



# Deliver a Quality-Driven Patient Experience for Polychronic Patients

Five tactics to personalize support and address overlooked barriers to care

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Physician Executive Council  
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# Physician Executive Council

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# Executive summary

## Stakeholders are at odds over the patient experience ambition

CMOs often find themselves caught between two perspectives on patient experience: a C-suite with sights set on patient loyalty, and a medical staff struggling to establish strong patient relationships in a world of increasing documentation and burnout.

Both perspectives are valid. Securing patient loyalty is a critical revenue opportunity for hospitals and health systems in increasingly competitive markets. At the same time, physicians' limited capacity to take on additive patient experience initiatives can make it difficult for CMOs to engage them in system-wide experience efforts.

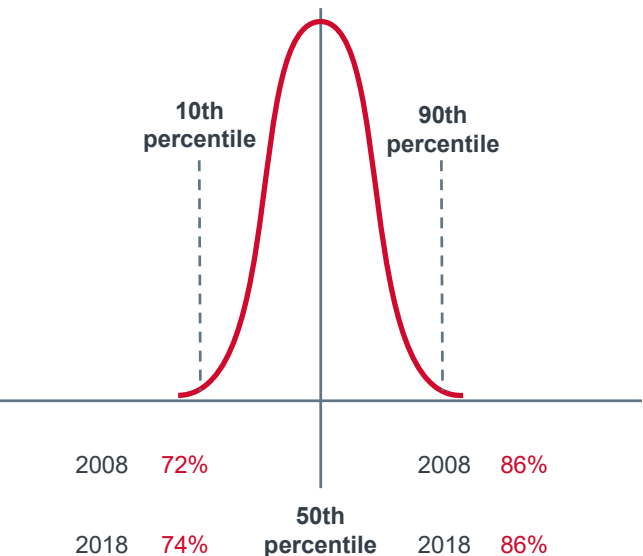
## Reaching a point of diminishing HCAHPS returns


There is one key point of agreement between executive teams and frontline physicians: HCAHPS is an insufficient measure of patient experience. First, the physician-specific HCAHPS domain<sup>1</sup> is too narrowly focused on communication—a necessary but incomplete measure of overall experience. Second, from a national perspective, physicians consistently perform well on HCAHPS.

## Narrow opportunity to improve national physician HCAHPS performance

The narrowing bell curve for national HCAHPS performance indicates that focusing on physician communication alone is not enough to engage physicians in patient experience efforts and inspire transformational change. Rather, the greatest opportunity for hospitals and health systems to mobilize physicians and improve the patient experience is to look beyond HCAHPS.

### Top box<sup>2</sup> performance on physician communication HCAHPS domain





### HCAHPS physician communication questions

1. “During this hospital stay, how often did doctors treat you with courtesy and respect?”
2. “During this hospital stay, how often did doctors listen carefully to you?”
3. “During this hospital stay, how often did doctors explain things in a way you could understand?”

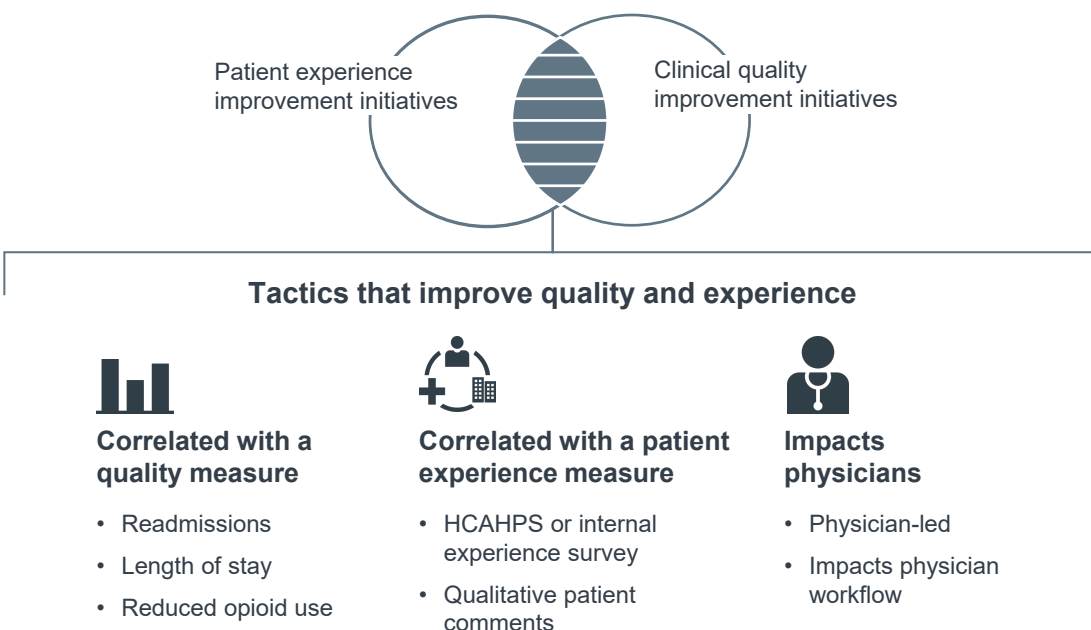
1) The three HCAHPS questions that address physician communication specifically.  
2) “Top box” defined as patients who responded with “always” to all three HCAHPS physician communication questions.

## An ambition everyone can agree on: delivering a quality-driven patient experience

To mobilize physicians in patient experience efforts, leaders must fundamentally shift their strategy to lead with clinical quality. Prioritizing initiatives that correlate to both quality and experience improvements aligns patient experience efforts to physicians' top priority: providing best-in-class clinical care.

In theory, nearly all CMOs agree that relinking quality improvement and patient experience efforts is the right thing to do. In practice, it is difficult to identify strategies that drive both quality and experience. Delivering on a quality-driven patient experience requires two layers of prioritization:

### 1. Identify initiatives that correlate with both quality and patient experience improvement.



### 2. Strategically map tactics to patient populations with the greatest opportunity to improve both quality and patient experience.



#### Polychronic patients

In this brief, we outline five tactics to simultaneously improve quality and experience for polychronic patients during and after their hospital stay.

**Definition:** A patient with three or more chronic conditions, one of which significantly impacts quality of life

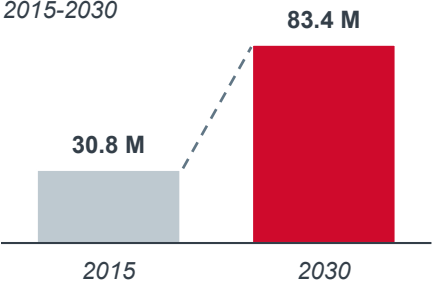
**Top opportunity to improve both quality and patient experience:** Proactively identify chronically ill patients and their needs—and match them to tailored interventions

# Polychronic population is a growing national challenge

Hospitals and health systems increasingly encounter polychronic patients, individuals with three or more chronic conditions. Projections show that the polychronic patient population will grow significantly—nearly tripling in the next 15 years.

## Prevalence of US adults with three or more chronic conditions

2015-2030



### Definition-in-brief: Polychronic patient

A patient with three or more chronic conditions, one of which significantly impacts quality of life

Hospitals often struggle to address polychronic patients' complex clinical and non-clinical needs during a single hospital stay. As a result, these patients often have extended inpatient stays and high readmission rates. In addition, polychronic patients report lower patient satisfaction compared to patients with fewer conditions.



### Quality shortfalls

**25%**

Readmission rate for patients with five or more conditions<sup>1</sup>

**11%**

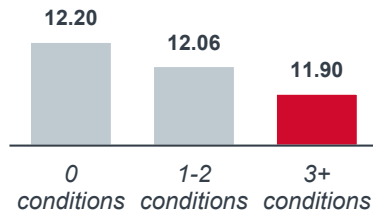
Greater LOS<sup>2</sup> for patients with two to three chronic conditions

**25%**

of multimorbid patients have a drug-drug interaction

## Experience shortfalls for polychronic patients

Average predictive physician communication scores



More conditions are associated with a statistically significant decline in physician communication scores



It's frustrating that I have to rehash what feels like my whole medical history every time. I come here often enough, and I wish that my doctor and her staff knew me more than they do."

*Polychronic patient*

Source: "The Cost of Chronic Diseases in the US," *Milken Institute*, 2017, <https://assets1c.milkeninstitute.org/assets/Publication/Viewpoint/PDF/Chronic-Disease-Executive-Summary-r2.pdf>; C Muth, et al., "Prioritising and optimising multiple medications in elderly multi-morbid patients in general practice. - A pragmatic cluster-randomised controlled trial," *BMJ open*, 2018, [file:///C:/Users/kwhitem4/Downloads/bmjopen-2018-February-8-2-inline-supplementary-material-1%20\(1\).pdf](https://www.bmjopen.com/content/18/2/e2018001); S Cohen and D Meyers, "Trends in health care costs and the concentration of medical expenditures," PowerPoint presentation to the National Advisory Council, Agency for Healthcare Research and Quality, 2012; C Fung, et al., "The relationship between multimorbidity and patients' ratings of communication," *J Gen Intern Med*, 23, no. 6 (2008), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2517863/>; M Mihailoff, et al., "The Effects of Multiple Chronic Conditions on Adult Patient Readmissions and Hospital Finances: A Management Case Study," *Inquiry*, 54, 2017, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5798680/>; Physician Executive Council interviews and analysis.

