



PITTSBURGH REGIONAL HEALTH INITIATIVE

Spreading Quality, Containing Costs.

REDUCING HOSPITAL READMISSIONS BY TRANSFORMING CHRONIC CARE

May 2008



PITTSBURGH
REGIONAL
HEALTH
INITIATIVE
*Spreading Quality,
Containing Costs.*

What is PRHI?

- A non-profit agency dedicated to improving the safety and quality of health care in the Pittsburgh Region and nationally
- Board members include CEOs and senior staff from regional hospitals (e.g., UPMC, Jefferson), health insurers (e.g., Aetna, Highmark), and employers (Allegheny County, Duquesne Light, Medrad), and other civic leaders
- Funded by local corporations, foundations, health plans, and government contracts and grants
- Trains health care staff in Perfecting Patient Caresm, a quality improvement method based on the Toyota Production System
- Organizes and supports demonstration projects in hospital infection reduction, chronic care improvement, etc.

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Hospital Readmissions

What We Know: Major Contributor to High Costs

- PHC4 reports that nearly 1 in 5 patients are readmitted to a hospital within 30 days after being discharged
- Hospital charges for these readmissions total \$2.2 billion and involve 365,000 hospital days statewide
- Nearly 25% of readmissions due to complications/infections
- Significant variation among hospitals

What We Need to Know: How to Reduce Readmits

- How many of the readmissions could be eliminated through improved quality processes, and how can it be done?

How We Will Find Out: Research & Demonstration

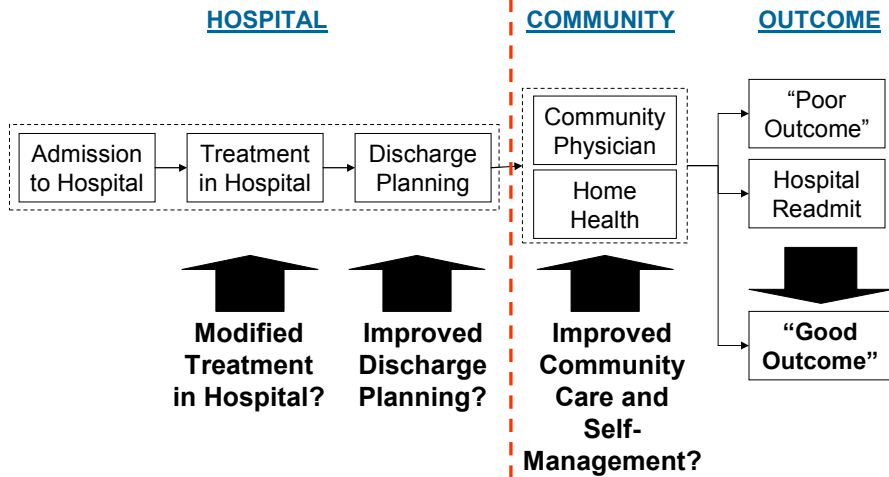
- Three-year grant from the R. K. Mellon Foundation

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Reducing Readmission Requires Thinking Across Provider Lines

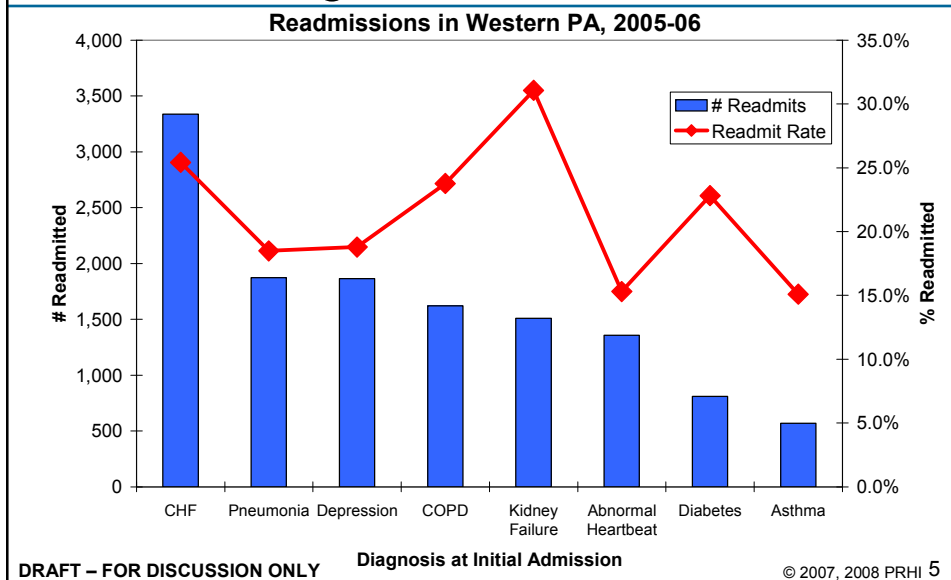


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Chronic Diseases Are Largest Categories of Readmissions



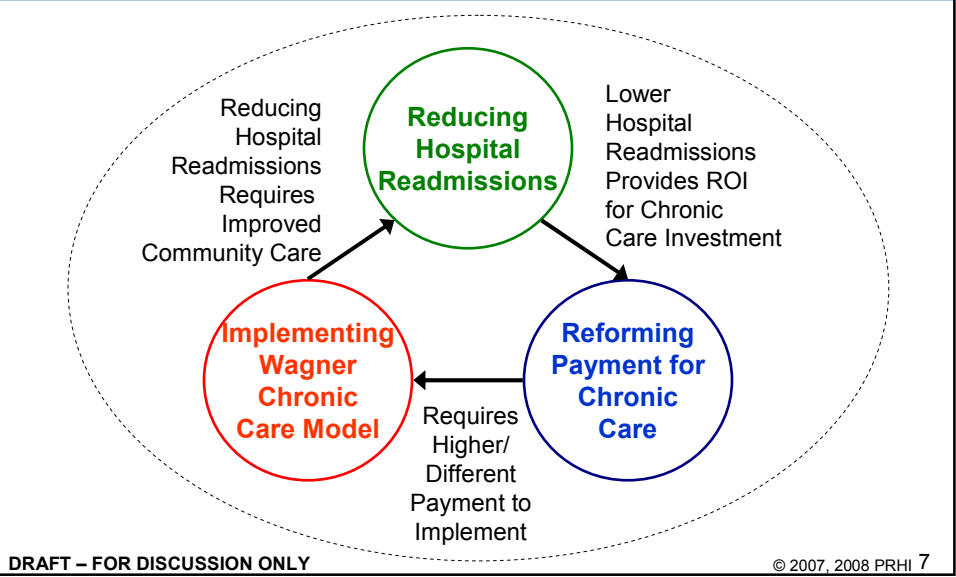
Challenge #1: Chronic Care Model Not Reimbursed Today

