

Session 2 – Quality-Based Procedures: Improving Quality and Consistency in the Health System

Speakers: Laura Park-Wyllie, Erik Hellsten,
Stacey Brener, Dr. David Alter, Dr. Doug Lee

Moderator: Laura Park-Wyllie

Presenter Disclosure

- **Session Name:** Quality-Based Procedures: Improving Quality and Consistency in the Health System
- **Presenters:** Laura Park-Wyllie (moderator), Stacey Brener, Erik Hellsten, Dr. David Alter, Dr. Douglas Lee
- **Relationships with commercial interests:**
 - Not Applicable

Disclosure of Commercial Support

- This session has received no commercial support

Mitigating Potential Bias

- Not applicable

Session Objectives

1. Learn about Health Quality Ontario's approach to developing evidence-informed, quality-based episodes of care
2. Learn about a high-level implementation strategy that leverages stakeholder relationships to encourage the uptake of evidence-based practices across the health system

Data Meets Clinical Intuition: Developing the QBP Patient Cohorts and Stratification Approach

Erik Hellsten

Why Us? HQO's Legislated Mandate with Respect to Funding

Excellent Care for All Act, 2010

- (c) to promote health care that is supported by the best available scientific evidence by,
- (i) making recommendations to health care organizations and other entities **on standards of care** in the health system, based on or respecting clinical practice guidelines and protocols, and
- (ii) **making recommendations, based on evidence and with consideration of the recommendations in subclause (i), to the Minister concerning the Government of Ontario's provision of funding for health care services and medical devices**



Why Quality Based Procedures? (QBP)

Context for this Work

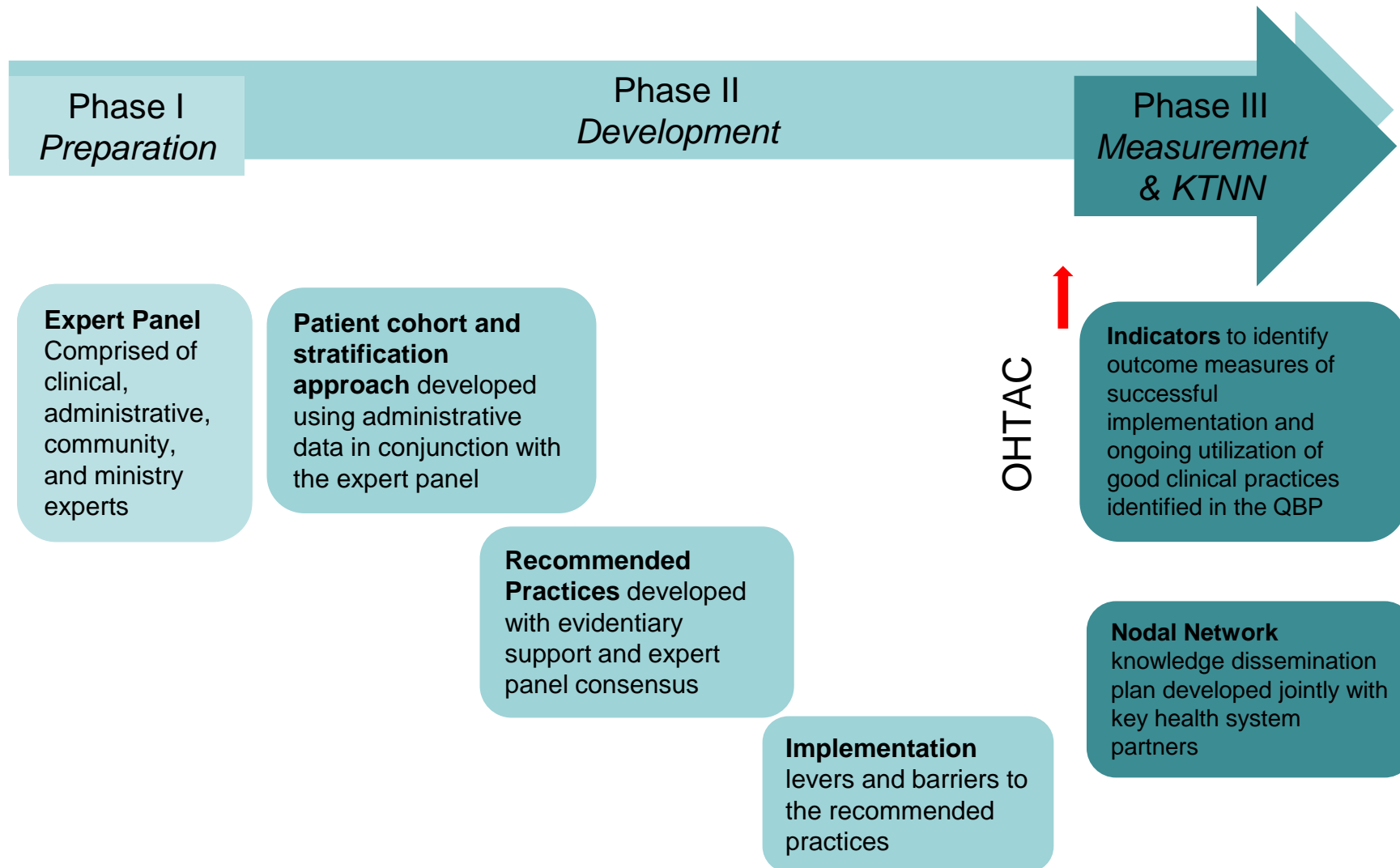
The Ministry asked HQO to work with expert panels to develop analysis and recommendations to inform the new Quality-Based Procedures episode-based hospital funding policy for the following clinical areas:

- ✓ **Congestive Heart Failure** (Clinical Handbook published)
- ✓ **Chronic Obstructive Pulmonary Disease** (Clinical Handbook published)
- ✓ **Stroke** (Clinical Handbook published)
- ✓ **Hip Fracture** (Clinical Handbook finalized)
- **Primary Hip and Knee Replacement** (In progress)
- **Pneumonia** (In progress)

Key tasks:

- Define patient cohort(s), scope of the episode of care, subgroups, risk adjustment approach
- Identification of evidence-based recommended practices, key performance indicators and implementation considerations
- ✗ **Out of scope:** Unit costing analysis, pricing, payment design
- HQO tasked with completing all the above for each area in 5 months

HQO's Quality-Based Procedure Process

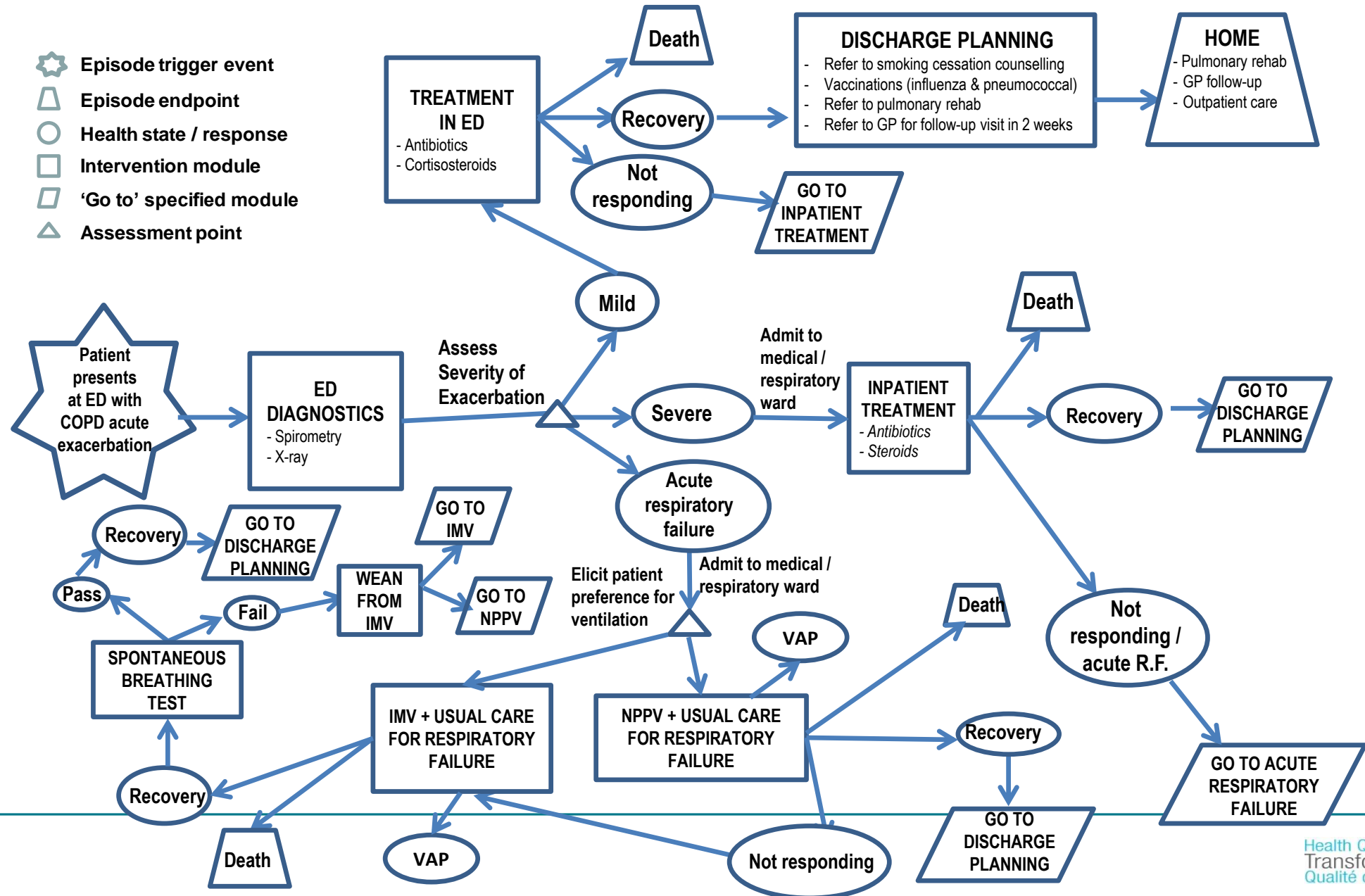


HQO's Quality-Based Procedure Process

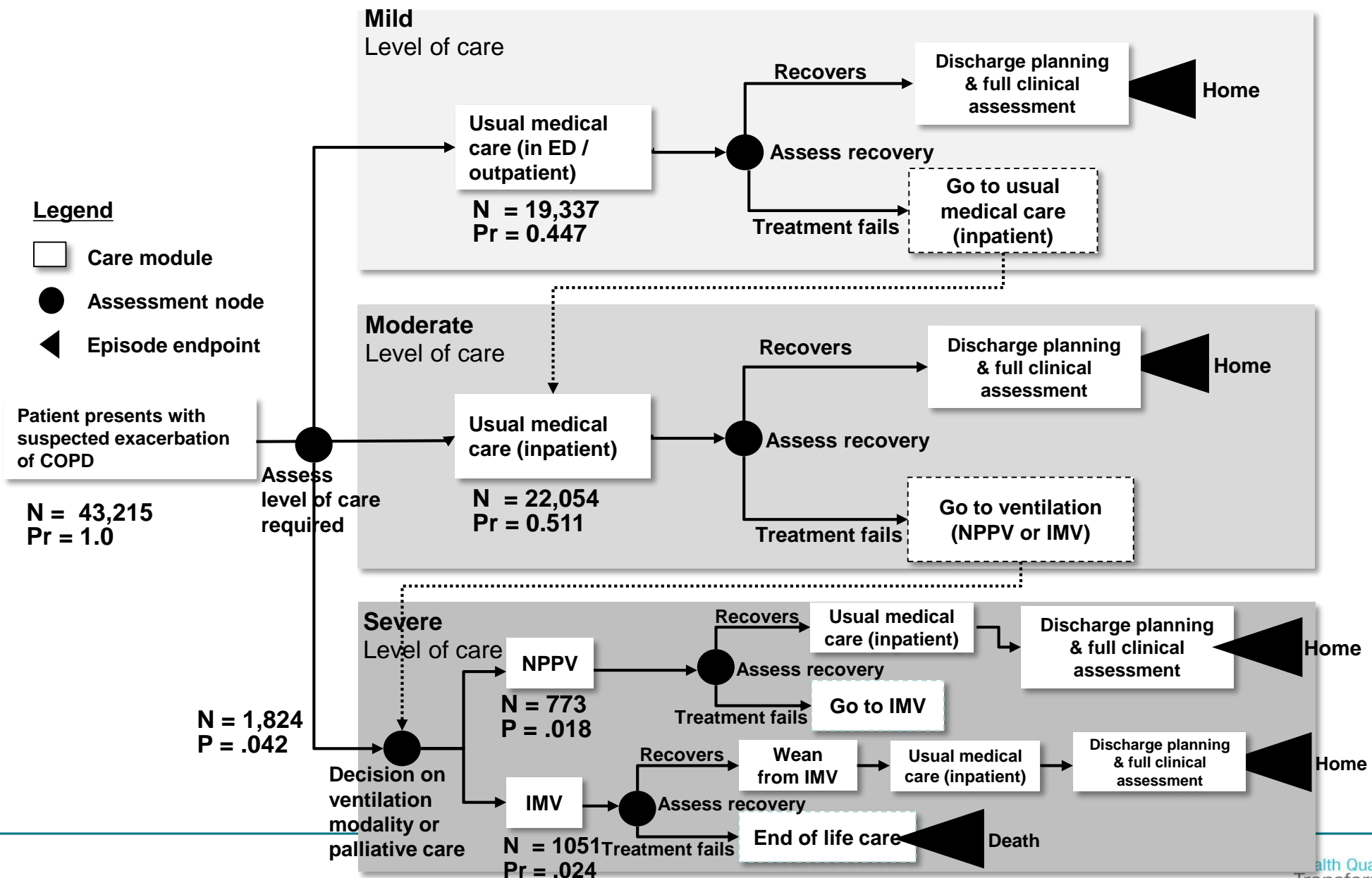
Patient cohort and stratification approach developed using administrative data in conjunction with the expert panel