1) Based on study of Medicare and Medicaid patients at a general hospital in a rural area of Virginia, 2010-2015, by M Mihailoff, et al.  
2) Length of stay.

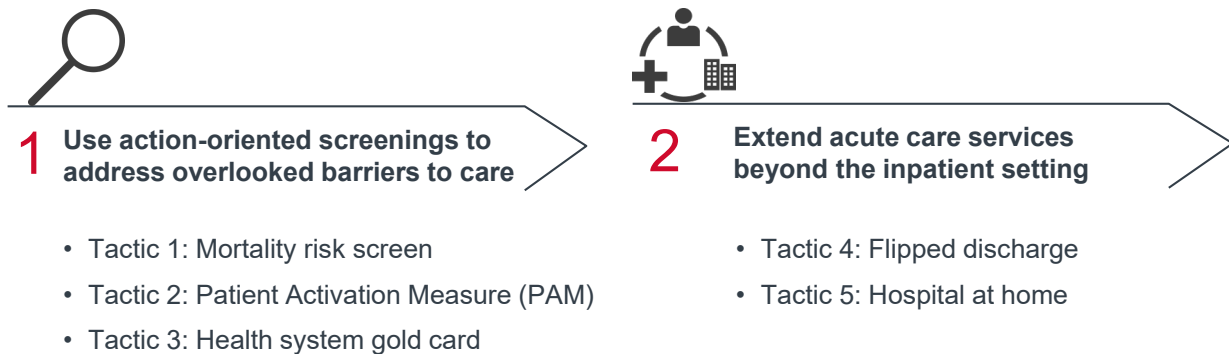


# Address commonly overlooked barriers to care

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Although it's impossible to meet all of a polychronic patient's needs during a single hospital stay, there are ways organizations can proactively uncover and address more of them in the inpatient setting. This report outlines two strategies that hospitals and health systems can use to simultaneously improve experience and quality outcomes for polychronic patients.

## Two strategies to improve quality and experience for polychronic patients



The first strategy is to proactively screen polychronic patients for commonly overlooked clinical and non-clinical barriers to care. The second strategy is to expand inpatient-level support beyond the hospital's walls. More specifically, shifting acute care services to patients' homes to reduce readmissions, decrease length of stay, and improve patient outcomes.

# Tactic 1: Mortality risk screen

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## Tactic in brief

Calculate a 30-day mortality risk score before admitting emergency department (ED) patients to an inpatient unit. Link the mortality risk score to bundled interventions to ensure patients with the highest mortality risk proactively—and consistently—receive essential services that might otherwise go overlooked.

## Rationale

Clinicians typically focus on patient acuity when admitting patients from the ED. However, acuity does not account for all mortality risk factors, leaving clinicians at risk of overlooking support that could improve clinical outcomes and reduce length of stay.

Screening patients for mortality risk before admission ensures that clinicians proactively elevate support throughout a patient's hospital stay.

## Implementation components:

### Component 1: Calculate a mortality risk score for all ED patients at the decision to admit

At the decision to admit, the ED physician completes an electronic questionnaire, which generates a patient's mortality risk score. The mortality risk score is a validated model that predicts a patient's likelihood of dying in the next 30 days on a scale of level 1 (highest mortality risk) to level 5 (lowest mortality risk).

### Component 2: Prioritize bed placement and hospitalist consult for patients at high risk of mortality

Staff place patients with high-mortality risk on a unit with a high nurse-to-patient ratio (e.g., intermediate units, ICU). Hospitalists complete an initial consult for level 1 patients within 15 minutes of their arrival on the unit.

### Component 3: Deliver a standard bundle of interventions to patients at high risk of mortality

A level 1 score initiates a standard bundle of interventions, regardless of diagnosis. The bundle includes rapid response team rounding, case manager screen, nutrition consult, palliative care consult, pharmacy services, and elevated discharge support.

## Tactic assessment

This tactic requires an up-front investment to build the 30-day risk score into your health IT system. Once the digital infrastructure is in place, this tactic improves efficiency because it prioritizes clinician support for the most at-risk patients, saving clinician time and organizational resources.

# Screen patients for mortality risk at decision to admit

## Component 1: Calculate a mortality risk score for all ED patients at the decision to admit

Leaders at St. Joseph Mercy, a five-hospital health system in Michigan, noticed that some patients presenting with a low-acuity condition were actually at a high risk of mortality. As a result, these patients failed to receive necessary interventions until an underlying condition surfaced later in their stay.

To identify high-mortality risk patients early, St. Joseph Mercy developed a validated model to screen patients for mortality risk at the decision to admission.

When a patient registers at a St. Joseph Mercy ED, the health information system auto-populates a mortality risk questionnaire with current and past patient data. If an ED physician decides to admit a patient, he or she completes additional yes/no prompts in the questionnaire to generate a mortality risk score. On average, it takes the ED physician only 20 seconds to complete the prompts.

The resulting mortality risk score calculates the likelihood of the patient dying within 30 days. Level 1 is the highest mortality risk, and level 5 is the lowest mortality risk. St. Joseph Mercy found that only 10% to 15% of patients receive a level 1 mortality score.

### St. Joseph Mercy's mortality risk factors<sup>1</sup>

**Does patient currently have any of the following conditions:**

Respiratory failure?  
Heart failure?  
Injury?  
Sepsis?  
Medical versus surgical admission?

Risk factors entered by ED physician

**Does patient have current or past history of:**

Atrial fibrillation?  
Solid-tumor cancer? ("No", if metastatic cancer or lymphoma, leukemia also present)  
Metastatic cancer? (regardless whether leukemia or lymphoma also present)  
Cognitive defect?  
Other neurological conditions?  
Leukemia?

Risk factors pulled from hospital information system, but editable by ED physician

**Additional patient data obtained by hospital information system**

• Age	• Arterial pH	• Troponin
• Gender	• Arterial pO2	• Emergent admission
• Blood urea nitrogen	• White blood cells	• Hospitalized in past year
• Hemoglobin	• Platelet count	
• Albumin	• Lactate	

To view St. Joseph Mercy's published studies on the mortality risk score, visit [advisory.com/pecpolychronicpx](https://www.pecpolychronicpx.com)

1) Illustration simplifies St. Joseph Mercy's mortality risk scoring web application for teaching purposes.

# Prioritize patients with highest mortality risk at admission

## Component 2: Prioritize bed placement and hospitalist consult for patients at high risk of mortality

The mortality risk score helps determine which unit a patient should be admitted to. Hospital staff place level 1 patients in a unit with high nurse staffing to ensure they receive appropriate attention.

Because so few patients receive a level 1 score (10% to 15%), hospitalists are able to prioritize them. Hospitalists round on level 1 patients within 15 minutes of bed placement, with many hospitalists opting to meet the patients in the ED for a warm handoff.

Fast-tracking the initial hospitalist consult for level 1 patients enables the rest of the clinical team to initiate treatment as soon as possible.

### Key elements of level 1 support post-admission



#### Handoff

ED team notifies hospitalist that level 1 patient is being admitted.



#### Bed placement

Patient is placed in unit with high nurse staffing resources.



#### Hospitalist consult

Hospitalist rounds on patients within 15 minutes of their arrival on floor.

# Link mortality risk score to bundled interventions

## Component 3: Deliver a standard bundle of interventions to patients at high risk of mortality

St. Joseph Mercy concentrates services on level 1 patients, given the critical nature of their first 24 to 48 hours in the hospital. When a patient receives a level 1 score, clinicians launch a bundle of time-bound interventions to ensure nothing falls through the cracks.

For example, St. Joseph Mercy's CMO decided to make palliative care consults an opt-out rather than opt-in intervention for all level 1 patients. This change encourages hospitalists to consistently order consults to engage level 1 patients in shared decision-making about symptom management and end-of-life care.

## Overview of St. Joseph Mercy's mortality-risk driven interventions for medical patients

INTERVENTION	LEVEL 1 (≈10% of patients)	LEVEL 2 (≈20% of patients)
Bed placement in ICU <sup>1</sup> or IMC <sup>2</sup>	Yes	
Hospitalist consult	Yes, within 15 minutes	Yes, within 1 hour
Rapid response team rounding	Yes, within 2 hours	Dependent on capacity
Case manager screen <sup>3</sup>	Yes, within 24 hours	Yes, within 24 hours
Nutrition consult	Yes, within 48 hours	Yes
Palliative care consult <sup>4</sup>	Yes, opt-out only if hospitalist previously had strong conversation on goals of care	Yes, opt-out only if hospitalist previously had strong conversation on goals of care
Pharmacy services <sup>5</sup>	Yes	Yes
Additional discharge support to home health, SNF, <sup>6</sup> or home	Yes	Yes



For additional details on St. Joseph Mercy's mortality risk score interventions, visit [advisory.com/pec/polychronicpx](https://advisory.com/pec/polychronicpx)

1) Intensive care unit.