- **Key Services Not Billable/Reimbursable**
 - hiring additional non-physician personnel (e.g., nurse care managers)
 - patient contacts with physicians by phone or email (health insurance only pays for face-to-face visits)
- **NRHI Summit Recommendations for Chronic Care Pmt**
 - monthly care management payment to “medical home”
 - amount adjusted for patient characteristics
 - payment covers all preventive services and minor acute care
 - adjustments to payment based on rate of hospitalizations
- **Insurers and Purchasers Reluctant to Pay for More Services and Increase Costs in the Short Run**
 - Focus has been on diabetes, where ROI will occur many years in the future, and may accrue to a different employer/insurer
- **Physician Practices Don’t Have Systems/Expertise for Managing Hospital Admissions/Readmissions**

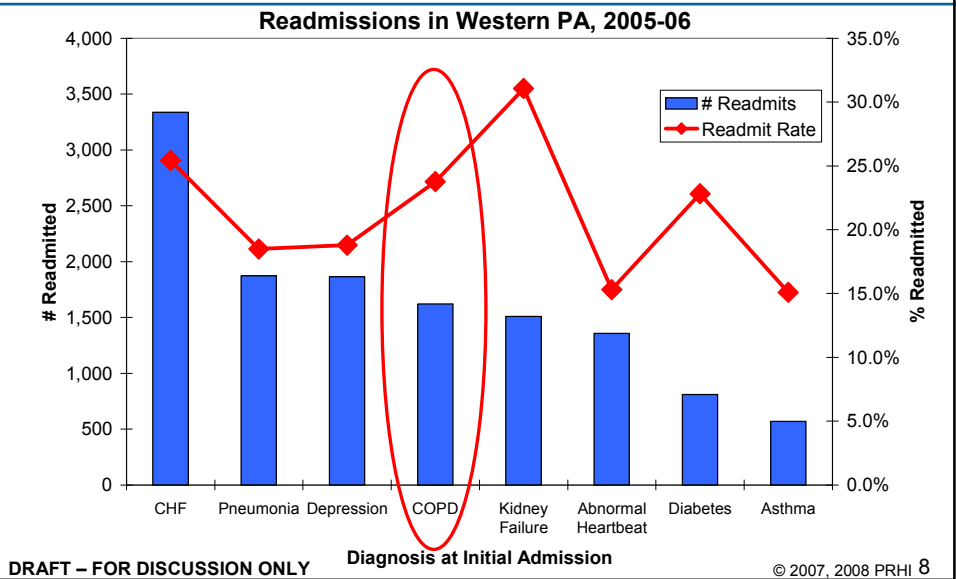
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Chronic Care/Preventable Admission Initiative

