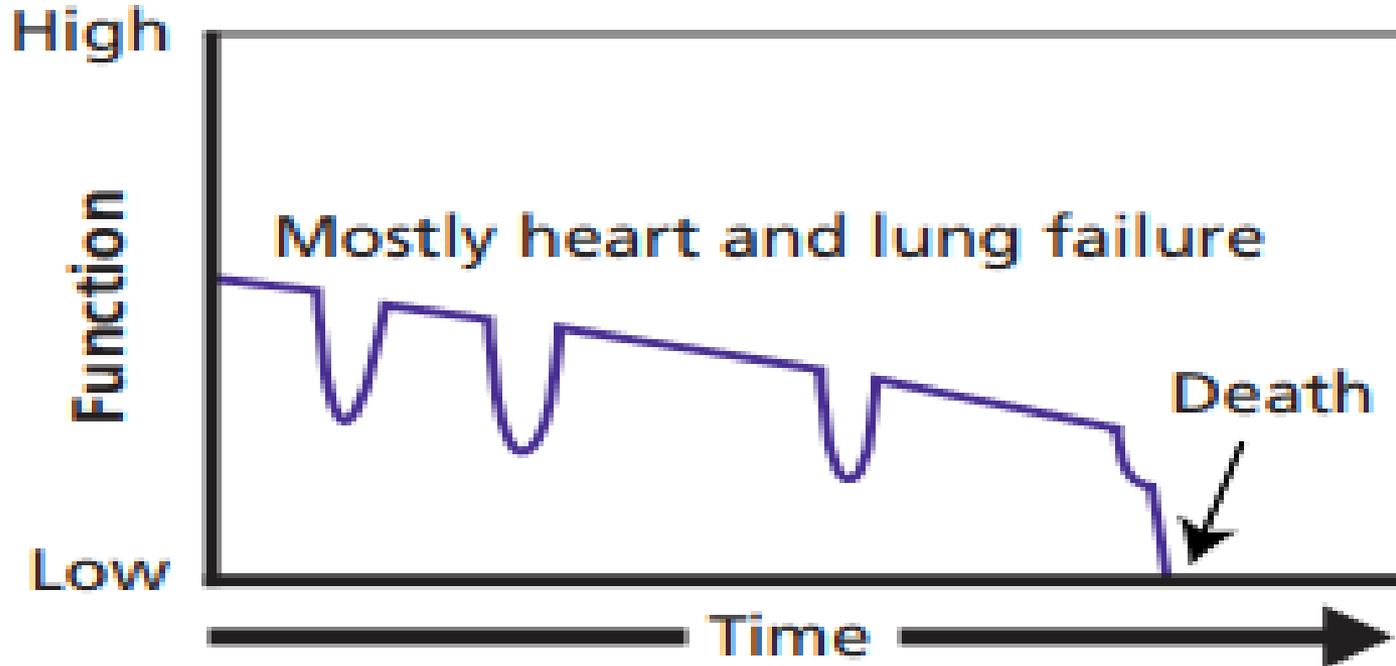
Rising Risk: Uncoordinated

*Adapted from: Lunney, J. R., Lynn, J., Foley, D. J., Lipson, S., & Guralnik, J. M. (2003). Patterns of functional decline at the end of life. *Jama*, 289(18), 2387-2392.



What are we Trying to Accomplish?