2) Intermediate care unit.

3) Case manager completes initial screen to determine care coordination and psychosocial needs.

4) Palliative care consult addresses goals of care and symptom management.

5) Pharmacy follows level 1 and 2 patients for transition support (medication reconciliation and follow-up phone calls related to medications). Acute pharmacy does medication reconciliation for level 1 patients.

6) Skilled nursing facility.

# Elevating care based on mortality risk yields results

St. Joseph Mercy demonstrated notable improvements in quality and patient experience after the implementation of the mortality risk screen. For example, St. Joseph Mercy’s Ann Arbor ED observed a 21% decrease in unplanned transfers from the ICU within the first 24 hours of admissions after using the mortality risk score to inform bed placement.

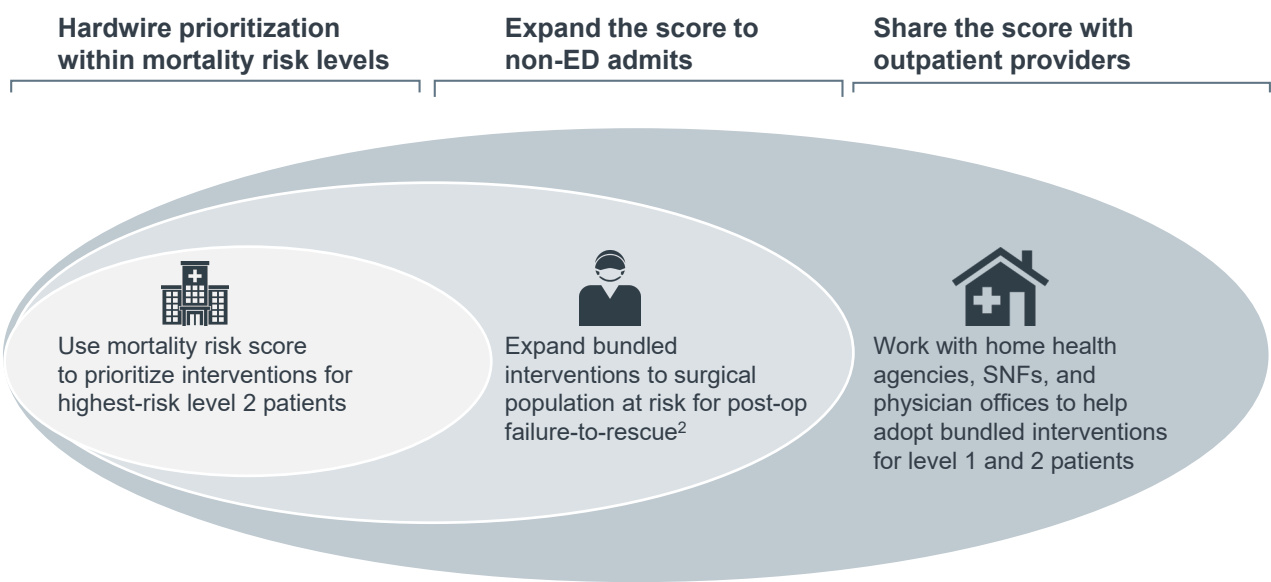
Additionally, Ann Arbor experienced a 34% improvement in communication about medications for level 1 and level 2 patients after implementation.

## St. Joseph Mercy Ann Arbor’s mortality risk score results

Quality outcomes	Patient experience outcomes
<b>12%</b> Reduction in 30-day readmissions <sup>1</sup> for patients discharged to SNF	<b>11%</b> Relative improvement for HCAHPS doctor communication questions for level 1 and level 2 patients
<b>14%</b> Reduction in 30-day mortality	<b>34%</b> Relative improvement in communication about medications for level 1 and level 2 patients
<b>21%</b> Reduction in unplanned transfers to ICU within the first 24 hours of admission	<b>17%</b> Net increase in palliative care consults for level 1 patients

Given these results, clinical leaders at St. Joseph Mercy plan to expand the use of the mortality risk score within the hospital and across the continuum.

## St. Joseph Mercy’s plans to expand the mortality risk score



1) There was a 6.6% reduction for 30-day readmission for all patients regardless of discharge location.  
2) Mortality risk score interventions and pathways are tailored to the surgical patient population's needs.

Source: St. Joseph Mercy, Ypsilanti, MI; Physician Executive Council interviews and analysis.

## Tactic 2: Patient Activation Measure (PAM)

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### **Tactic in brief**

Measure patient activation—a patient’s underlying knowledge, skills, and confidence to manage their health—to help shape their care plan. Care plans for patients with a high activation level focus on behavior change, while care plans for patients with a low activation level focus on fundamental education. The goal is to proactively uncover a patient’s barriers to self-management and elevate support accordingly.

### **Rationale**

Clinicians often overlook patient activation as a factor that can drive non-adherence to care plans and poor clinical outcomes. Using a patient’s activation level to tailor their care plan can increase adherence and can improve patient experience and quality of life.

### **Implementation components:**

#### **Component 1: Survey patients using the Patient Activation Measure**

The Patient Activation Measure (PAM) asks patients to indicate their level of agreement with 13 statements. The results place patients into one of four activation levels; from level 1 (disengaged, overwhelmed, and passive) to level 4 (stays on course, even under stress).

#### **Component 2: Tailor patients’ care plans to match their activation levels**

Clinicians use a patient’s PAM level to incorporate patient education and health care self-management steps into the care plan. For example, a clinician may discuss general healthy lifestyle behaviors with a level 2 patient but set concrete behavior goals with a more activated level 3 patient.

### **Tactic assessment**


This tactic requires a financial investment to license the PAM from Insignia Health. The PAM is the most widely accepted tool to assess a patient’s level of engagement. While clinicians traditionally use PAM in the ambulatory setting, health systems can leverage the survey in the inpatient setting to improve patient outcomes and strategically deploy clinician support. Patients engaged through the PAM demonstrate increased medication adherence, patient satisfaction, and self-management.

# Measuring a patient’s activation level

## Component 1: Survey patients using the Patient Activation Measure

The PAM is an evidence-based survey that evaluates a patient’s skill, confidence, and willingness to self-manage their health on a 100-point scale. The score categorizes patients into one of four activation levels, shown below. For example, a level 1 patient might not believe they have a role in their health care, while a level 3 patient might recognize their role in self-management but need support identifying unhealthy lifestyle behaviors.

### Excerpt of Patient Activation Measure (PAM) survey



Below are some statements that people sometimes make when they talk about their health. Please indicate how much you agree or disagree with each statement as it applies to you personally by circling your answer. There are no right or wrong answers, just what is true for you. If the statement does not apply to you, circle N/A.

1. I am the person who is responsible for taking care of my health.	Disagree Strongly	Disagree	Agree	Agree Strongly	N/A
2. Taking an active role in my own health care is the most important thing that affects my health.	Disagree Strongly	Disagree	Agree	Agree Strongly	N/A
3. I am confident I can help prevent or reduce problems associated with my health.	Disagree Strongly	Disagree	Agree	Agree Strongly	N/A
4. I know what each of my prescribed medications do.	Disagree Strongly	Disagree	Agree	Agree Strongly	N/A
5. I am confident that I can tell whether I need to go to the doctor or whether I can take care of a health problem myself.	Disagree Strongly	Disagree	Agree	Agree Strongly	N/A



For the full version of the Patient Activation Measure questionnaire, visit [advisory.com/pec/polychronicpx](https://advisory.com/pec/polychronicpx)

Source: Insignia Health, Portland, OR; Hibbard JH, et al., "Development and Testing of a Short Form of the Patient Activation Measure," *Health Research and Educational Trust*, 2005, 40: 1918-1930; Insignia Health Patient Activation Measure 13: License Materials, [http://solihulltogether.co.uk/images/Patient\\_Activation/UK\\_PAM\\_13.pdf](http://solihulltogether.co.uk/images/Patient_Activation/UK_PAM_13.pdf); Physician Executive Council interviews and analysis.

