PITTSBURGH REGIONAL HEALTH INITIATIVE
Spreading Quality, Containing Costs.

CENTER FOR HEALTHCARE QUALITY & PAYMENT REFORM

REDUCING HOSPITAL READMISSIONS BY TRANSFORMING CHRONIC CARE

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About the Pittsburgh Regional Health Initiative (PRHI)

- A non-profit regional health improvement collaborative founded in 1997 to improve the safety and quality of health care in the Pittsburgh Region and nationally
- Board members include CEOs and senior staff from regional hospitals, physician groups, health insurers, employers, consumers, and civic leaders
- Funded by local corporations, foundations, health plans, and government contracts and grants
- Organizes and supports demonstration projects in hospital infection reduction, chronic care improvement, etc.
- Trains health care staff in Perfecting Patient Care℠, a quality improvement method based on the Toyota Production System
- Began organizing an initiative to reduce hospital readmissions in the Pittsburgh Region in January 2007

It Started With Data: PA's All-Payer Readmission Data

PENNSYLVANIA HEALTH CARE COST CONTAINMENT COUNCIL

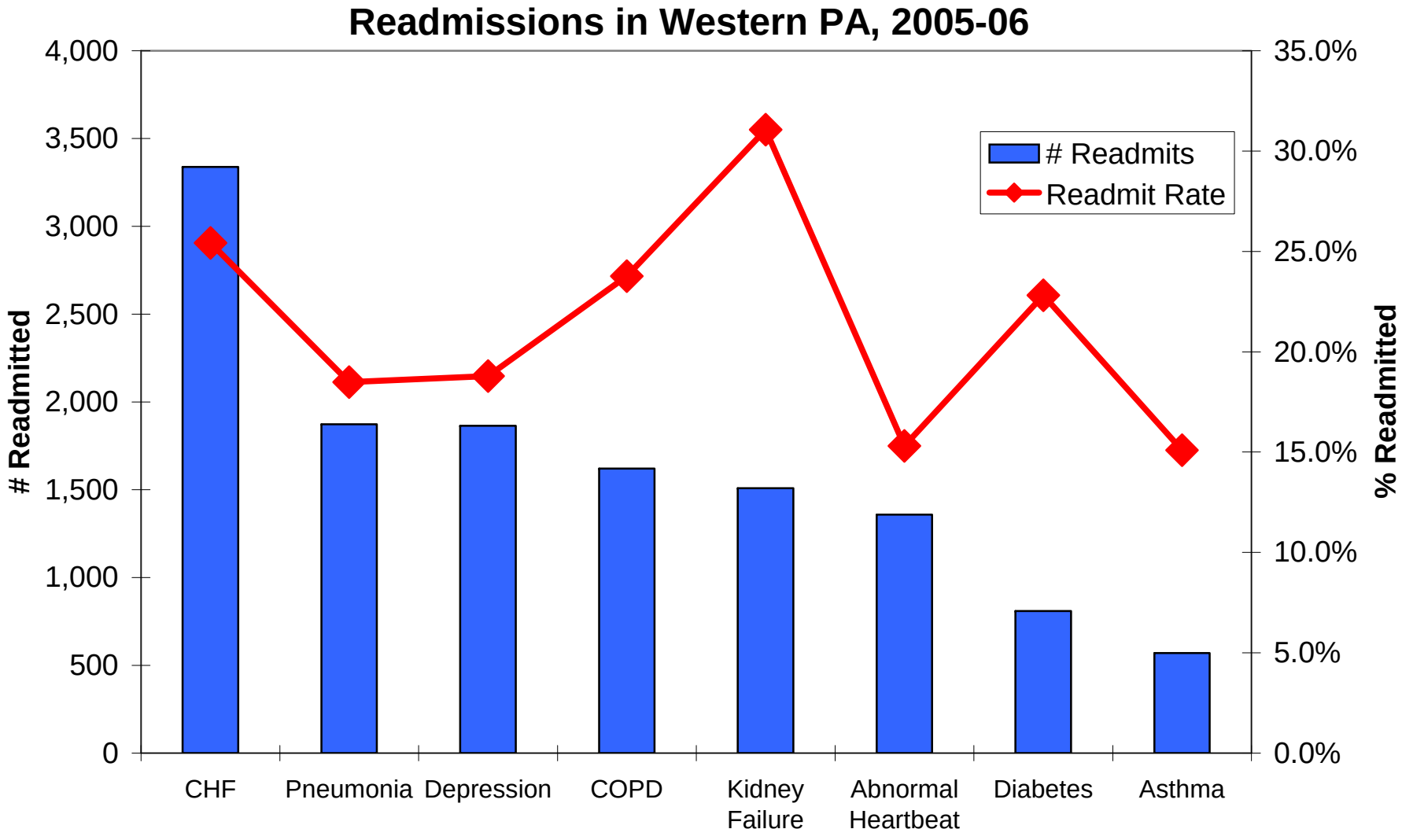
Symbol Legend

- ● Significantly higher than the expected rate.
- ◉ Not significantly different than the expected rate.
- ○ Significantly lower than the expected rate.
- NR Not Reported. Had fewer than five cases evaluated.
- NA Not Available. Not reported due to missing/incomplete data.

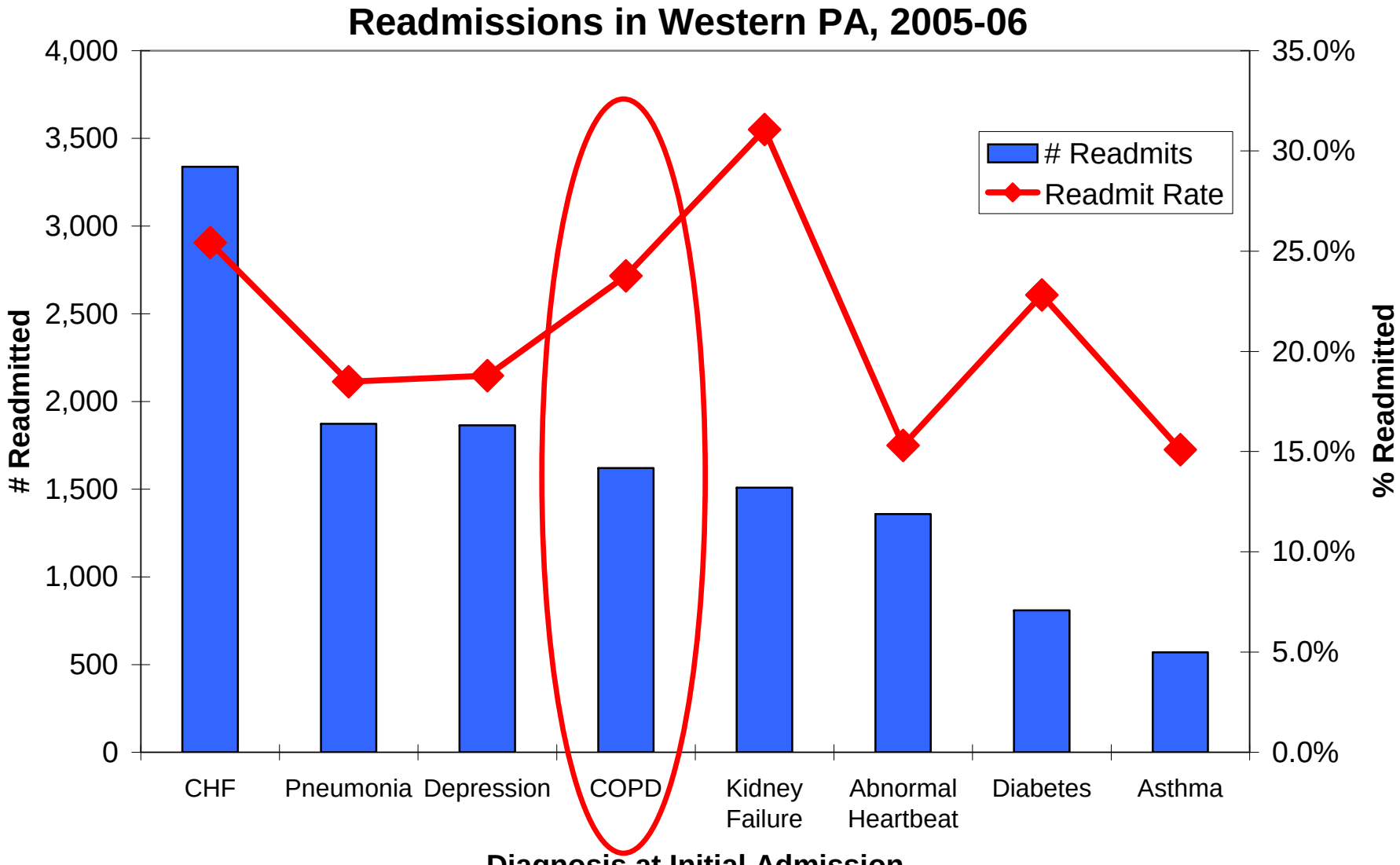
Geisinger/Danville

					Outlier Cases				Readmission % - Ratings		
					Short LOS		Long LOS				
Year	Condition	Cases	Mortality Rating	Length of Stay (LOS)	%	Rating	%	Rating	For Any Reason	For Complication or Infection	Avg. Charge
Spring	Abdominal Aortic Aneurysm Repair - Endovascular	36	◉	1.4					◉	◉	$115,433
Spring	Abdominal Aortic Aneurysm Repair - Open	18	◉	4.7					◉	◉	NR
Spring	Abnormal Heartbeat	356	◉	2.9	11.7	●	1.4	○	◉	◉	$23,850
Spring	Blood Clot in Extremities	14	◉	3.6	28.6	●	7.1	◉			$13,313
Spring	Blood Clot in Lung	102	●	3.3	25.8	●	0.0	○			$25,182
Spring	Brain Surgery	156	◉	6.1							$89,708
Spring	Bronchitis and Asthma	28	◉	2.7					◉	◉	$15,827
Spring	Chest Pain	84	◉	1.4	20.2	●	3.6	◉	◉	◉	$13,756
Spring	Chronic Obstructive Pulmonary Disease (COPD)	111	◉	3.4	13.6	●	3.6	◉	◉	◉	$22,562
Spring	Cirrhosis and Alcoholic Hepatitis	46	◉	4.4	2.6	◉	0.0	◉	◉	◉	$32,634
Spring	Colorectal Procedures	219	◉	6.6							$69,700
Spring	Congestive Heart Failure (CHF)	377	◉	3.7	12.9	●	1.4	○	○	◉	$20,966
Spring	Diabetes - Medical Management	105	◉	3.3	9.5	◉	4.8	◉	◉	◉	$19,600

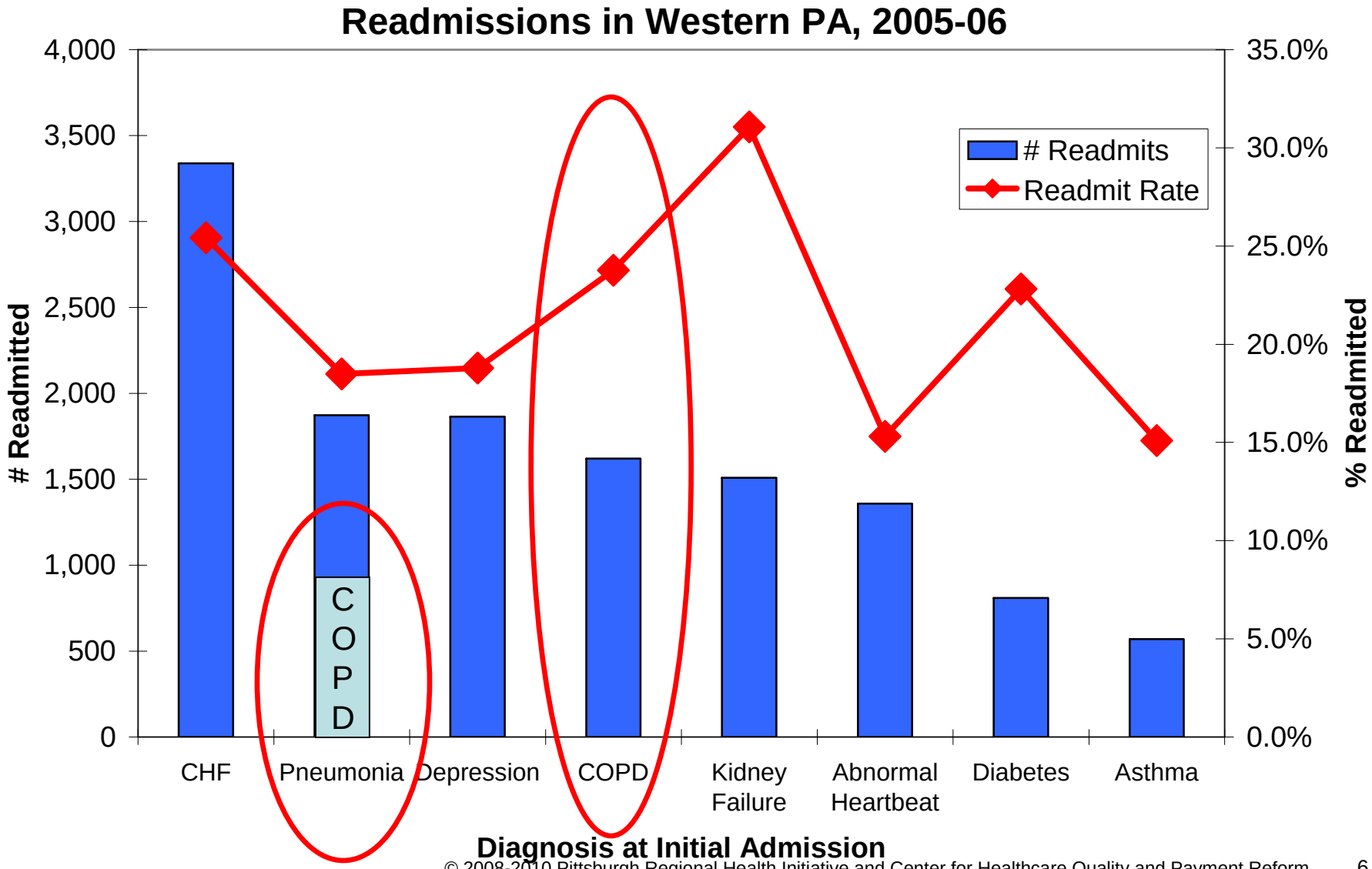
Chronic Diseases Are Largest Categories of Readmissions



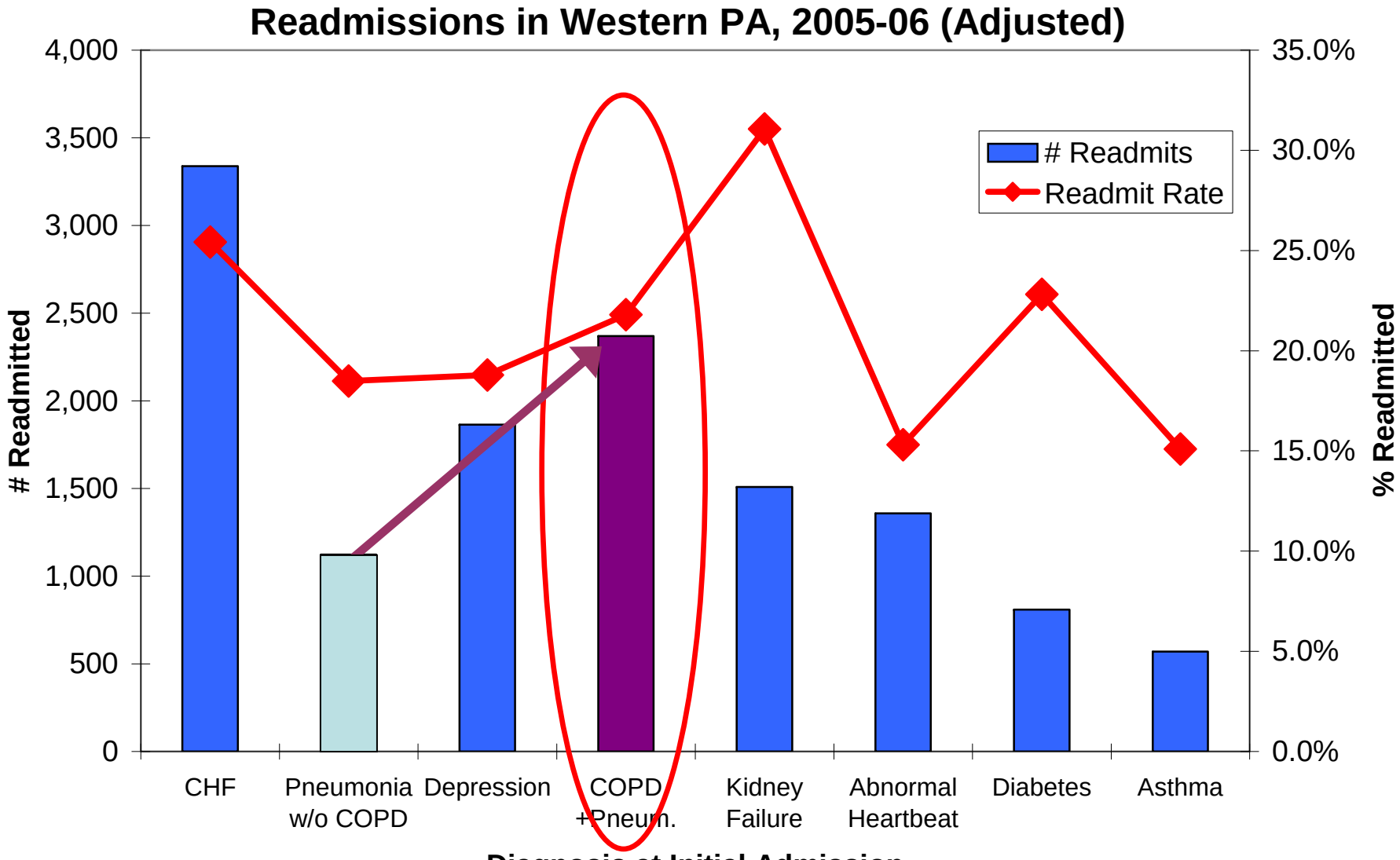
Initial Focus: COPD is 4th Highest Volume & 25% Readmission Rate



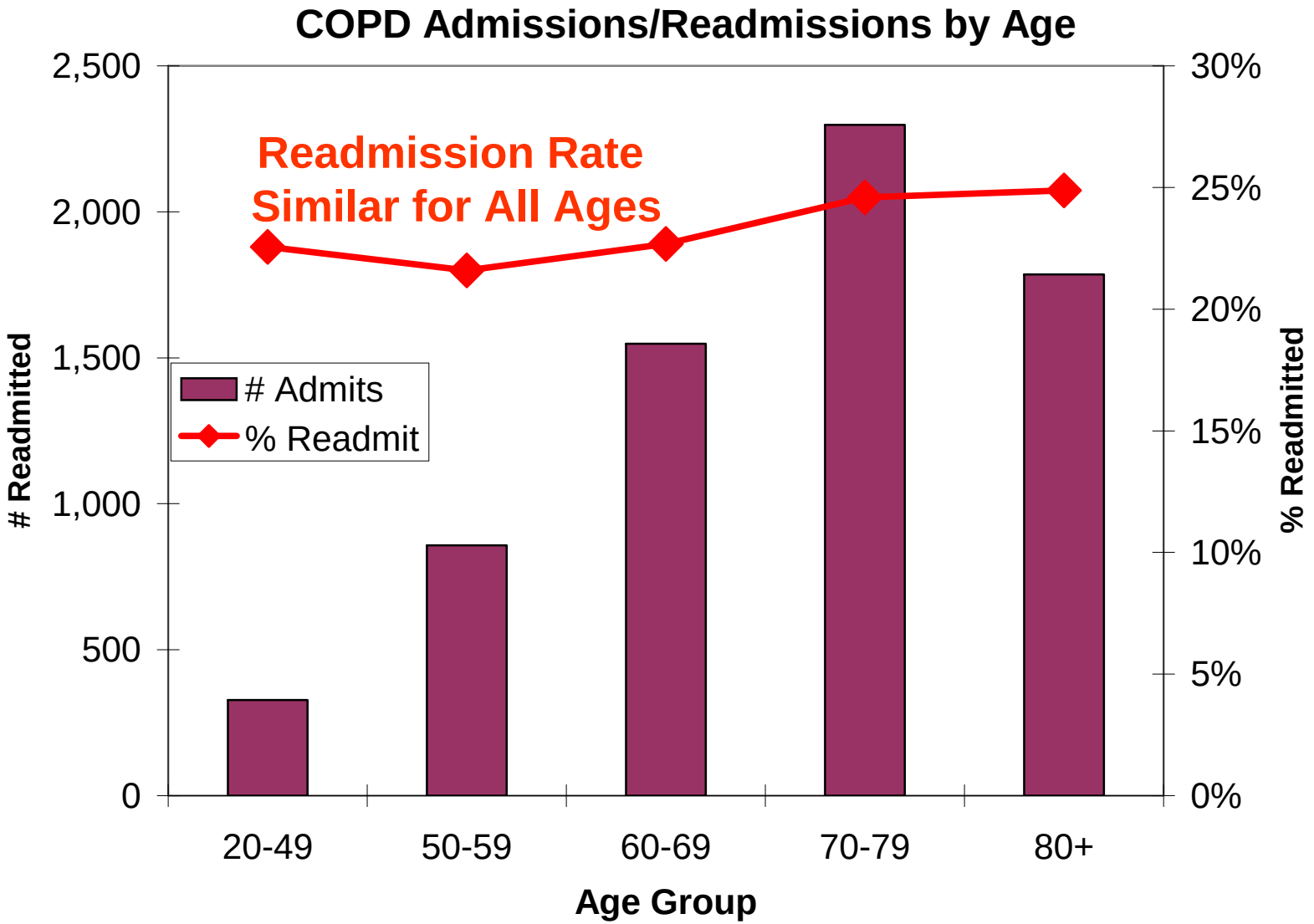
Plus, 40% of Pneumonia Readmits Are COPD Patients