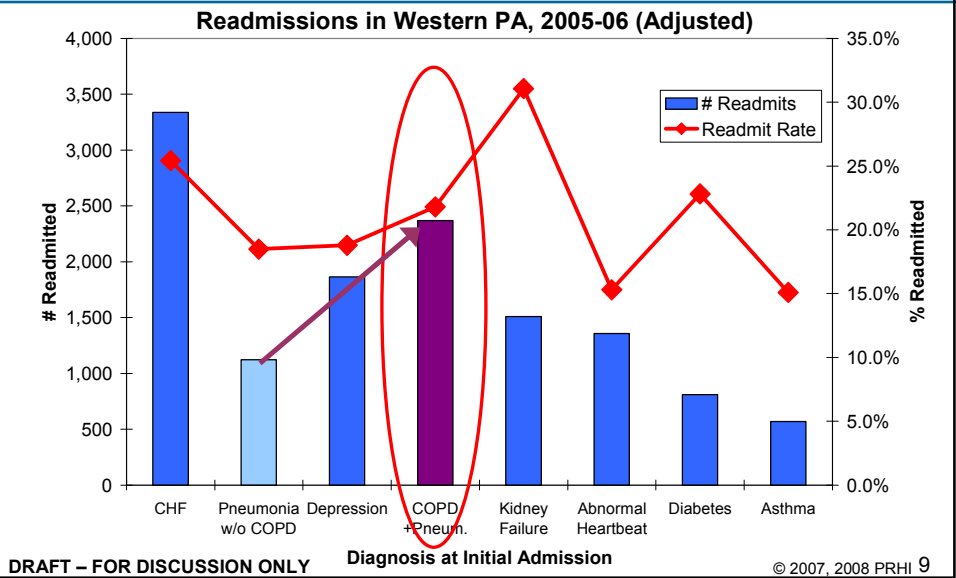


COPD is 4th Highest Volume & Rate of Readmissions

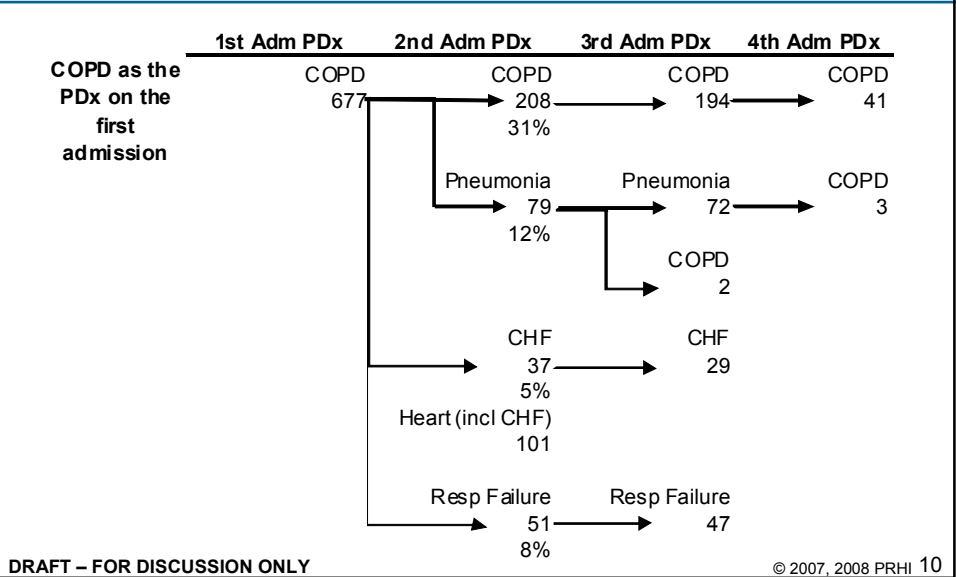




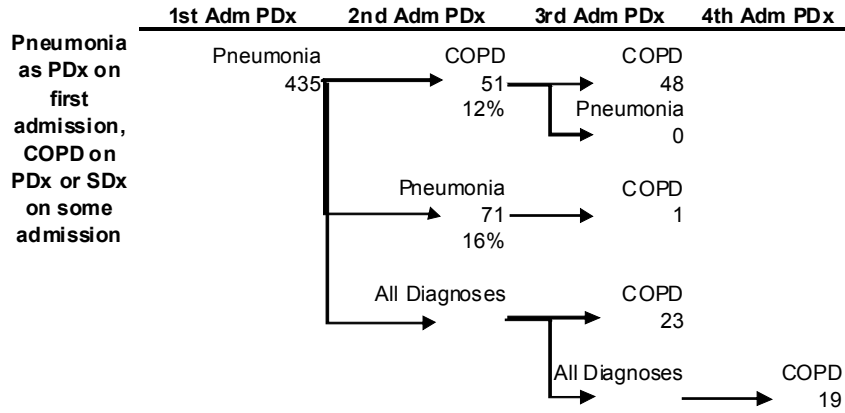
Plus, 40% of Pneumonia Readmits Are COPD Patients



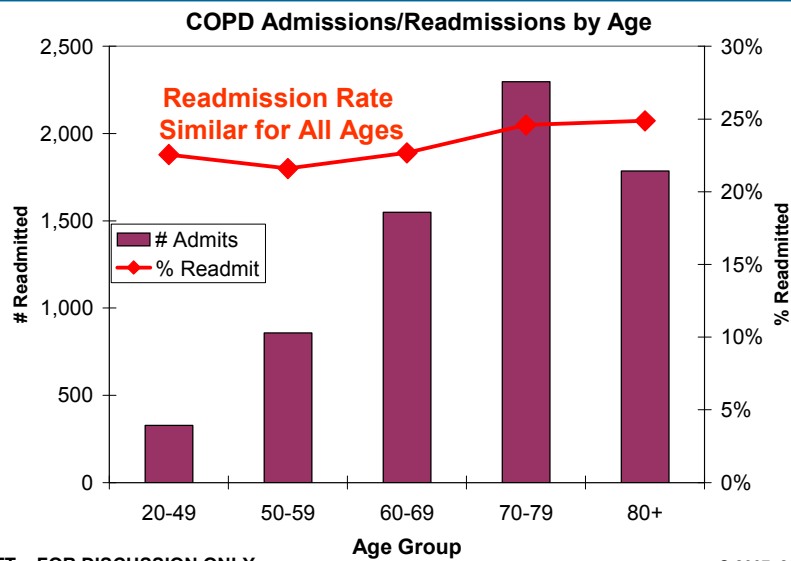
Diagnosis Chains: COPD As Initial Admission



Diagnosis Chains: Pneumonia as Initial Admit

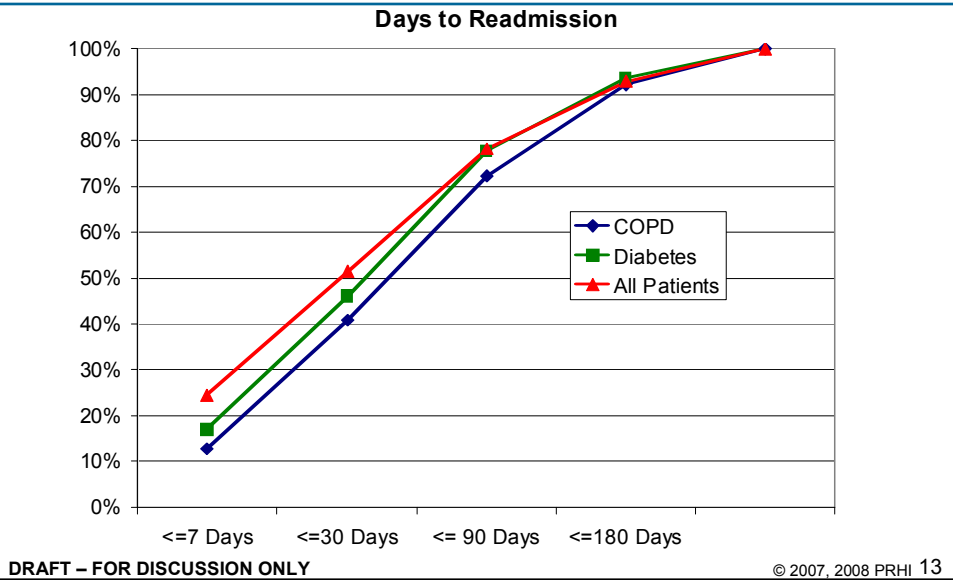


70% of COPD Patients Under 65, 33% of Admissions Under 65





40% of COPD Readmits Occur Within 30 Days (< Other Patients)



Clinical Practice Guidelines Exist:

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

- ❶ Avoidance 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

Increasing Severity



Research Shows Dramatic Impact From Simple Interventions

- **39.8% reduction in admissions from improved patient education and self-management**
 - case managers (nurses or respiratory therapists)
 - 1 hour/week of teaching at home for 7-8 weeks, including exercise
 - weekly follow-up phone calls for 8 weeks, monthly calls beyond
- **37.3% reduction in admissions from education, training on medications, action plan for worsening symptoms**
- **30% - 50% reductions in admissions from influenza vaccination**
- **Significant reduction in hospital admissions from smoking cessation**

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A Key Element May Be Inhaler Training

NATURE OF ERRORS IN MDI USE

79% of patients coming into an ER did not use their MDI inhaler(s) properly.