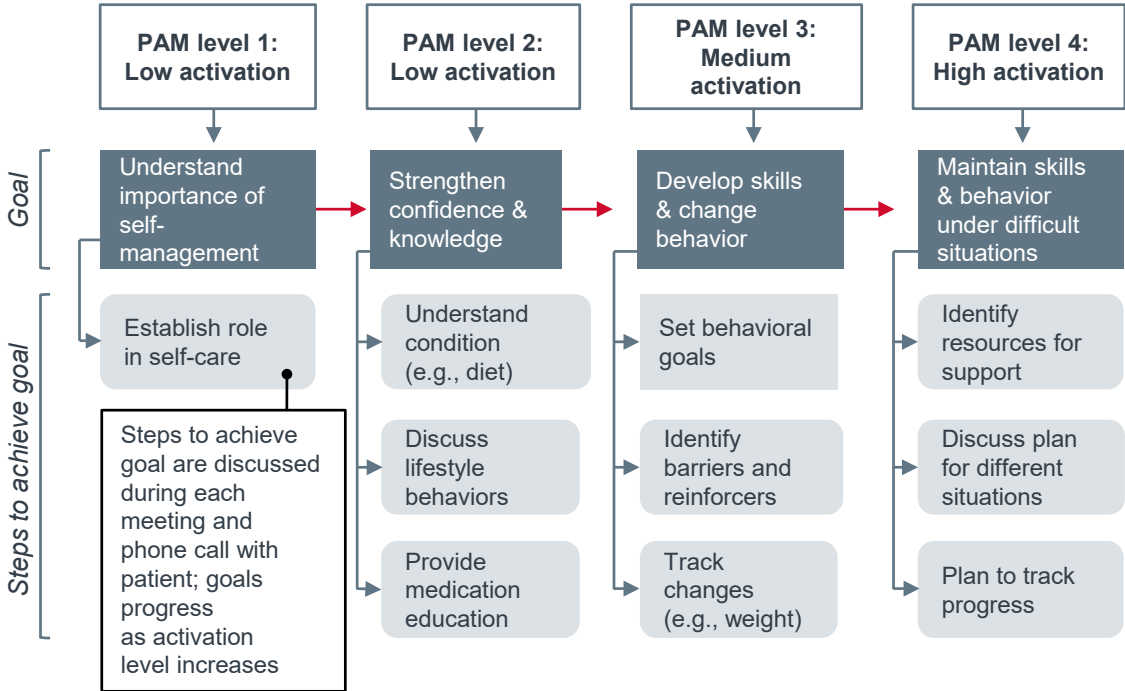


# Meet patients where they are

## Component 2: Tailor patients’ care plans to match their activation levels

Cardiovascular leaders at the United States Veterans Affairs Healthcare System in San Diego, California, developed standard interventions that link to heart failure patients’ activation levels. By administering the PAM and tailoring care plans accordingly, clinicians share the right level of information and recommendations with patients. Over time, the goal is to move patients to higher stages of activation and increase self-management.

### VA San Diego’s PAM-based care pathways



### Example interventions for VA San Diego heart failure patients



#### PAM level 1

Watch educational video on living with heart failure



#### PAM level 2

Explain BNP,<sup>1</sup> review patient's levels, and discuss medications



#### PAM level 3

Link symptom improvement to behavior (e.g., lower salt intake leads to improved breathing)



#### PAM level 4

Identify “difficult times” for patient and establish a plan (e.g., holidays, eating out)

1) B-type natriuretic peptide; levels act as measure of cardiac function.

Source: VA San Diego, San Diego, CA; Shively MJ, et al., “Effect of patient activation on self-management in patients with heart failure,” *Journal of Cardiovascular Nursing*, 2013, 28: 20-34; Physician Executive Council interviews and analysis.

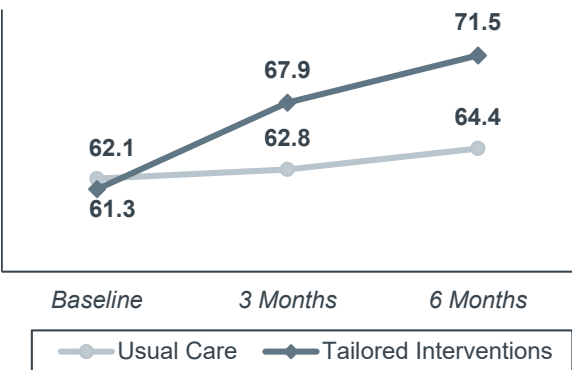
# Activation linked to better quality and experience

VA San Diego's results demonstrate the value of tailoring care plans to each patient's activation level. After six months, leaders at VA San Diego observed a decrease in readmissions and an increase in raw activation scores among PAM patients, compared to patients who received usual care.

## VA San Diego's interventions improved activation, reduced readmissions

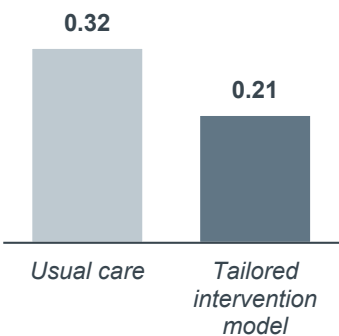
Patient activation across time

(Mean PAM score, out of 100)



Number of readmissions at six months

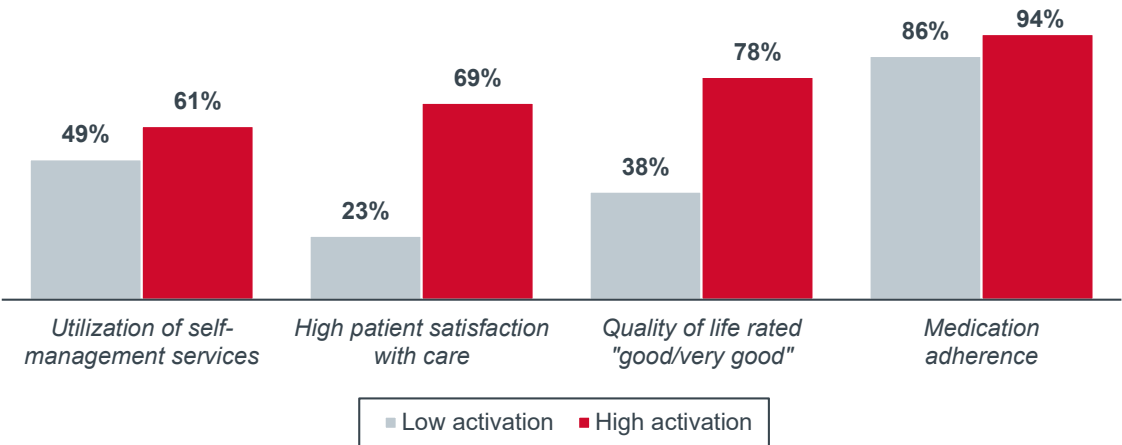
(Mean readmissions per patient)



More broadly, studies of adult patients with chronic conditions link higher activation to better medication adherence, self-management, and satisfaction with care.

## Patient activation associated with improved outcomes for adults with chronic conditions

n=4,108 patients; p<0.0001



Source: Mosen DM, et al., "Is Patient Activation Associated With Outcomes of Care for Adults With Chronic Conditions?" *Journal of Ambulatory Care Management*, 2007, 30: 21-29; Shively MJ, et al., *Journal of Cardiovascular Nursing*, 2013, 28: 20-34; Physician Executive Council interviews and analysis.

# Tactic 3: Health system gold card

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## **Tactic in brief**

Enroll a subset of patients with a specific chronic condition and high utilization into a comprehensive care pathway. Eligible patients receive a physical “gold card” to present when they seek medical care at any location within the system. The gold card triggers condition-specific pathways and expedites access to services across the continuum.

## **Rationale**

Without robust support within and outside of the hospital, patients with chronic conditions struggle to manage their own care and are frequently readmitted. To better support patients with high utilization, health systems must proactively identify these patients and connect them to tailored, cross-continuum resources.

## **Implementation components:**

### **Component 1: Enroll eligible patients in health system gold card program**

Clinical leaders review internal data to identify a subset of patients with a shared chronic condition and high ED and inpatient utilization. Qualifying patients receive a credit card-sized gold card that signals to clinicians in the health system that the patient qualifies for specialized services.

### **Component 2: Create tailored pathways in the ED to elevate care for gold card members**

Clinical leaders create care pathways to appropriately triage gold card members when they present in the ED. Pathways include: discharge home with robust support, observation stay, admit to inpatient (with the goal of admission as a last resort).

### **Component 3: Provide wraparound support to help gold card members manage care post-discharge**

Clinicians provide gold card members with a standard set of services that address the clinical and non-clinical challenges of managing their chronic conditions. Wraparound services include: enhanced patient education, transportation arrangements, and easy access to local pharmacies and primary care physicians.

## **Tactic assessment**

This tactic requires organizations to integrate appropriate clinical protocols into existing workflows and develop partnerships across the continuum of care. Internally, organizations should also provide specialized training for ED staff on how to identify and support the target patient population. We recommend organizations start by piloting the program with one high-priority patient population, before expanding the program to other high-utilization or costly groups. This tactic is best suited for well-coordinated health systems taking on risk.

# Identify patients who need targeted support

## Component 1: Enroll eligible patients in health system gold card program

To improve quality and reduce readmissions, leaders at Cone Health, a six-hospital health system in Greensboro, North Carolina, analyzed claims data to identify patients with outsized inpatient utilization. They noticed a trend: COPD<sup>1</sup> patients with 3+ hospitalizations in a 6-month period accounted for a disproportionate amount of readmissions. Additionally, this subset of patients often presented with a variety of comorbidities (CHF,<sup>2</sup> diabetes, renal failure, etc.).