Where We Started:

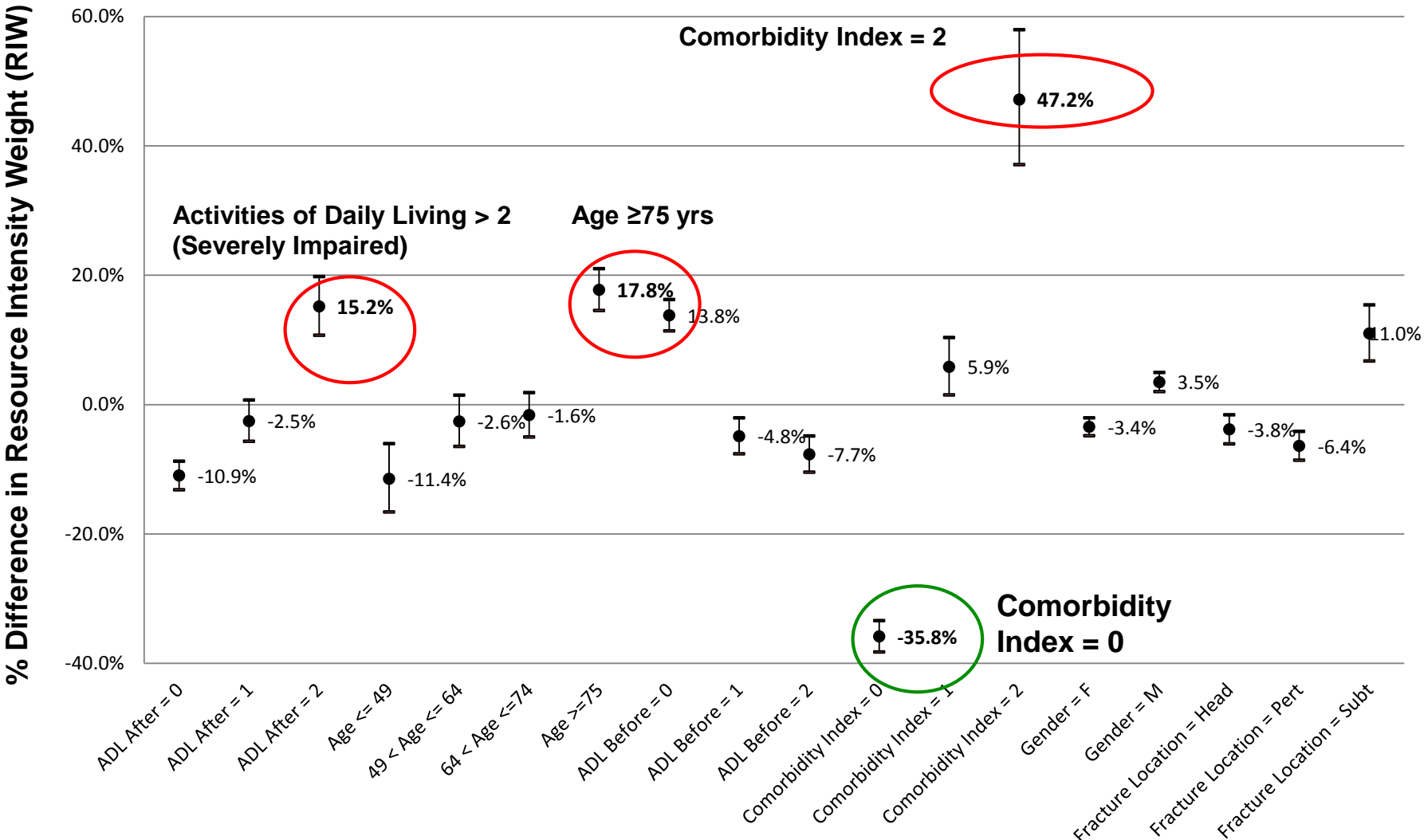
Mapping the COPD Patient Journey Through an Acute Exacerbation



Where We Finished: The Episode of Care Model for Acute Exacerbations of COPD



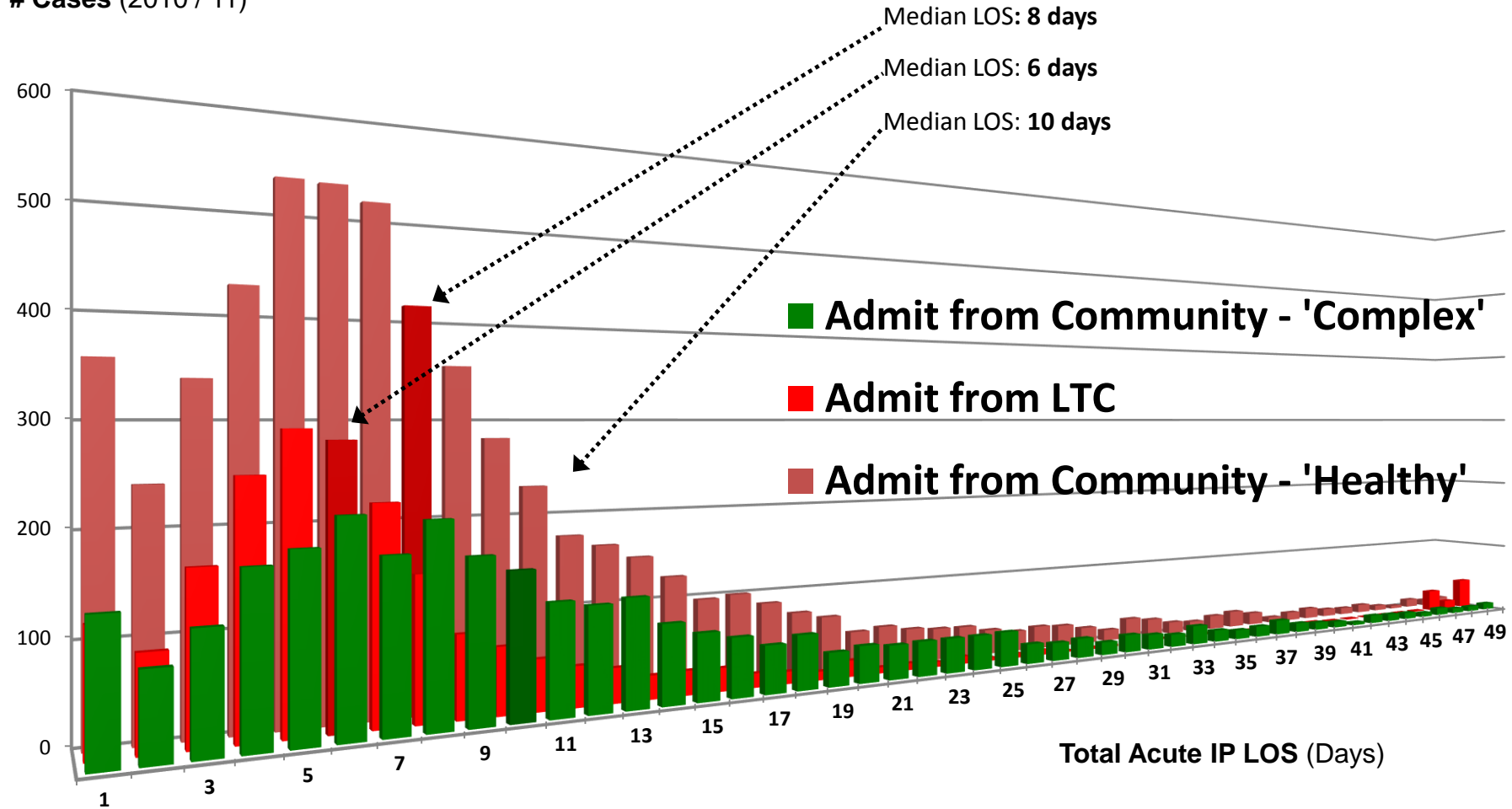
Patient Characteristics Driving Variation in Hip Fracture Utilization



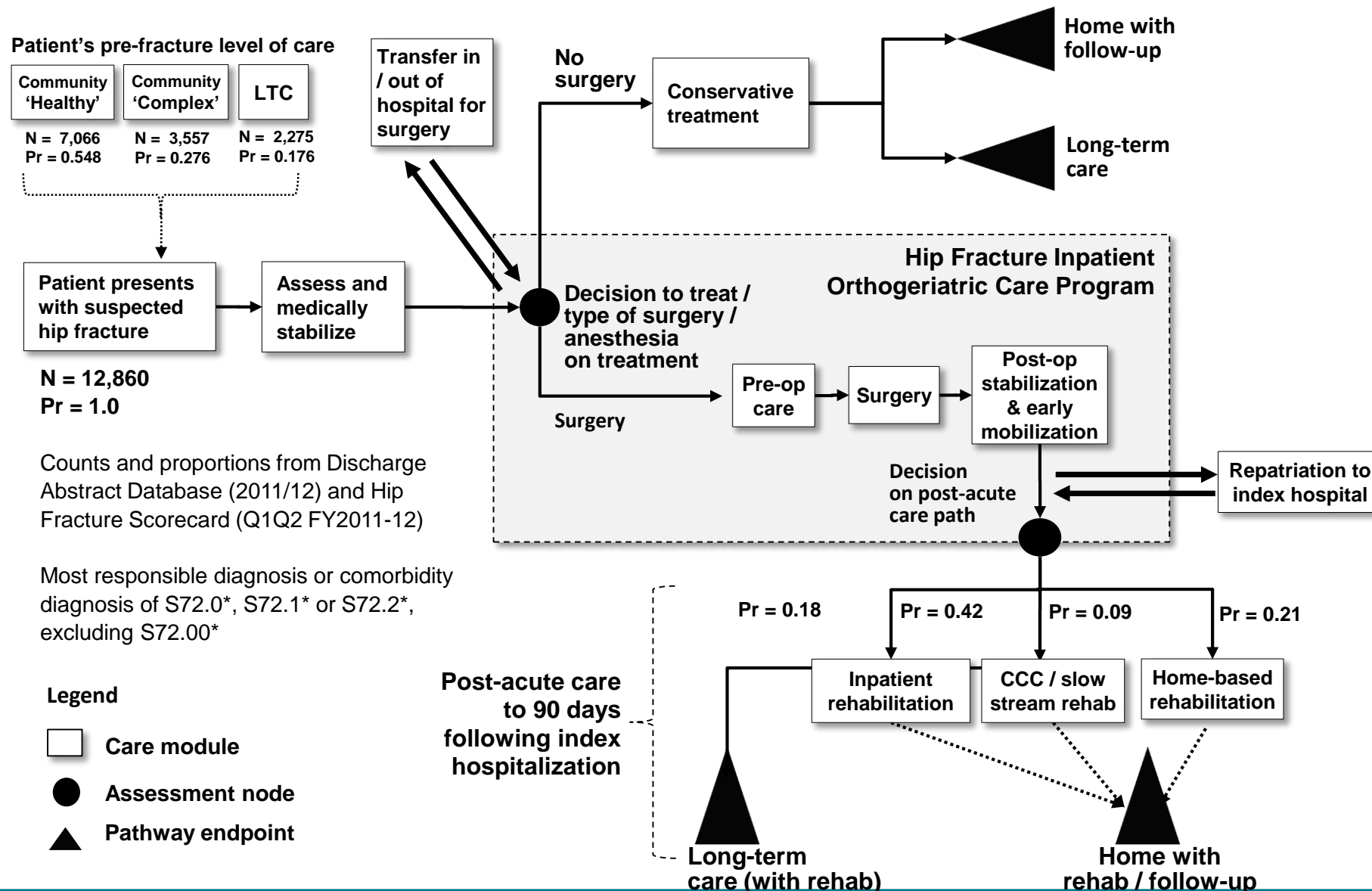
Patient Characteristics

Stratifying the Hip Fracture Population: Drawing on Clinical Experience

Cases (2010 / 11)