Errors were:

Step 1: Taking the cap off (3%)

Step 2: Shaking the canister (15%)

Step 3: Exhaling first (46%)

Step 4: Actuating the inhaler with or slightly after onset of inspiration (34%)

Step 5: Steady, deep inspiration (30%)

Step 6: Holding breath for at least 10 seconds (37%)

Step 7: Waiting 1 minute before next puff (49%)

ERRORS IN MDIs VS. DPIs

<u>Inhaler</u>	<u>Error Rate</u>	<u>Most frequent error</u>
MDI w/o spacer:	74.6%	Trigger and simultaneously breathe in
DPI Turbuhaler:	43.2%	Hold upright; turn grip until it clicks
DPI Diskus:	6.8%	Slide the lever until it clicks
DPI Aerolizer:	16.9%	Push the buttons to pierce the capsule

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Inhaler Training (Continued)

ERRORS IN INSPIRATORY FLOW RATE

MDI	59.0% Inhaled Too FAST
DPI Handihaler	57.0% Inhaled Too SLOWLY
DPI Turbuhaler	14.2% Inhaled Too SLOWLY
DPI Diskus	4.9% Inhaled Too SLOWLY

TIME REQUIRED FOR PATIENT TRAINING

One Study:

Time to teach patients to do all 7 steps correctly at least once:
Average: 8.3 minutes. Maximum: 30 minutes
80% required 15 minutes or less

Another Study:

Median teaching time of 6.5 minutes

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Opportunities to Use Hospital Stay As A “Teachable Moment”

• Inhalers

- COPD patients use inhalers to prevent/manage exacerbations
- Neither PCP nor pharmacy trains patient on inhaler technique (only 20% know how to use it properly)
- Failure to use inhalers properly may result in hospitalization
- Hospital staff only trains patients if the inhaler is newly prescribed
- Patients in hospital typically treated with nebulizers, instead of the inhalers they will use after discharge, so limited opportunity for training
- Hospital may learn of barriers to patient use of medications (affordability, convenience, etc.), but don't address them

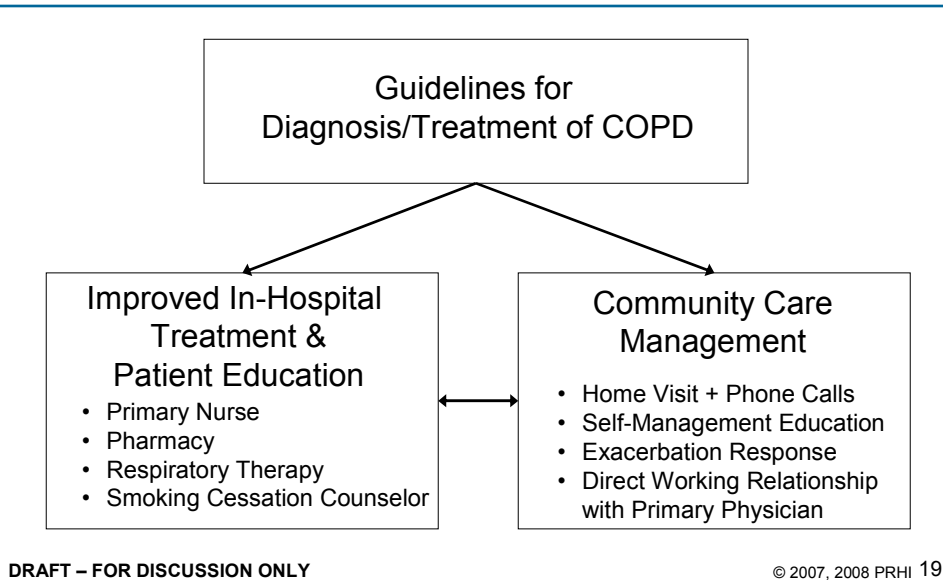
• Smoking Cessation

- Smokers are, by definition, in forced smoking cessation during hospital stay, but it's not systematically treated as an opportunity for initiation of ongoing smoking cessation therapy

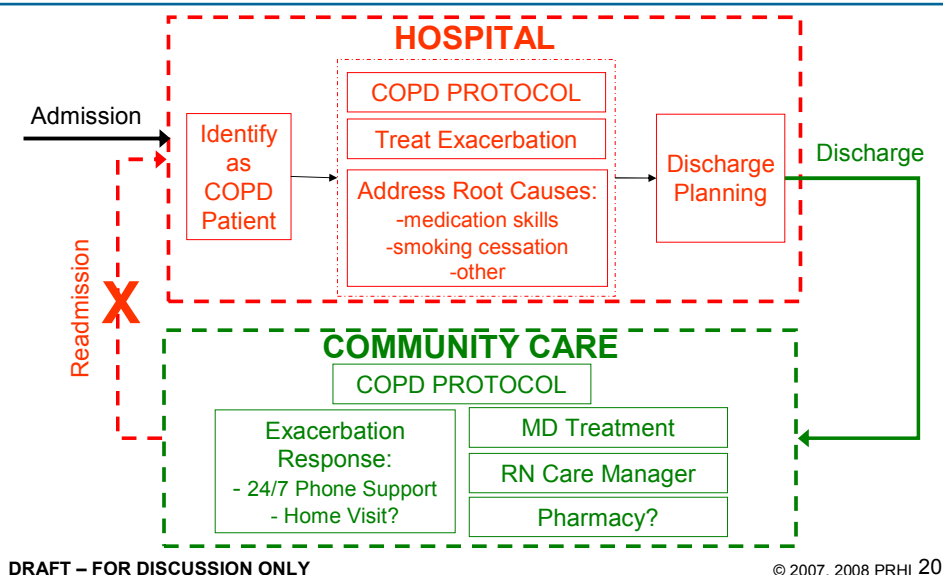
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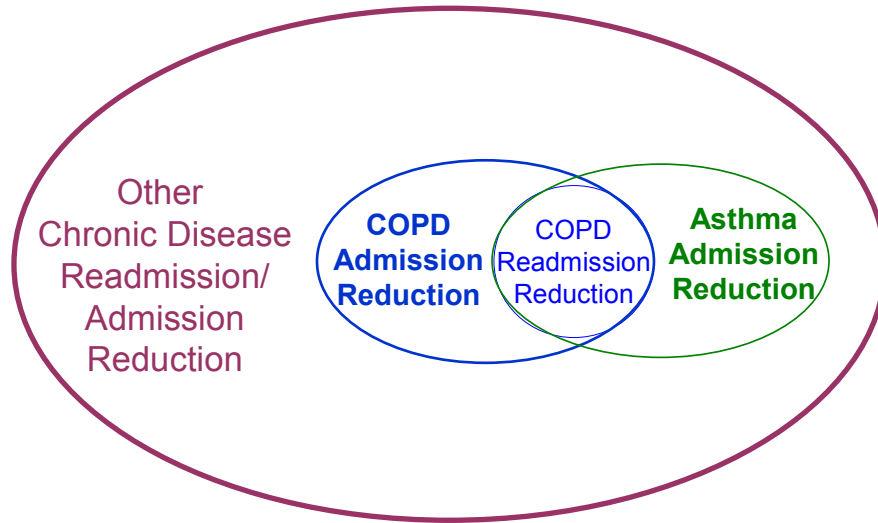
3 Key Elements for COPD Readmission Reduction