Cone Health's gold card members receive a credit card-sized gold card with a unique identification number in addition to supplementary patient education about their condition. The gold card makes it easy for patients to self-identify each time they seek care across the system.



### Cone Health's gold card criteria

- Diagnosis of COPD
- 3 or more hospitalizations in 6 months



### Ways to identify your organization's target patient population:

1. Review readmissions data to identify high utilizers
2. Analyze cost and claims data to determine which populations require high-cost care
3. Ask frontline providers to identify patient populations with high utilizations

1) Chronic obstructive pulmonary disease.  
2) Congestive heart failure.

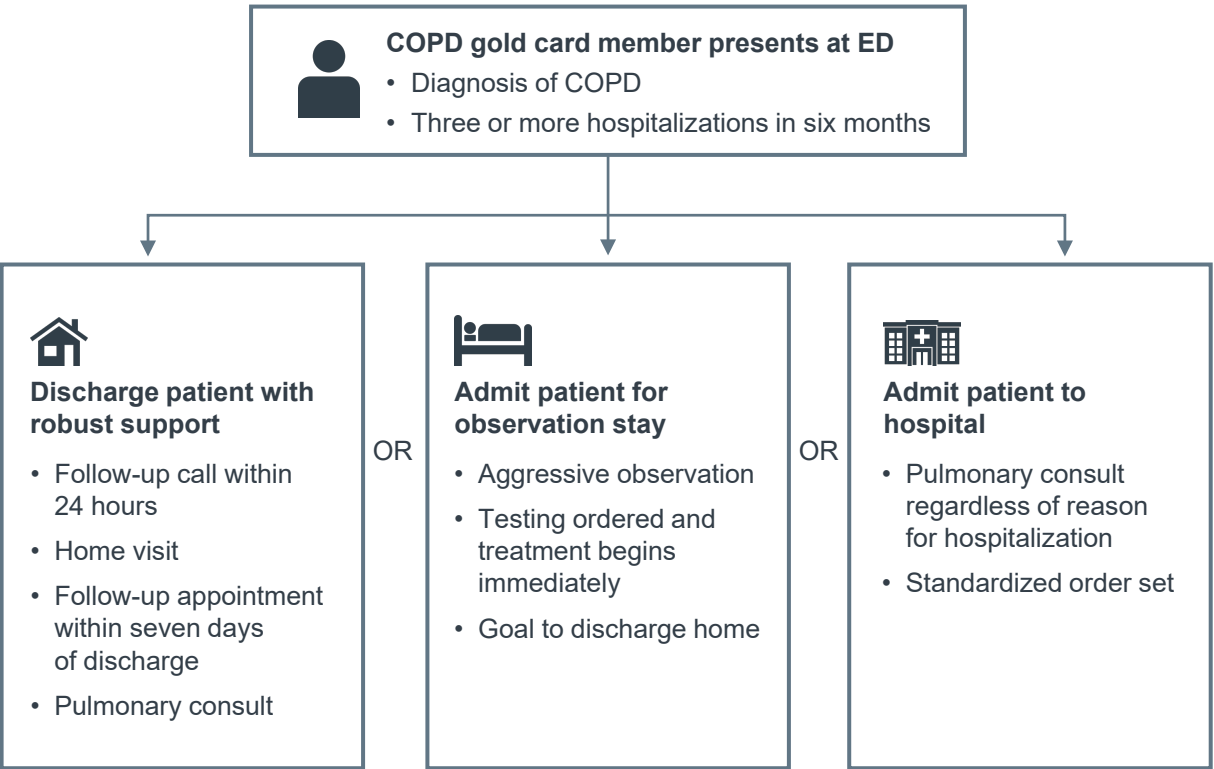
Source: Cone Health, Greensboro, NC; Physician Executive Council interviews and analysis.

# Preempt ED visits with standardized pathways

## Component 2: Create tailored pathways in the ED to elevate care for gold card members

To improve access to care for gold card members, patients show their gold card in the ED upon arrival. The gold card signals to clinicians that they should triage the patient into one of three care pathways, with admission as the last resort.

### Three standard pathways to support COPD gold card patients



# Engage patients across the continuum of care

## Component 3: Provide wraparound support to help gold card members manage care post-discharge

Recognizing the unique needs of COPD patients, Cone invested in holistic support to help them better manage their care after a hospital visit. For example, Cone recognized that anxiety and depression were common drivers of low care plan adherence. To address this, inpatient clinicians conduct a depression screen for gold card patients and offer non-pharmacological interventions such as meditation classes to supplement clinical care.

Cone’s care management team further supports patients post-discharge. For example, in collaboration with Cone, local pharmacies waive the medication delivery fee for gold card members.

### Four ways Cone Health supports patients across the continuum



#### Provide enhanced discharge support

Schedule follow-up visits within seven days of discharge, facilitate ordering of DME,<sup>1</sup> arrange transportation to visit



#### Educate PCPs to flag program enrollees

Engage local PCPs to inform patients about the program and make referrals



#### Extend education into patients’ homes

Use Emmi Solutions<sup>2</sup> to provide six automated phone-based education sessions on different COPD topics



#### Collaborate with local pharmacies

Partner with pharmacies to provide free delivery to gold card members



#### Gold card results

**70%**

Reduction in COPD gold card readmission rate from 2013-2015

**66%**

Decrease in COPD admissions rates from 2011 to 2014

**\$14.9M**

Avoided in health care costs in 18 months

1) Durable medical equipment.

2) Emmi Solutions is a health care technology company that offers a COPD follow-up program with six distinct education modules for patients via automated telephone calls.

Source: Cone Health, Greensboro, NC; Physician Executive Council interviews and analysis.

# Experiment with virtual support for chronic conditions

Many organizations now use digital interventions to extend care for chronically ill patients. For example, Oschner Health System, in New Orleans, Louisiana, created the Hypertension Digital Medicine Program to better support patients with uncontrolled hypertension.

Program enrollees receive an electronic blood pressure device that transmits readings directly to the EHR. Clinicians combine patients' remote blood pressure data, patient-reported data on lifestyle behaviors, and EHR data to tailor patients' care plans without frequent office visits.

Today, the Hypertension Digital Medicine Program includes over 3,000 active participants and has demonstrated increased medication adherence, BP<sup>1</sup> control, and patient satisfaction.

## Oschner's interventions for uncontrolled hypertension



**Patient phenotype**  
Patient-reported data (lifestyle, patient activation, social risk) and EHR data inform individualized interventions

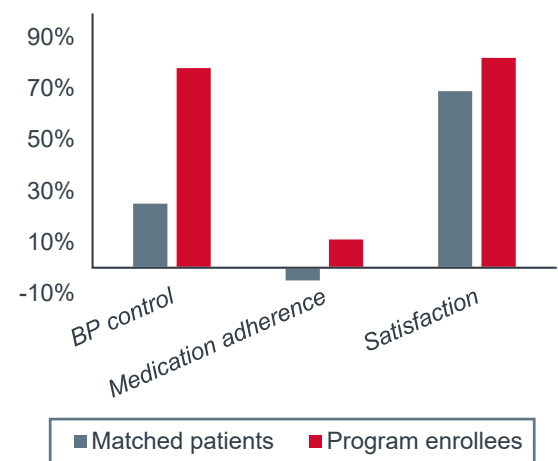


**Access to "O Bar"**  
Service bar provides health education, training, and technical support



**Remote monitoring**  
Patient receives an electronic blood pressure device which transmits data directly to EHR

## Six-month outcomes for Hypertension Digital Medicine Program enrollees



1) Blood pressure.

# Tactic 4: Flipped discharge

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## **Tactic in brief**

Shift elements of the discharge process from the hospital to the home setting to decrease length of stay and improve patient experience. The goal is to provide comprehensive discharge support while transitioning medically cleared patients out of the hospital as soon as possible.

## **Rationale**

Organizations often struggle to coordinate the clinicians and resources required for a timely discharge and smooth transition home. Consequently, many patients experience delayed discharges or rushed assessments that overlook the day-to-day challenges and environmental risks they face in their homes. By transferring medically stable patients home to conduct discharge steps, organizations can reduce length of stay while better equipping patients to manage their own health.

## **Implementation components:**

### **Component 1: Conduct a geriatric assessment upon admission to identify patients eligible for flipped discharge**

Geriatric nurse consultant conducts a comprehensive geriatric assessment for all patients 70 years and older to determine if they would benefit from flipped discharge. The geriatric assessment includes criteria around cognitive health, medication history, and nutrition.

### **Component 2: Create a tailored care plan before transferring the patient home**

Geriatric nurse consultant and hospitalist use the comprehensive assessment to create a tailored care plan, including plans for the patient's transfer home.