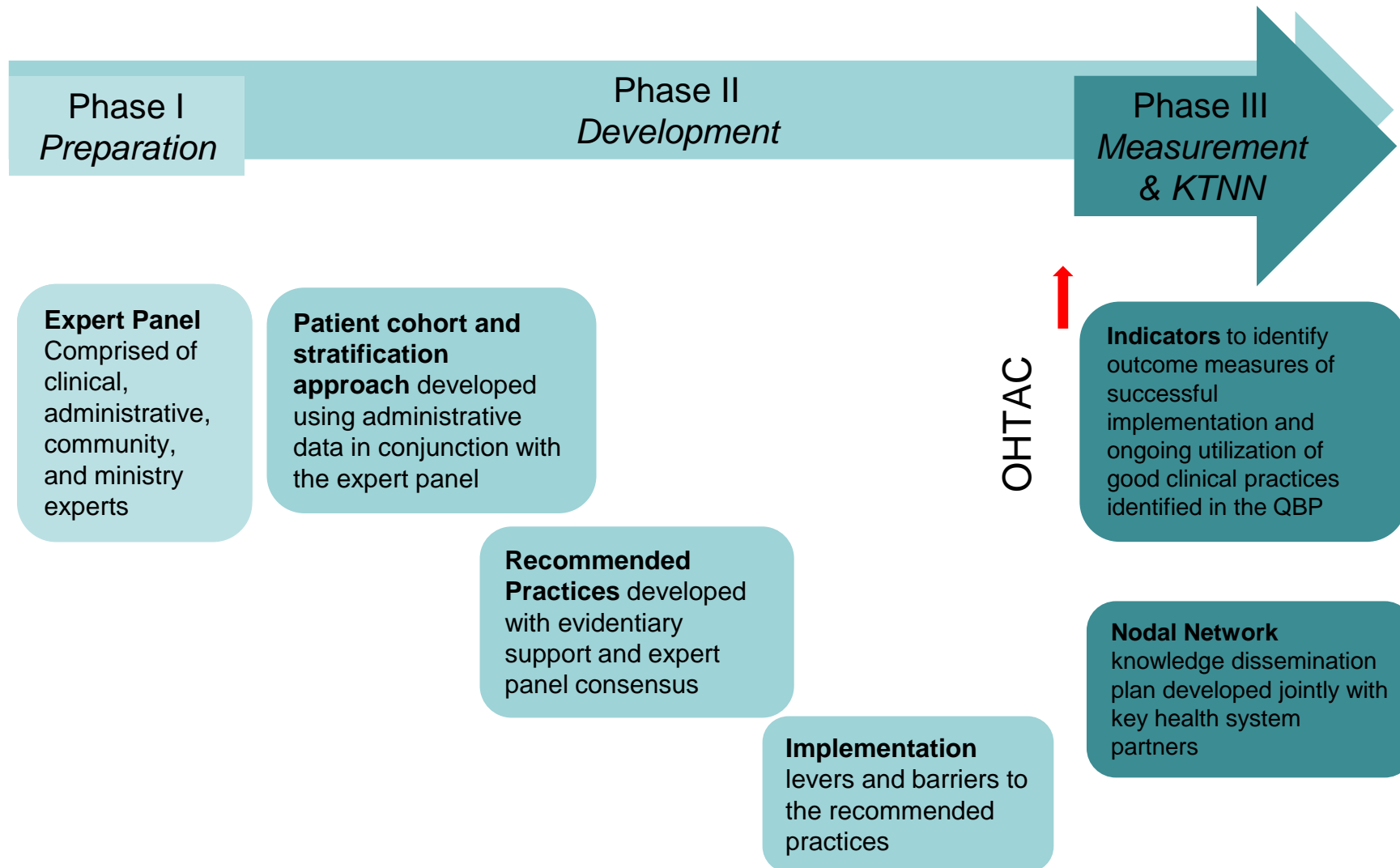
The Hip Fracture Episode of Care: Presentation to 90 Days Post-Admission



Episode of Care Evidence Synthesis for Recommended Practices

Stacey Brener

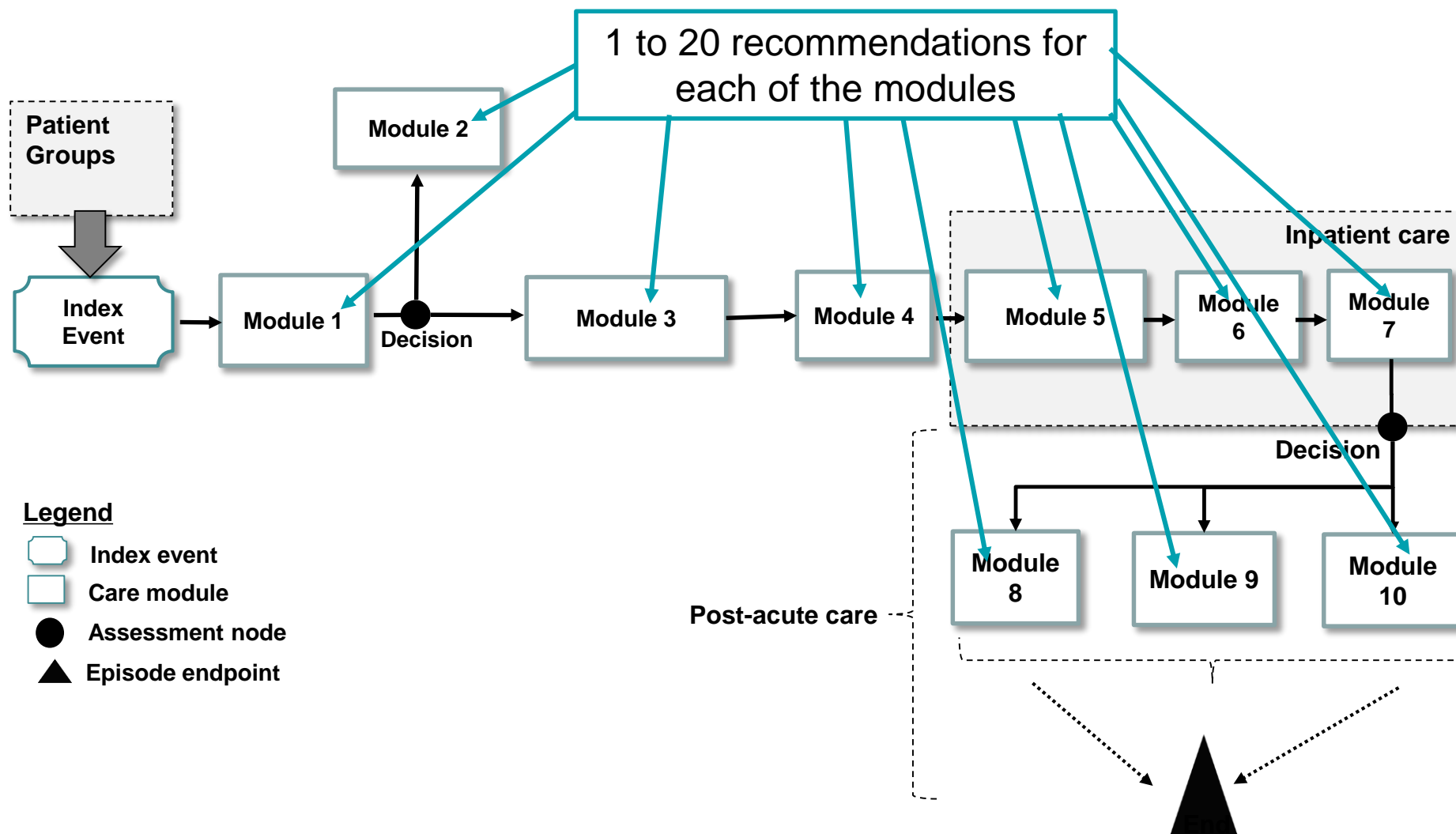
HQO's Quality-Based Procedure Process



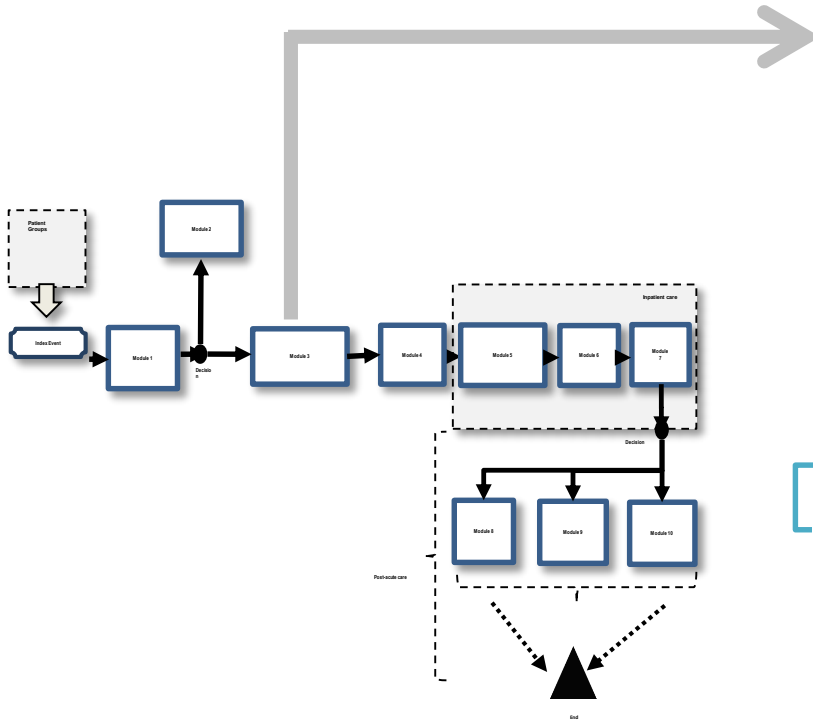
HQO's Quality-Based Procedure Process

Recommended Practices developed with evidentiary support and expert panel consensus

Sample Care Pathway



Approach to Applying Evidence to Modules



Evidence-based Care Module

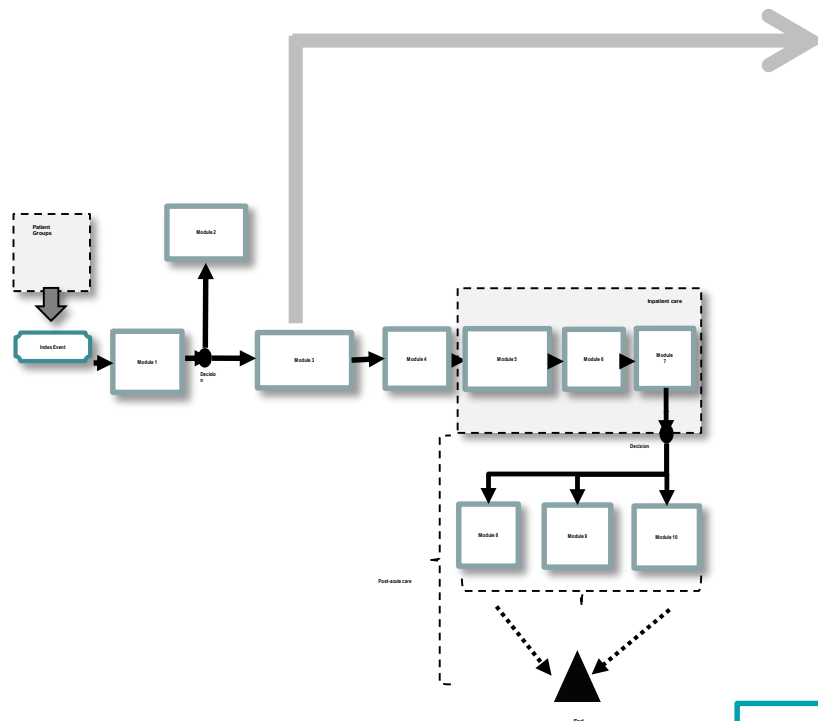
- Identify **guidelines** covering entire pathway with guidance from medical librarians, and confirmed with Expert Panel
- Use **AGREE II instrument** to rate and identify 3-4 best clinical guidelines developed with most methodological rigour, including at least 1 contextually relevant (Canadian) guideline.

Appraisal of **Guidelines for Research & Evaluation II**

6 domains

- 1) Scope and Purpose
- 2) Stakeholder Involvement
- 3) Rigour of Development
- 4) Clarity of Presentation
- 5) Applicability
- 6) Editorial Independence

Approach to Applying Evidence to Modules



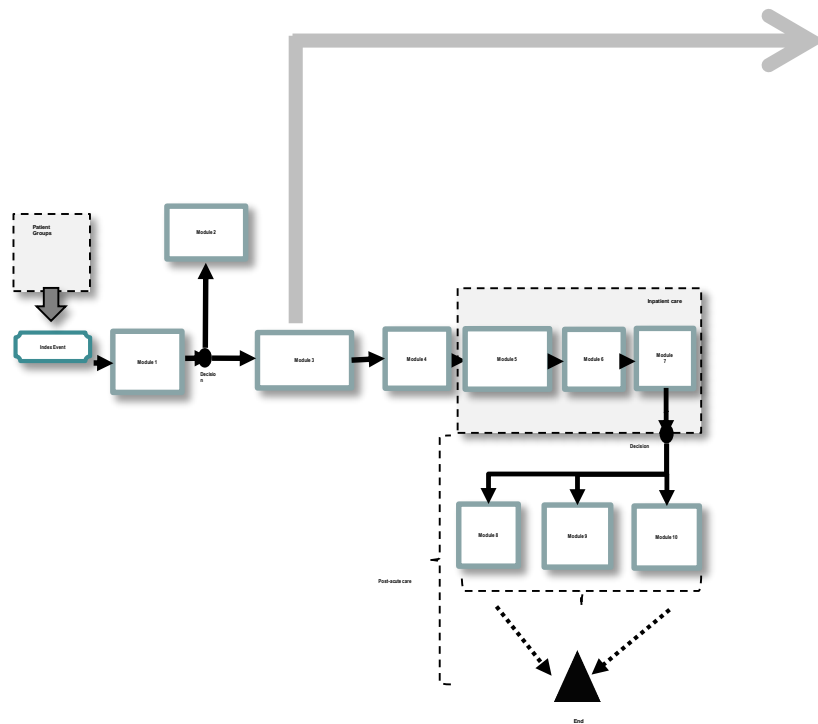
Evidence-based Care Module

- Identify **guidelines** covering entire pathway with guidance from medical librarians, and confirmed with Expert Panel
- Use **AGREE II instrument** to rate and identify 3-4 best clinical guidelines developed with most methodological rigour, including at least 1 contextually relevant (Canadian) guideline.
- Begin to populate the relevant modules with Canadian guidelines, while **flagging controversy** between the guidelines
- Identify related previously conducted **HQO evidence based analyses** and **OHTAC recommendations**