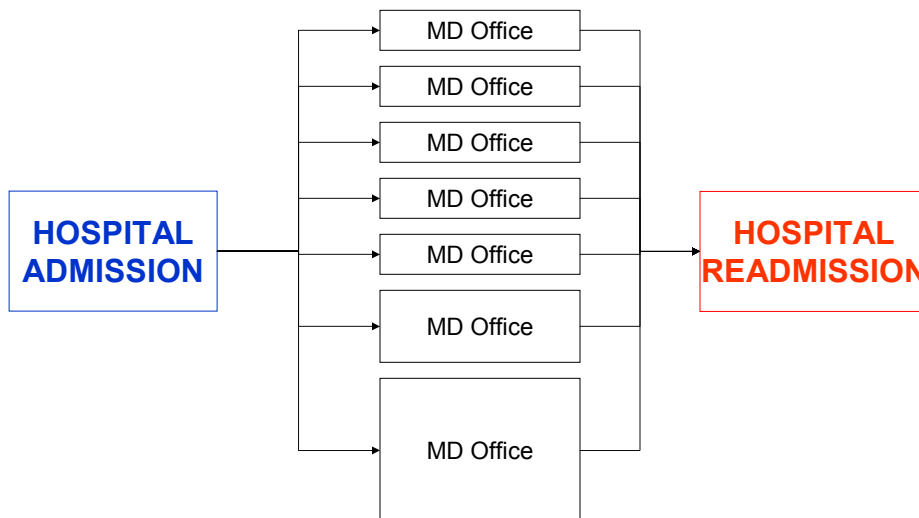
A More Detailed View of the Demo Concept



Similar Approach Likely Applicable to Other Chronic Diseases

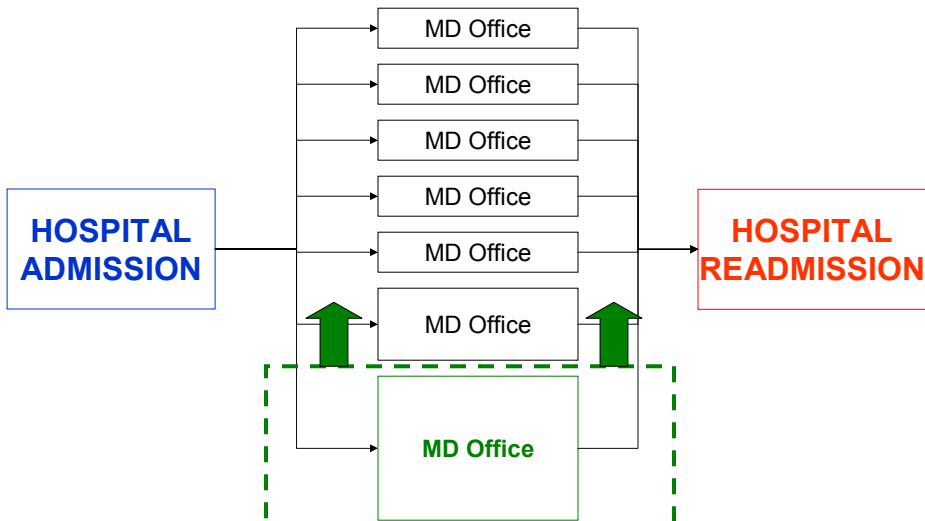


Challenge #2: Care is Delivered By Lots of Small Practices





We're Starting With Big Practices and Then Hope to Spread Out

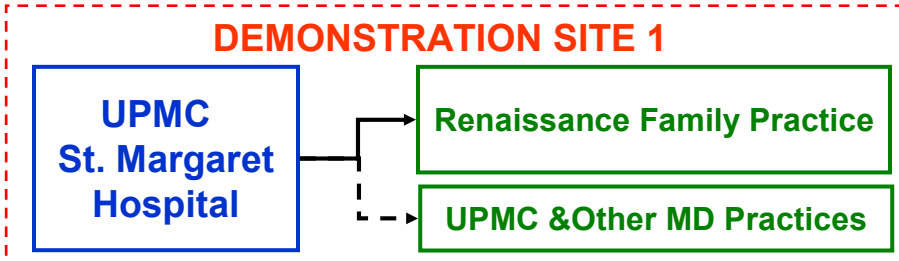


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Planned Initial Demonstration Sites



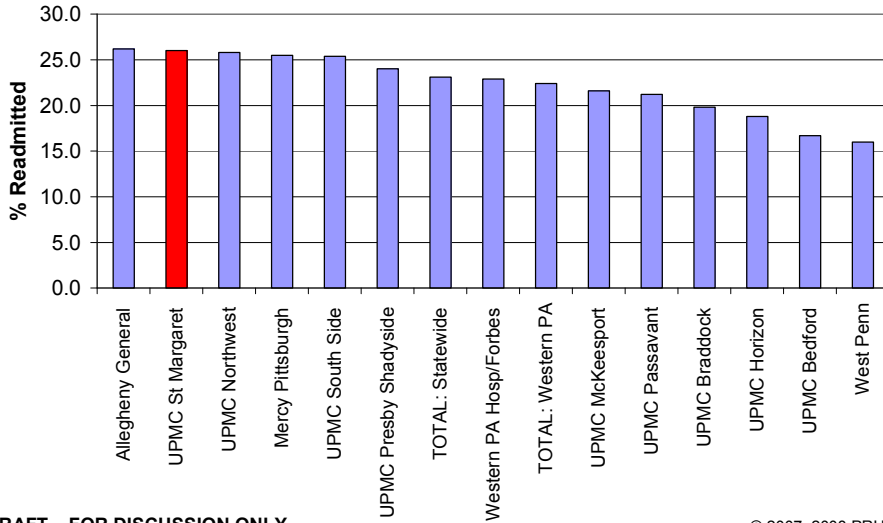
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Higher COPD Readmission Rate at St. Margaret than Other Hosp.