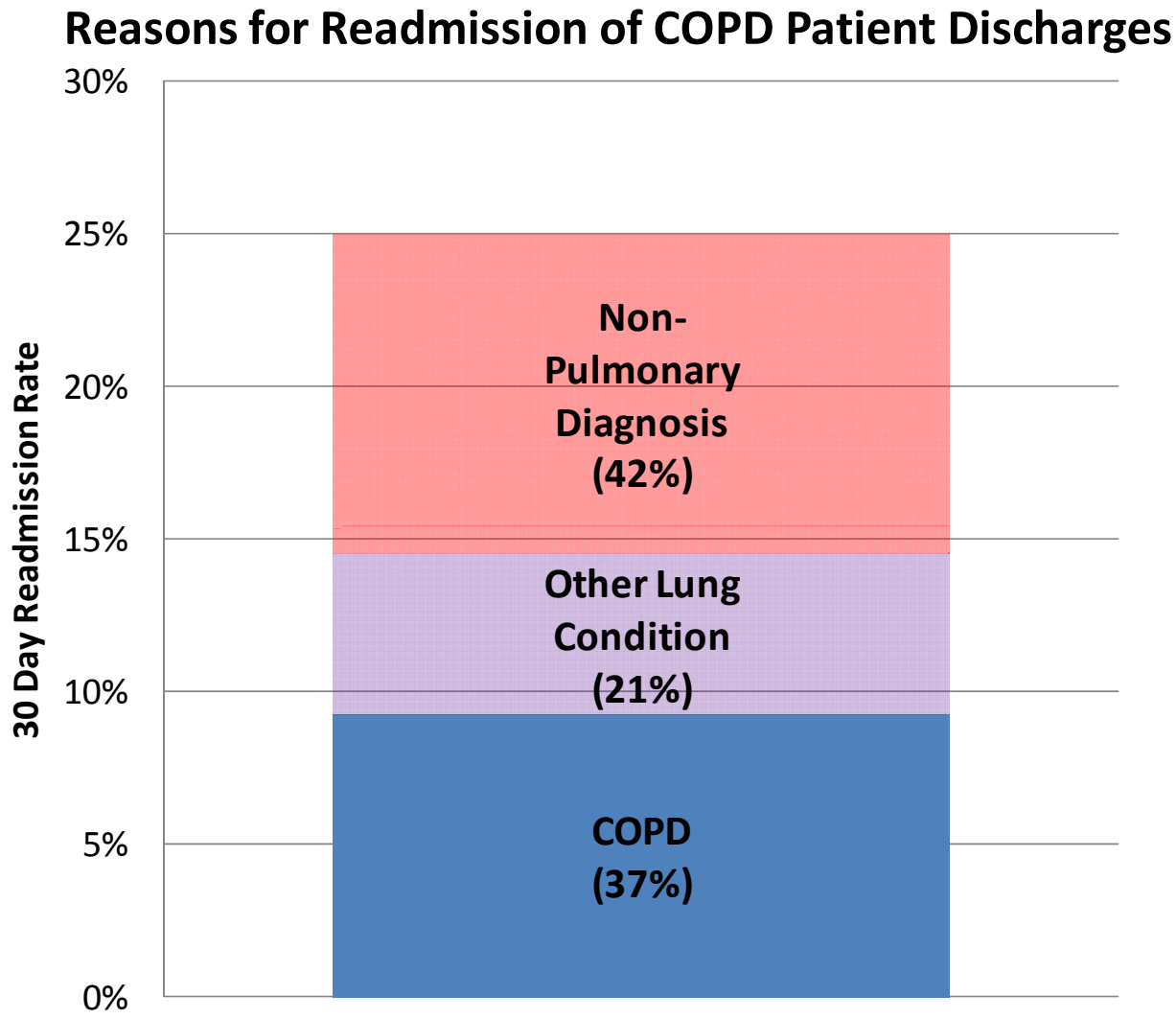
So COPD Patients are 2nd Highest Volume of Readmits



33% of Admissions Under Age 65, With Similar Readmission Rates



60% of COPD Readmissions Are for COPD or Lung Problems



Clinical Practice Guidelines Exist:

***Long-Term Treatment for Stable COPD**

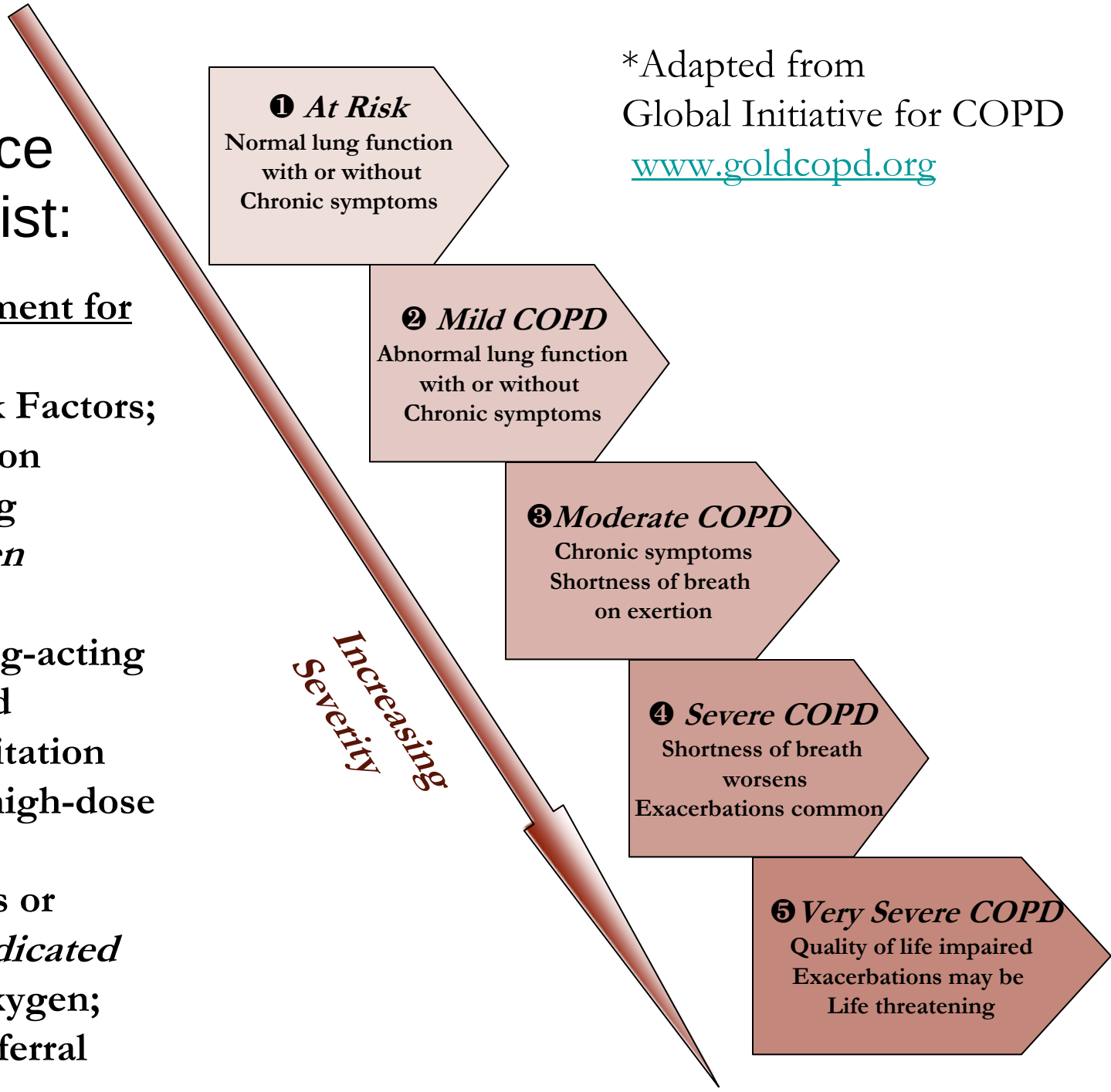
❶Avoidance of Risk Factors; Influenza Vaccination

❷*Add* Rapid-Acting Bronchodilator *when indicated*

❸*Add* Short or Long-acting Bronchodilators and Pulmonary Rehabilitation

❹ *Add* medium to high-dose inhaled or oral glucocorticosteroids or antibiotics *when indicated*

❺ *Add* long-term oxygen; consider surgical referral



*Adapted from
Global Initiative for COPD
www.goldcopd.org

Medication Access & Education is Critical for Chronic Diseases

FOR COPD PATIENTS:

- 79% do not know how to use their inhalers properly
- Some have 3 different inhalers, all of which work differently

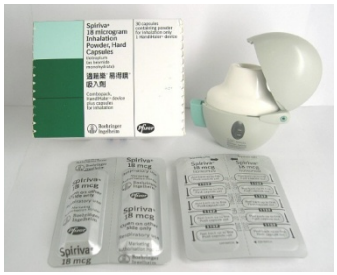
Inhale slowly

Inhale quickly

Inhale quickly

It's Even Hard for MDs and RNs to Remember All the Steps

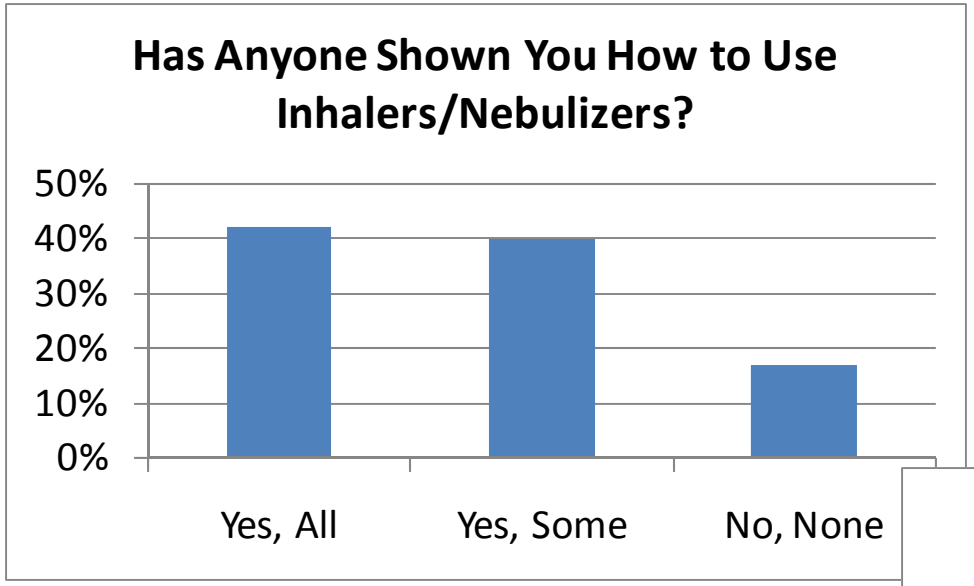
- Shake canister vigorously
- Remove mouthpiece cap & place into flat round rubber end of spacer.
- Remove blue cap from spacer mouthpiece and sit fully upright.
- Exhale completely
- Grasp device in palm of hand with canister in upright position.
- Make a tight seal with lips at mouthpiece.
- Using index finger or thumb, depress canister completely until you hear medicine release.
- Take in a deep steady full breath.
- Remove spacer from lips.
- Hold breath for 10 seconds with mouth closed.
- Exhale slowly through pursed lips.

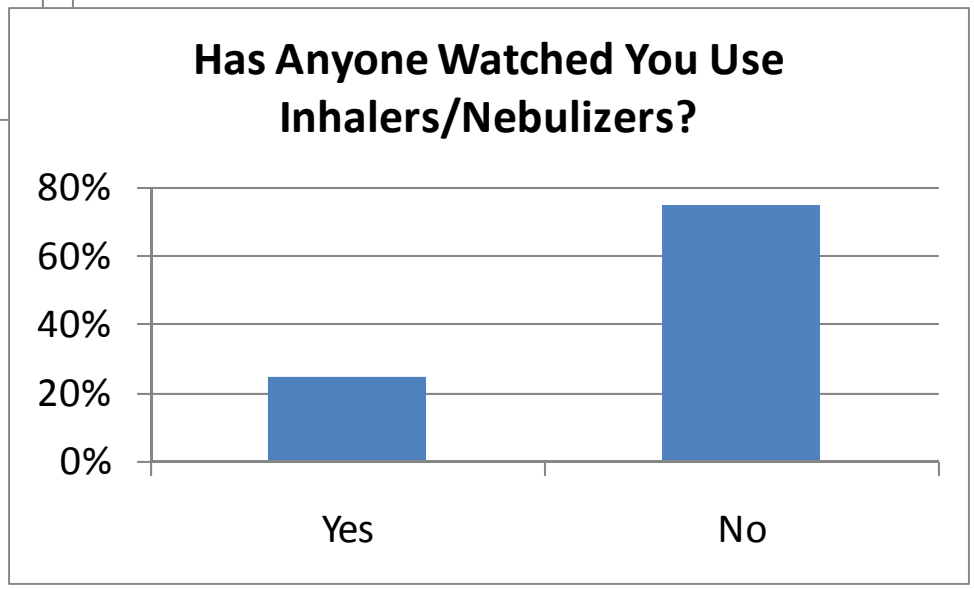


- Hold base of grey chamber and open grey cover cap
- Flip open white mouth piece
- Place inhaler on flat surface
- Open blister pack
- Place pill in pill well in up/down position
- Place white mouthpiece cap over pill well
- Hold base of grey chamber firmly and puncture pill with green plunger
- Keep head in upright position
- Exhale away from the mouthpiece
- Close lips tightly around tip of mouth piece
- Breathe in deeply
- Hold breath for 10 seconds
- Remove inhaler from mouth and breathe normally

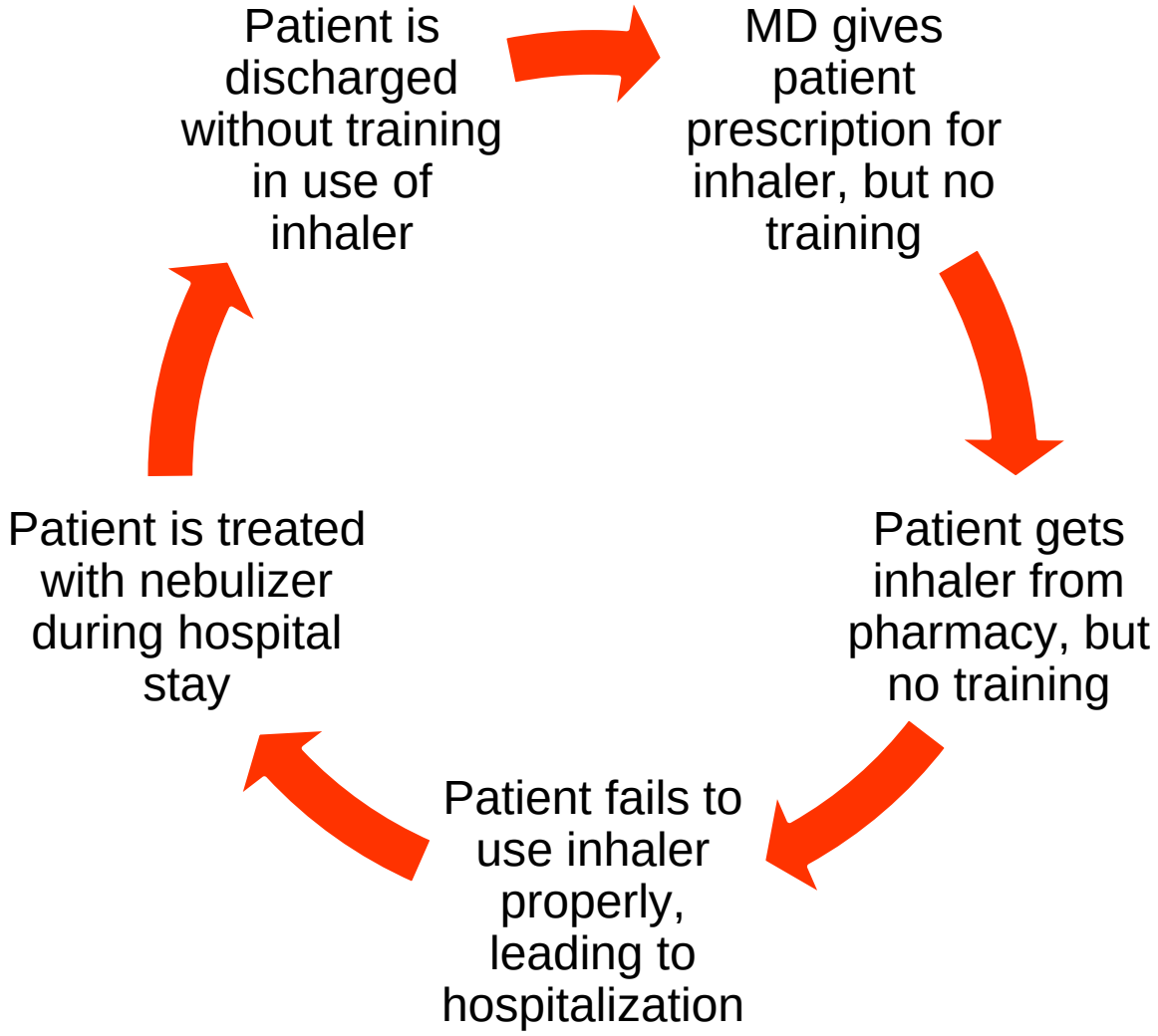
- Open diskus and hold it level
- Push down lever
- Exhale completely
- Place lips over mouthpiece
- Breathe in deeply and quickly
- Hold breath for 10 seconds
- Exhale slowly
- Rinse mouth

Results of Interviews with Readmitted Patients

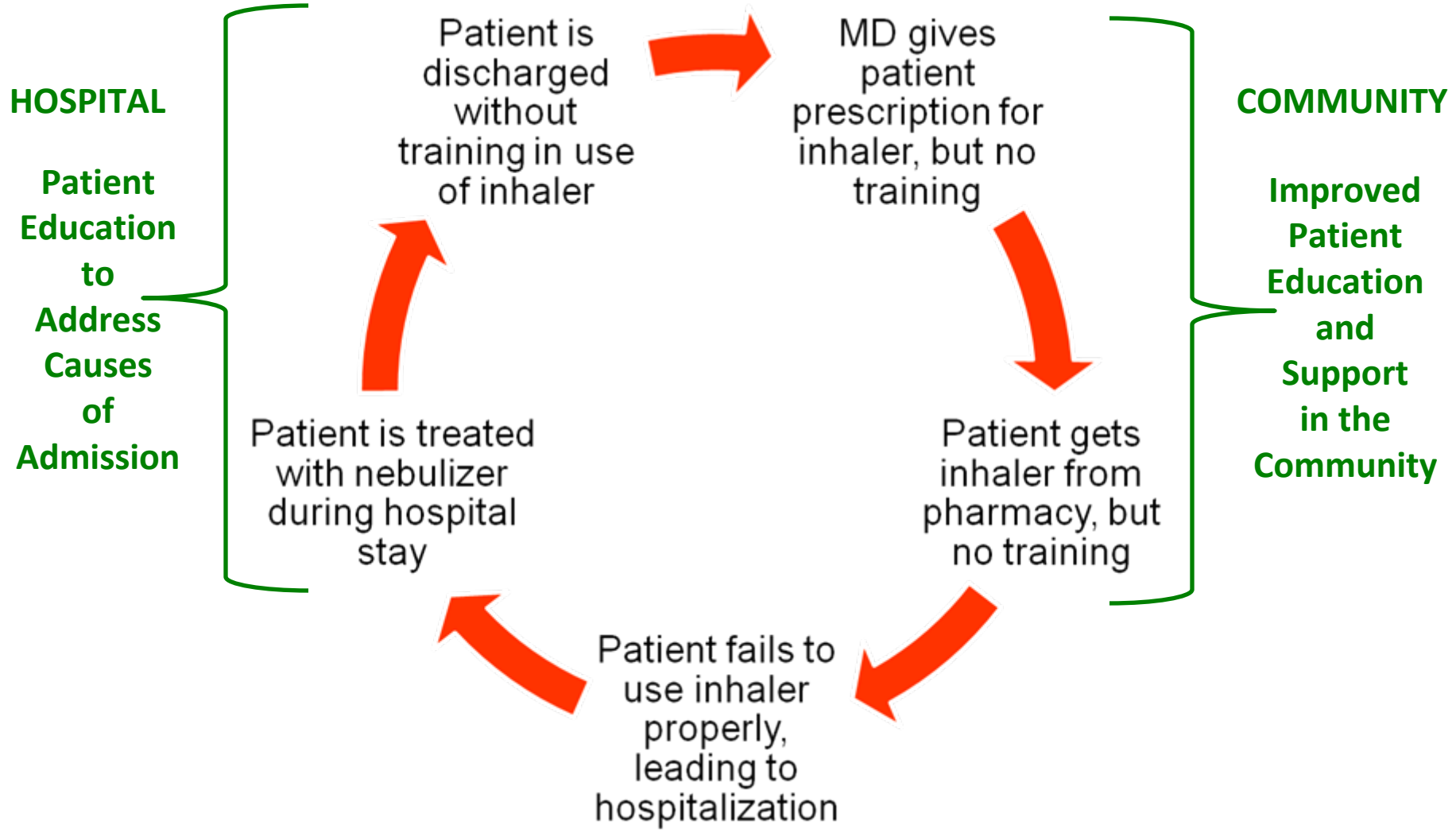




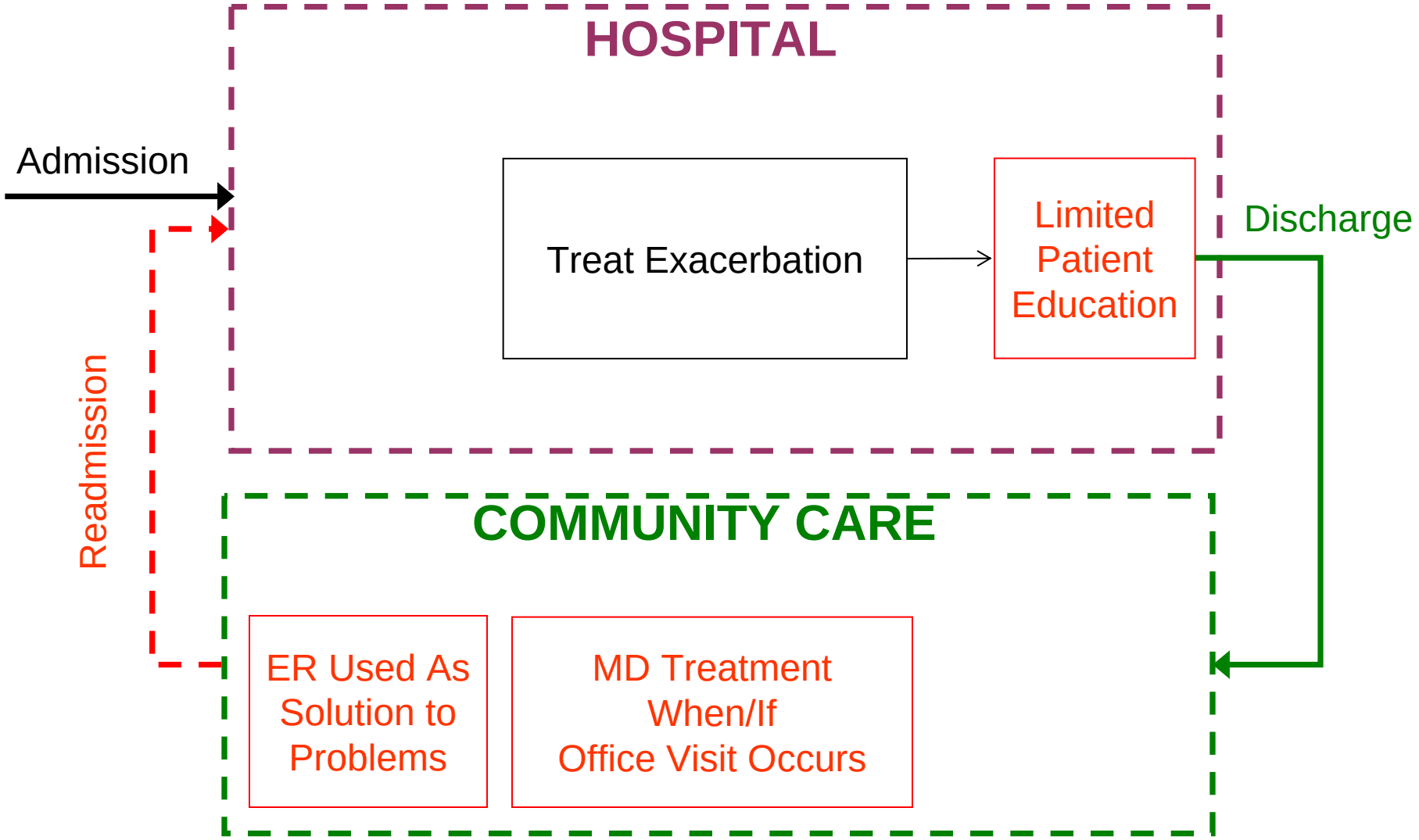
The Vicious Cycle of Chronic Disease Admission/Readmissions