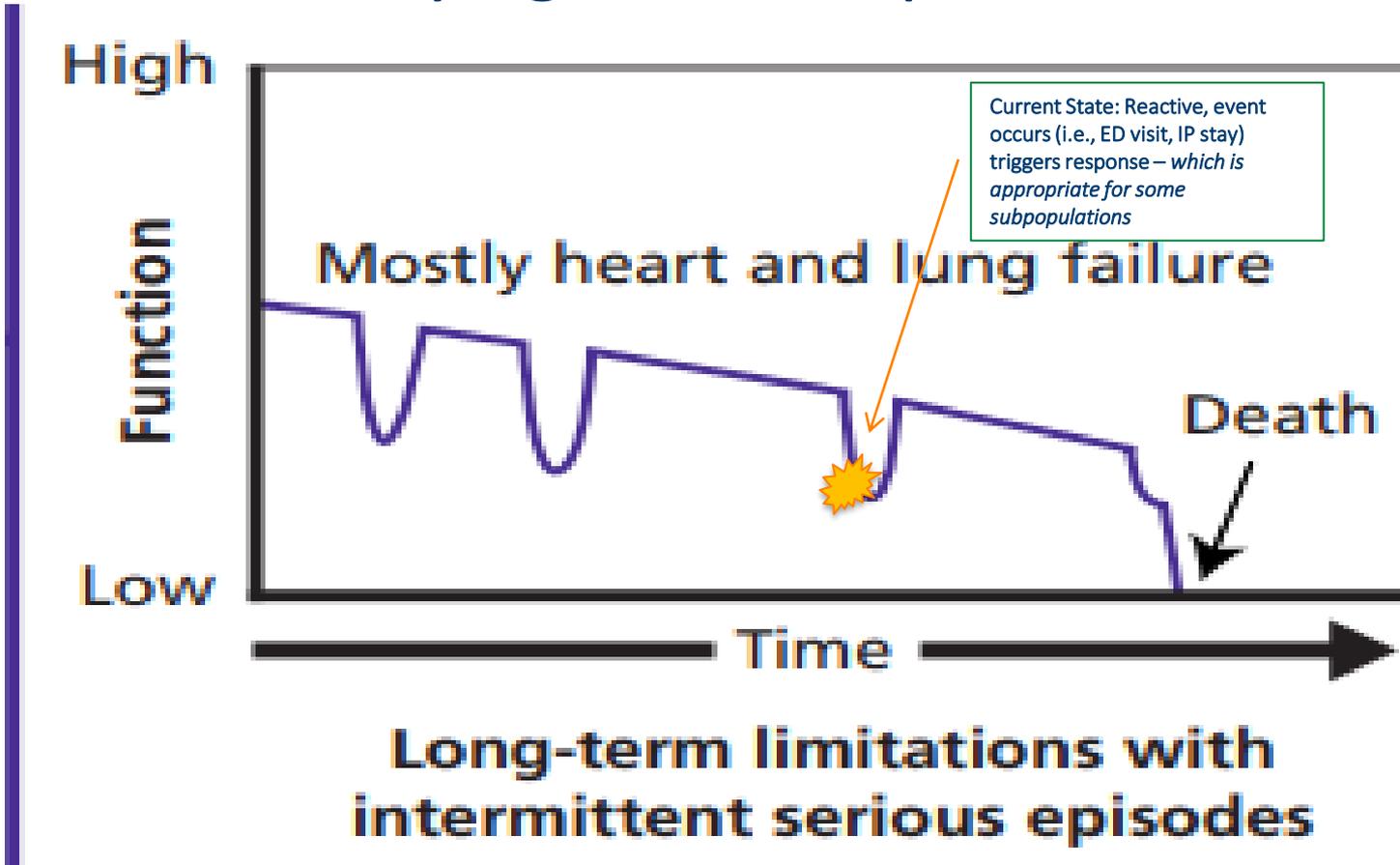
*Adapted from: Lunney, J. R., Lynn, J., Foley, D. J., Lipson, S., & Guralnik, J. M. (2003). Patterns of functional decline at the end of life. *Jama*, 289(18), 2387-2392.