2006 Readmission Rates for COPD (for Any Reason)

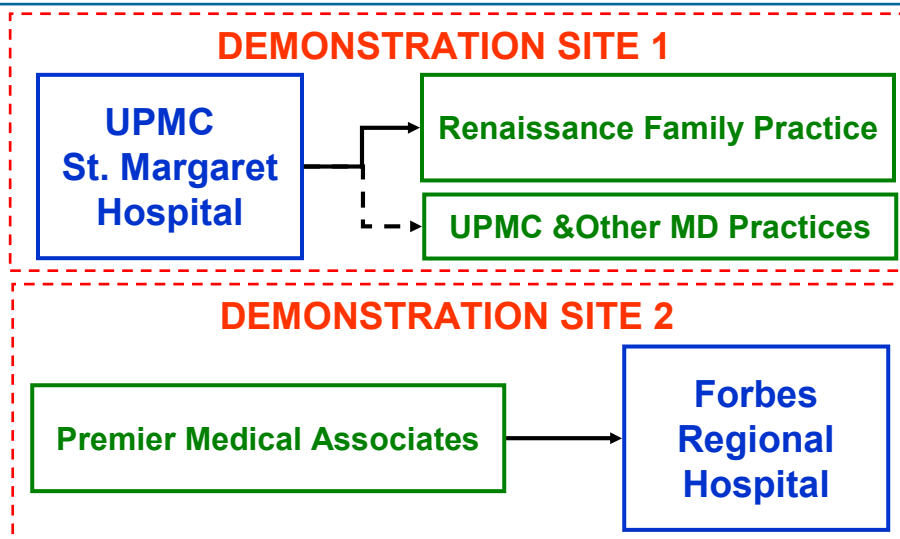


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Planned Initial Demonstration Sites



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Two Stages to Designing Improved Care

1. What can be done differently *in the hospital* to reduce the chances of readmission after discharge
 - Why focus on the hospital first?
 - Patients have demonstrated risk of hospitalization
 - Patients are “captive” for several days
 - Staff and treatment resources already exist
2. What can be done differently *in the community* to reduce the chances of readmission after discharge (and ultimately preventing initial admission)
 - Bigger challenges to be addressed
 - Challenge #1: Lack of payment mechanisms for care management
 - Challenge #2: Many small physician practices

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Process for Improving Hospital Care at UPMC St. Margaret

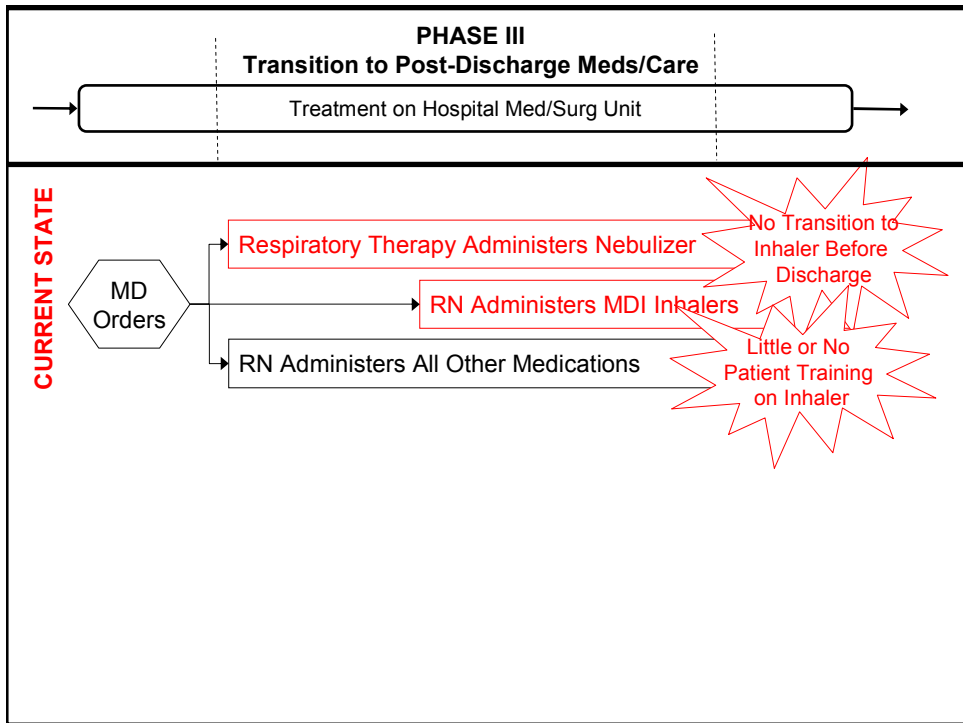
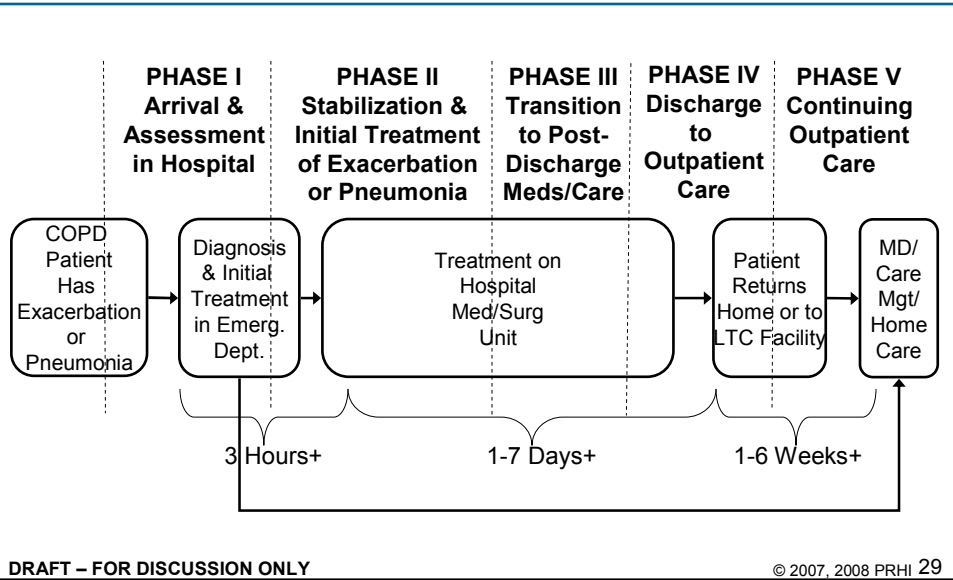
- **Formation of Physician Leadership Team**
 - Pulmonologist and 2 PCPs, along with key hospital dept. heads
 - Meeting monthly since December
- **Formation of Staff Task Force**
 - Over 20 staff from multiple departments (Care Management, Home Care, Nursing, Nursing Education, Pharmacy, Respiratory Therapy, Social Work)
- **Creation of Draft Protocol for Improved Treatment**
 - Based on national/international guidelines
 - Customized by pulmonologist from Physician Leadership Team
- **3-Day Toyota/PPC Workshop to Reinvent Processes**
 - Facilitated by Healthcare Performance Partners and PRHI/PPC staff
 - 13 hospital staff participated
 - Recommendations endorsed by hospital management and physicians