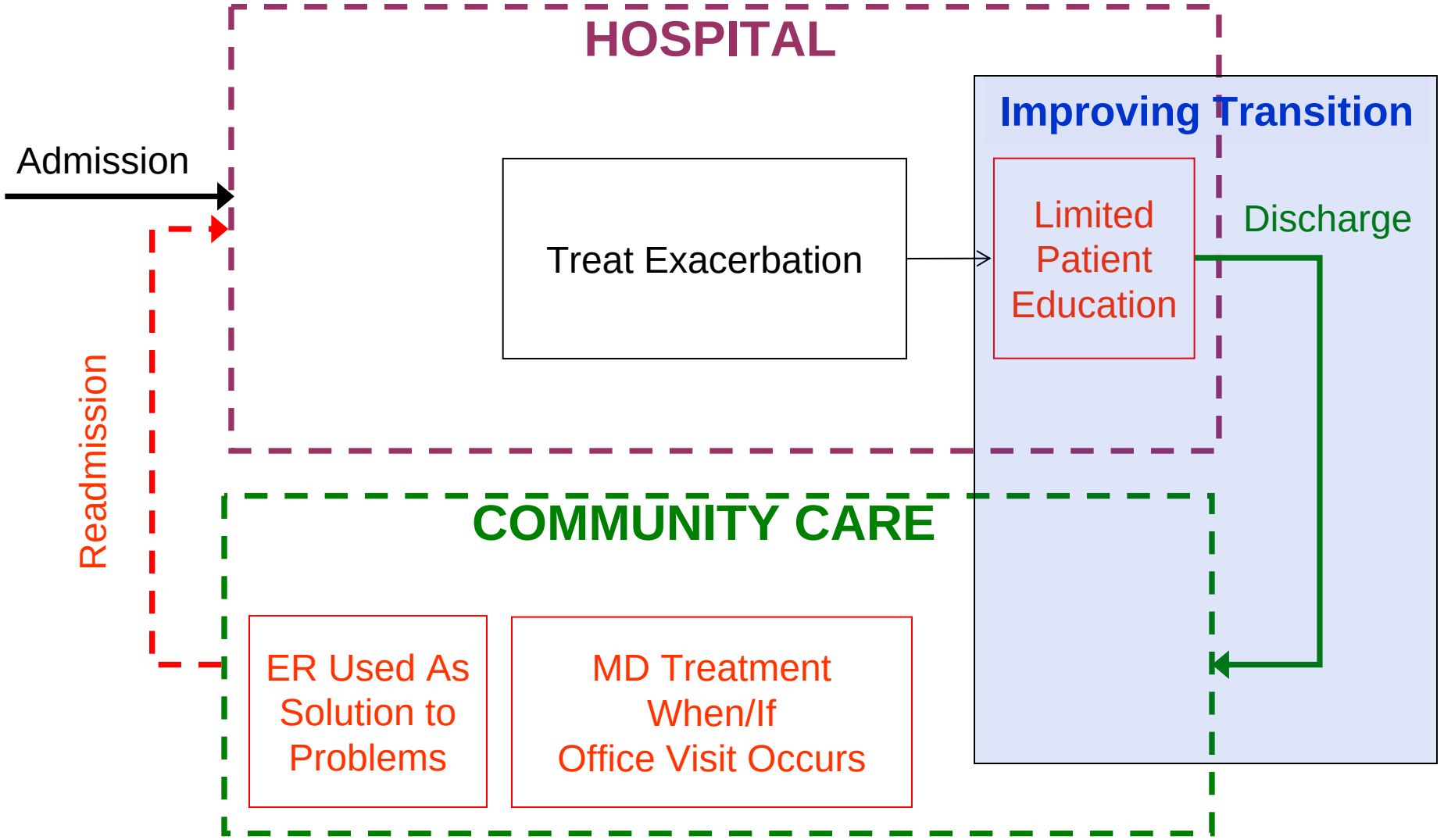
Solution Requires Change Both In Hospital and Community



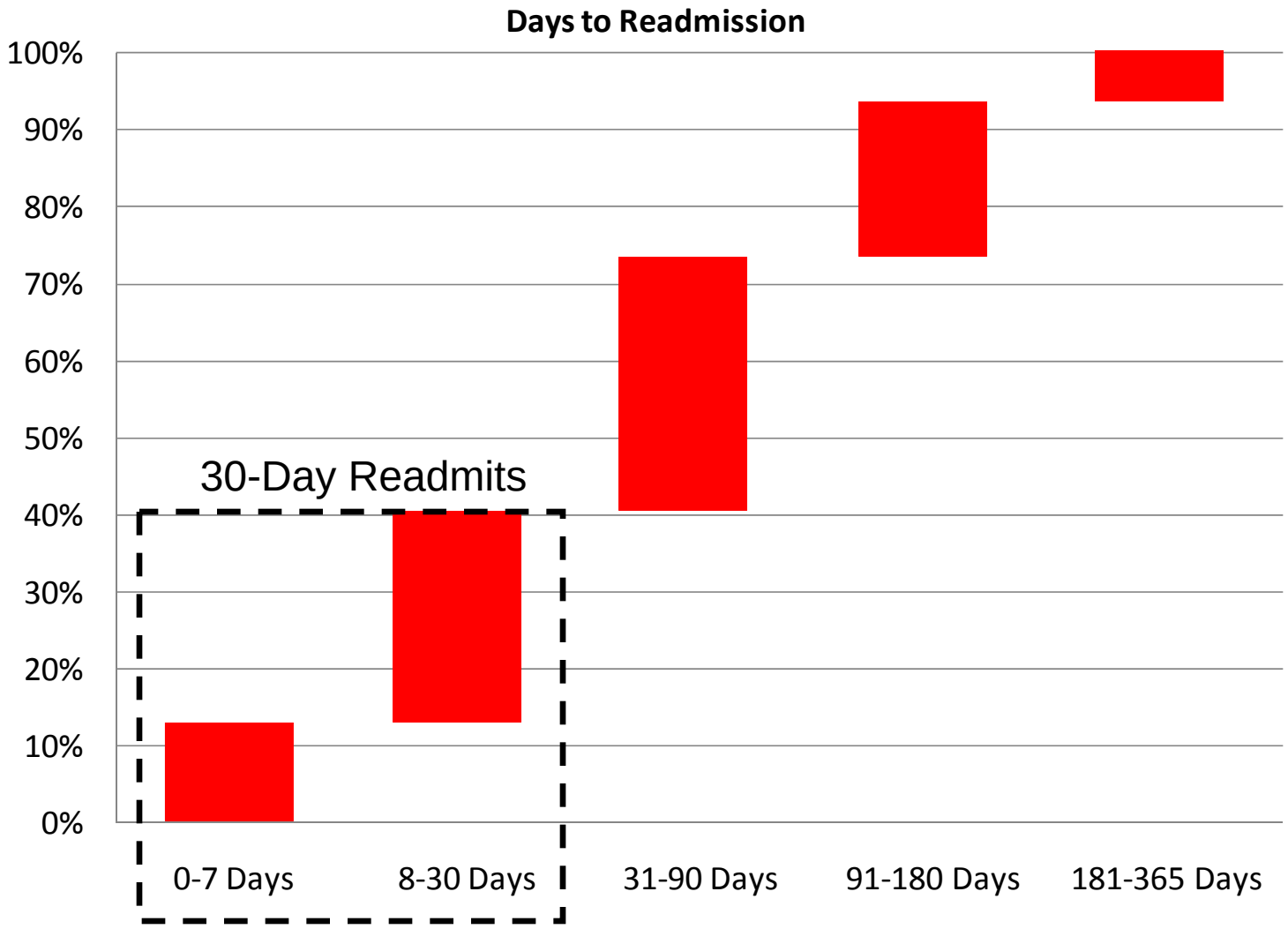
How is a Patient's Chronic Disease Managed Today?



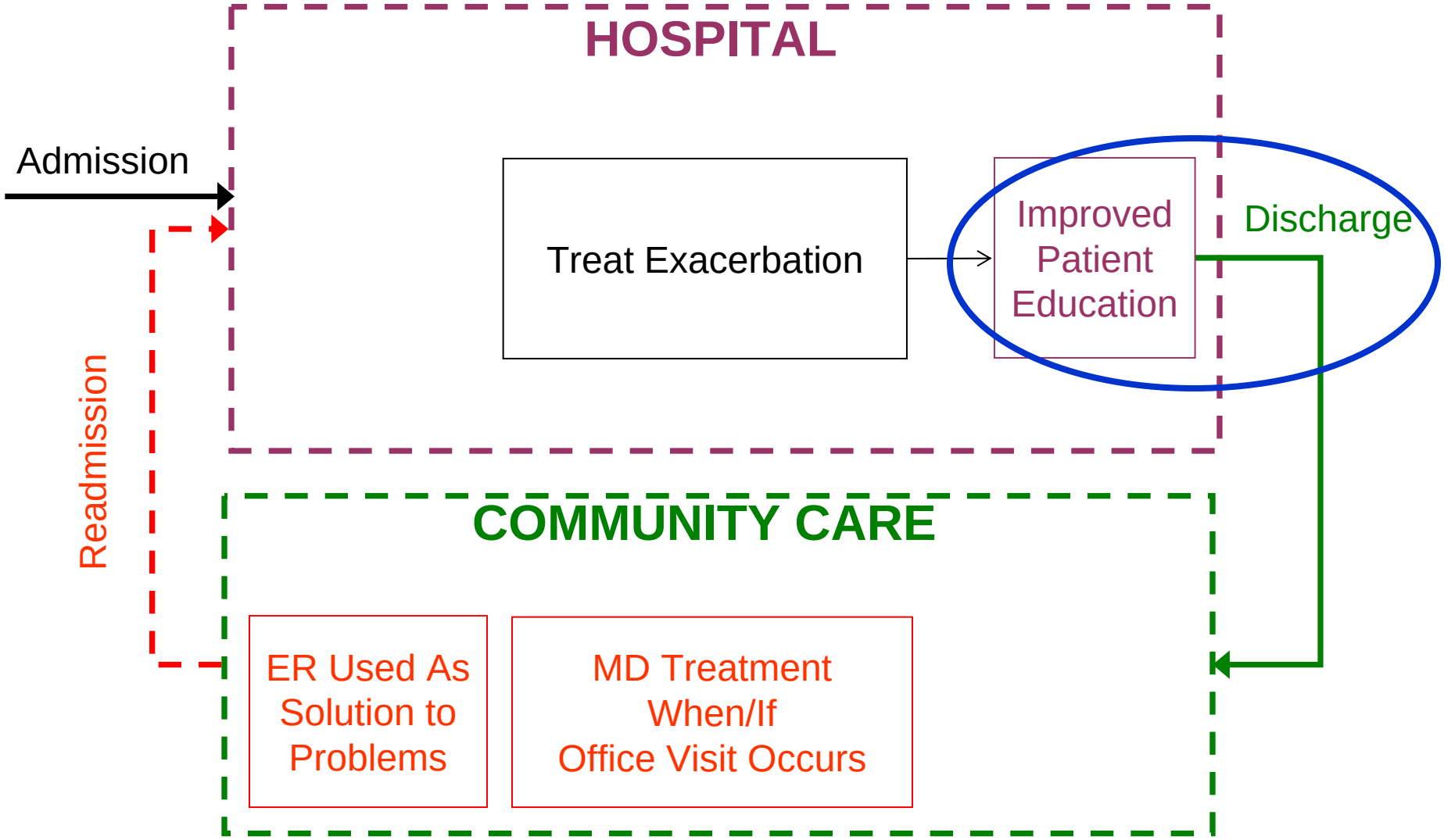
Most Readmission Initiatives Focus on the Transition Process



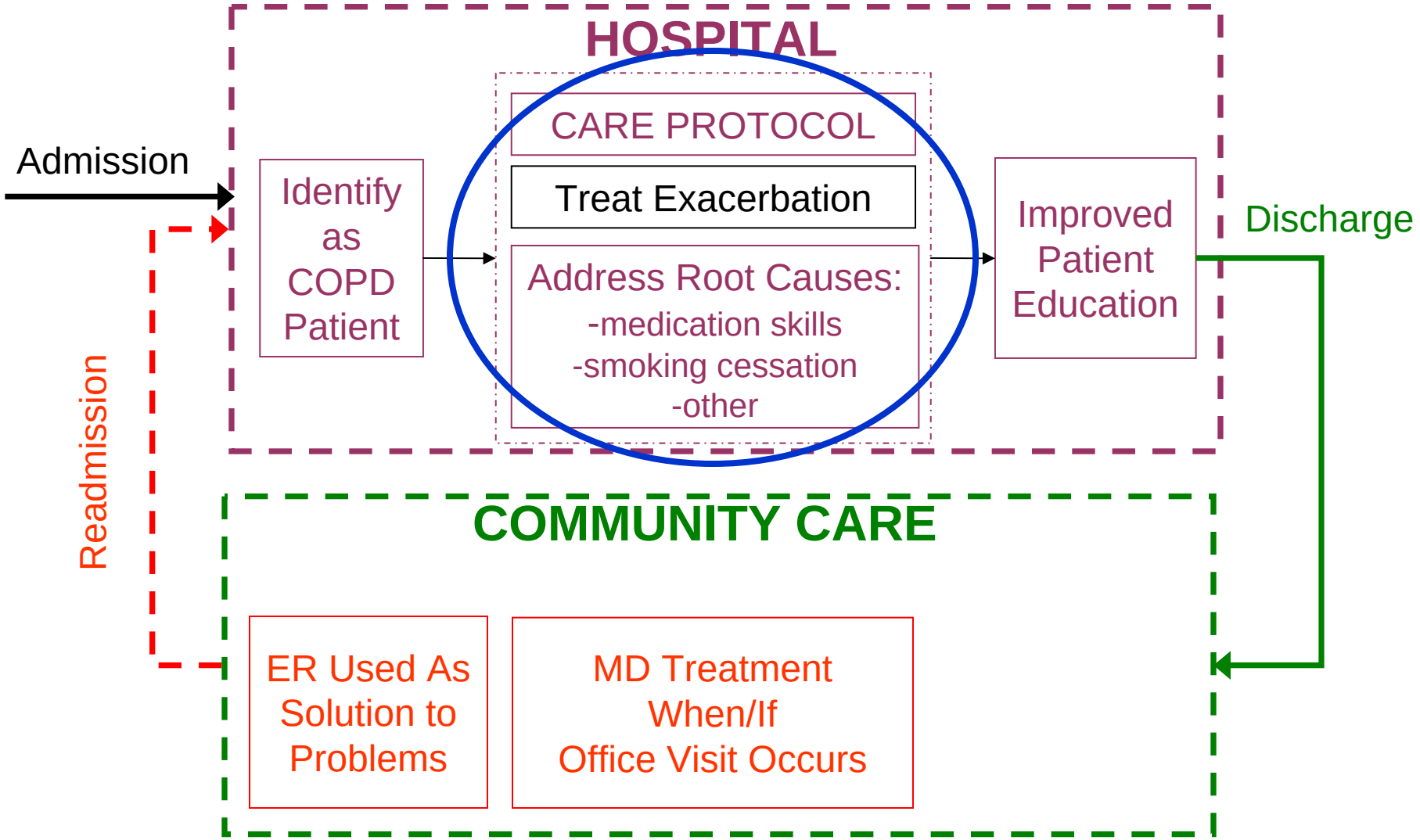
Not Just a Discharge Issue: 60% of Readmits Occur After 30 Days



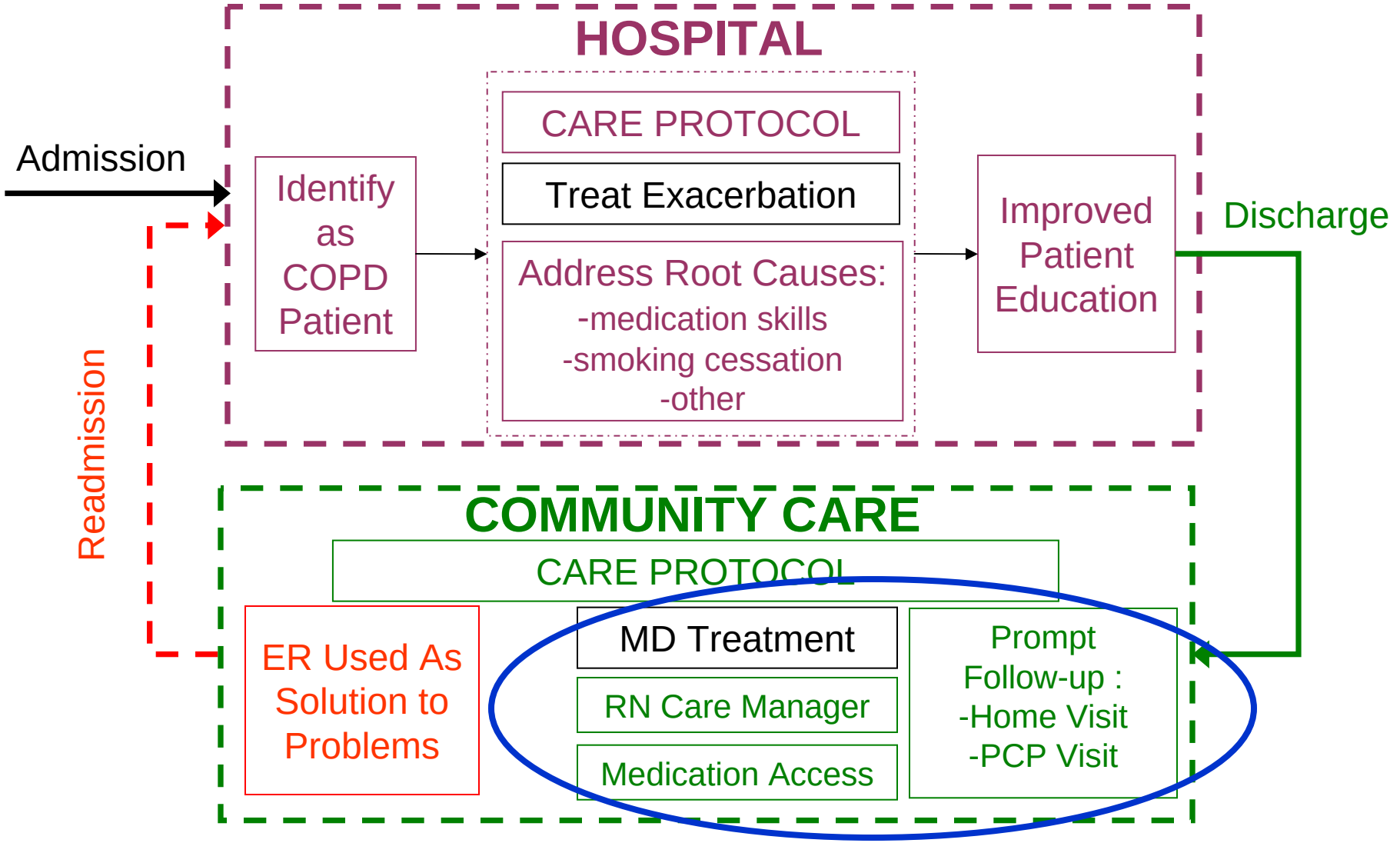
What We've Tried to Fix: Better Discharge Planning, PLUS...