Decision Determinants Framework which is considered for all **OHTAC recommendations**:

- Overall clinical benefit
- Value for money
- Consistency with societal and ethical values
- Feasibility of adoption into the health care system

Approach to Applying Evidence to Modules



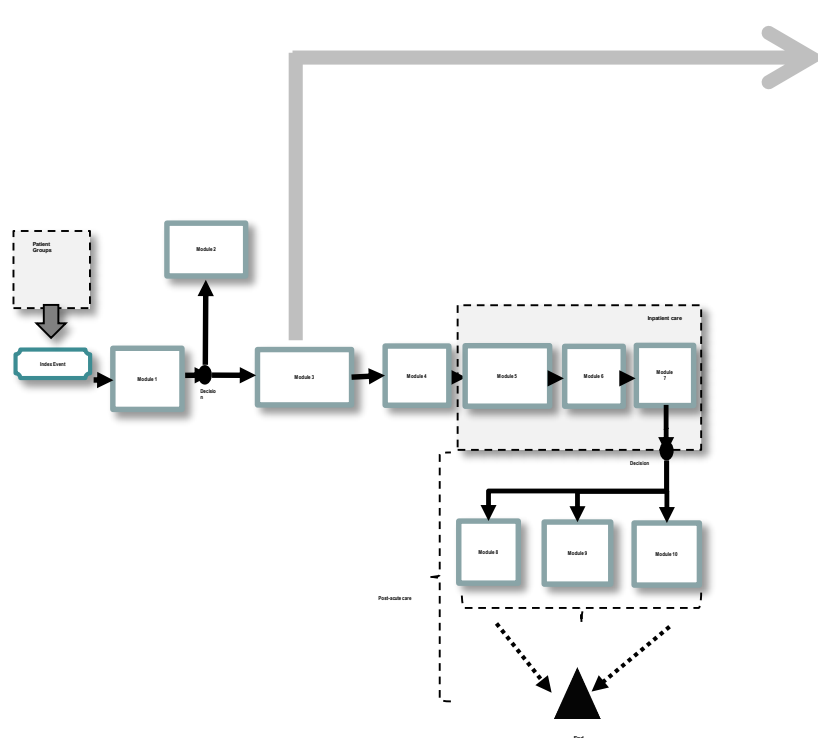
Evidence-based Care Module

- Identify **guidelines** covering entire pathway with guidance from medical librarians, and confirmed with Expert Panel
- Use **AGREE II instrument** to rate and identify 3-4 best clinical guidelines developed with most methodological rigour, including at least 1 contextually relevant (Canadian) guideline.
- Begin to populate the relevant modules with Canadian guidelines, while **flagging controversy** between the guidelines
- Identify related previously conducted **HQO evidence based analyses** and OHTAC recommendations
- A **Rapid Review** may be conducted for areas of conflict or controversy or where uncertainty around the evidence exists
- In some cases, it may be appropriate for HQO to proceed to a **full Evidence based analysis (EBA)** and revise the episode of care recommendations accordingly.

Evidence Products Comparison

	Rapid Review		Evidence Based Analysis
Question	1 Specific Question		Potentially Multiple Questions
Time Frame	2 Weeks		16 Weeks
Literature Search	5 to 10 years		Comprehensive
Types of Studies	Systematic reviews/ Meta-analyses		Comprehensive
Outcomes	2 (up to 4)		No limit
Type of Analysis	Summary of a synthesis report - Summarize as reported in SR	Vs.	Original Synthesis Report - Meta-analysis + Qualitative Analysis - Selection of appropriate studies, subgroups
Quality Assessment	Use SR assessment or GRADE		GRADE all outcomes comprehensively
Economics	None		Full Economic Analysis
Contextualization	Limited expert panel feedback		<ul style="list-style-type: none"> Multiple Expert panel meetings on a specific topic, contact primary authors and additional experts in field, OHTAC review and recommendation Decision Determinants
Inferences	Very Low/Cautious Interpretation of Findings		Moderate-High/Evidence Based Conclusions

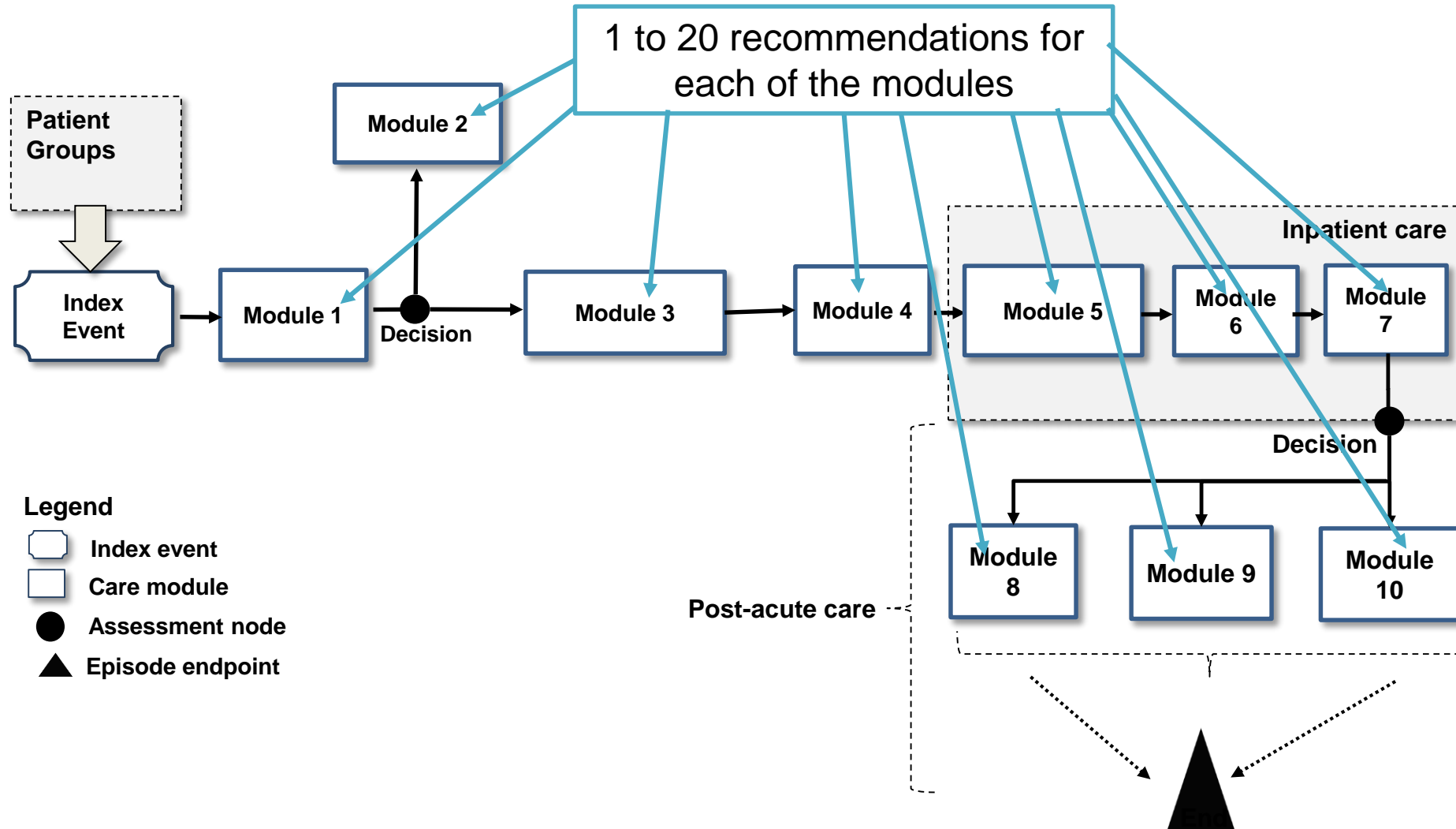
Approach to Applying Evidence to Modules



Evidence-based Care Module

- Identify **guidelines** covering entire pathway with guidance from medical librarians, and confirmed with Expert Panel
- Use **AGREE II instrument** to rate and identify 3-4 best clinical guidelines developed with most methodological rigour, including at least 1 contextually relevant (Canadian) guideline.
- Begin to populate the relevant modules with Canadian guidelines, while **flagging controversy** between the guidelines
- Identify related previously conducted **HQO evidence based analyses** and OHTAC recommendations
- A **Rapid Review** may be conducted for areas of conflict or controversy or where uncertainty around the evidence exists
- In some cases, it may be appropriate for HQO to proceed to a **full Evidence based analysis (EBA)** and revise the episode of care recommendations accordingly.
- Utilize **expert consensus** where evidence is limited, not contextually relevant or nonexistent

Sample Care Pathway



QBP – Physician Perspective

Dr. David Alter

Perspectives

- Co-Chair of the Quality Based Procedures, Congestive Heart Failure
- Health Services Research
- Physician

Rationale

Aligning system-expenditures with care-quality in hopes of improving efficiency, accountability, and outcomes of care

Cost Impact <ul style="list-style-type: none"> 19,396 annual acute inpatient hospitalizations for CHF Total acute inpatient cost: \$166.985M, extensive post-acute care costs in rehabilitation, home care and LTC 4th highest costing CMG by total cost 26,829 ALC days, costing ~\$17M Highest readmissions within 30 days at 21% representing for a total acute inpatient cost of \$37.87M 	Feasibility /Capacity for Change <ul style="list-style-type: none"> Baker Report singled out CHF as key condition to focus on Indicators for CHF readmissions currently in MLPA and QIPs Tools such as LACE screening index currently being tested Key focus area for Avoidable Hospitalizations Living Labs Communities; clinical expert table will be established to secure agreement on care pathway and quality markers Coordinated table to discuss options related to payment approaches (e.g. bundled payments across acute and post acute physician services) to follow development of quality standards THETA recently completed a report on Heart Failure Clinics
Availability of Evidence <ul style="list-style-type: none"> Evidence demonstrating significant reduction in CHF readmissions is possible through implementation of interventions that include: <ul style="list-style-type: none"> use of heart failure clinics, outpatient follow up, care coordination post discharge, telehealth interventions Transitional Care intervention for CHF used advanced practice nurses to achieve 34 per cent reductions in readmission and 39 per cent reduction in mean total cost University of Ottawa Heart Institute's Telehealth program reduced 30-day readmissions by 54 percent with savings up to \$20,000 per patient 	Practice Variation <ul style="list-style-type: none"> Hospitalization rates vary from 39.43 to 96.68 per 100,000 residents across LHINs Readmission rates vary from 18% to 25% across LHINs Large variations in ALC rates for CHF patients across LHINs and hospitals Inconsistent use of heart failure clinics and cardiac rehab across the province Inconsistent access to cardiologists across province Upcoming discussions with ICES scientific experts to take place to identify clinical variation in outcomes for CHF patients

Figure 4: Quality-Based Procedures Evidence-Based Framework for CHF

Abbreviations: ALC, alternate level of care; CHF, congestive heart failure; CMG, Case Mix Group; ICES, Institute for Clinical Evaluative Sciences; LACE, length of stay, acuity of admission, comorbidity of patient, emergency department use; LHIN, Local Health Integration Network; LTC, long-term care; MLPA, Ministry-LHIN Performance Agreement; QIP, Quality Improvement Plan; THETA, Toronto Health Economics and Technology Assessment.