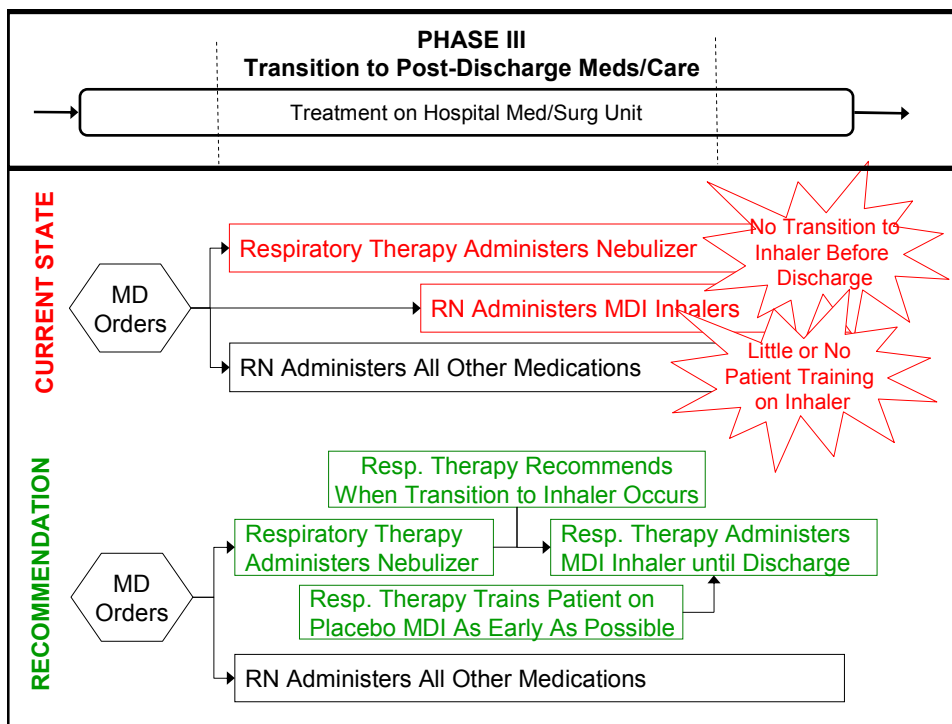
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Phases of Care for a Hospitalized COPD Patient





Challenge #3: Hospital May Lose Payment From Some Payers

- Standard care guidelines say that only patients receiving bronchodilators by nebulizer are appropriate for hospitalization, *not patients receiving bronchodilators from handheld inhalers*
- Those insurers who pay for hospital care on a per diem basis (as opposed to DRGs) *may disallow payment to the hospital* once the patient is transitioned to their handheld inhaler, *even though the training they receive in the hospital may help prevent them from being readmitted later*
- Even under DRGs, if patient doesn't "need" to stay, the hospital has a financial incentive to discharge earlier, and get a "repeat customer" later
- Highlights a fundamental problem with the payment system: providers are not financially responsible for *keeping the patient well over an extended period of time*



Next Step: Creating a 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

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- **Options:**

- Employee in physician practice
 - works only for large practices

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- Sufficient number of cases at risk of hospitalization to justify expense of a new position

- **Options:**

- Employee in physician practice
 - works only for large practices
- Shared employee among physician practices
- **Hospital-based employee (covering multiple small practices)**
- Expanded Pharmacy function
- Expanded Urgent Care Center function

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How Is This Different From the “Patient-Centered Medical Home?”

Readmission Initiative

- Focused specifically on a joint quality improvement/cost reduction outcome
- Addressing gaps in care that cause admissions for specific populations
- Improves care in hospital as well as MD practice
- Has potential to improve care for all patients regardless of size of MD practice

Medical Home

- Goal of improving quality, but with no commitment to reduce costs
- General improvements to care across all chronic diseases
- Focuses solely on changes in MD practice
- Only applicable to MD practices with size and capacity to provide full medical home services

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Challenge #1: Paying for Community Care Management

Guidelines for Physician
Diagnosis/Treatment of COPD
(Similar to Asthma Action Plan)

Improved In-Hospital
Treatment Coordination &
Patient Education

- Primary Nurse
- Pharmacy
- Respiratory Therapy
- Smoking Cessation Counselor

NOT CURRENTLY PAID FOR!