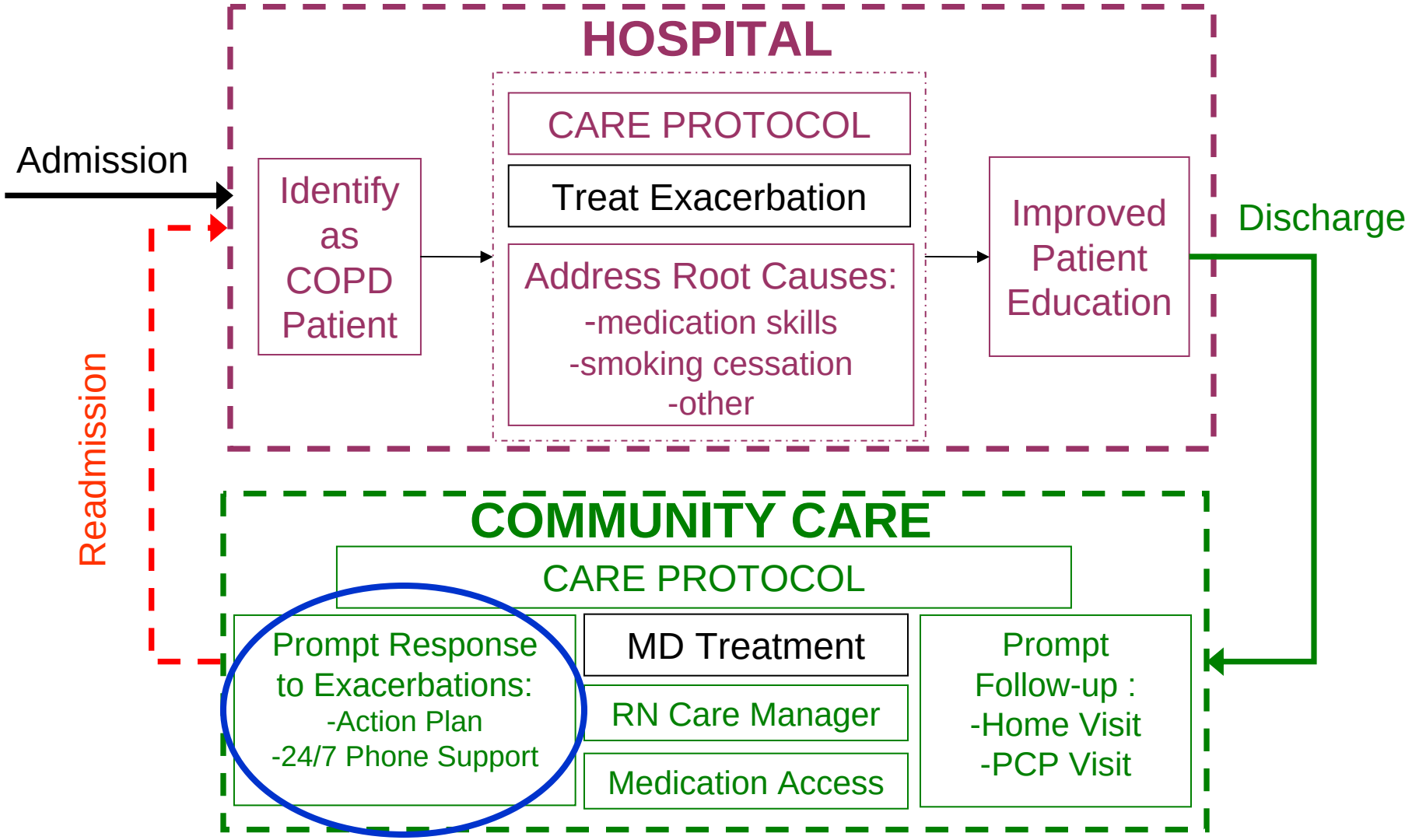
What We've Tried to Fix:
Improved Care in Hospital



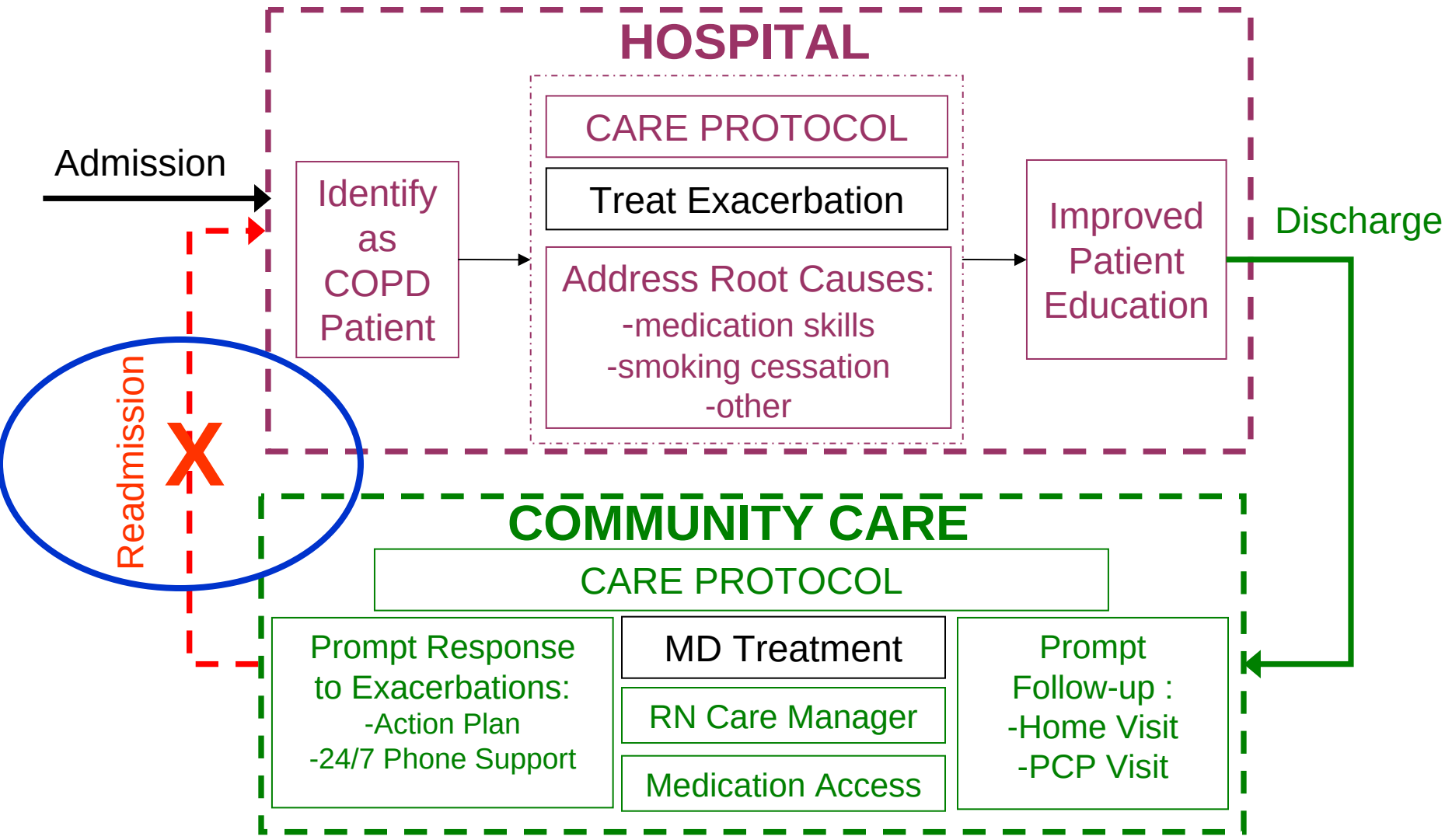
What We've Tried to Fix:
Expanded PCP/Care Mgr Support



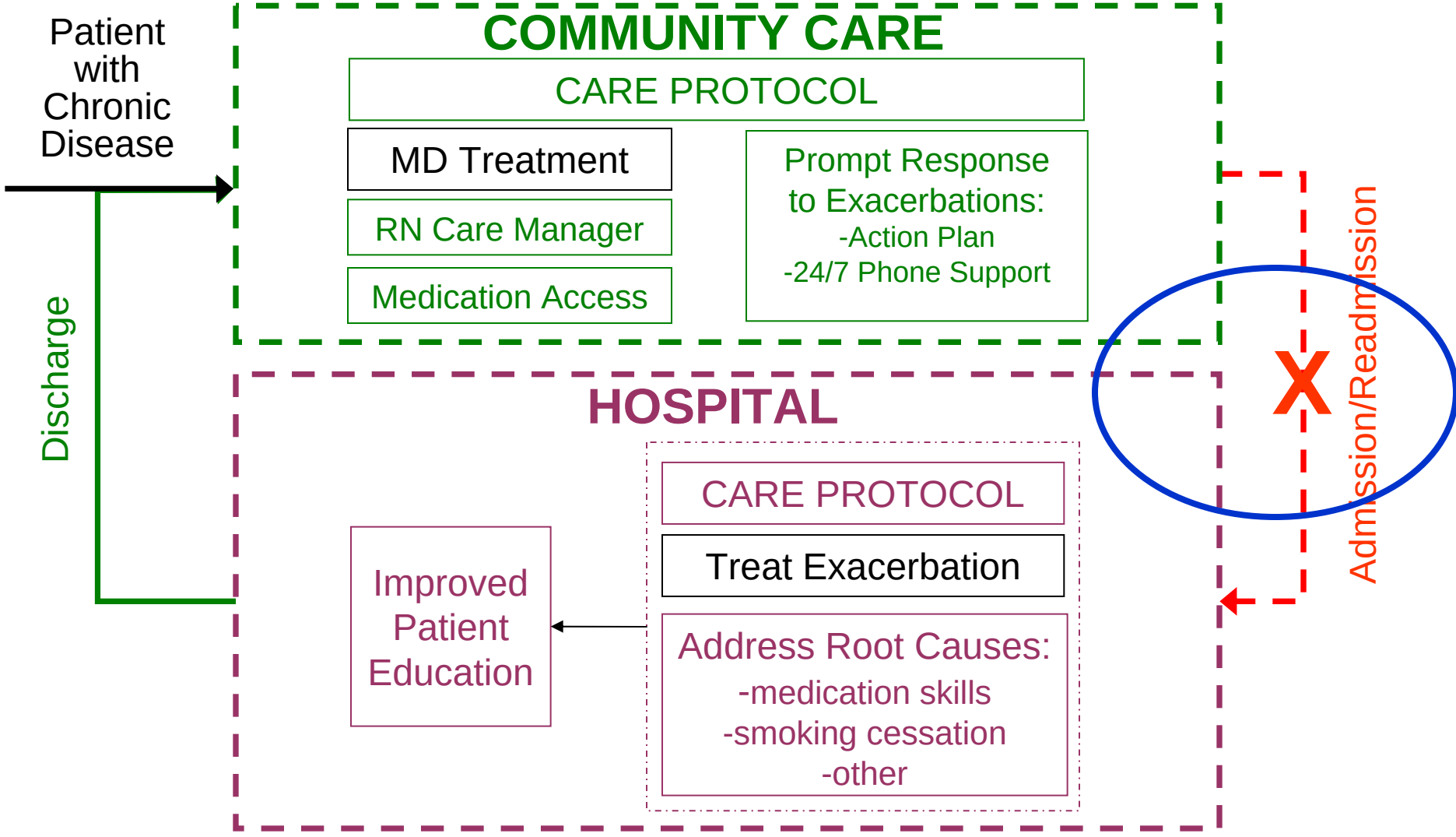
What We've Tried to Fix:
Non-Hospital Solution to Problems



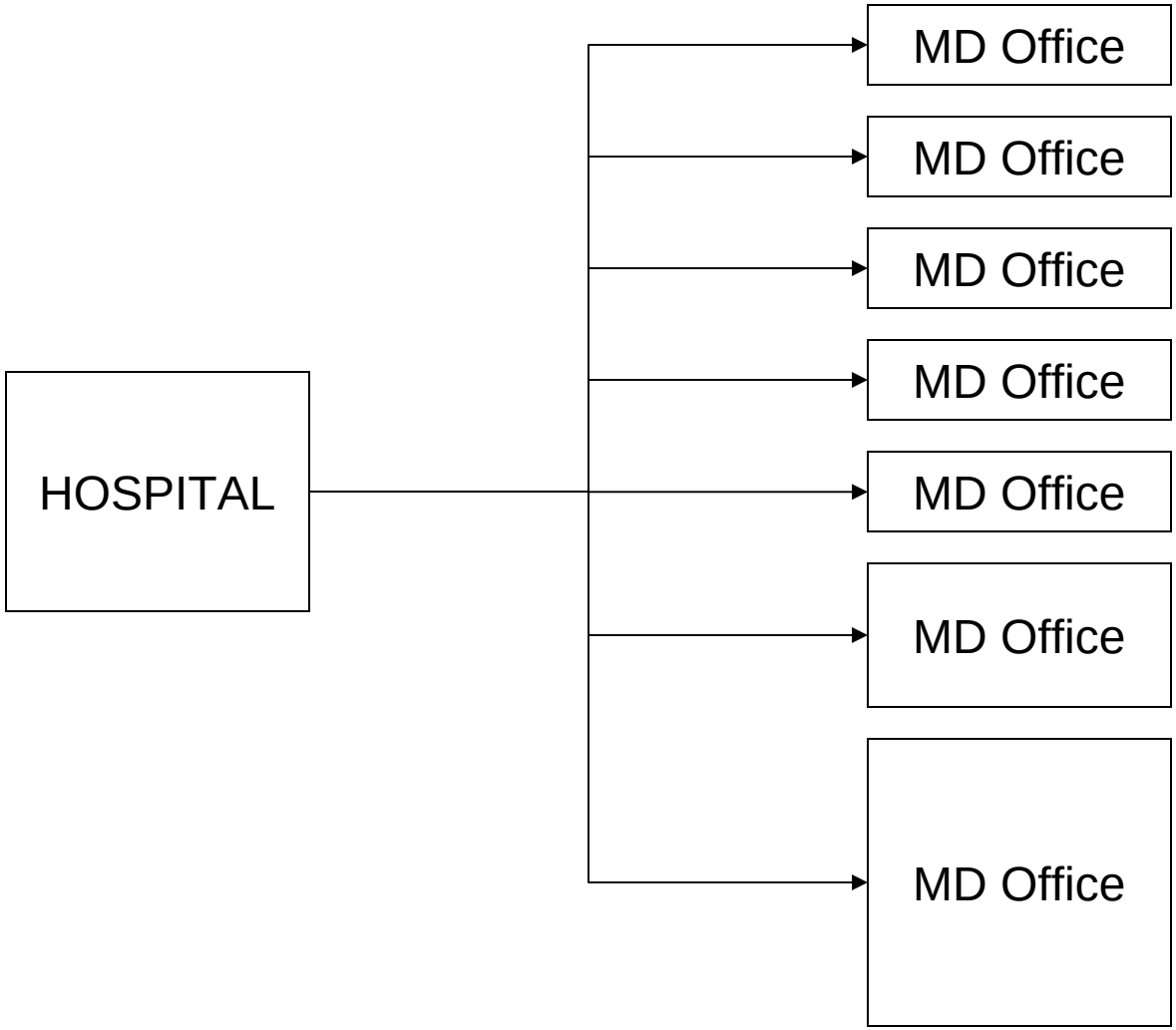
Goal: To Prevent Readmissions, But Also...



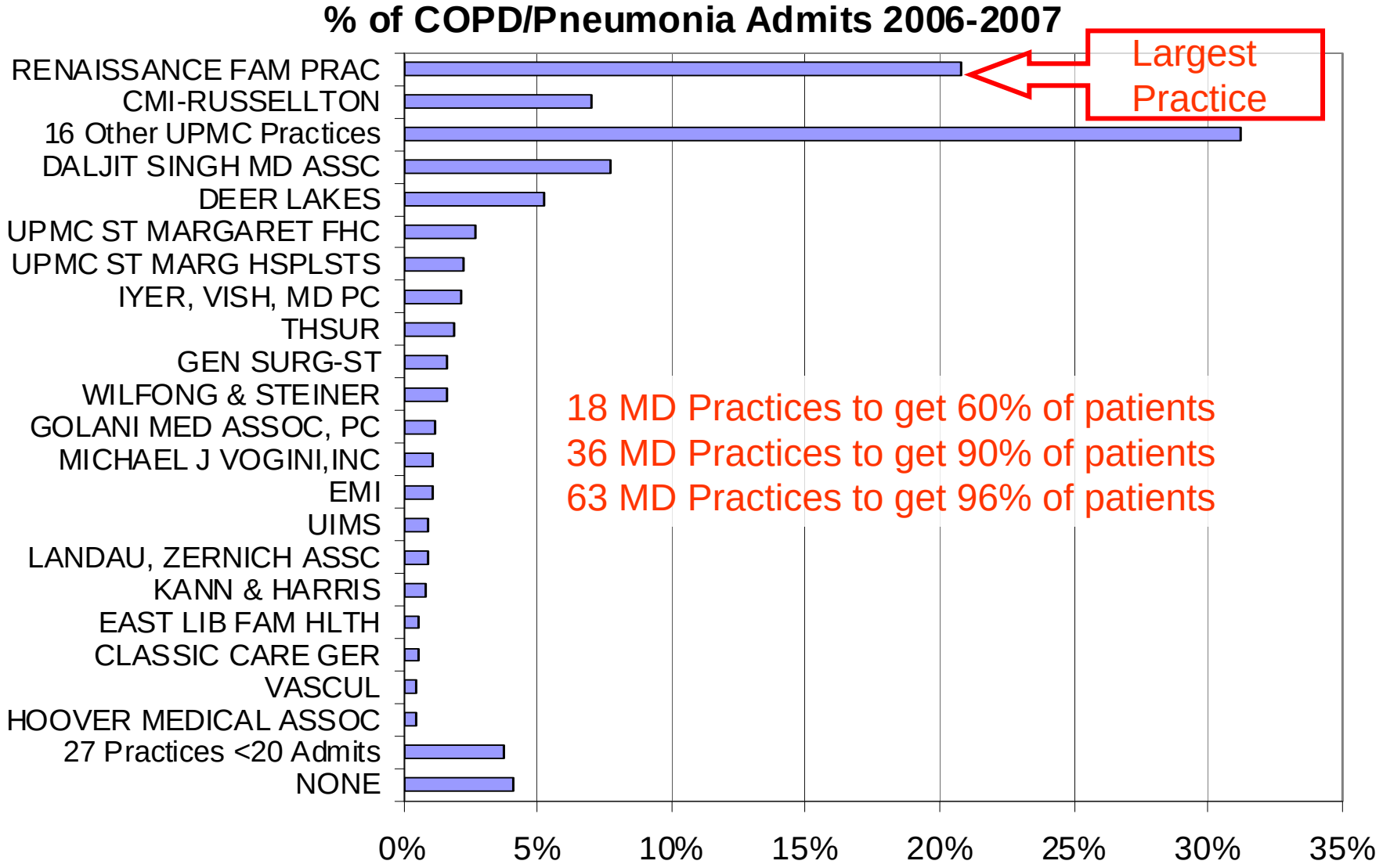
… Ultimately to Prevent *Initial* Admissions



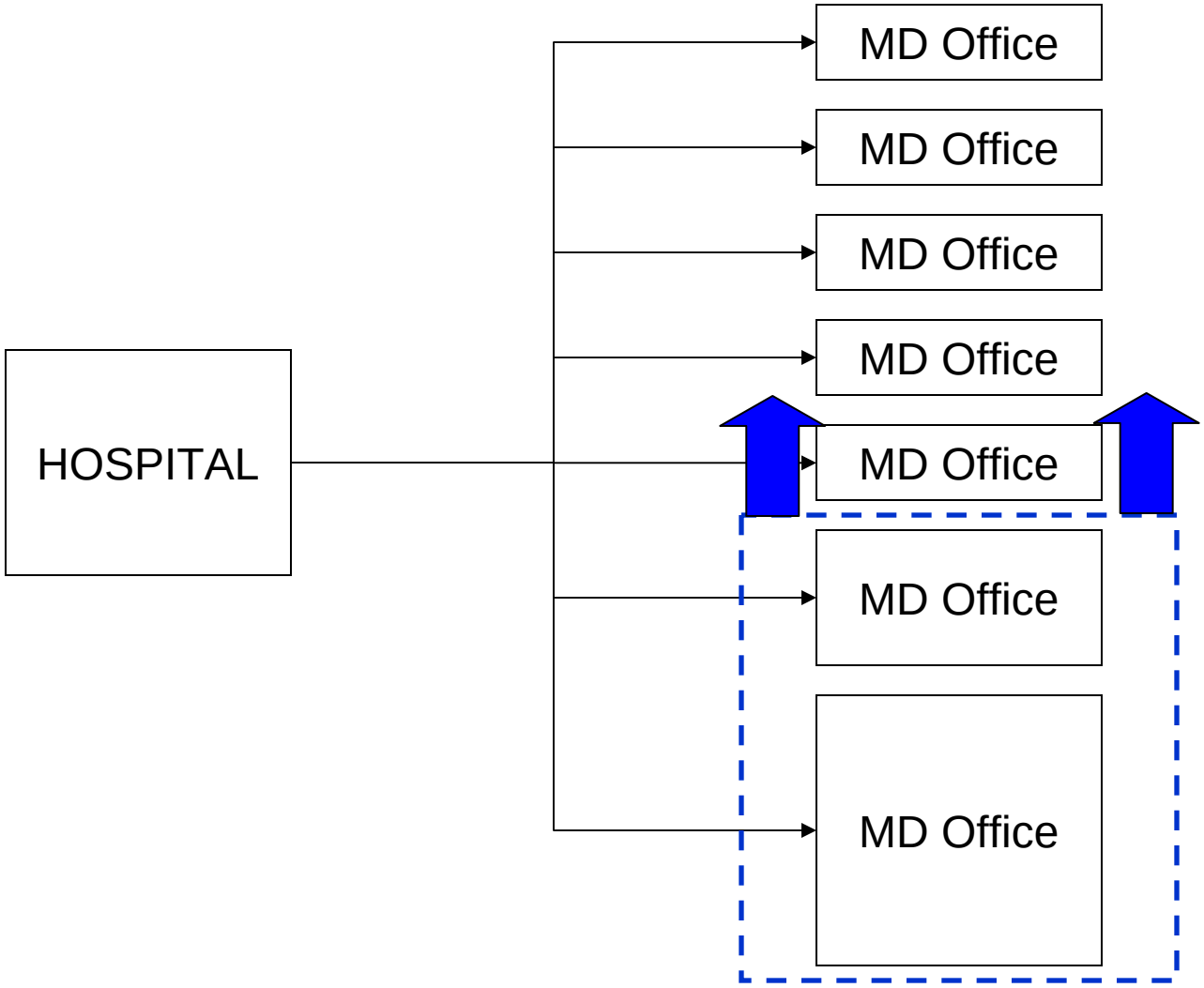
Barrier: One Hospital, But Many MD Practices