Source: Ministry of Health and Long-Term Care

Evidence

Table 10: Rapid Review Research Questions and Quality of Evidence

Research Question	Quality of Evidence
<p>What is the diagnostic accuracy of in-hospital BNP measurement for HF?</p> <p>What is the prognostic accuracy of BNP for triage of HF patients when used in the emergency department?</p> <p>What is the prognostic accuracy of in-hospital BNP measurement for HF before hospital discharge?</p>	<p>No studies were identified that specifically assessed the prognostic accuracy of BNP for triage of HF patients when used in the emergency department or in-hospital BNP measurement for HF before hospital discharge.</p> <p>There is moderate quality evidence that BNP testing to diagnose HF in patients presenting to the emergency department with acute dyspnea does not significantly reduce mortality or rehospitalization.</p>
<p>What is the diagnostic accuracy of a chest x-ray for identifying pulmonary infection as a precipitant of an acute HF episode?</p>	<p>No studies that examined the accuracy of x-rays for diagnosing pneumonia as the precipitant of an acute HF event were identified.</p> <p>All of the guidelines reviewed comment on the importance of diagnosing pulmonary infections such as pneumonia as a potential precipitant of an acute heart failure event.</p>
<p>What is the effectiveness of coronary revascularization in ischemic heart failure patients?</p>	<p>Moderate-quality evidence suggests that coronary revascularization improves survival compared to medical therapy in patients with CAD and significant left ventricular systolic dysfunction, and for those in whom treatable targets are identified. Decisions to perform revascularization in these patients should not be overly influenced by imaging-defined myocardial viability status, as an association with clinical outcomes was not shown. The routine use of SVR as an adjunct to CABG coronary revascularization is not supported by the evidence.</p>
<p>What is the safety and effectiveness of EMEA in hospitalized acute HF patients?</p>	<p>No studies were identified that examined the safety and effectiveness of EMEA in hospitalized acute HF patients</p>
<p>What is the effectiveness of ECG telemetry monitoring among patients hospitalized with acute HF in comparison to standard care?</p>	<p>No high-quality evidence was identified that evaluated the effectiveness of ECG telemetry monitoring among patients with acute HF.</p> <p>Based on expert opinion, clinical practice guidelines recommend the use of continuous ECG monitoring among patients with acute HF. The AHA practice standards for in-hospital ECG monitoring and the CCS recommend continuous ECG monitoring among all patients with acute HF. The ESC and HFSA guidelines recommend continuous ECG monitoring among acute HF patients treated with inotropes, based on the increased risk of arrhythmia and myocardial ischemia associated with these agents.</p>
<p>What is the effectiveness of in-hospital insertion of an ICD or of CRT in patients hospitalized for acute CHF compared with those patients not hospitalized for acute CHF who receive the device or the procedure via pre-planned, elective surgery.</p>	<p>No studies were identified that examined the effectiveness of in-hospital insertion of an ICD or CRT in patients hospitalized for acute CHF compared with those patients who receive the devices via pre-planned, elective surgery.</p>

Empirical Data

1. Prevalence (i.e., proportion of patients in different pathways)
2. Interferences on quality indicators

Empirical Data

Independent predictors of 30-day death or re-admission among patients hospitalized with congestive heart failure

Variable	Pr > Chi-Square	OR	CI	
Specialty consultation -	0.0026	1.446	1.138	1.839
DailyWeight Recorded	0.0408	0.878	0.775	0.995
Electrophysiologic Procedure	0.0033	2.623	1.378	4.993
Etiology - CAD	0.0137	1.167	1.032	1.32
Etiology - Valve	0.0101	1.264	1.057	1.511
Follow up - ECHO	0.0089	0.663	0.488	0.902
FullDNR	0.0045	1.268	1.076	1.493
HGB	<.0001	0.994	0.991	0.997
Cognitive impairment	0.0076	1.235	1.058	1.442
SysBP	<.0001	0.996	0.994	0.998
Creatinine	0.0047	1.001	1	1.002
Discharge on ACE/ARB	0.0006	0.802	0.706	0.91
In Hospital ASA	0.0076	1.176	1.044	1.325
Risk score	<.0001	1.003	1.002	1.004
Sodium	0.0114	0.985	0.974	0.997

Consensus – Pathway Development

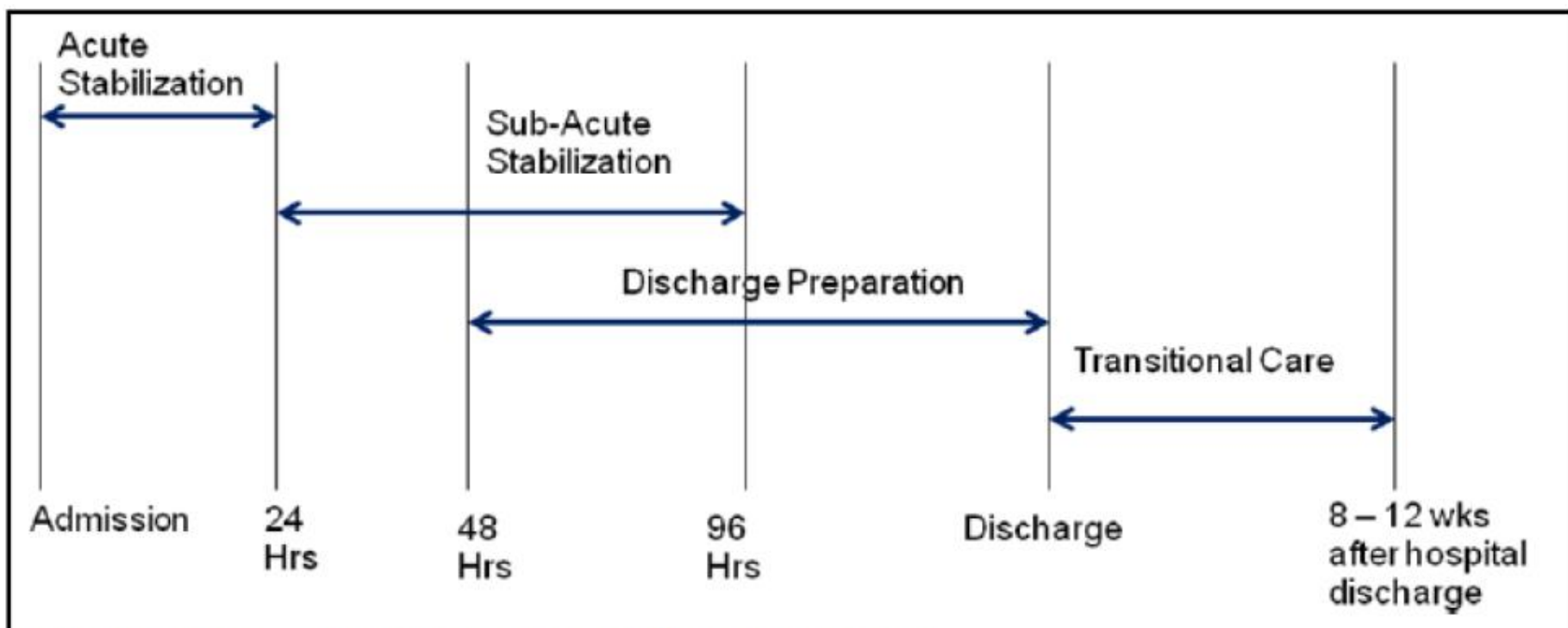


Figure 7: Phases of the Patient Journey While Hospitalized

Consensus – Pathway Development

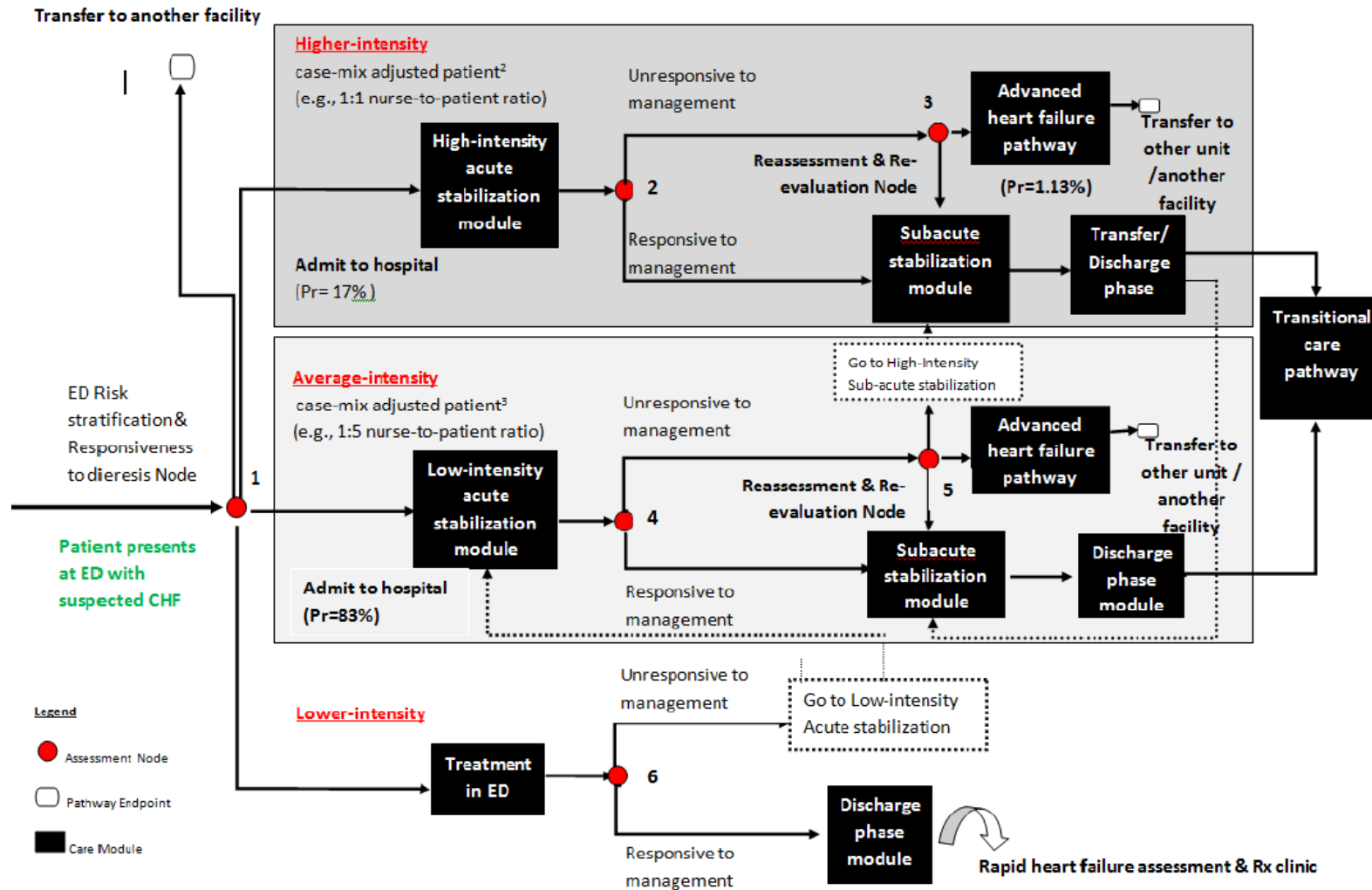


Figure 8: CHF Episode of Care Pathway

Implementation



Performance Rating	First Quartile	Second Quartile	Third Quartile	Fourth Quartile
Outstanding (1)	12%	10%	8%	6%
Exceeds Position Requirements (2)	10%	8%	6%	No Increase
Meets Position Requirements (3)	8%	6%	No Increase	No Increase
Meet Minimum Requirements (2)	Special Consideration	No Increase	No Increase	No Increase
Does Not Meet Requirements (1)	No Increase	No Increase	No Increase	No Increase

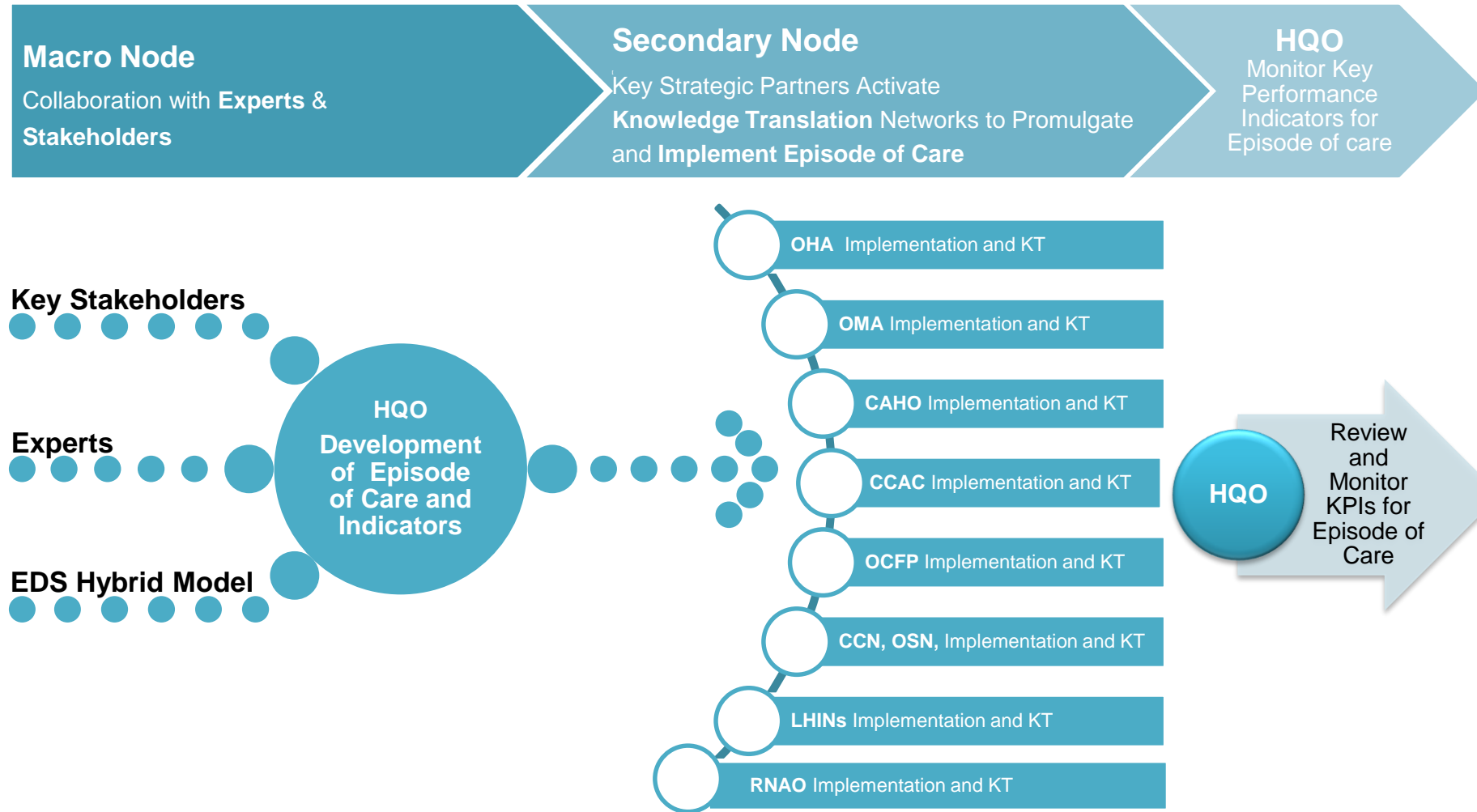
Health Quality Ontario (HQO) Knowledge Translation Nodal Network

Laura Park-Wyllie

HQO Knowledge Translation Approach

1. Engagement with experts and stakeholders is integrated throughout evidence development process.
2. Knowledge dissemination plan and implementation considerations are developed jointly with key health system partners.