### **Component 3: Transfer the patient home in hospital-provided transportation**

Once medically cleared, the patient takes hospital-provided transportation home before noon with a pre-packaged lunch and necessary medications.

### **Component 4: Conduct final discharge steps in the patient's home**

Home care nurse meets the patient at their home the afternoon of their transition from the hospital and conducts discharge steps including a mobility assessment, in-home environment assessment, medication reconciliation, and final patient education.

## **Tactic assessment**

Flipped discharge pilots demonstrate positive improvements in length of stay, medication reconciliation, and patient satisfaction. This tactic requires organizations to collaborate with a home health care team. While some hospitals primarily target geriatric patients, organizations should analyze their patient data to identify their top opportunities to reduce length of stay and improve care for patients with chronic conditions.



# Identify patients eligible for flipped discharge

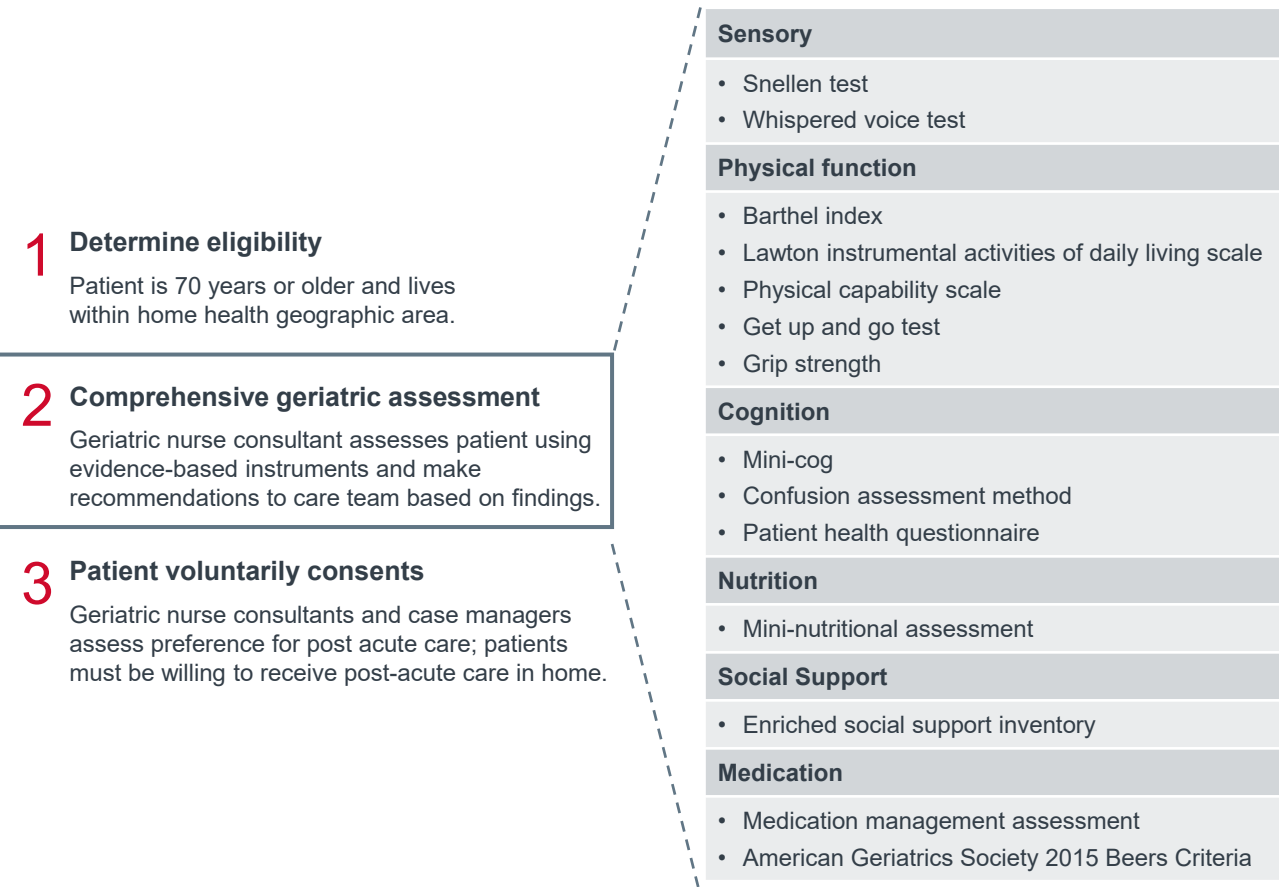
## Component 1: Conduct a geriatric assessment upon admission to identify patients eligible for flipped discharge

Leaders at Penn Medicine, a three-hospital academic medical center in the greater-Philadelphia area, initially set out to reduce readmissions for heart failure patients. However, when they realized the majority of their heart failure patients were geriatric, they decided to launch Supporting Older Adults at Risk (SOAR), a flipped discharge<sup>1</sup> program focused on reducing readmissions for all geriatric patients.

When a geriatric patient is admitted to a Penn Medicine hospital, a geriatric nurse consultant (GNC) reviews the patient’s medications, nutrition, and cognition. In addition to meeting clinical criteria, eligible SOAR patients must be 70 years or older, require a 48+ hour hospital stay, and live within the organization’s geographic catchment area.

If the patient meets eligibility criteria, the hospitalist, patient, and GNC collectively decide if the patient would benefit from flipped discharge. Volumes for SOAR range from one to two patients per day.

## Penn Medicine’s process for identifying patients for flipped discharge



1) The practice of “flipped discharge,” also called discharged to assess, comes from the NHS in the UK. Penn Health first learned about flipped discharge from the Institute for Healthcare Improvement (IHI).

Source: Trotta R, et al., “Development of a Comprehensive Geriatric Assessment Led by Geriatric Nurse Consultants,” *J Gerontol Nurs*, 44, no. 12 (2018), <https://www.ncbi.nlm.nih.gov/pubmed/30484845>; Penn Medicine, Philadelphia, PA; Physician Executive Council interviews and analysis.

# Front-load preparation for a smooth transition to home

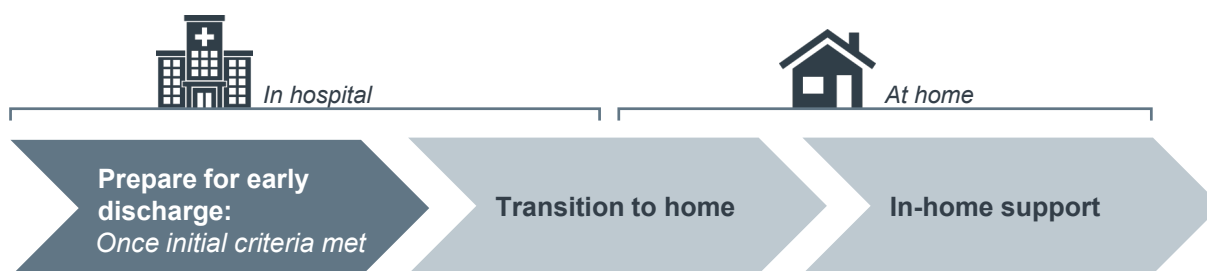
## Component 2: Create a tailored care plan before transferring the patient home

At Penn Medicine, the GNC creates hospital-based and home-based care plans for all flipped discharge patients.

First, the GNC works with the care team to customize the inpatient care plan based on the geriatric assessment results (e.g., delirium, cognitive impairment). Then, the GNC works with the patient's caregivers to gain a detailed understanding of the patient's support network at home to help shape the home-based care plan.

The following page illustrates the next two phases of flipped discharge: transition to home and in-home support.

## Early preparation kicks off flipped discharge



- GNC makes comprehensive assessment and shares findings with interdisciplinary team
- Hospitalist signs off on flipped discharge order
- GNC creates hospital-based and home-based care plans and supports logistical planning for transfer home


# Shift discharge assessments to the home

## Component 3: Transfer the patient home in hospital-provided transportation

Once preparation is complete, the patient moves to the “transition” phase. On the morning of the patient’s transfer home, their inpatient care team and a home care nurse have a hand-off call. The call covers medication regimens, functional needs, caregiving needs, and the plan for follow-up care. After the call, the patient receives a ride home with the appropriate medications and a pre-packaged lunch before noon.


### Transition to home: Morning of transition to ~48 hours after leaving hospital

- 1




**Day-of handoff call**

Interdisciplinary hospital-based providers and home care nurse hold call on morning of discharge from hospital.
- 2



**Patient transport**

Hospital provided transportation takes patient home by noon and makes sure caregiver is there upon arrival.
- 3



**Initial nutrition**

Organization provides patient with a lunch and nutritional shake to avoid malnutrition and help bridge transition.


## Component 4: Conduct final discharge steps in the patient’s home

Once a patient transitions home, he or she moves to the “in-home support” phase. A home care nurse reviews the patient’s medicine cabinet and assesses mobility in the home. The patient’s inpatient physician is available via phone or text to answer questions.