Community Care
Management

- Home Visit + Phone Calls
- Self-Management Education
- Exacerbation Response
- Direct Working Relationship with Primary Physician

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Challenge #1a: Establishing The Business Case

**Reduction in Hospital Payments
from Reduced Readmissions**

- **Costs of Interventions
(Community Care Mgrs, etc.)**

>>\$0

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Significant Savings Exceeds Cost of Care Management

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

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Savings Potential Exceeds Cost of Care Management

	<u>CURRENT</u>	<u>40% REDUCTION</u>
# Admissions/Year:	500	500
% Readmitted: (<30 Days)	25%	15%
\$/Admission (Medicare/No Complic.):	\$5,400	\$5,400
Cost of Readmissions:	\$675,000	\$405,000
Savings:		\$270,000

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Challenge #1b: Getting All Payers to Pay for Care Management

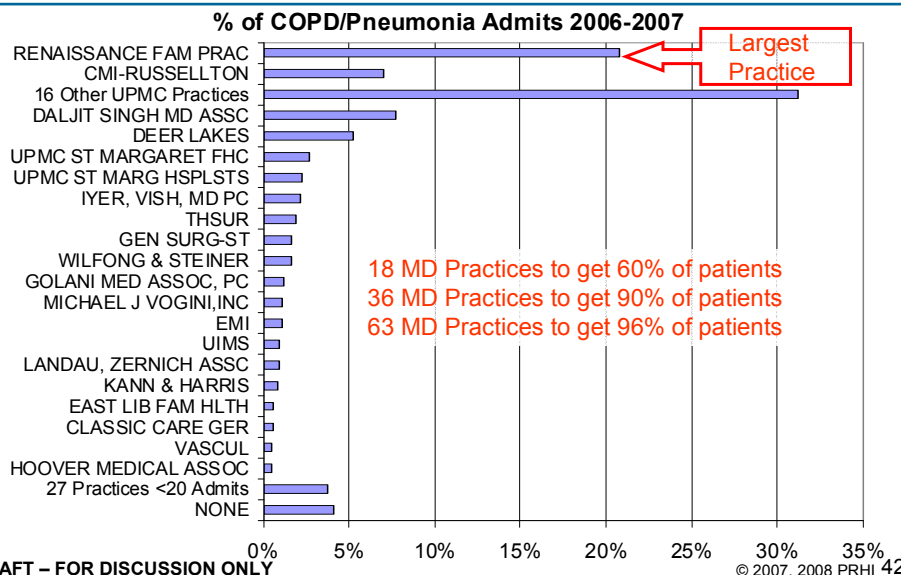
- Major health plans already employ their own care managers, at considerable expense
 - not integrated with physician practices
 - little or no face-to-face contact w/patients (e.g., no hands-on training in use of inhalers)
 - paying for care managers in MD practices seems like (and is) duplication
- Different solutions from different health plans means providers can't treat all patients alike
 - e.g., “practice-based care manager” employed by one health plan would only improve care *for the patients of that particular health plan*
 - health plan will only let its own employees access data

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Challenge #2: Getting Small MD Practices to Participate





Few Incentives for Small MDs to Participate

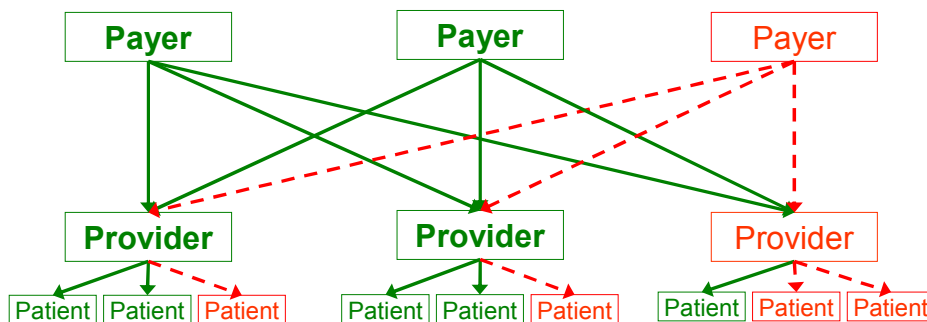
- No financial penalty to MDs if patients are hospitalized frequently
- Current P4P measures from payers focused on diabetes and heart disease, not COPD
- Reinventing care processes takes time away from billable time with patients

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Fragmentation of Payers & Providers Could Hurt Patients



*In order for patients to benefit,
BOTH their payer and their provider must participate*

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Challenge #4: Limited Capacity for CC Mgt in MD Practices

- No EHR
- No patient registry
- No outcome measurement/feedback mechanisms
 - don't know rate of hospital admission/readmission
 - don't know whether patients are actually using meds
- Lack of key equipment
 - spirometer
 - inhaler training devices
- Limited hours of operation
- No care management capacity

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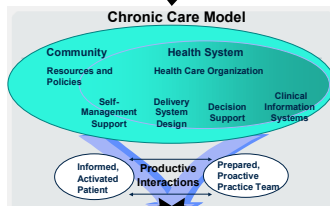
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Solutions Through Combining Efforts

PRHI Chronic Care/Preventable Admission Initiative

- Initial demo sites and champions identified
- Focus on clear, short-term business case
- Staff/resources to support technical assistance



GOHCR Chronic Care Initiative

- Financial support for care management
- Financial support for practice improvement
- Stronger incentive to participate

CMS EHR Initiative

- Financial support for EHR
- Incentives for quality improvement for Medicare patients

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Challenge #5: Addressing Other Needs, Particularly Depression

- More than 60% of people with COPD also have depression or anxiety
- Depression is a significant factor affecting medication adherence
- In one study, healthcare providers recognized fewer than 40% of depressive or anxiety disorders in patients with COPD, and only 31% were being treated

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Overarching Issues

- **Lack of mechanisms to bring multiple payers together to develop (common) improved payment systems**
 - needs to be designed to avoid anti-trust problems (some regions have done it)
 - needs leadership by corporate purchasers to overcome competition and excuse that “purchasers don’t want it”
- **Lack of mechanism(s) for engaging small primary care practices in quality improvement; possible approaches:**
 - focus on all MDs admitting to a particular hospital?
 - provide financial incentives for them to participate?
 - encourage formation of IPAs or other organizational mechanisms that can sponsor quality initiatives and distribute financial incentives?

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