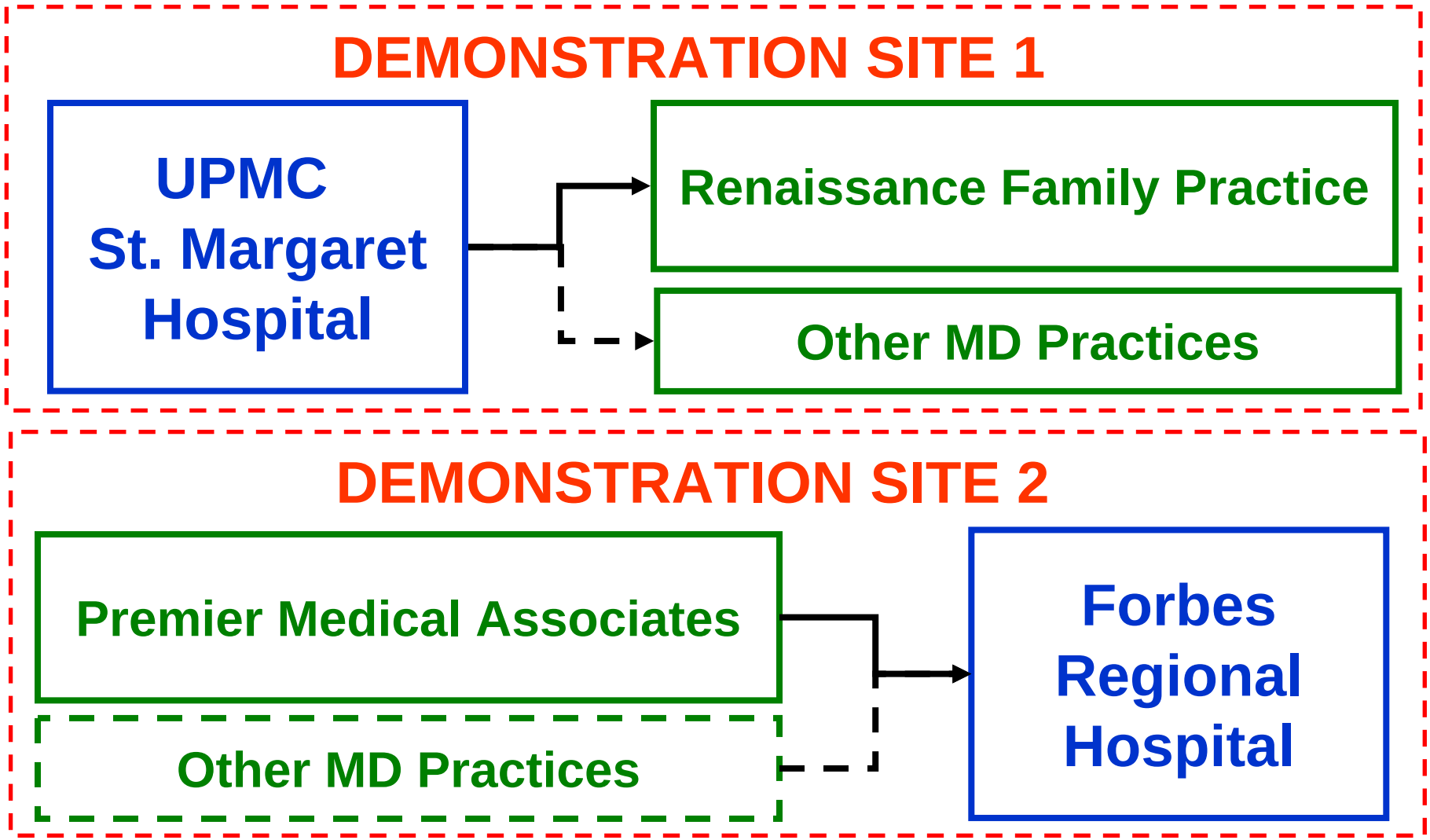
Example: COPD Pts at One Hospital From Over 60 Practices



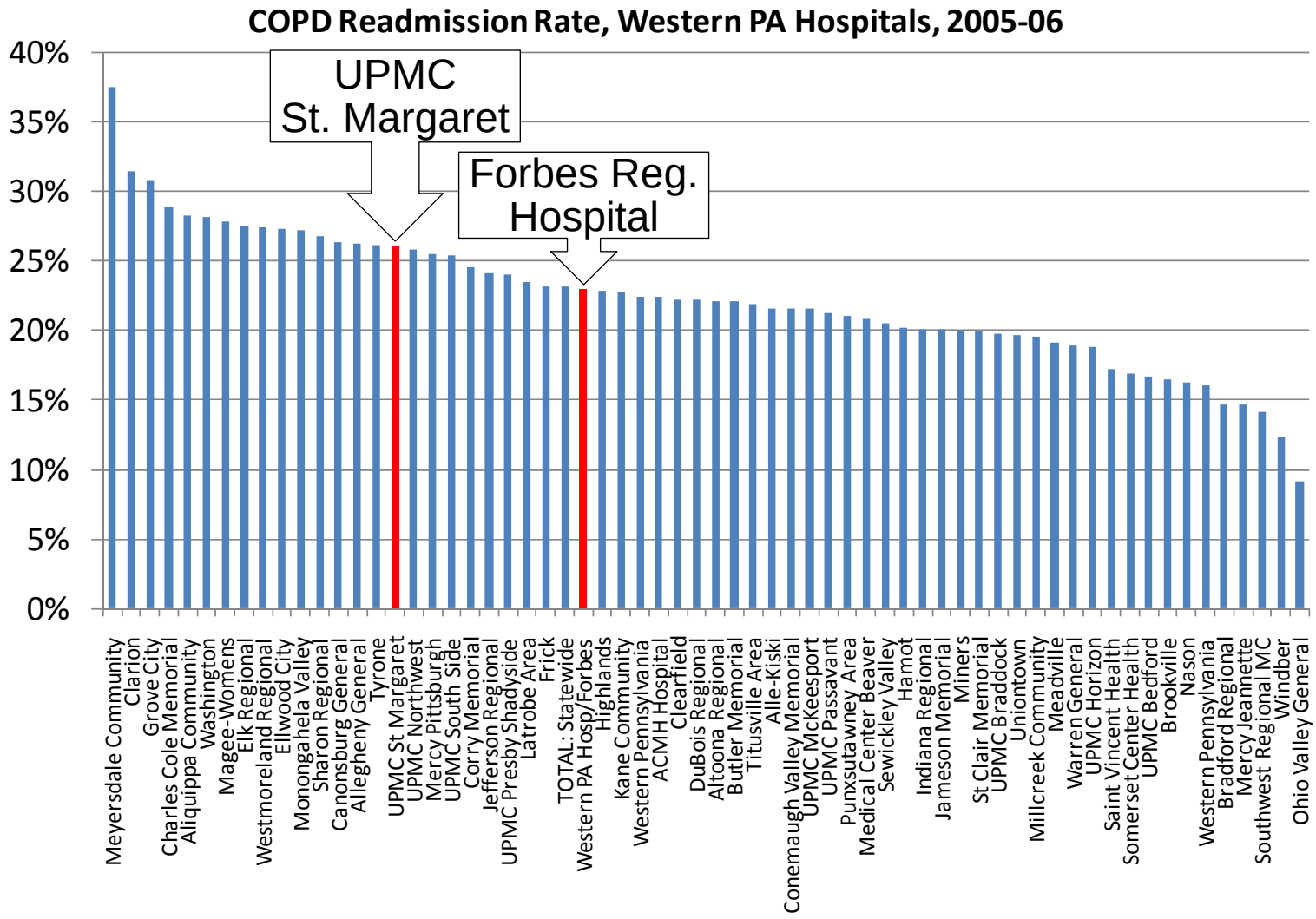
Solution: Start with Larger MD Practices and Expand to Others



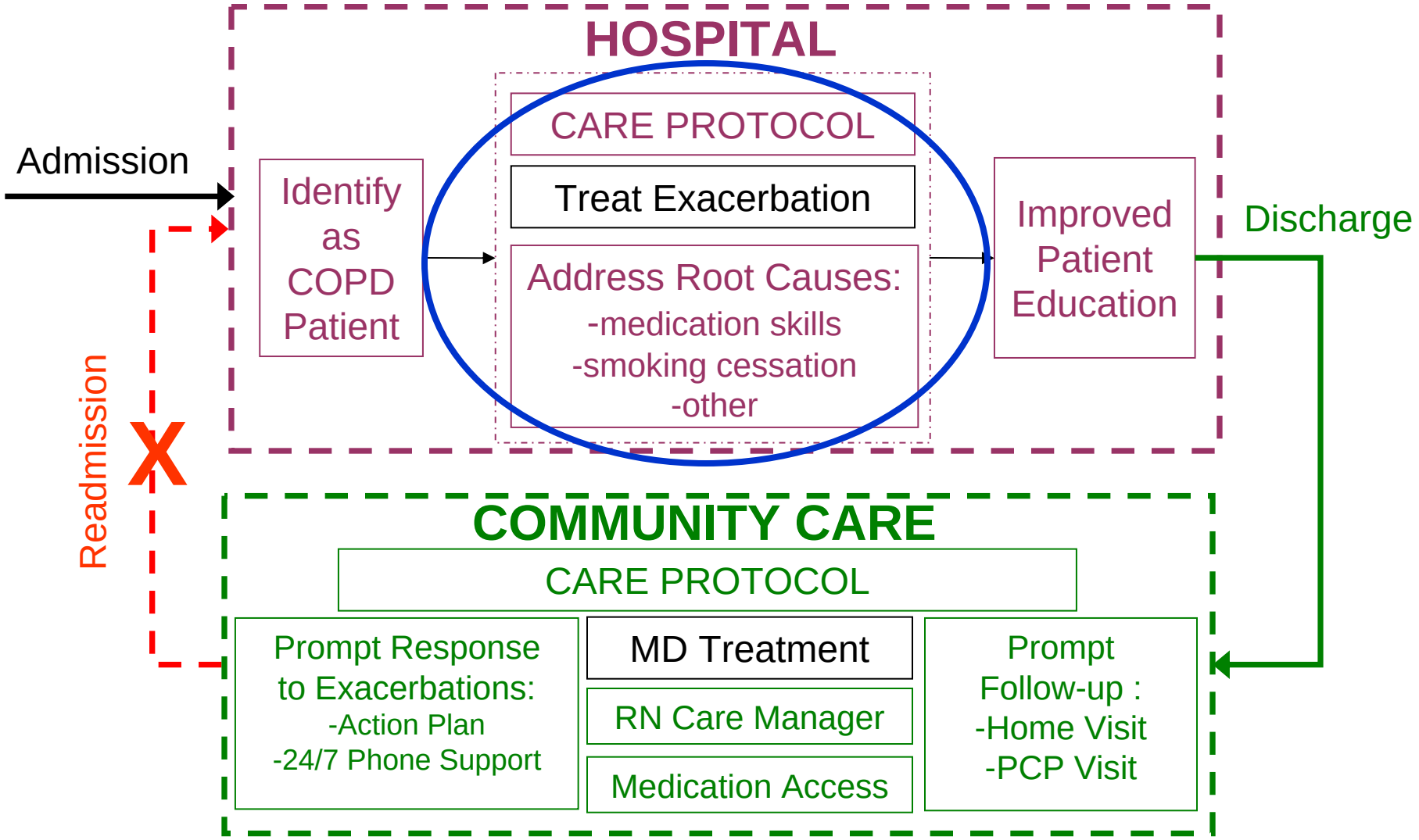
Initial Demonstration Sites



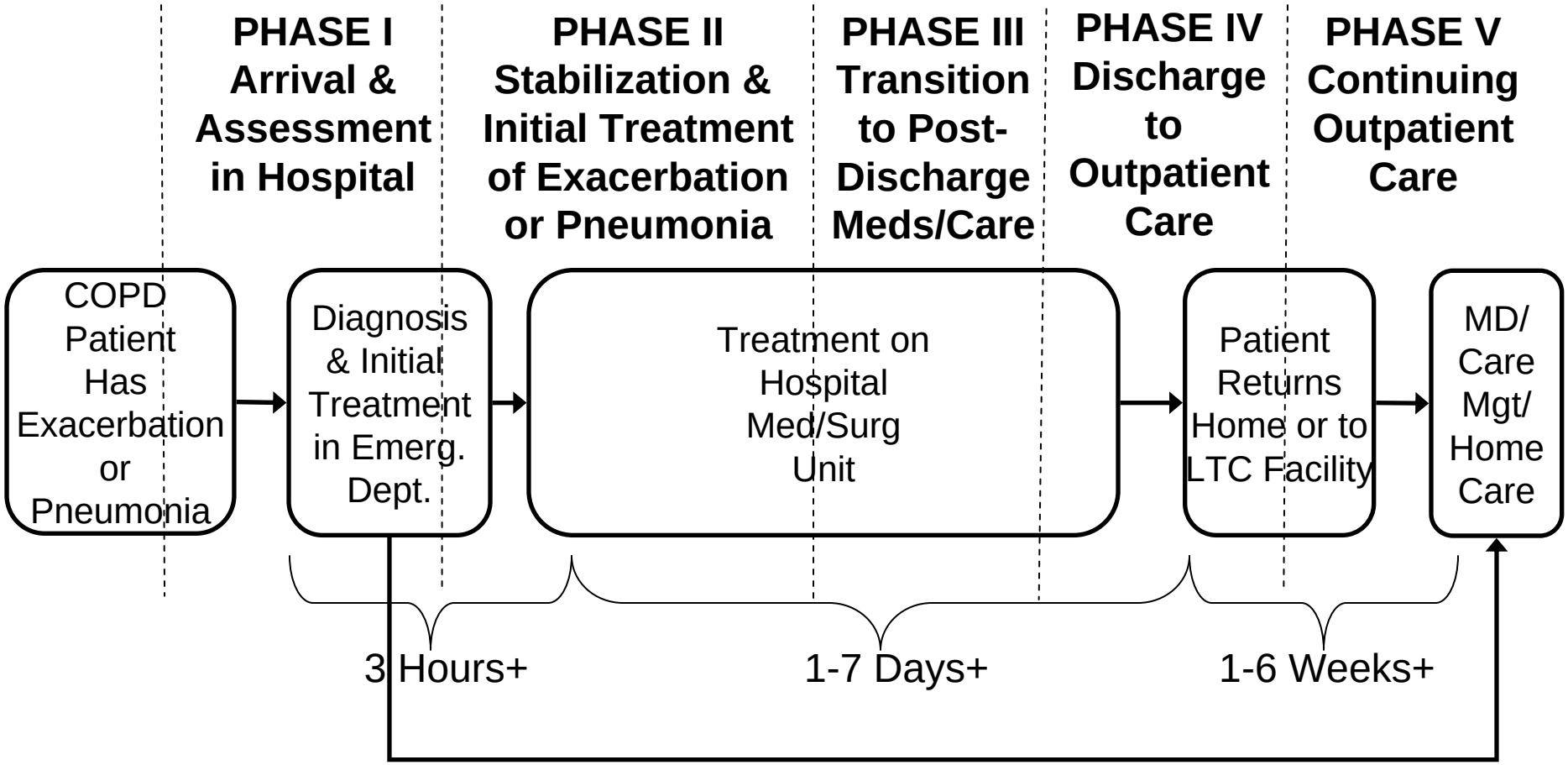
Above-Average COPD Readmit Rate at Both Hospitals



Redesigning Inpatient Care to Reduce Readmissions



Phases of Care for a Hospitalized COPD Patient



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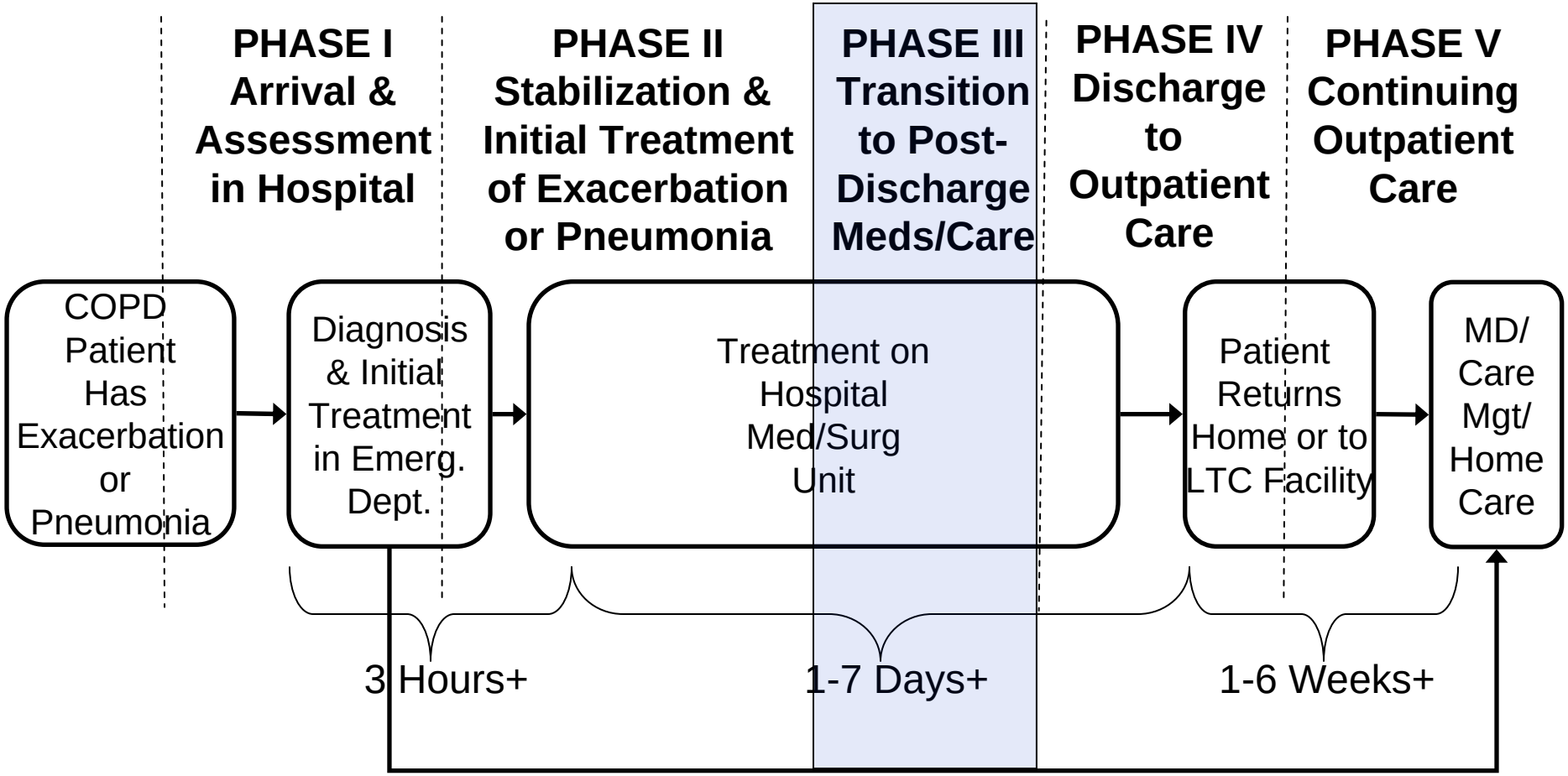
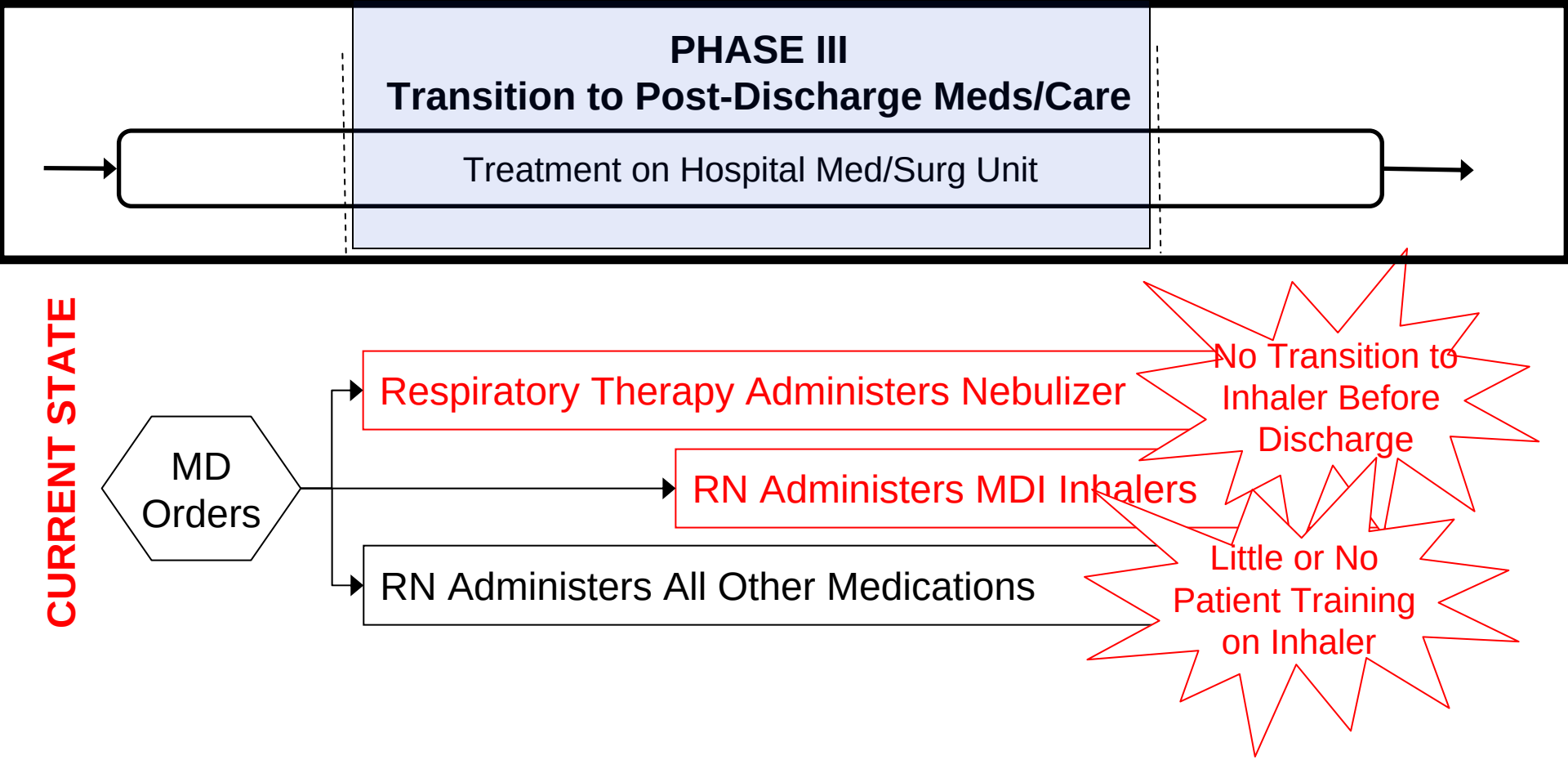
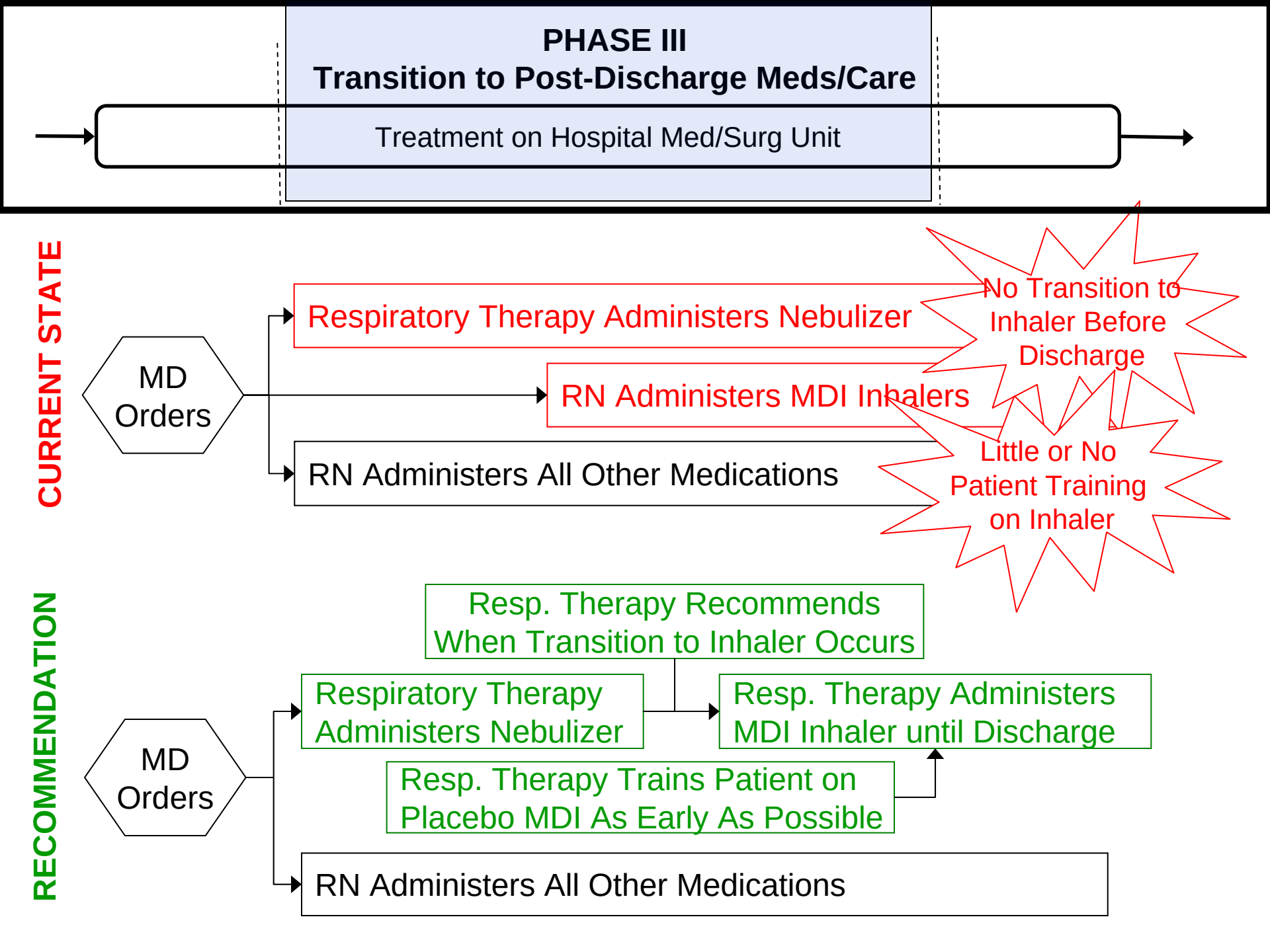