Integrated Knowledge Translation Nodal Network Framework



Multi-Stakeholder Integrated Knowledge Translation Nodal Network Process

From Evidence Development to Knowledge Translation/Implementation Support for Best Practice Implementation

KTNN Phases

HQO Expert panel

Clinical Evidence-based
Best Practice

KT Strategy and
Implementation Planning

Development of
Implementation Tools

Pilot Test

Delivery and Dissemination

Ongoing Implementation
Support

Consideration of Feedback

KTNN Process

Engagement and Input

Identify Clinical
Champions

Develop Collaborative
KT Strategy

Identify Implementation
Tools

Conduct Early
Evaluation

Lead the Dissemination

Utilize Indicators,
Support Networks

Bring Feedback via
Loop

- KTNN partners nominate experts to panels.
- KTNN may participate in panel meeting, if appropriate
- HQO Chairs and expert panel members become clinical champions and provide leadership for adoption.
- Develop strategy for knowledge translation and implementation support.
- Identify tools and levels that could be developed.
- HQO and KTNN partners develop tools as relevant to their constituencies.
- If appropriate, KT partners may evaluate implementation approach.
- Provincial and regional meetings
- Target stakeholder briefings, Educational Sessions, Training Workshops, Newsletters, Toolkits
- Episode of Care Indicators
- Regional Support Networks
- Community of Practice Networks
- KTNN partners provide feedback from field to HQO to ensure products are useful to team.

Moving Beyond the QBP to Evaluation and Implementation

Dr. Douglas Lee

HF Recommendations – Acute Phase

<input type="checkbox"/> Mechanical ventilation	<input type="checkbox"/> PA monitoring
<input type="checkbox"/> BIPAP	<input type="checkbox"/> IABP, assistive devices
<input type="checkbox"/> Oxygen	<input type="checkbox"/> Monitor electrolytes, renal function, troponins, CXR
<input type="checkbox"/> Lasix IV or PO	<input type="checkbox"/> Record fluid input/output
<input type="checkbox"/> IV vasoactive agents	<input type="checkbox"/> Record weight
<input type="checkbox"/> Telemetry	<input type="checkbox"/> Other therapies (ASA, IV heparin, statins)
<input type="checkbox"/> 1:1 nurse-to-patient ratio	<input type="checkbox"/> ECG
<input type="checkbox"/> ACE inhibitors/ARBs	<input type="checkbox"/> Assessment of precipitating factors (e.g., infection, ischemia)
<input type="checkbox"/> Beta-blockers	<input type="checkbox"/> Discuss advanced directives
<input type="checkbox"/> Ultrafiltration	<input type="checkbox"/> Vital signs

HF Recommendations – Subacute Phase

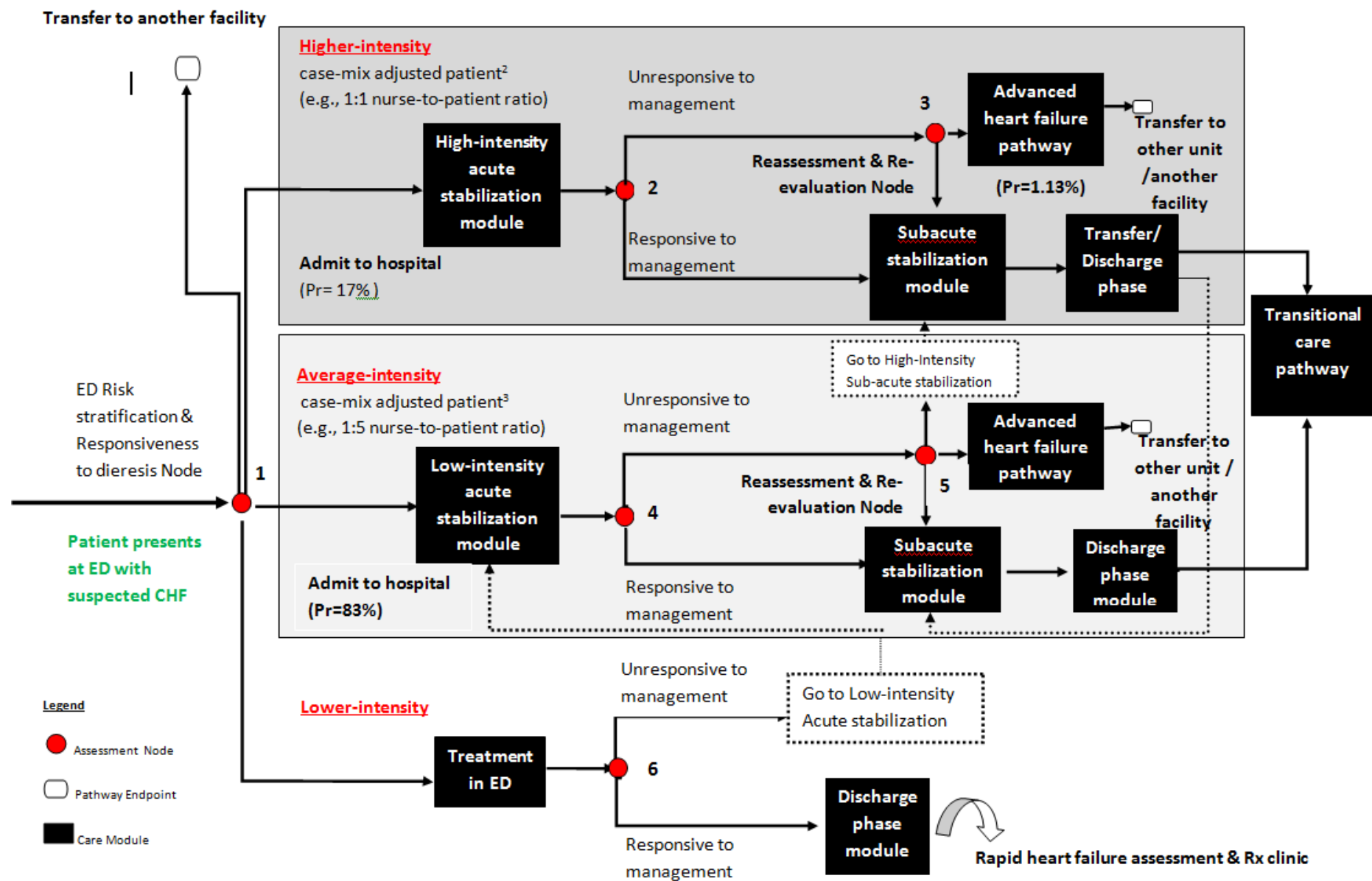
<input type="checkbox"/> Daily weights	<input type="checkbox"/> Renal function assessment
<input type="checkbox"/> 6-hr input/output	<input type="checkbox"/> Assessment for ischemia: <ul style="list-style-type: none"> ➤ Coronary angiography ➤ Non-invasive risk stratification ➤ Revascularization procedure
<input type="checkbox"/> Salt restriction	<input type="checkbox"/> Assessment of valvular heart disease <ul style="list-style-type: none"> ➤ Evaluation for valve surgery or repair
<input type="checkbox"/> Fluid restriction	<input type="checkbox"/> Screen for complications (e.g., arrhythmia, urosepsis, COPD, renal failure, pneumonia)
<input type="checkbox"/> Electrolytes	

HF Recommendations – Discharge Planning

<input type="checkbox"/> Diuretic monitoring and management	<input type="checkbox"/> Predischarge functional capacity and mobility assessment
<input type="checkbox"/> Evidence-based pharmacotherapy	<input type="checkbox"/> Predischarge cognitive and social support assessment
<input type="checkbox"/> Counselling <ul style="list-style-type: none"> ➤ Medication ➤ Lifestyle (alcohol, smoking) ➤ Daily weight and self-monitoring ➤ Diet ➤ Physical activity ➤ Advanced care directives 	<input type="checkbox"/> Physician appointments: GP/FP, Internal Medicine, Cardiology
<input type="checkbox"/> Timely documentation <ul style="list-style-type: none"> ➤ Discharge notes dictated & sent to PCP within 1 week 	

Moving Beyond the QBP: HF Indicators

	In Hosp	2 d	7 d	14 d	30 d	6 m	12 m
Length of Stay	x						
Medications							
ACEI or ARB – new Rx			x				
β-blocker – new Rx			x				
ACEI or ARB – Refill						x	x
β-blocker – Refill						x	x
Transitional Care							
CCAC assessment		x		x	x		
Physician follow-up (GP, Card)			x	x	x		
Outcomes							
Rehospitalization			x			x	x
Mortality			x			x	x