If necessary, SOAR patients continue to receive care via recurring visits from the home care nurse (three to four visits per week) until they meet the clinical criteria for medical discharge.


### In-home support: Ongoing as clinically required until medical discharge

- 4




**First home care visit**

Home care nurse confirms care plan and medications with hospital providers.
- 5



**Outstanding medication delivery**

Most medications are delivered at bedside in the hospital. Remaining medication delivered to home on day of transition.
- 6



**Second home care visit**

Home care nurse visits patient on the day after transition to finalize medication reconciliation and ensure next steps in care.

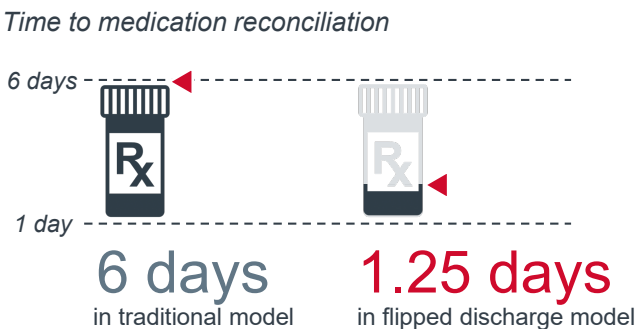
Source: Penn Medicine, Philadelphia, PA; Physician Executive Council interviews and analysis.

# Promising results from Penn Medicine's pilot

Flipped discharge improved Penn Medicine's quality metrics such as readmission rate and time to medication reconciliation. Additionally, SOAR patients report increased satisfaction and felt their needs were better understood and met.

Although these are early results, they indicate the potential for significant quality and experience gains from early transfer home. Organizations most likely to benefit from this model are those with a stagnant length of stay and a large volume of elderly, chronically-ill patients.

## Select quality outcomes from flipped discharge



## Select patient and caregiver perspectives on flipped discharge

“What other hospital sends you home with lunch and all of your medications? That to me was awesome. Two less things to worry about. Having my therapy here at home also, I mean, what more could I ask for?”

Patient

“Whoever invented the idea of providing transportation home is a genius.”

Patient's wife

“There's something about the magic of being home that helps me recover.”

Patient

1) Based on analysis of medical record documentation and inter-professional team conversations in secure texting platform.

Source: Penn Medicine, Philadelphia, PA; Physician Executive Council interviews and analysis.

# Tactic 5: Hospital at home

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## **Tactic in brief**

Avoid a hospital stay for eligible patients altogether by providing hospital-level care in their homes instead of admitting them to an inpatient bed. Patients enrolled in hospital at home transfer to their homes immediately upon “admission” to receive comprehensive acute care in their home, including diagnostic testing and infusion therapy.

## **Rationale**

Physicians frequently admit chronically ill patients from the ED because they require a certain level of acute care. However, for some patients, a hospital stay can put them at a greater risk for adverse outcomes such as hospital acquired infections and delirium. Providing select inpatient services in the home ensures organizations meet patients’ acute care needs without exposing them to unnecessary risk.

## **Implementation components:**

### **Component 1: Identify patients who qualify for hospital at home**

Clinicians from the ED, ambulatory clinic, or home health agency flag patients who are eligible for hospital at home and refer them to an inpatient physician for evaluation. Hospital-based physicians and staff determine whether the patient meets program criteria.

### **Component 2: Transfer eligible patients home with a coordinated care plan**

Once a patient agrees to participate in hospital at home, they are transferred home with their family or in hospital-provided transportation.

### **Component 3: Dispatch in-person and virtual care team members to deliver care**

A registered nurse meets the patient upon arrival home. A physician visits the patient daily, and a registered nurse visits the patient one to two times a day until discharge. Patients have access to video-based monitoring and a 24/7 phone number in case of emergencies.

### **Component 4: Medically discharge patients when they meet clinical criteria for discharge**

Once a patient meets clinical criteria for discharge, the hospital at home physician discharges the patient from acute-level care and their primary care physician takes ownership of their care. Patients may receive additional home care services after discharge, if needed.

## **Tactic assessment**

Hospital at home requires significant partnerships and supply chain investments. While CMS does not currently reimburse for hospital at home, organizations can finance the program through a proprietary health insurance plan, outside funding, or by partnering with external vendors.

# Hospital at home avoids the hospital stay altogether

## Component 1: Identify patients who qualify for hospital at home

John Hopkins Bayview Medical Center, a 342-bed academic medical center located in Baltimore, Maryland, offers a Hospital at Home™ program for patients with chronic conditions such as CHF and COPD.

To be enrolled in the program, patients must meet specific clinical criteria. In addition, Hopkins evaluates the safety of the patient's home as well as its geographic proximity to an ED. ED proximity helps hospitals assess the patients' safety in a potential emergency and the organization's ability to deliver medication and equipment to the patient's home.

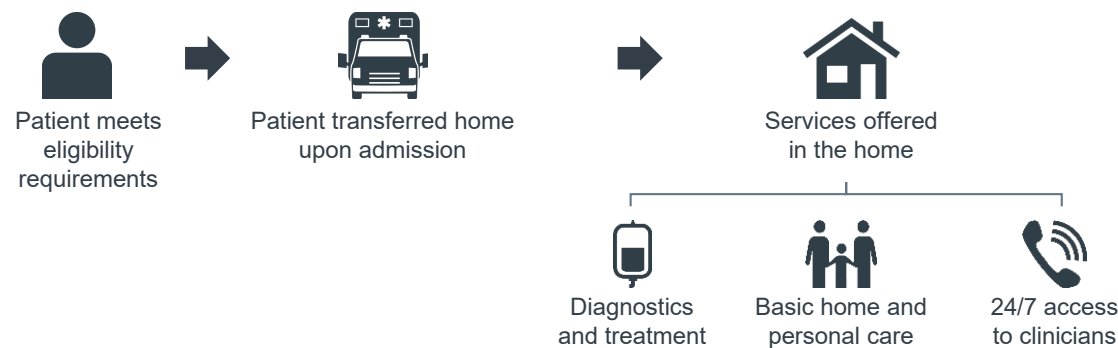
## Hospital at home eligibility criteria

Targeted conditions <sup>1</sup>	Non-clinical eligibility considerations
<ul style="list-style-type: none"><li>• COPD</li><li>• CHF</li><li>• Cellulitis</li></ul>	<ul style="list-style-type: none"><li>• Safety of home environment</li><li>• Proximity to ED</li><li>• Supply chain feasibility</li></ul>

## Component 2: Transfer eligible patients home with a coordinated care plan

When an eligible patient gives his or her consent to participate in hospital at home, their inpatient physician orders necessary diagnostic testing and medical equipment for delivery to the patient's home. Hospital at home staff arrange the patient's transportation home in an ambulance or medical van. Patients also have the option of riding home with their family if they're medically stable.

## Hospital at home transfers eligible patients home upon admission



1) The conditions studied in the initial 2005 by Hopkins study were COPD, CHF, cellulitis, and pneumonia. At implementation sites, the diagnoses were expanded to also include conditions like dehydration, urosepsis and complicated UTI, diabetes, asthma, bacteremia, DVT, and pulmonary embolism.

Source: Caplan GA, et al., "A meta-analysis of 'Hospital in the Home,'" *The Medical Journal of Australia*, 197, no. 9 (2012): 512-519; Leff B, et al., "Hospital at Home: Feasibility and Outcomes of a Program to Provide Hospital-Level Care at Home for Acutely Ill Older Adults," *Annals of Internal Medicine*, 143, no. 11 (2005): 798-808; Physician Executive Center interviews and analysis.

# Acute care begins—and ends—in the home

## Component 3: Dispatch in-person and virtual care team members to deliver care

A nurse or physician conducts the first in-home visit within one to three hours of a patient's return home. Patients can access nurses and physicians 24 hours a day, 7 days a week in case of urgent or emergency situations. Leading organizations supplement in-person visits with telemedicine and remote-monitoring capabilities.

### Inpatient-level services provided in the patient's home



#### Daily clinician visits

**Physician** visits patient daily for medical care, diagnosis, and care plan adjustment.

**Nurse** visits patient one to two times per day for patient assessment, medication administration, routine lab testing, and patient and family education.



#### Sample in-home diagnostics and treatment<sup>1</sup>

- Electrocardiograms
- Echocardiograms
- X-rays
- Respiratory therapy
- Oxygen therapy
- Intravenous fluids
- Intravenous antibiotics
- Pharmacy services

Hospital at home programs often rely on experienced clinicians who are comfortable independently performing their job outside of the inpatient setting. When staffing their own programs, many organizations recruit nurses with critical care or ED experience and primary care physicians.