PHASE III
Transition to Post-Discharge Meds/Care
Treatment on Hospital Med/Surg Unit
CURRENT STATE
MD Orders
Respiratory Therapy Administers Nebulizer
RN Administers MDI Inhalers
RN Administers All Other Medications
No Transition to Inhaler Before Discharge
Little or No Patient Training on Inhaler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CURRENT STATE
MD Orders
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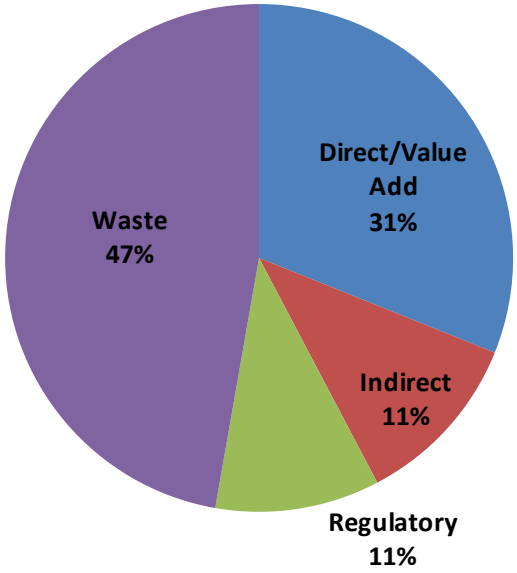
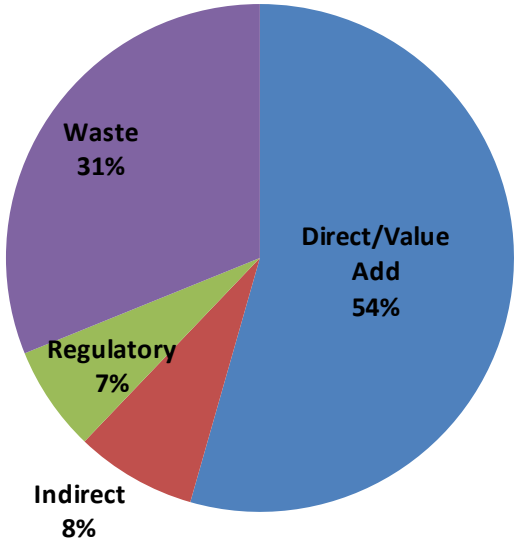
RECOMMENDATION
Resp. Therapy Recommends When Transition to Inhaler Occurs
MD Orders
Respiratory Therapy Administers Nebulizer
Resp. Therapy Administers MDI Inhaler until Discharge
Resp. Therapy Trains Patient on Placebo MDI As Early As Possible
RN Administers All Other Medications

How Do Staff Find Time to Do New Things? By Reducing Waste

Respiratory Therapist
6th Floor
08/19/2008, 1st Shift



Respiratory Therapist
6th Floor
08/18/2008, 2nd Shift

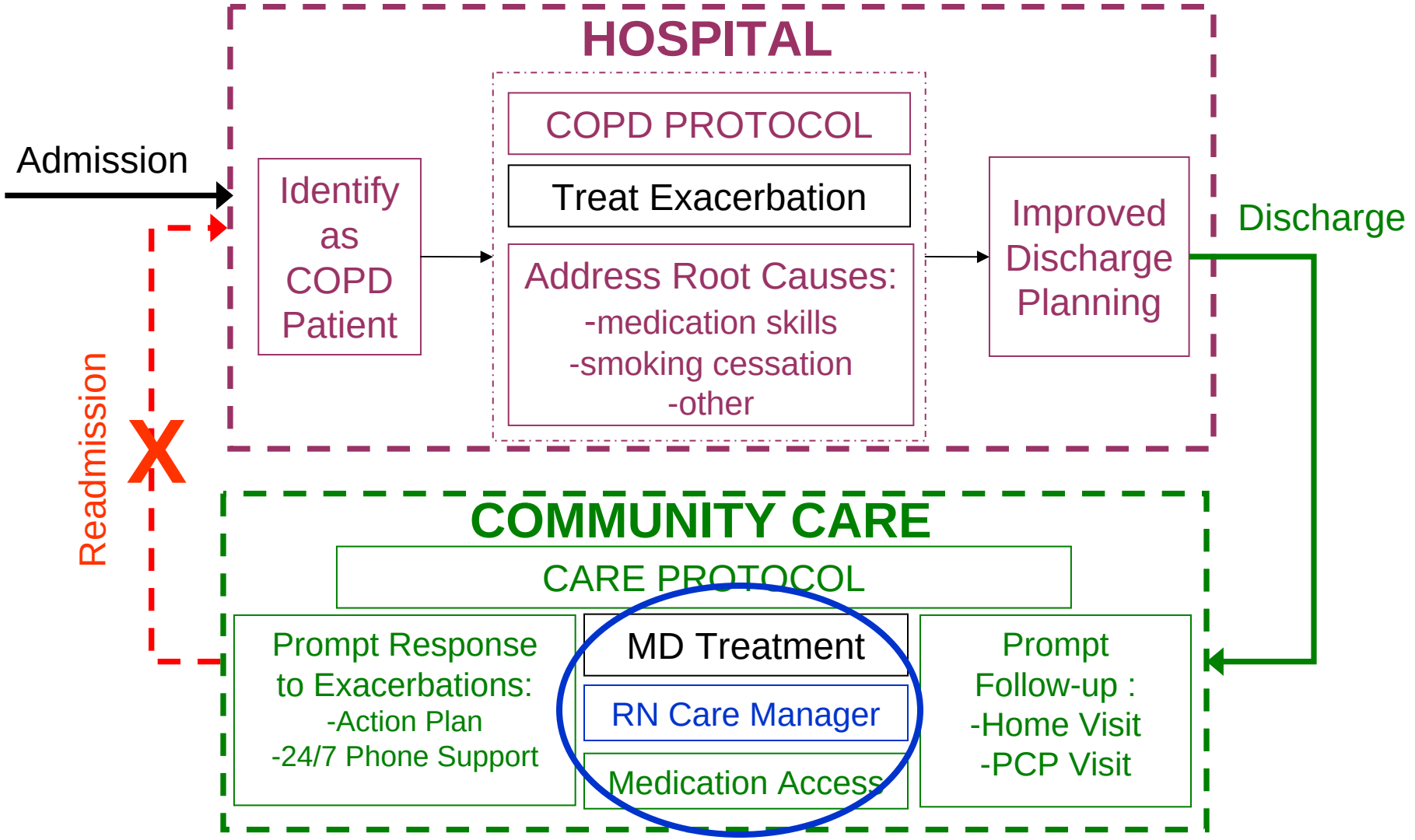


Analysis Done Using Perfecting Patient Care℠ Techniques Showed 1/3 – 1/2 of Respiratory Therapists' Time Was "Wasted" on Inefficient Processes; 1 FTE "Created" by Redesigning Processes

Other Inpatient Changes Made

- **Process Improvements**
  - EHR Order Set for COPD Patients
  - Improved Patient Education Materials; Same Materials Now Used by *All* Department (RT, PT, OT, RNs)
  - Improved Smoking Cessation Education Process
  - Comprehensive Discharge Preparation Checklist
- **Monitoring/Analyzing Performance**
  - Monthly Reports on Readmission Rates
  - Questionnaire Administered to Readmitted Patients
  - Chart Reviews to Ensure Processes Are Being Followed
  - Monthly Meetings to Review Performance

Next Step: Creating a Community Care (RN) Manager



Research: Dramatic Impact From Community Care Managers

- 40% reduction in hospital admissions, 41% reduction in ER visits for exacerbations of COPD using in-home & phone patient education by nurses or respiratory therapists (2003)
  J. Bourbeau, M. Julien, et al, "Reduction of Hospital Utilization in Patients with Chronic Obstructive Pulmonary Disease: A Disease-Specific Self-Management Intervention," *Archives of Internal Medicine* 163(5), 2003
- 27% reduction in hospital admissions, 21% reduction in ER visits for COPD patients through self-management education (2005)
  M.A. Gadoury, K. Schwartzman, et al, "Self-Management Reduces Both Short- and Long-Term Hospitalisation in COPD," *European Respiratory Journal* 26(5), 2005

Challenge #1: Payers Don't Reimburse for Care Managers

- Medicare, Medicaid, and commercial health plans do not reimburse primary care practices for calls/visits by nurses
- Major health plans already employ their own care managers, at considerable expense
  - not integrated with physician practices
  - little or no face-to-face contact w/patients (primary mode of contact is by telephone)
  - paying for care managers in MD practices seems like (and is) duplication
- Different solutions from different health plans means providers can't treat all patients alike
  - e.g., "practice-based care manager" employed by a particular health plan could span multiple small providers, but would only improve care *for the patients of that particular health plan*

Our Solution (Unfortunately)

- Grant from a large private foundation in the community to pay for the costs of the care managers (as well as coaching and other support to hospitals and physician practices)
- Solution ends when the grant runs out unless payment reforms are implemented

Goal: Establishing the Business Case for Nurse Care Managers

Reduction in Hospital Payments from Reduced Readmissions

-

Costs of Interventions (Community Care Mgrs, etc.)

>>$0

Readmissions Are Costly for Medicare & Other Payers

	CURRENT
# Admissions/Year:	500
% Readmitted: (<30 Days)	**25%**
$/Admission (Medicare/No Complic.):	$5,400
Cost of Readmissions:	$675,000

Goal: Reduce Readmissions By More Than Cost of Care Mgt

	CURRENT	20% REDUCTION
# Admissions/Year:	500	500
% Readmitted: (<30 Days)	**25%**	**20%**
$/Admission (Medicare/No Complic.):	$5,400	$5,400
Cost of Readmissions:	$675,000	$540,000
Cost of Care Mgr:		$80,000
Net Savings to Payer:		**$55,000**

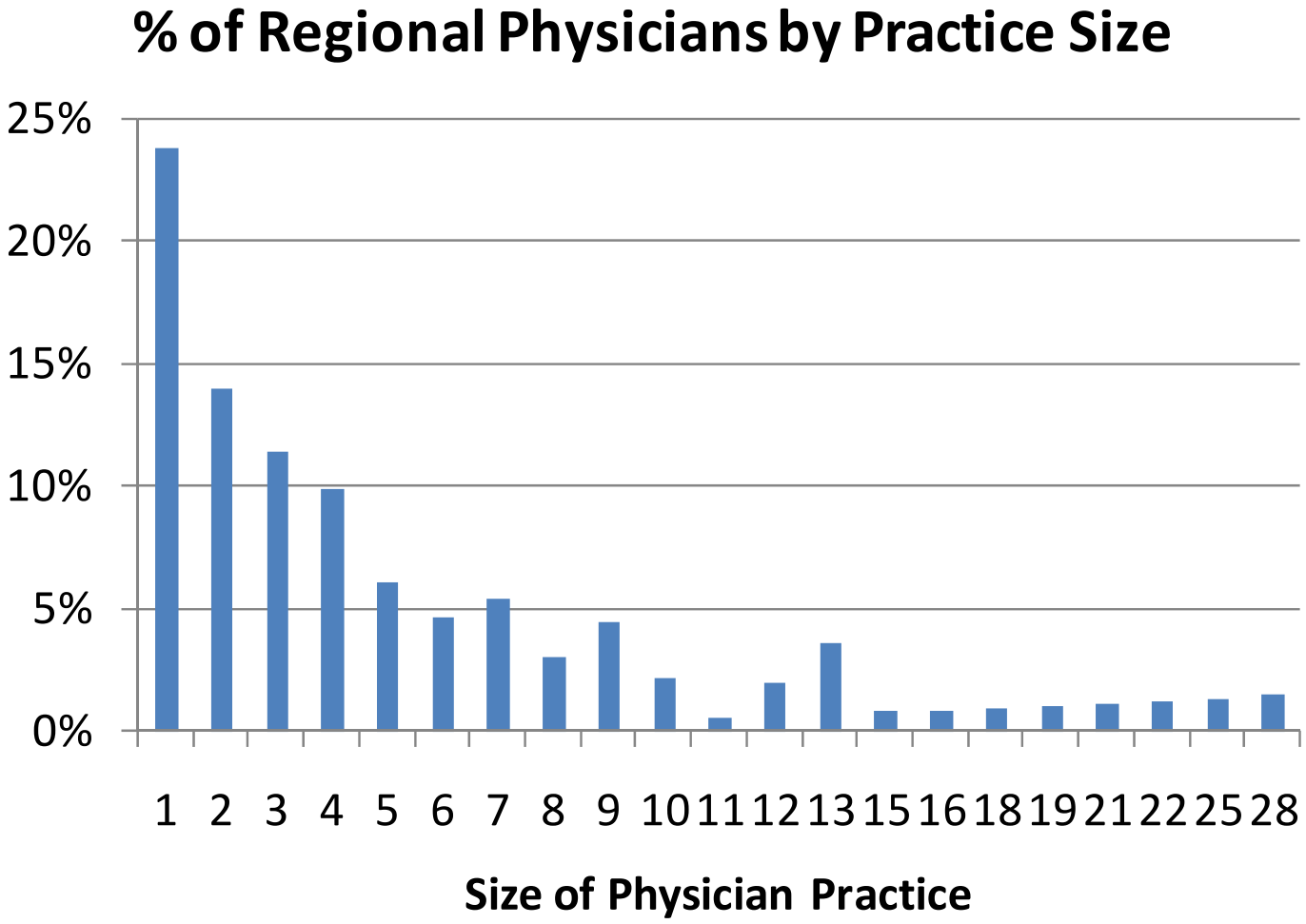
Hiring the Community Care Manager

- **Goals:**
  - Integral member of primary care team
  - Focus on patients with COPD (initially) with ability to expand to other patients with high rates of readmission in the future
  - Sufficient number of cases at risk of hospitalization to justify expense of a new position
  - Willingness/ability to make home visits (not just phone calls)

Challenge #2: Where Does the Community Care Manager Work?

- **Goals:**
  - Integral member of primary care team
  - Focus on patients with COPD (initially) with ability to expand to other patients with high rates of readmission in the future
  - Sufficient number of cases at risk of hospitalization to justify expense of a new position
  - Willingness/ability to make home visits (not just phone calls)
- **Options:**
  - Employee in physician practice
    - works only for large practices

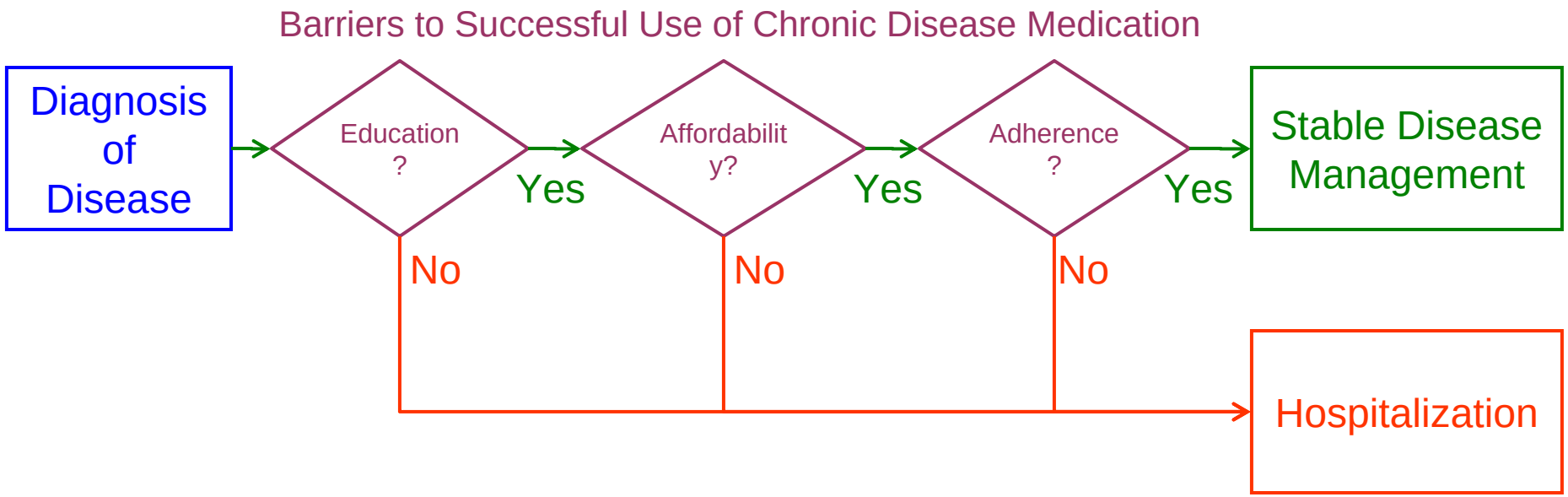
Challenge #2a: 2/3 of MDs in Practices of 5 or Smaller



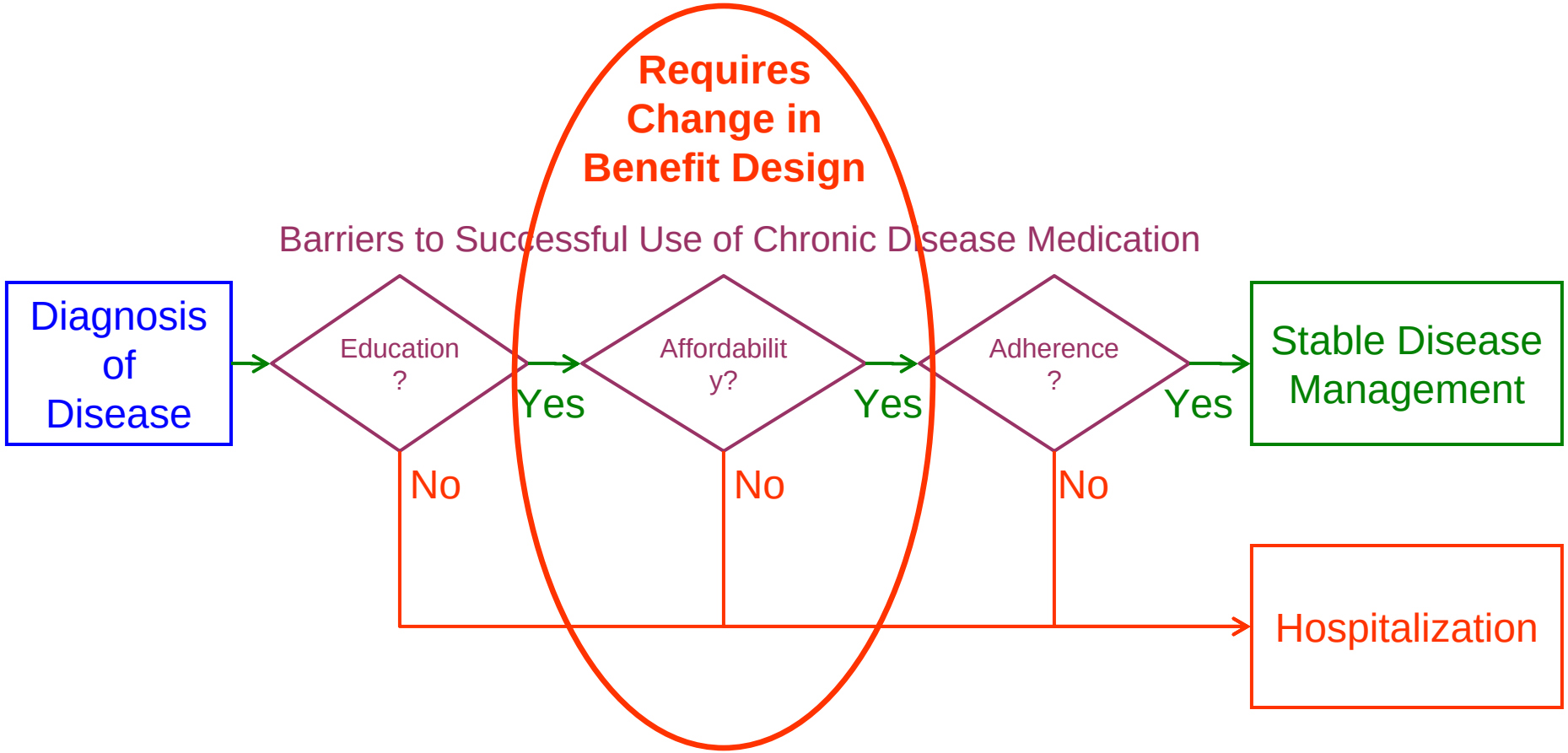
Solution: Sharing the Community Care Manager