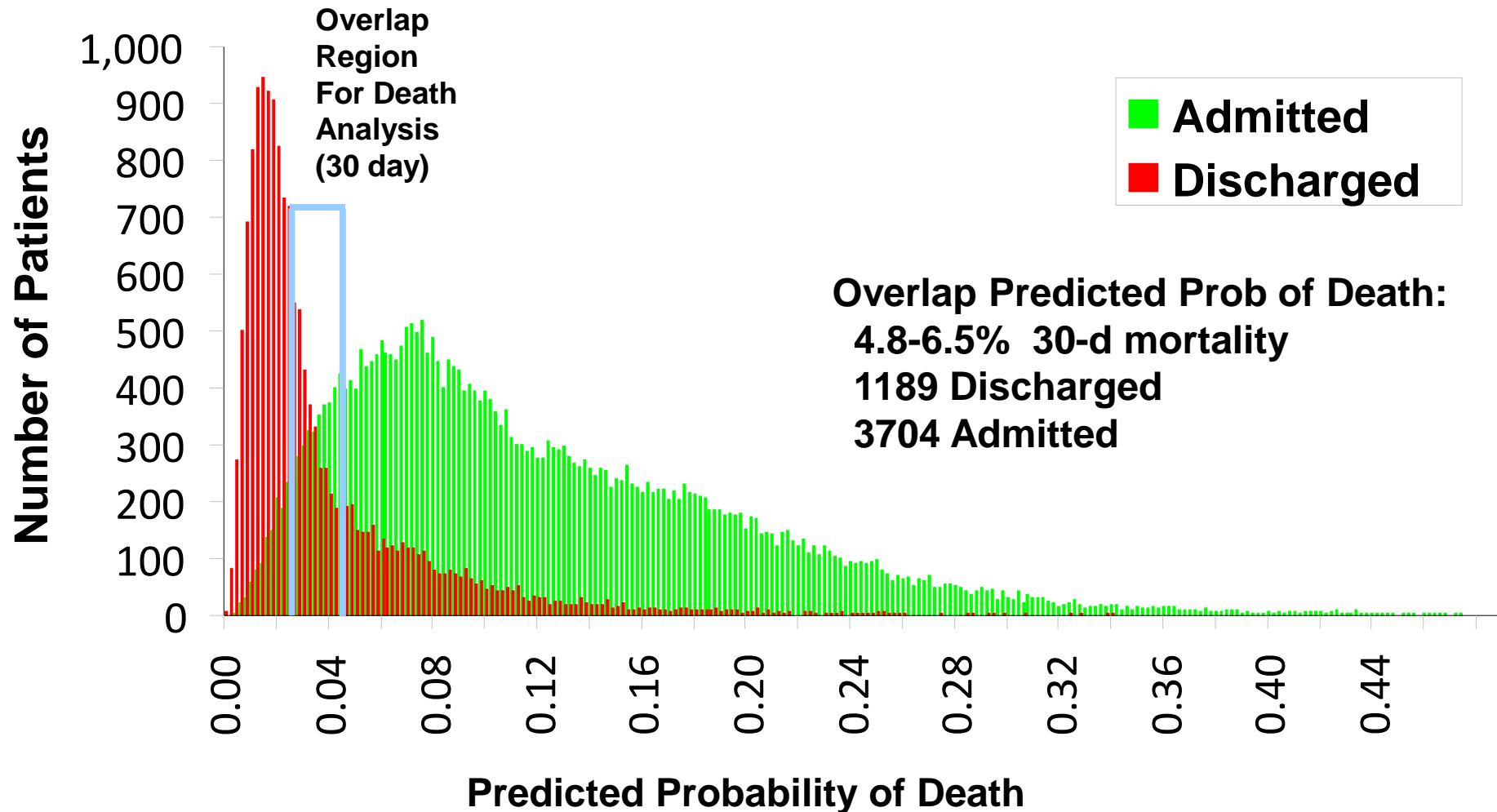


Acute Heart Failure Risk Stratification

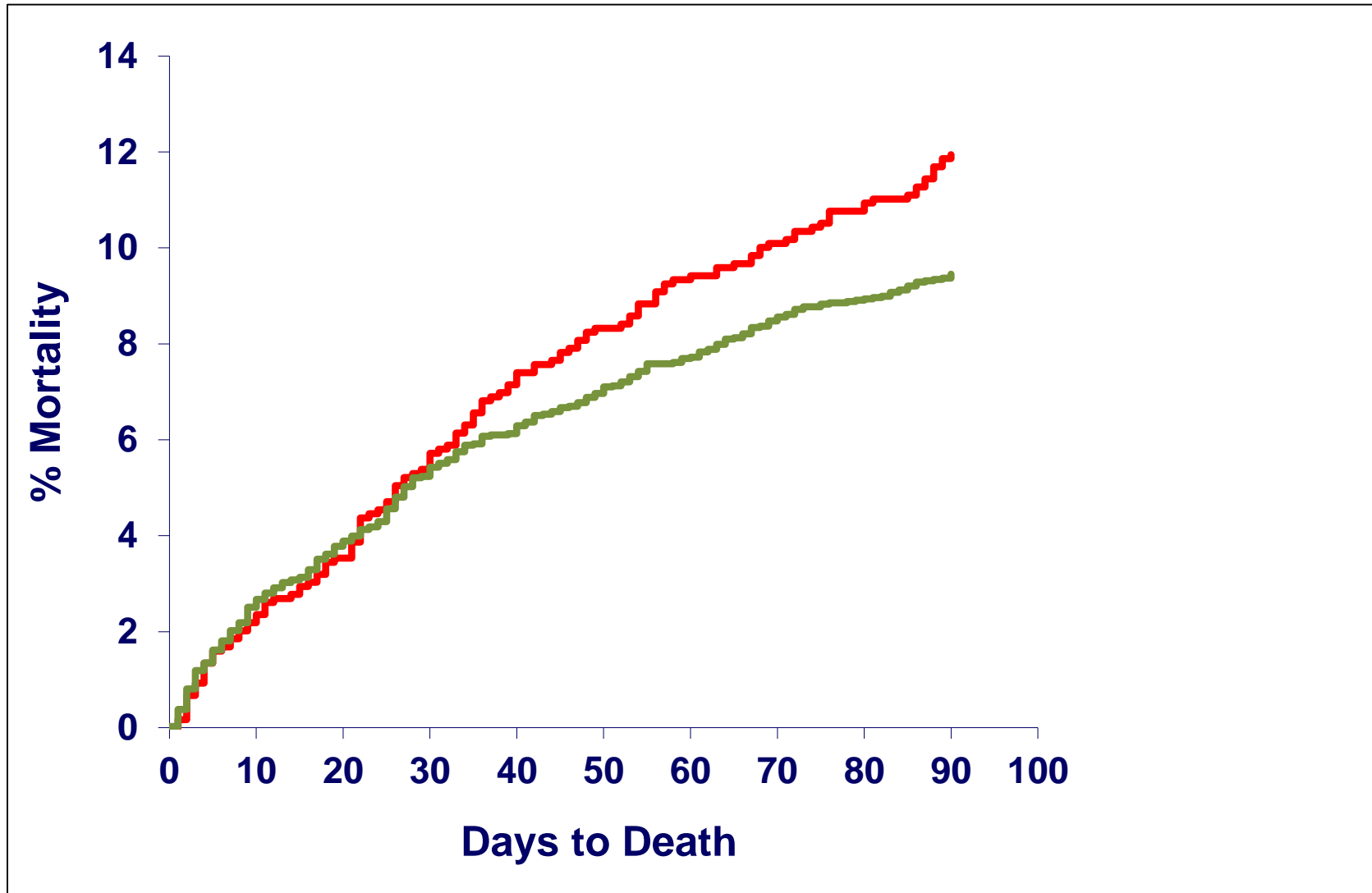
- Respiratory distress
- Hypoxemia
- Severity of pulmonary edema
- Poorly responsive to furosemide
- Hemodynamic compromise
- Significant arrhythmias
- Positive troponin
- Concomitant acute life-threatening disorders



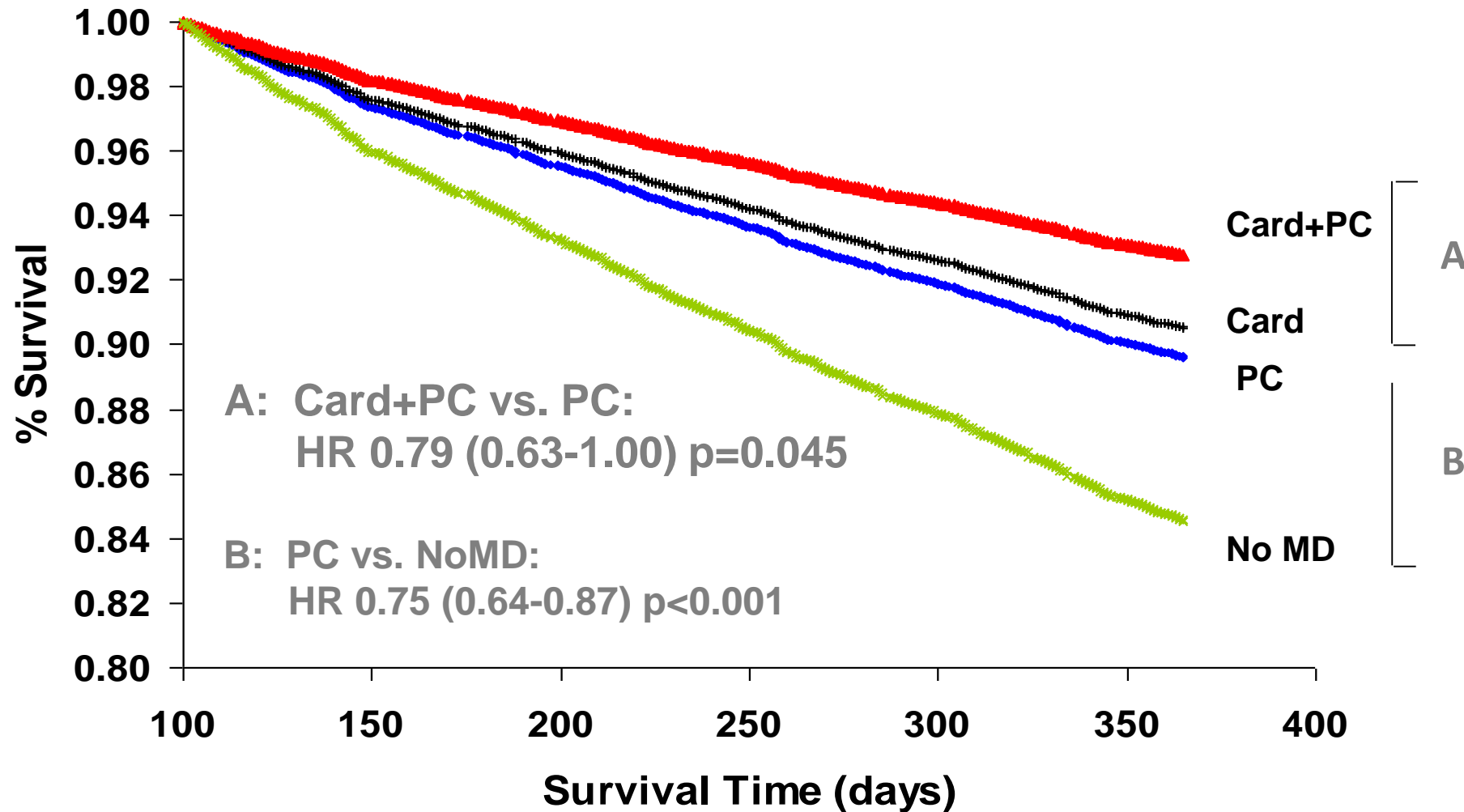
Moving Beyond the QBP: Improving Quality of HF Care Decisions in the ED



Mortality: Discharged vs. Admitted



Early Follow-up of HF: Improved Survival



Rationale: In Ontario Emergency Departments

- **Inefficiency:** Some low risk HF patients are unnecessarily admitted to hospital instead of having effective community based follow-up care
- **Safety:** Some high risk HF patients are inappropriately discharged – will die at home

Aim Statement

- To reduce admission rates of low-risk heart failure (HF) patients presenting to the emergency department by 25% while reducing the discharge of high risk HF patients.

Quality Improvement Team

Christopher Sulway, PT, TCLHIN
Douglas S. Lee, MD, UHN
Shanas Mohamed, RN, UHN

Medical Staff

H. Ross, MD – PMCC HF Lead
S. Sabah, MD – ED Assoc Head
H. Abrams, MD – Chief, GIM
B. Coke, MD – GIM
A. Woo, MD – Head, Echo Lab
H. Amad, MD – UHN Cardiology
**R. Iwanochko, MD – TWHCardiology
Site Lead**

Nursing

S. McIntaggart – VP Clinical
**L. Flockhart – PMCC Clinical
Director**
K. Partridge – Amb. Clinics
P. Neilsen – Cardiology Ward
L. Belford – ACNP, PMCC HF

Allied Health / Admin

P. Lui – Pharmacy
O. Fernandes – Pharmacy
S. Miguel – Clinics booking
L. Bicar – Echo booking
CCAC

Summary of Findings

- Reasons for high number of low risk HF being admitted
- No criteria and poor practices to assess risk in HF patients
- No process in ED to monitor low and medium risk patients to decide if admission is needed
- No reliable follow up in community
 - Too many phone calls to ensure appropriate follow-up
 - Concern of poor transition (slip through crack)
- No easy way to make a referral 24-7

From: Prediction of Heart Failure Mortality in Emergent Care: A Cohort Study

Ann Intern Med. 2012;156(11):767-775. doi:10.7326/0003-4819-156-11-201206050-00003

Table 3. EHMRG 7-Day Mortality Risk Score

Variable	Units	Additive or Multiplicative Component
Age	y	$2 \times \text{age}$
Transported by EMS	If "yes"	+60
SBP	mm Hg*	$-1 \times \text{SBP}$
Heart rate	beats/min†	$1 \times \text{heart rate}$
Oxygen saturation	%‡	$-2 \times \text{oxygen saturation}$
Creatinine	mg/dL§	$20 \times \text{creatinine}$
Potassium	4.0 to 4.5 mmol/L	0
	≥4.6 mmol/L	+30
	≤3.9 mmol/L	+5
Troponin	>ULN	+60
Active cancer	If "yes"	+45
Metolazone at home	If "yes"	+60
Adjustment factor		+12
Total		EHMRG score¶

EHMRG = Emergency Heart Failure Mortality Risk Grade; EMS = emergency medical services; SBP = systolic blood pressure; ULN = upper limit of normal.

* Initial/triage SBP, maximum of 160 mm Hg.

† Initial/triage heart rate, minimum of 80 beats/min and maximum of 120 beats/min.

‡ Lowest initial/triage oxygen saturation, maximum of 92%.

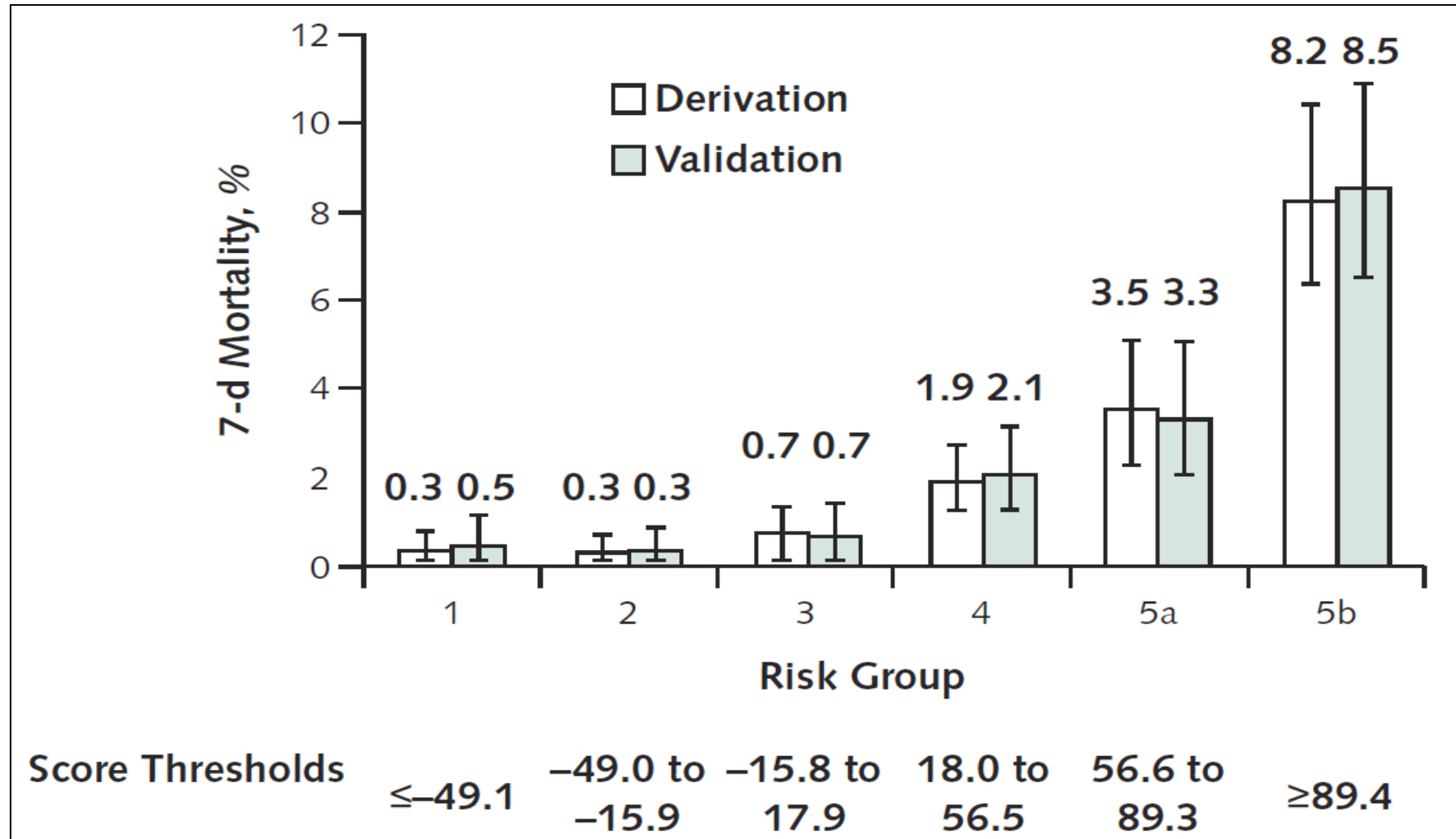
§ If creatinine concentration is in $\mu\text{mol/L}$, divide by 88.4 to convert to mg/dL.

|| Adjustment factor of +12 added to allow for an approximate 0 median score.