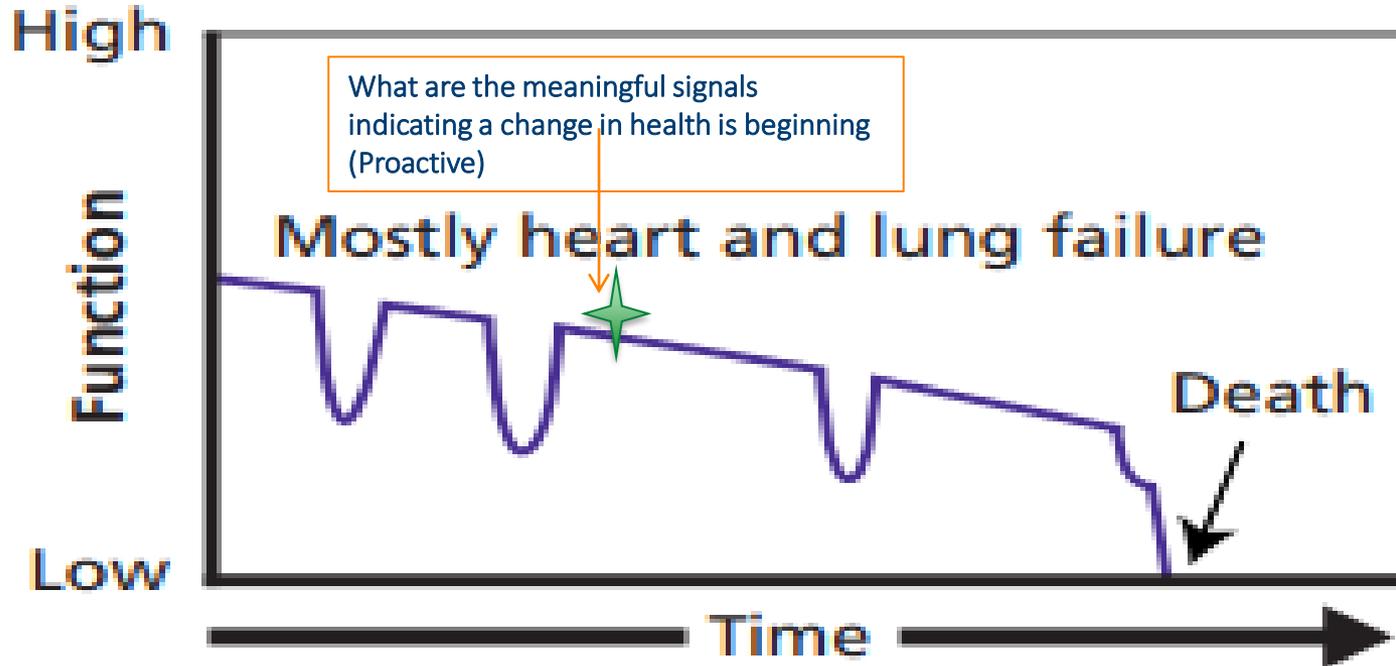
**Long-term limitations with
intermittent serious episodes**



What are we Trying to Accomplish?



What are we Trying to Accomplish?