- **Goals:**
  - Integral member of primary care team
  - Focus on patients with COPD (initially) with ability to expand to other patients with high rates of readmission in the future
  - Sufficient number of cases at risk of hospitalization to justify expense of a new position
  - Willingness/ability to make home visits (not just phone calls)
- **Options:**
  - Employee in physician practice
    - works only for large practices
  - Shared employee among physician practices
  - **Hospital-based employee (covering multiple small practices)**
  - **Contract for services with home health agency**

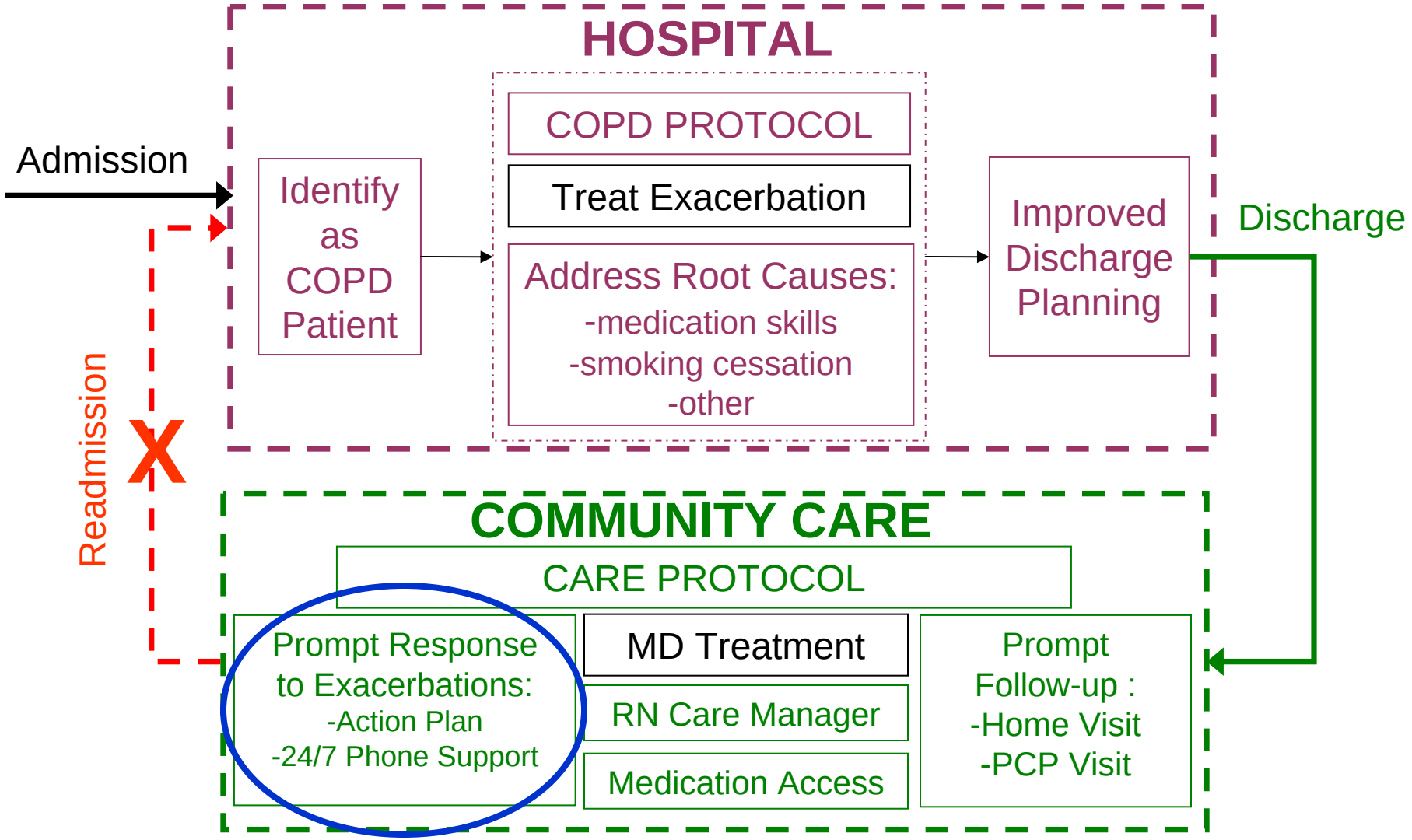
Chain of Factors Affects Successful Medication Usage



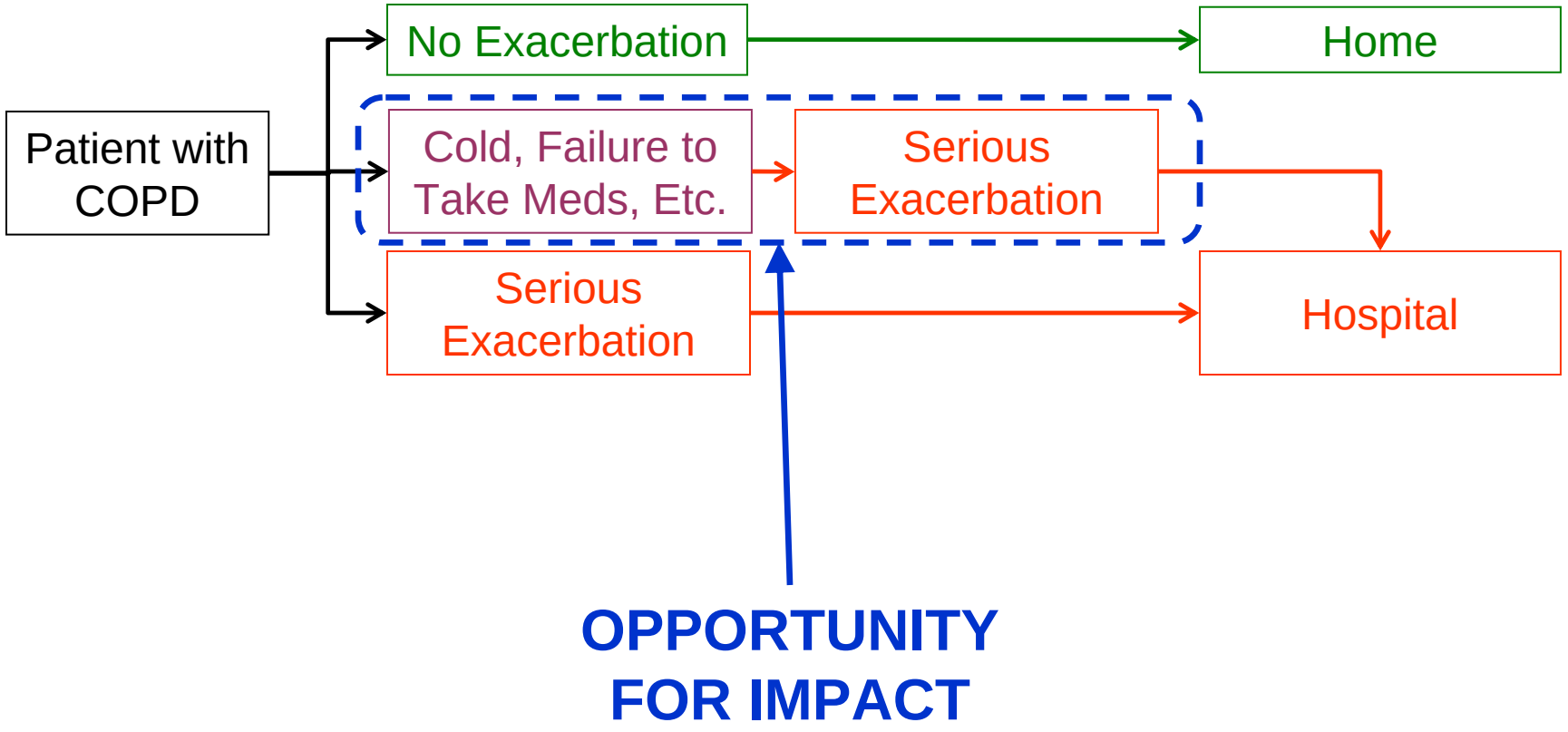
Challenge #3: Copays & Doughnut Hole Deter Use of Meds



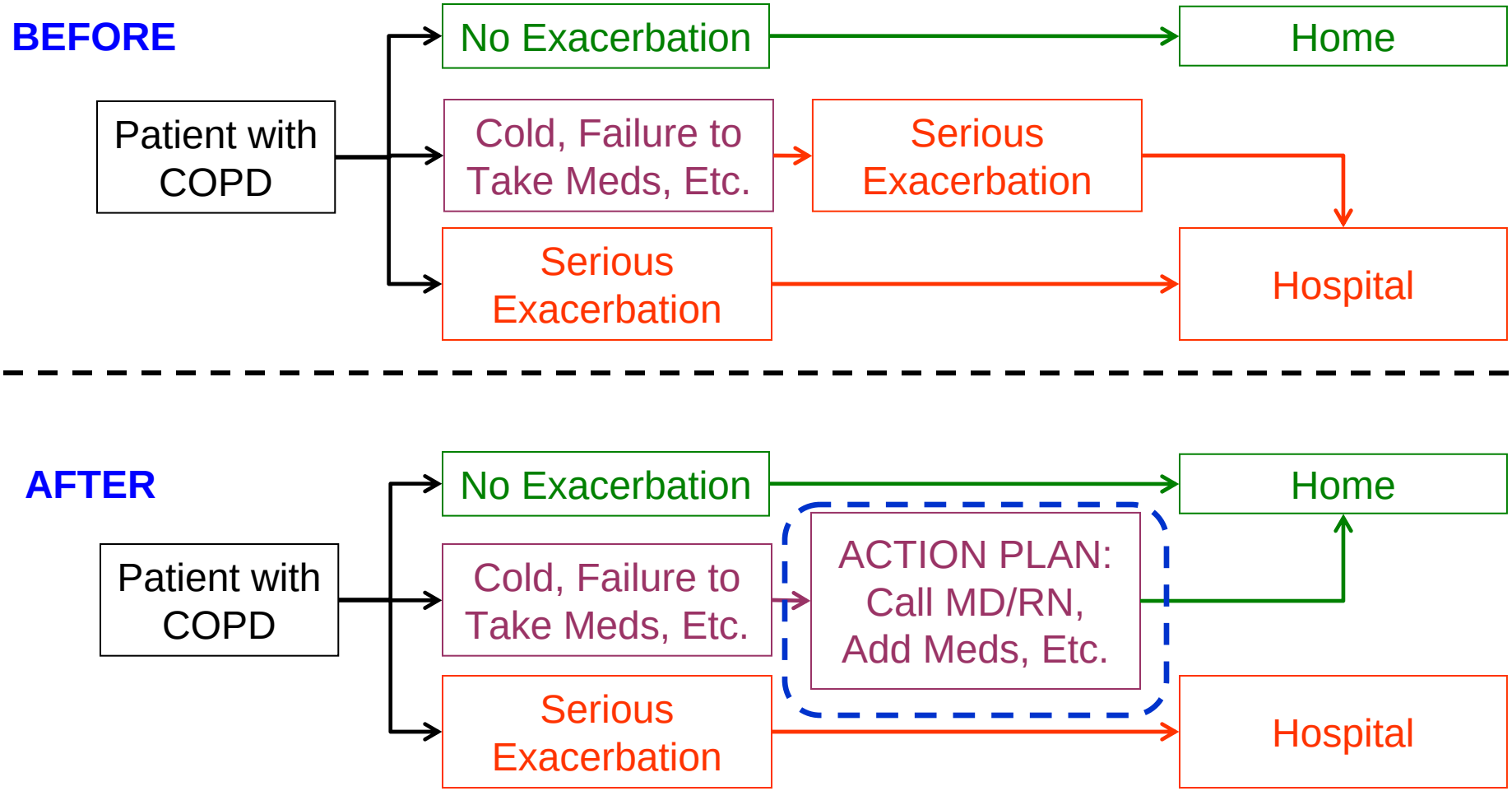
Final Piece: Ensuring Prompt Response to Exacerbations



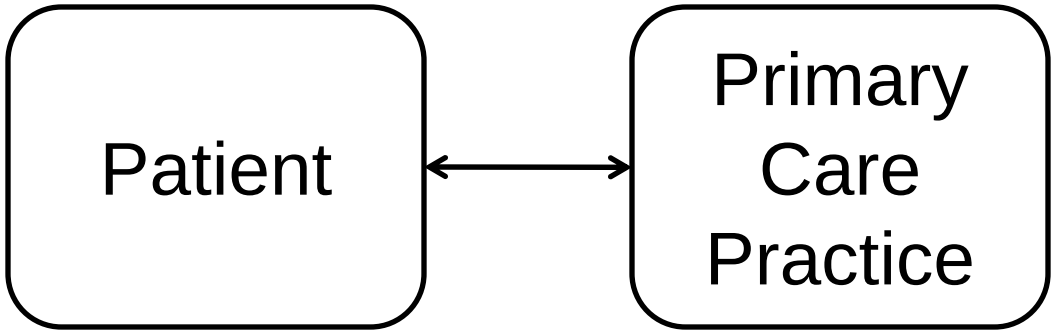
Intervening Before Readmits Occur



Creating a COPD Action Plan



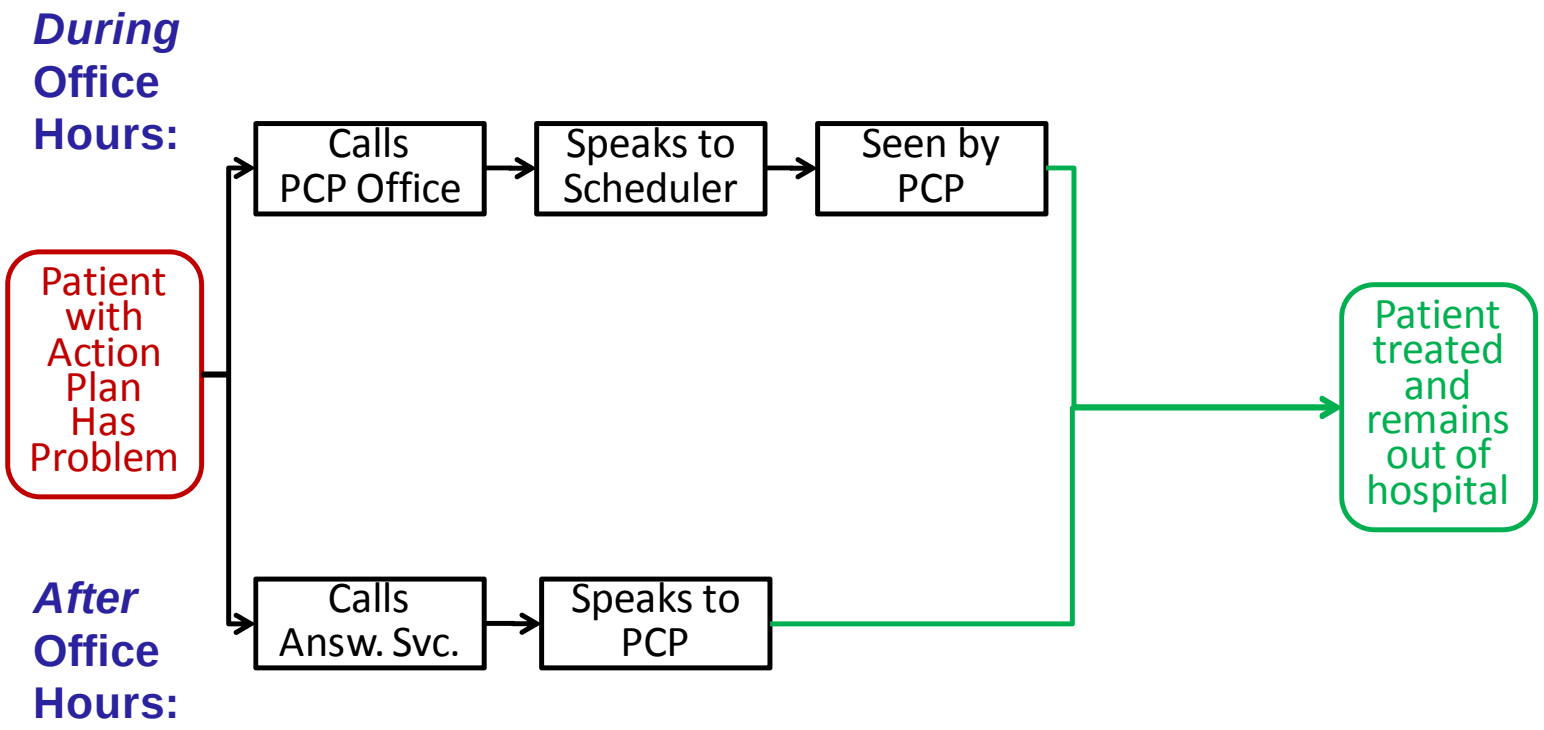
Making an Action Plan Work



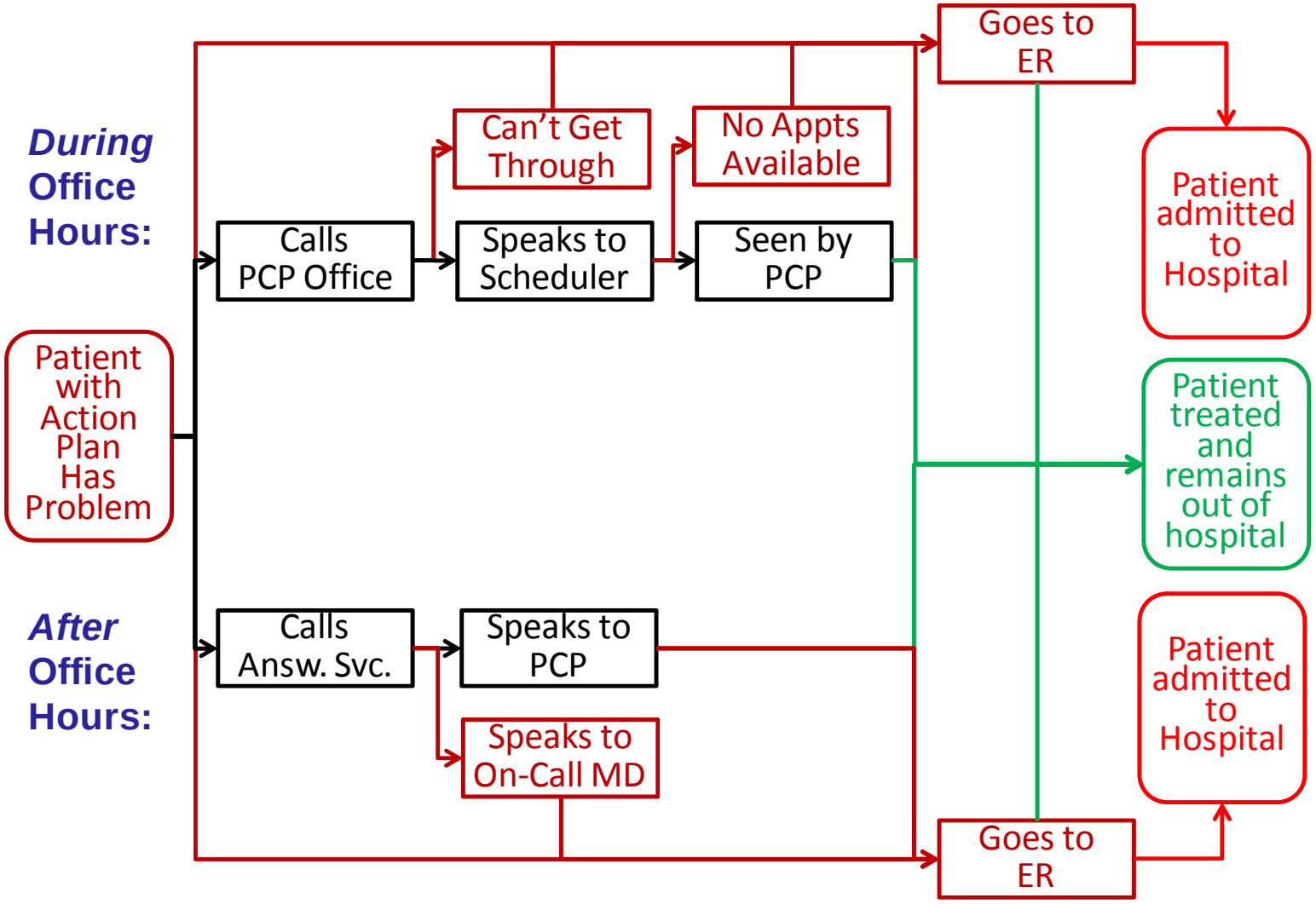
Must Be Willing to Call Right Away For Help Resolving an Exacerbation

Must Be Able to Respond Right Away When a Patient Calls (And *Not* By Sending Them to the ER)

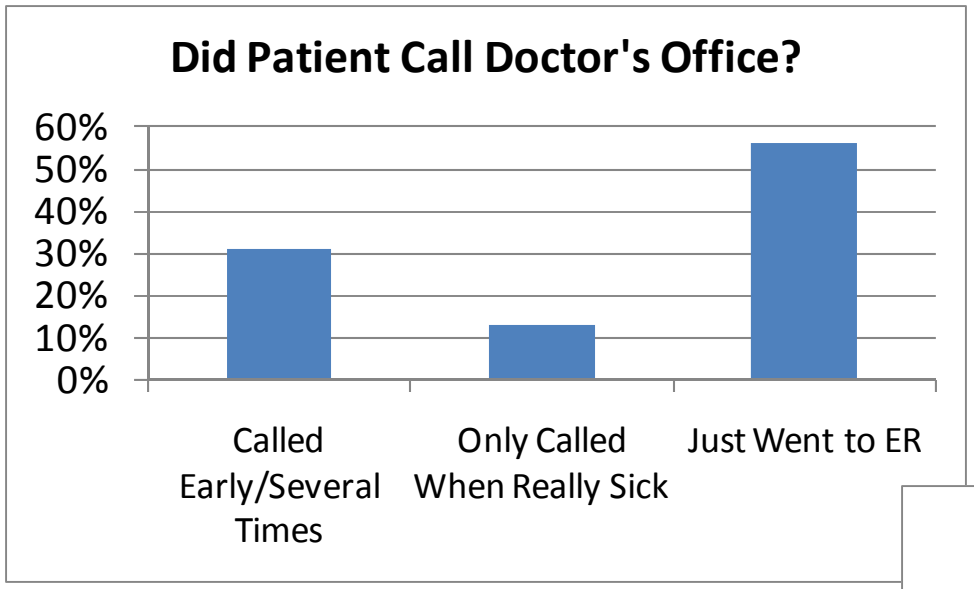
How We Hope A Primary Care Practice Answers Patient Calls