¶ All variables are required to calculate the score; users are cautioned against estimating component values. The EHMRG is not for use in patients who are dialysis-dependent.

Emergency
Hear failure
Mortality
Risk
Grade

EHMRG HF Risk Stratification in the ED



Intervention – Quality Improvement in CHF Care (QUICC) Initiative

1. Risk stratification: EHMRG decision support algorithm
2. Checklist to assist in deciding safety of discharge
3. Rapid 24-hr follow-up clinic
4. Automatic referral to rapid home care visit
5. ED virtual observation unit

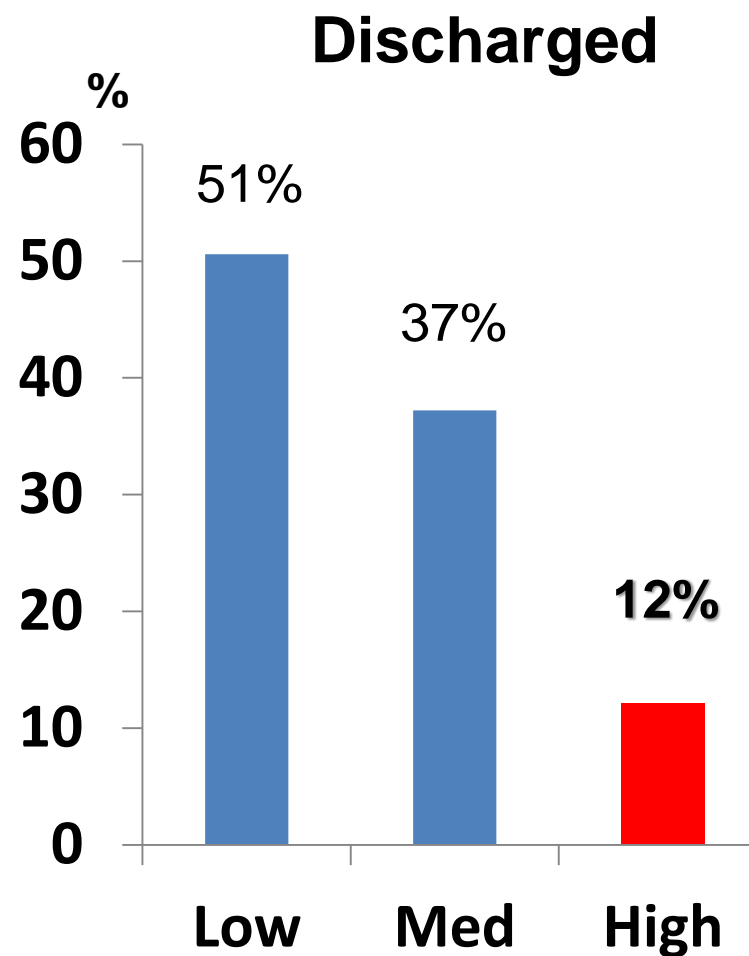
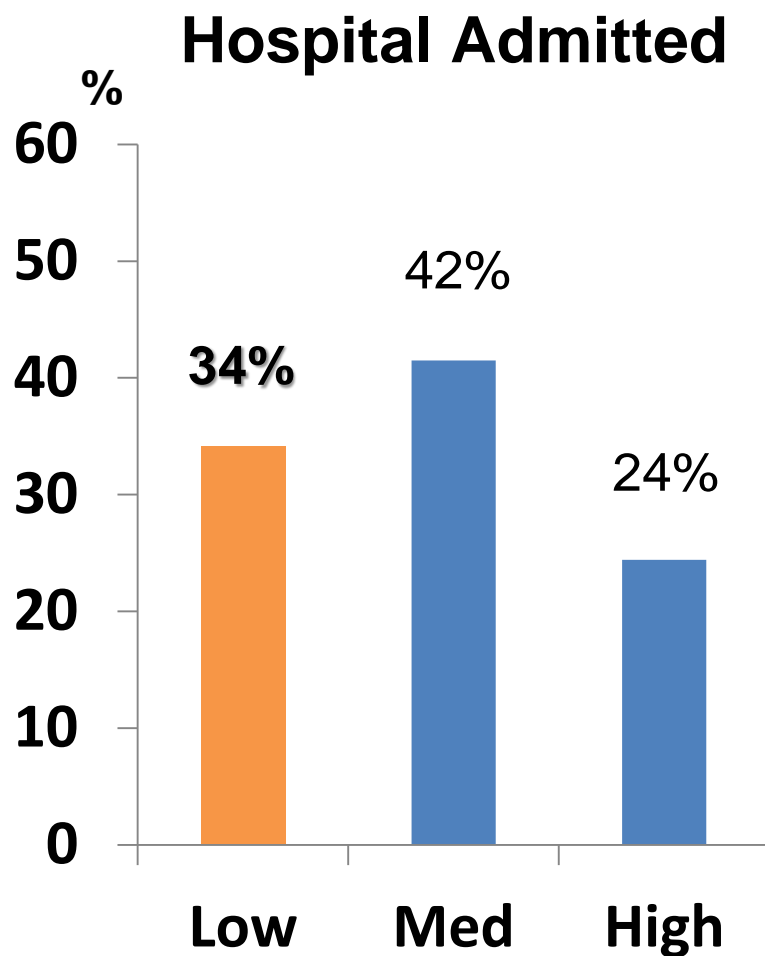
Cardiac Evaluation & Rapid Treatment – Heart Failure (CERT-HF) Toronto Western Hospital, University Health Network 8 th Floor, New East Wing Phone: 416-603-6765 Fax: 416-603-5274 REFERRAL FORM		
Attending Physician: (Print Name) Dr. _____ <input type="checkbox"/> ED MD <input type="checkbox"/> IM <input type="checkbox"/> Card		
Date: _____ (mm/dd/yyyy)		
*Criteria for Low Risk Heart Failure		
Pre Transplant	Yes	No
Ischemia		
Uncontrolled Arrhythmia		
Severe Infection or Sepsis		
Worsening Renal Dysfunction from Baseline		
Poor Diabetes Control		
High Score on EHMRG Risk		
Clinical Decision Patient is Unstable		
Inadequate Socioeconomic Support		
Inadequate Psychosocial Support		
Please note that the following must accompany this referral form: 1. *Complete E mergency H ear F ailure M ortality R isk G rade (EHMRG) Score and print completed form (available on intranet, go to emergency department webpage then click on Outpatient Clinics and Services . EHMRG risk calculator is located under Cardiology CERT-HF Clinic (7day predicted probability of mortality must be within the first 4 decile) 2. Emergency Department Face Sheet 3. Give patient allocated appointment instructions (record date and time below) Appointment Date: _____ mm/dd/yyyy Time: 11:00 AM or 1:00 PM (circle one only)		
Note: Patient qualifies for CERT-HF clinic if low risk and will be discharged from ED *Low Risk Heart Failure defined as NO for all criteria listed, as well EHMRG 7day predicted probability of mortality must be within the first 4 decile		
MD Signature _____ Date _____ Time _____		

*Criteria for Low Risk Heart Failure	Yes	No
Pre Transplant		
Ischemia		
Uncontrolled Arrhythmia		
Severe Infection or Sepsis		
Worsening Renal Dysfunction from Baseline		
Poor Diabetes Control		
High Score on EHMRG Risk		
Clinical Decision Patient is Unstable		
Inadequate Socioeconomic Support		
Inadequate Psychosocial Support		

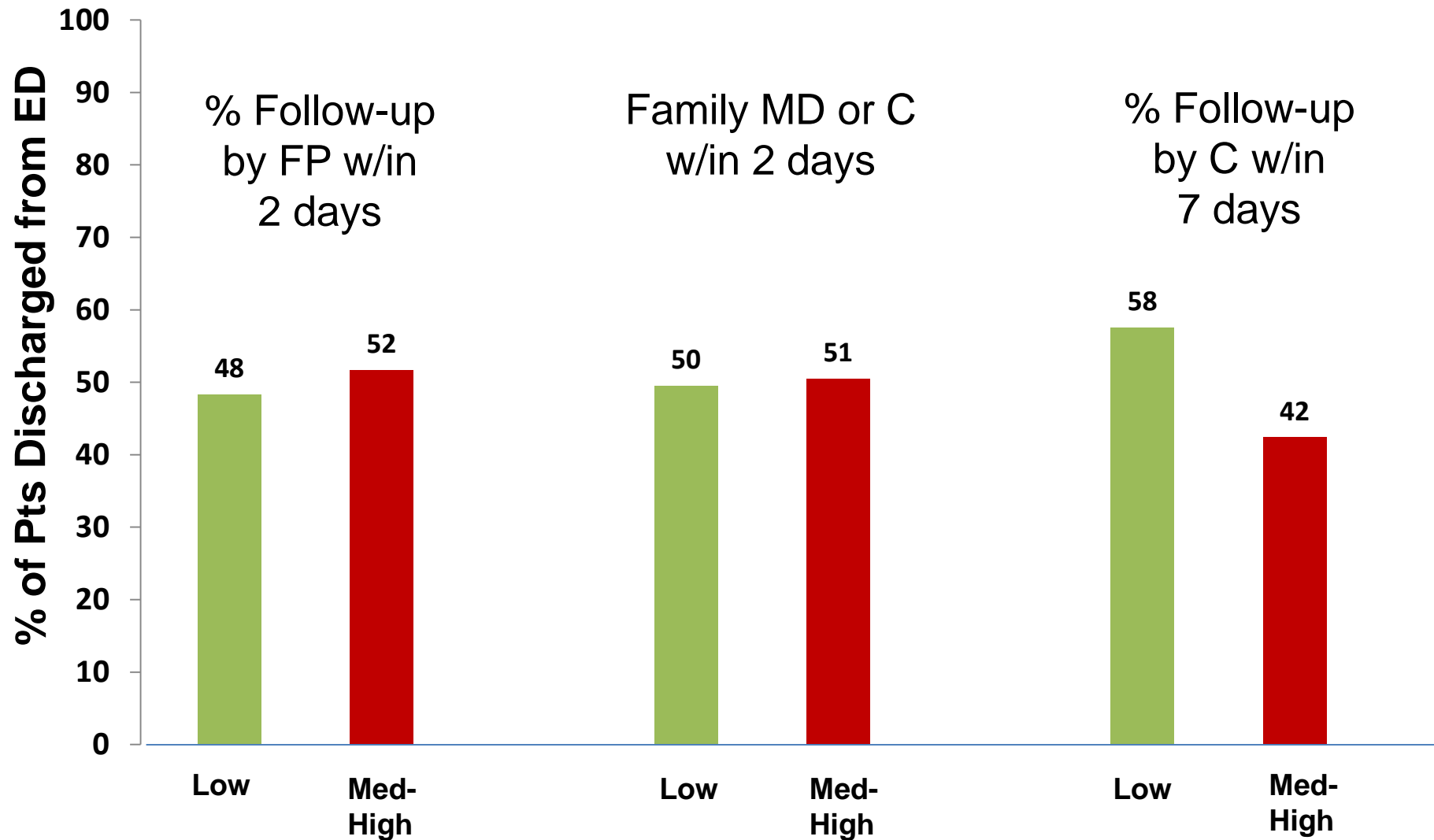
Please fax CERT-HF referral to: 416-603-5274

Potential Impact in Ontario

Risk Profiles (Fiscal 2007 data)



Ontario Statistics: Follow-up (Fiscal 2007 data)



Reflections on Current and Future State

- HQO began its QBP program just over 1 year ago.
- To date, HQO has developed 6 evidence-based, best practice, clinical handbooks to inform quality-based funding policy for Ontario.
- An additional 5 handbooks are actively in-development with provincial expert advisory panels (community-based focus).
- The QBP program of work within HQO has led to an active and productive period of developing customized evidence synthesis, analytic, and engagement methods to support the development of QBP evidence-based best practices.

Reflections on Current and Future State

- New innovative research (risk stratification) and proof-of-concept programs (specialized heart failure clinic models) have been associated with HQO's QBP work.
- A recent focus in the evolution of HQO's QBP program has been on collaborating with key strategic health system partners to facilitate the knowledge translation and uptake of the QBP best practices.
- The Ministry is using QBP clinical best practices to develop the funding policies (episode of care pricing) under a separate timeline.
- Looking forward 2013-2014: Community-based QBPs

Thank You