## Component 4: Medically discharge patients when they meet clinical criteria for discharge

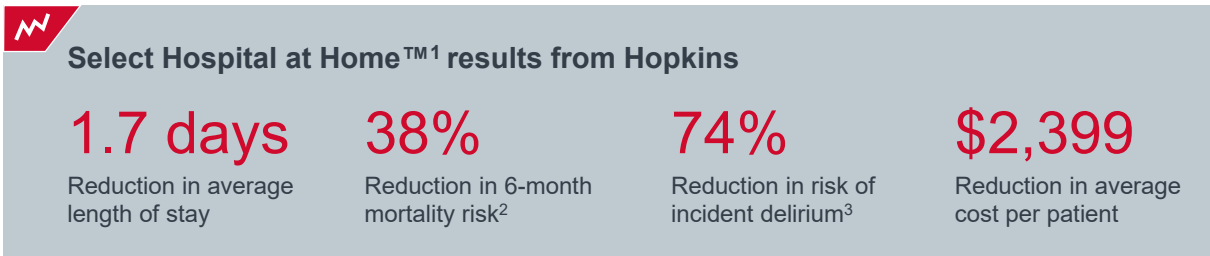
Once a patient meets clinical criteria for discharge, care reverts to the patient's primary care physician or outpatient treatment centers. Many organizations also provide patients with virtual access to the hospital at home team for the 30 days after discharge in case concerns or emergencies arise.

1) For diagnostics or treatments that cannot be provided in the home, patients briefly visit the hospital to receive those services.

Source: Caplan GA, et al., "A meta-analysis of 'Hospital in the Home,'" *The Medical Journal of Australia*, 197, no. 9 (2012): 512-519; Leff B, et al., "Hospital at Home: Feasibility and Outcomes of a Program to Provide Hospital-Level Care at Home for Acutely Ill Older Adults," *Annals of Internal Medicine*, 143, no. 11 (2005): 798-808; Physician Executive Center interviews and analysis.

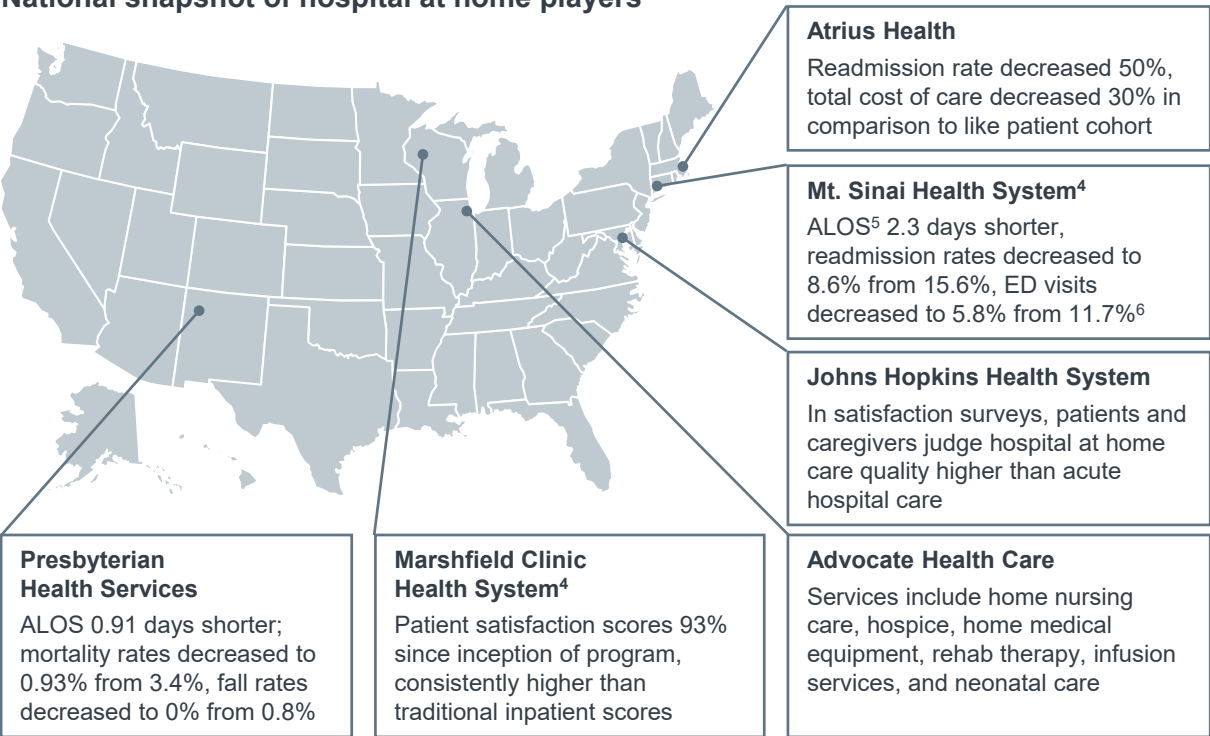
# Hospital at home positively impacts quality and cost

In addition to the quality improvements shown below, patients enrolled Hopkins' Hospital at Home™ program regularly rate their care experience as excellent. In fact, satisfaction surveys show that patients and family members report the quality of hospital at home care to be better than care provided in the acute hospital-based setting.



As at John Hopkins, hospital at home programs across the country demonstrate similarly notable quality and experience gains.

## National snapshot of hospital at home players



Source: Caplan GA, et al., "A meta-analysis of 'Hospital in the Home,'" *The Medical Journal of Australia*, 197, no. 9 (2012): 512-519; Leff B, et al., "Hospital at Home: Feasibility and Outcomes of a Program to Provide Hospital-Level Care at Home for Acutely Ill Older Adults," *Annals of Internal Medicine*, 143, no. 11 (2005): 798-808; E Shulman, "Acute Hospital Care in the Home: Year One Results and Lessons Learned," AMGA 2019 Annual Conference, [PowerPoint slides], 2018; Federman A, et al., "Association of a Bundled Hospital-at-Home and 30-Day Postacute Transitional Care Program With Clinical Outcomes and Patient Experiences," *JAMA*, 178, no. 8:1033-1040, 2018, <https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2685092>; B Leff, et al., "Satisfaction with Hospital at Home Care," *JAGS*, 54:1355-1363, (2006), <http://www.hospitalathome.org/files/HAH%20Satisfaction%20JAGS.pdf>; "Advocate at Home," <https://www.advocatehealth.com/health-services/advocate-at-home/>; Butcher L, "Marshfield Clinic Finds Success with Home Recovery Care," *HFMA*, 2018, [https://www.hfma.org/Leadership/E-Bulletins/2018/August/Marshfield\\_Clinic\\_Finds\\_Success\\_with\\_Home\\_Recovery\\_Care/](https://www.hfma.org/Leadership/E-Bulletins/2018/August/Marshfield_Clinic_Finds_Success_with_Home_Recovery_Care/); Klein S, et al., "The Hospital at Home Model: Bringing Hospital-Level Care to the Patient." The Commonwealth Fund, 2016, <https://www.commonwealthfund.org/publications/case-study/2016/aug/hospital-home-model-bringing-hospital-level-care-patient/#results>; Physician Executive Center interviews and analysis.

1) Results of patients treated with hospital at home versus treated in the hospital.  
2) Risk of mortality at six months.  
3) Relative risk of incident delirium.  
4) Mt. Sinai and Marshfield Clinic partner with Contessa Health's Home Recovery Care to provide hospital-level care in the patient's home.  
5) Average length of stay.  
6) 2014-2017.



# Available within your membership

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The Physician Executive Council has developed many resources to help leaders improve patient experience. Select resources are shown here. All resources are available to Physician Executive Council members on [advisory.com/pec](https://advisory.com/pec).



## **Research brief: Deliver a Quality-Driven Patient Experience for Elective Surgical Patients**

Learn four ways to proactively align expectations and improve outcomes for elective surgical patients.



## **Infographic: 5 myths physicians believe about patient experience**

Discover the factors that most inflect patient experience and how physicians are uniquely positioned to positively influence them.



## **In-person presentation: Deliver a Quality-Driven Patient Experience**

Learn how to fundamentally shift your patient experience strategy by leading with quality improvement initiatives that simultaneously improve patient experience and engage medical staff in the process.



## **On-demand webinar: 'Influencer in Chief' How to win physician buy-in for your patient experience efforts**

Understand the physician's unique role in patient experience as the leader of the care team, and how to make the case for physician engagement in your patient experience initiatives.

### **Available online**

To access these resources or order hard copies of the publications, please visit the Physician Executive Council's website: [\*\*advisory.com/pec\*\*](https://advisory.com/pec)

# Advisors to our work

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The Physician Executive Council is grateful to the individuals and organizations that shared their insights, analysis, and time with us. We would especially like to recognize the following individuals for being particularly generous with their time and expertise.

## **Cone Health**

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Office of Patient Experience

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Director, Geriatric Nursing Program

## **St. Joseph Mercy Health System**

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Population Health Clinical Integration  
Leader; Quality Excellence Leader;  
Michigan Data Analytics

## **John Hopkins Medicine**

*Baltimore, MD*

Bruce Leff, MD  
Professor of Medicine, John Hopkins  
University School of Medicine;  
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Geriatric Research



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