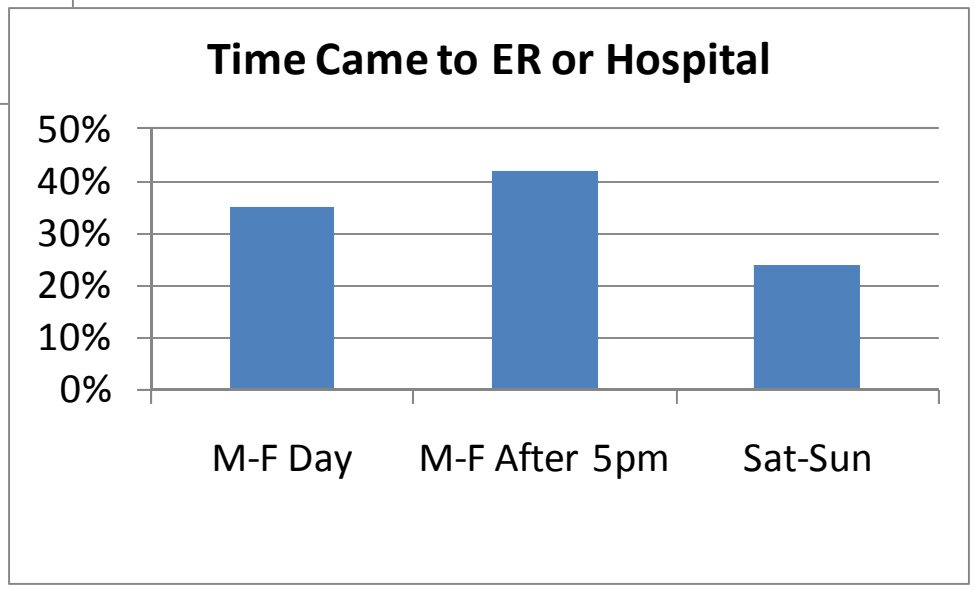


What Actually Happens, All Too Often

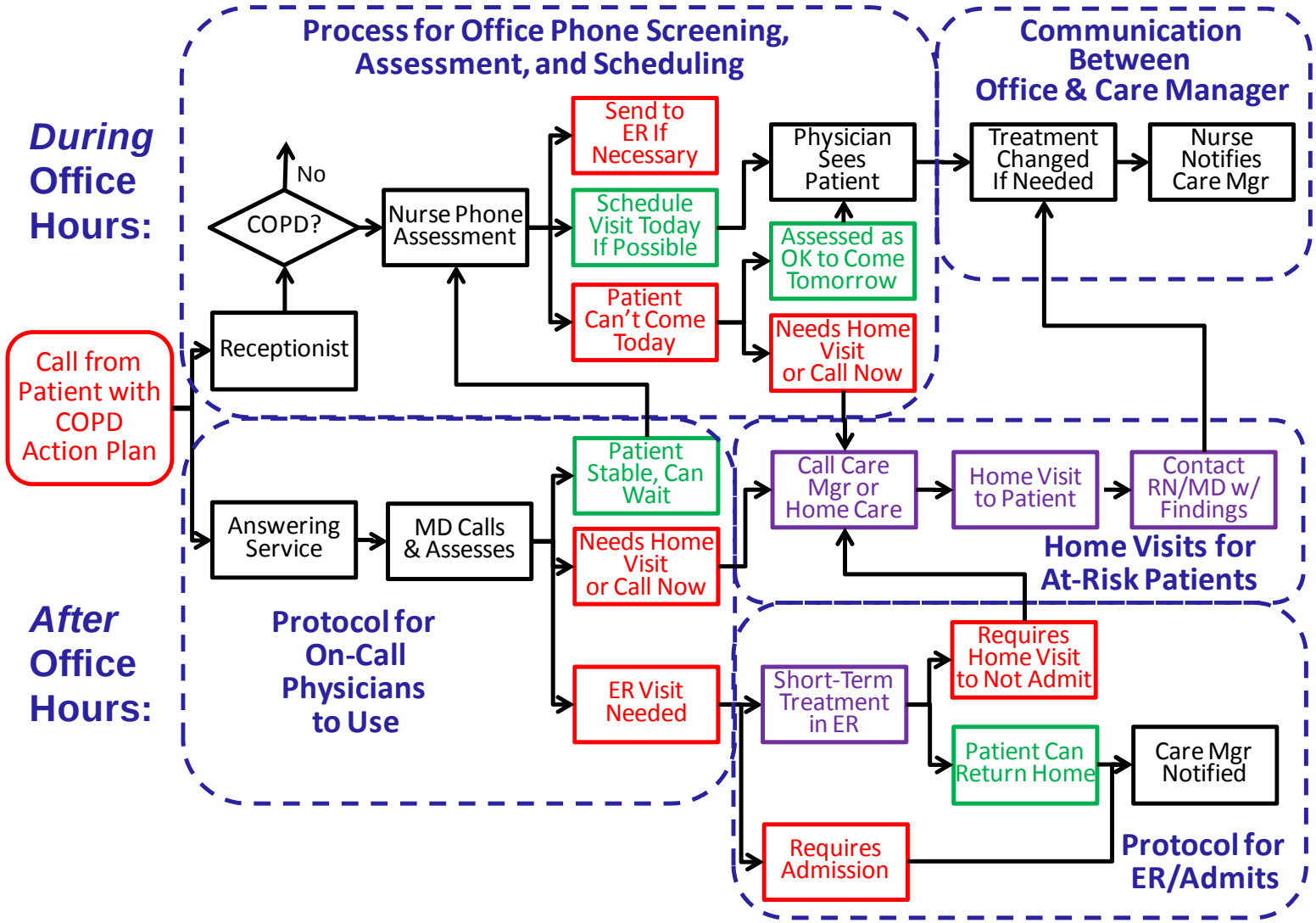


Results of Interviews with Readmitted Patients





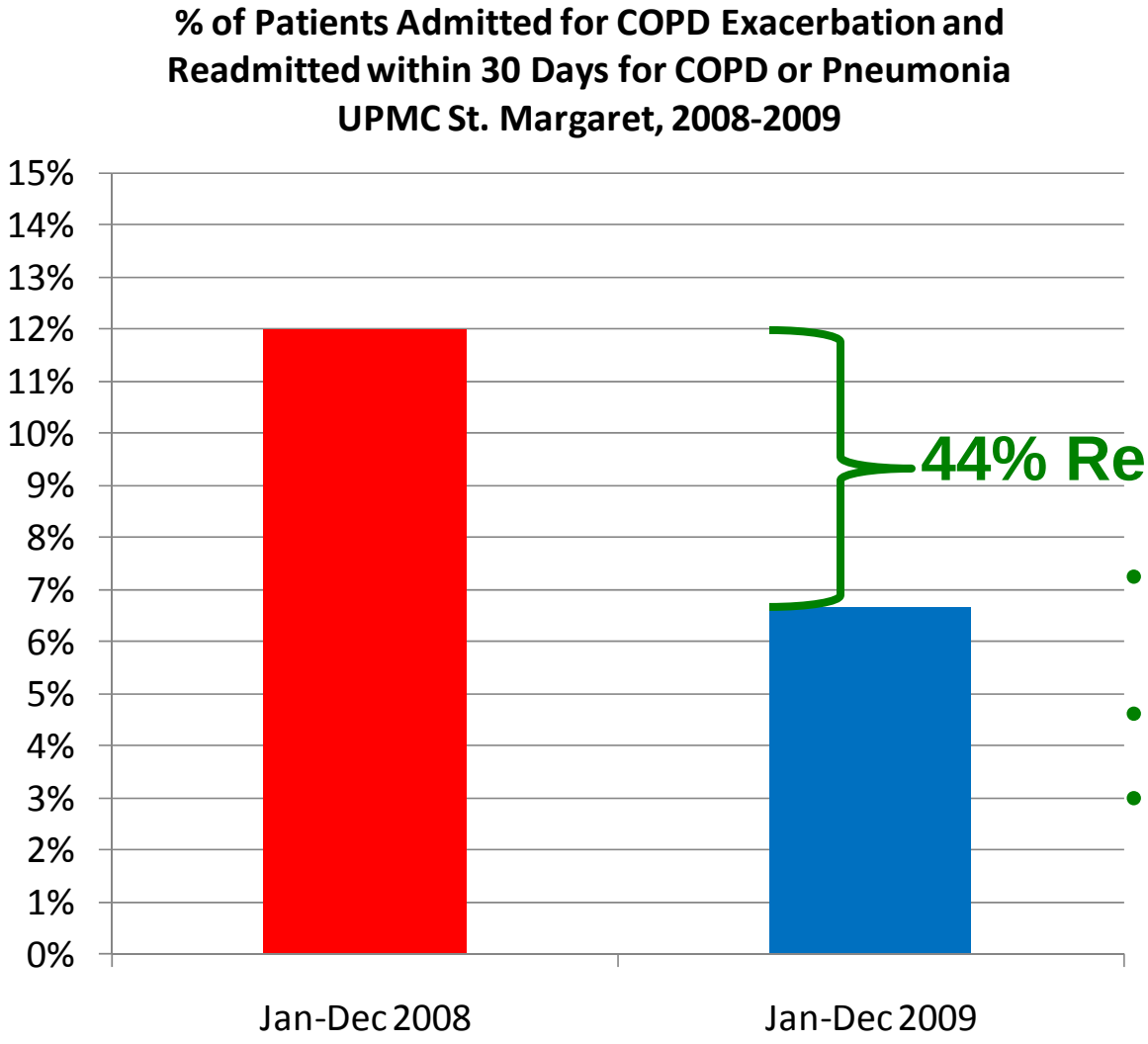
Redesigning How a Primary Care Practice Answers Patient Calls



Creating a Continuous Improvement Process

- **Outcome Driven Approach:** Monthly Reports Generated by the Hospital on Readmissions + Tracking of Individual Patients by Care Manager
  - PHC4 data indicate that for these hospitals, 80-90% of readmissions return to the same hospital
- **Causal Analysis:** Special Questionnaire Given in Hospital to All Readmitted COPD Patients
  - Hospital identifies patients who are readmissions within 24 hours of admission
  - Nurses administer detailed questionnaire to patients probing for factors contributing to readmission
  - Modifications can then be made to both inpatient and outpatient care

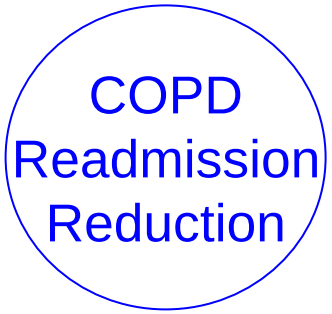
Results to Date for UPMC St. Margaret Patients



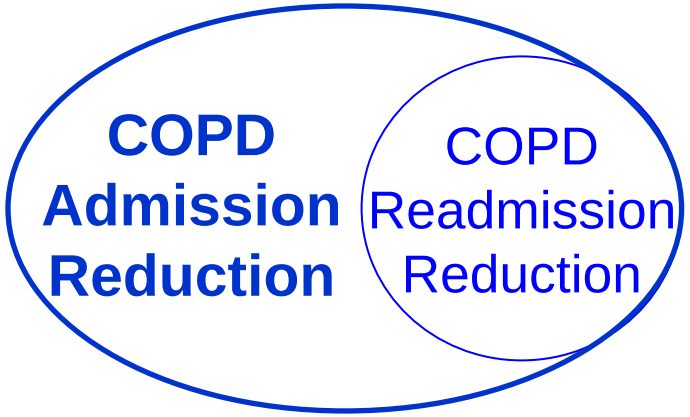
44% Reduction

- **30 Readmissions Prevented**
- **$160,000+ Saved**
- **Net Savings of $80,000+ After Cost of Care Mgr**

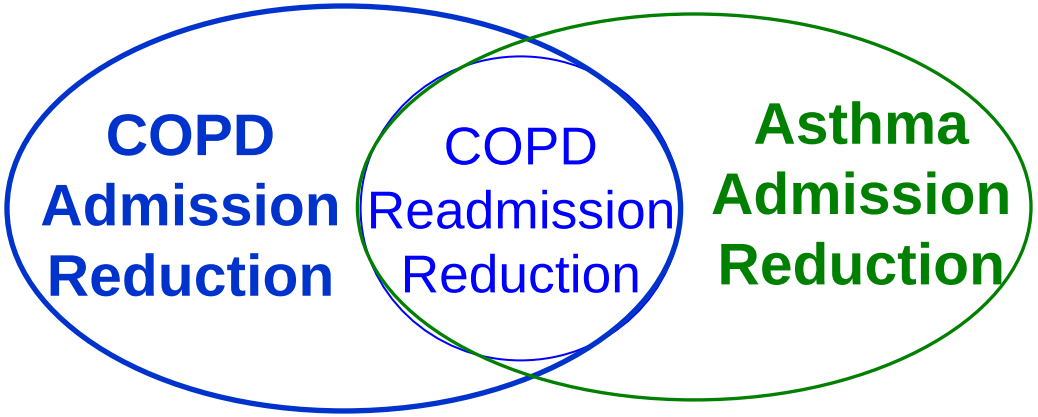
COPD Readmissions Is Just A Starting Point



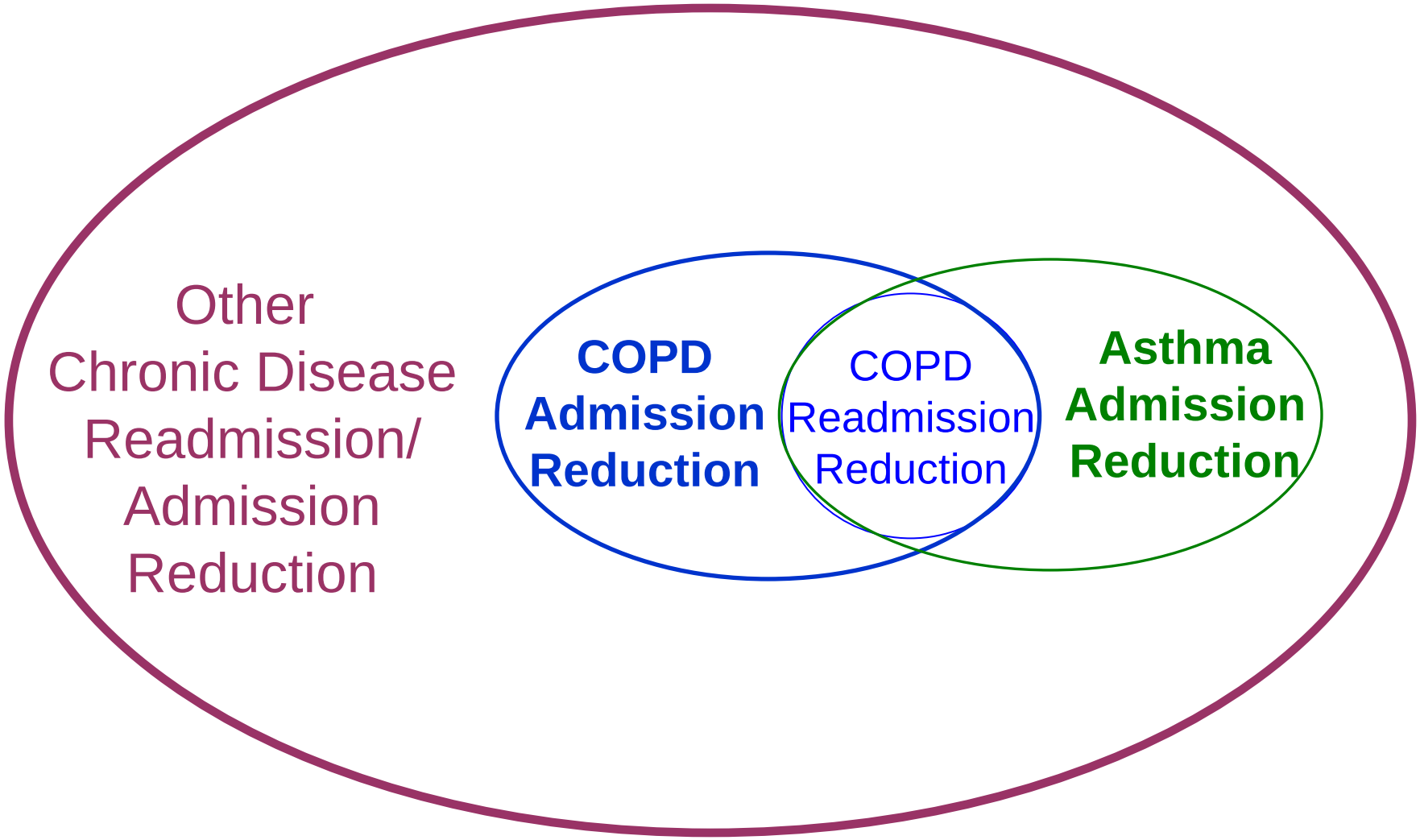
Similar Approach Applicable to Initial Admissions



Similar Approach Likely Applicable to Asthma



Similar Approach Likely Applicable to Other Chronic Diseases



Some Lessons Learned

- Focusing on outcomes is more motivating for MDs, RNs, etc. than simply focusing on processes; evidence-based guidelines can unintentionally deter outcome-driven experimentation
- Getting accurate data rapidly enough to allow continuous improvement is difficult; just identifying COPD patients is hard
- Healthcare providers need conveners/facilitators/coaches to help them develop innovative, comprehensive, coordinated solutions to problems, particularly across department/organizational boundaries
- Patients need personalized education and encouragement to use treatment properly and act on symptoms early
- Home visits are an essential piece of the solution, but finding nurses willing to make home visits is difficult
- Pharmaceutical benefit design needs to be more closely linked to patient care management
- Payment reform is critical: healthcare providers don't need financial *incentives* to reduce readmissions, but they can't implement effective services if they aren't paid for

Too Many Payment Reforms Are Proceeding in Silos

SILO #1

Implementing Medical Home/ Chronic Care Model

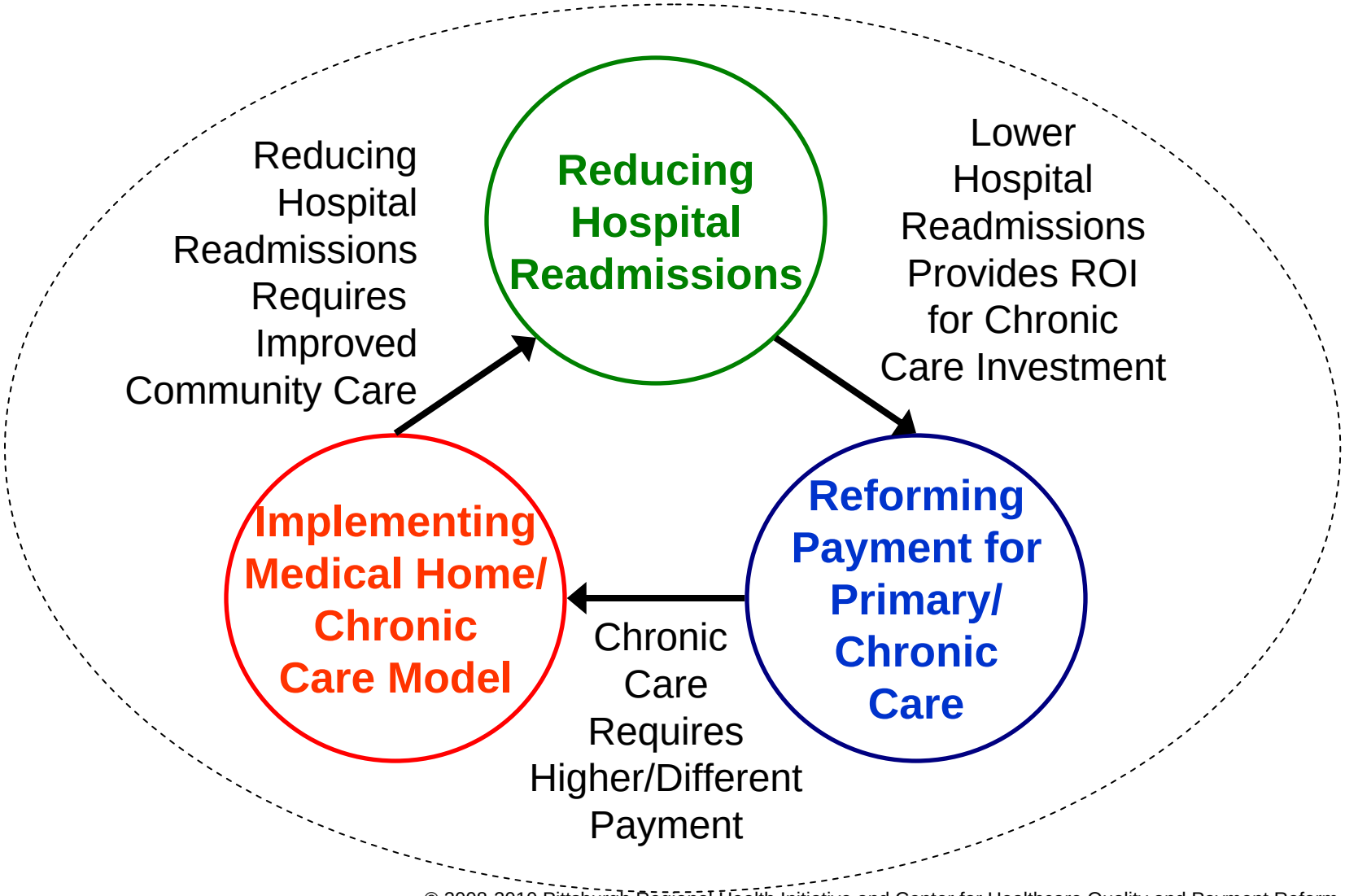
Pay More to Physicians For Being Certified As a "Medical Home" And Hope That Outcomes Improve

SILO #2

Reducing Hospital Readmissions

Penalize Hospitals for Readmissions Even If the Cause is Poor Primary Care

Marrying the Medical Home and Hospital Readmissions



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