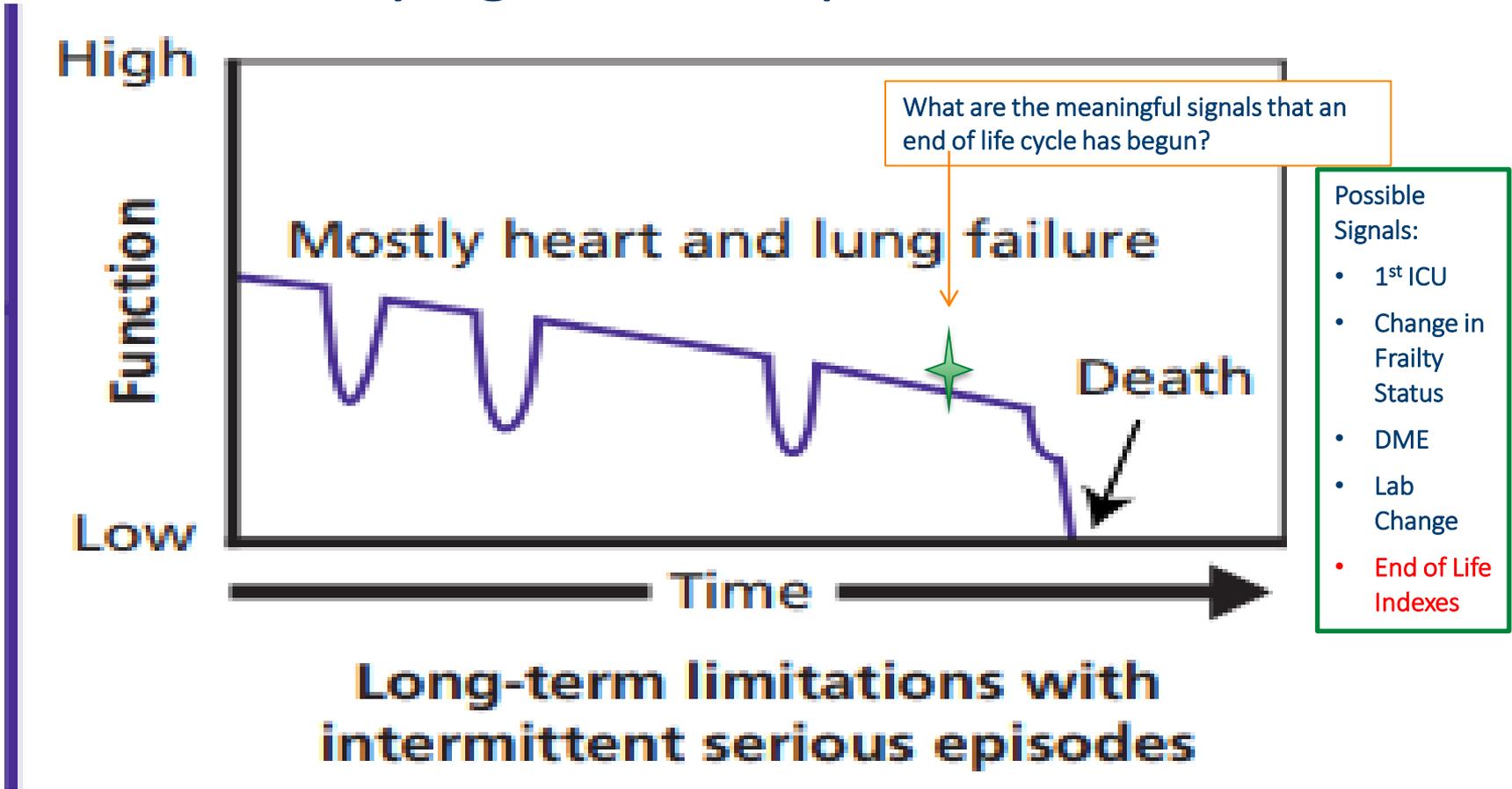
Possible Signals:

- DME
- Medication
- New DX
- MH tx
- SUD tx
- Predictive Analytics

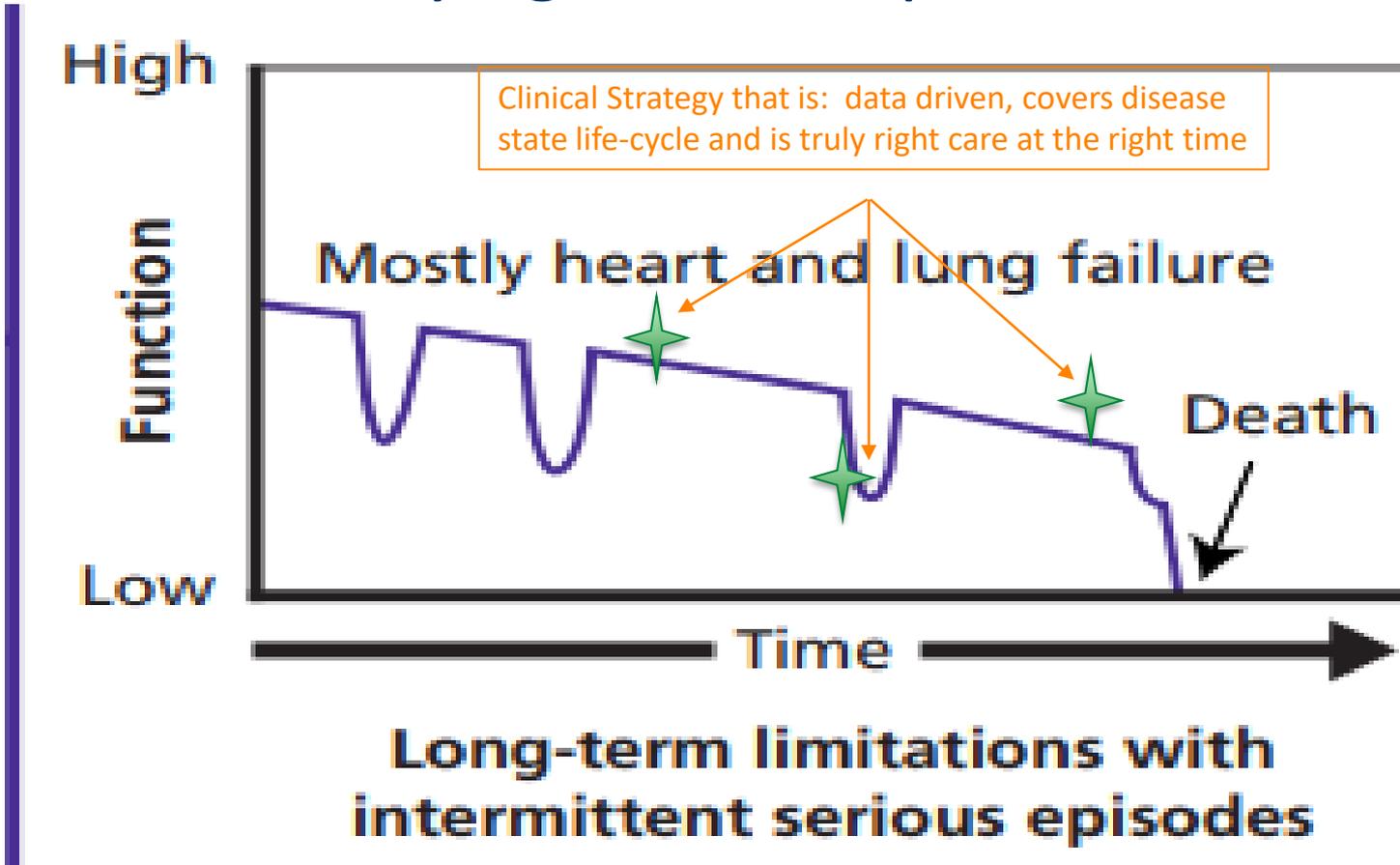
Long-term limitations with intermittent serious episodes



What are we Trying to Accomplish?



What are we Trying to Accomplish?



Lessons Learned



Finding the right “signals”
is challenging



Current model isn't
predictive



Need to develop a lens
into member
impactability



Language is important-
simplified for providers
and trauma informed for
members



Next Steps



Readjust model to include predictive analytics (Pop Seg 2.0)



Develop mechanism for indicating impactability



Test with clinic and community partner(s)



Create clear road map of “Yours, Mine, and Ours”



Work collaboratively with network to build workflows for road map



Develop evaluation to determine true changes to risk status



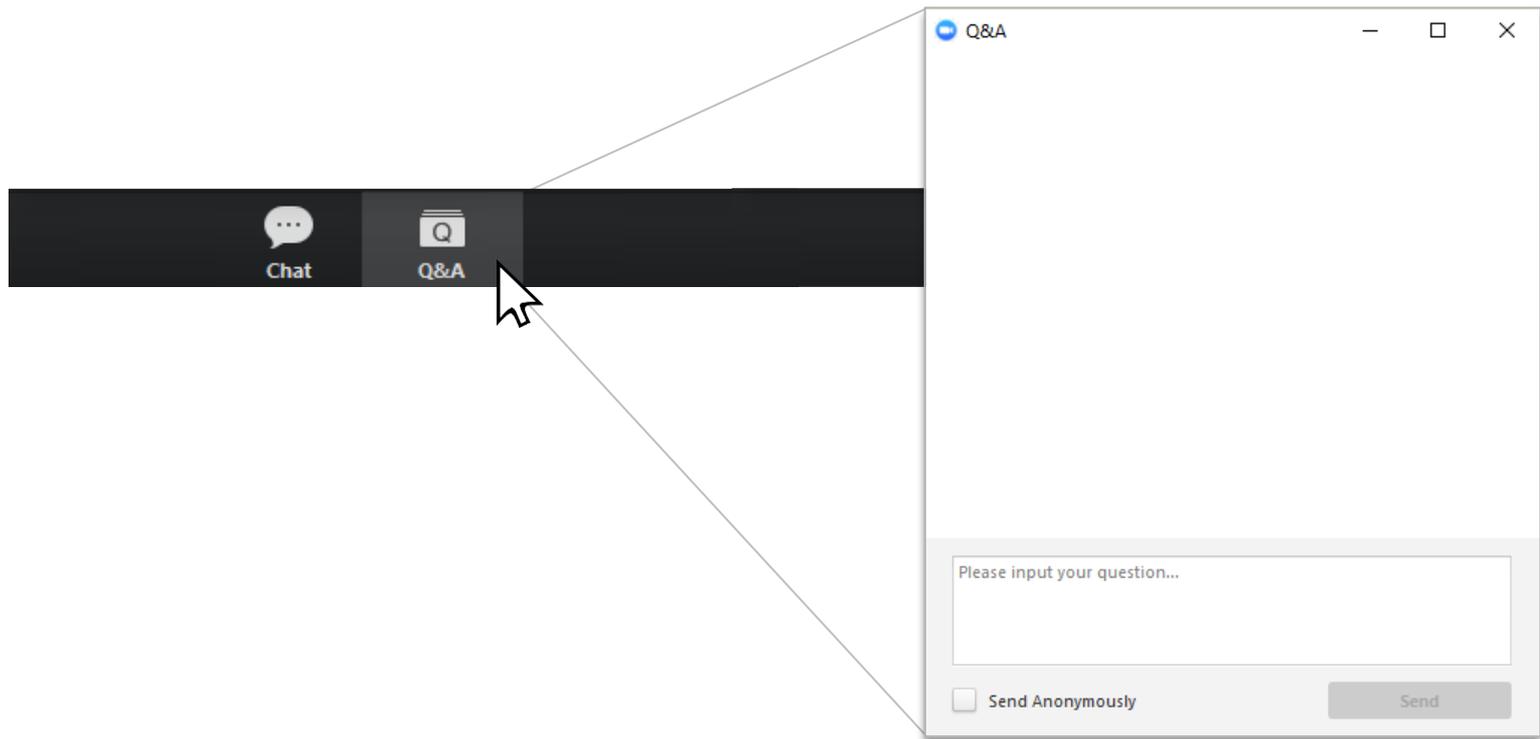
Question & Answer



Questions?



To submit a question, click the Q&A icon located at the bottom of the screen.



Linked Resources

- Kaiser Permanente
 - [Identifying Populations with Complex Needs: Variation in Approaches Used to Select Complex Patient Populations](#)
 - [Use of Latent Class Analysis and k-Means Clustering to Identify Complex Patient Profiles](#)
- NYC H+H: [Operational Guide to Identify, Understand, and Treat High-Need Patients](#)
- CareOregon: [Identifying “Rising Risk” Populations: Early Lessons from the Complex Care Innovation Lab](#)

Share Your Successes on the Playbook

- Have you established a promising practice?
- Published a study about your complex care program?

The Playbook welcomes content submissions to help spread best practices in complex care.

www.BetterCarePlaybook.org



Thank you!

Please submit your evaluation survey.