# COPD Readmissions Summit:

*Integrating COPD into Patient Centered Hospital Readmission Reduction Programs*

October 11, 2013
10am-6pm
20 F St.
Washington DC 20001

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October 11, 2013

Dear COPD Readmissions Summit Attendees,

On behalf of the COPD Readmissions Summit Planning Committee, we would like to welcome you to the COPD Readmissions Summit: Integrating COPD into Patient Centered Hospital Readmission Reduction Programs!

We are honored to welcome world class faculty and attendees to Washington, D.C. for the first COPD Readmissions Summit.

This summit was inspired by CMS’ decision to add COPD to the Hospital Readmissions Reduction Program. Nationwide, significant efforts are underway to identify the determinants of, and solutions for, improving the rates of hospital readmissions overall. However, these efforts too often exclude individuals with COPD or fail to address the reality of co-morbid chronic conditions.

Today’s attendees represent leaders in the fields of health service research and policy innovation, COPD clinical care and academic research.

During today’s summit we will review the current evidence base, uncover the unique needs of those hospitalized with COPD exacerbations, and understand the past and present research and demonstration projects aiming to reduce COPD readmissions. We are confident that through these vibrant discussions we will be able to identify partners with whom the COPD Foundation and others can collaborate to develop best practices and an agenda that will advance the care of patients hospitalized with COPD.

Today’s summit includes exciting speakers who will bring your attention to the current landscape of COPD hospital readmissions, models addressing hospital readmission reductions, and a lively discussion on developing a readmissions program for patients with multiple chronic conditions. We are faced with a challenge but we are confident that by joining together we can strive forward in the fight against COPD.

Thank you again for participating in this summit and for your commitment to addressing the crisis of hospital readmissions facing the COPD and other chronic disease communities. We look forward to your open feedback and to your participation in future COPD Foundation activities as we strive to build a strong, responsive and inclusive COPD COMMUNITY.

Sincerely,

John W. Walsh   Byron Thomashow, MD   Jerry Krishnan, MD, PhD
Background:

Chronic obstructive pulmonary disease (COPD) is the 3rd leading cause of death in the US.¹ Recent data from the Behavioral Risk Factor Surveillance System (BRFSS) indicated over 15 million individuals in the U.S. are diagnosed², and the National Heart, Lung and Blood Institute estimates an additional 12 million experience symptoms but have not yet been identified and properly diagnosed³.

COPD related exacerbations cause approximately 800,000 annual hospitalizations and the Agency for Healthcare Quality and Research estimates that at any given time, 1 out of every 5 hospitalized individuals over the age of 40 has a diagnosis of COPD⁴.

Nationally, an average of 20% of patients hospitalized with COPD exacerbations are readmitted within 30 days⁵, with wide regional and demographic variations seen. Exacerbation related costs account for nearly 70% of the estimated $50 billion in annual expenditures⁶ attributed to COPD, and readmission related expenses rank third highest among Medicare beneficiaries. Additionally, pneumonia and congestive heart failure, two conditions included in the initial Centers for Medicare and Medicaid Services (CMS) readmission-related financial penalties, were the two most common principal diagnoses in hospital admissions with a secondary diagnosis of COPD⁴.

While CMS did not elect to include an index admission of COPD within the first implementation of financial penalties for excess rates of 30 day readmissions, the inclusion of COPD exacerbation within Affordable Care Act indicates that it is a matter of when, not if, the penalties will expand⁷. In fact, in May 2013, CMS issued a proposed rule that would add COPD to the Hospital Readmissions Reduction Program starting October 1, 2014.⁸

Significant efforts are underway to identify the determinants of and solutions for improving the rates of hospital readmissions overall but, by in large, these efforts have excluded individuals with COPD, or at best, did not address principal diagnosis of a COPD exacerbation. In cases where COPD has been specifically addressed it has been done in a community setting rather than controlled research environments. Additionally, existing efforts in COPD rarely acknowledged the reality of multiple complex co-morbid conditions and the need to create patient centered, rather than disease specific interventions.

It is clear that a patient centered system for reducing hospital readmissions must account for the needs of the patient with COPD, but that creating COPD specific programs ignore the reality of a complex patient and the demands of today’s delivery environment. To help hospital systems, integrated delivery systems, academic centers and all those responsible for designing care models and programs for reducing readmissions answer these challenges and ultimately improve outcomes for those living with COPD, the COPD Foundation is convening national health service research experts, policy makers and foremost experts in COPD clinical care.
Thematic Questions:

1. How do we create a system that is patient centered (i.e. with attention to comorbidities and social determinants of health) rather than disease specific (i.e. focused exclusively on COPD)?
2. How do we integrate COPD best practices into existing models for reducing hospital readmissions?
3. How do we assess the impact (benefits and harms) of COPD related hospital readmission reduction efforts when deployed in practice settings, rather than in controlled research settings?

Objectives:

1. Review the evidence base for reducing hospital readmissions. Who has been studied, in what setting, and to whom do these results apply.
2. Create a comprehensive list of statistics describing rates and determinants of hospital readmissions among patients hospitalized for COPD exacerbations.
3. Uncover the unique needs of hospitalized with COPD exacerbations that are not already addressed by evidence-based programs to reduce hospital readmissions.
4. Understand the breadth and depth of research and demonstration projects with the goal of reducing the COPD readmission rate that have occurred or are underway.
5. Identify partners with whom the COPD Foundation can collaborate to reduce readmissions in patients with COPD.
6. Develop a compendium of best practices and an agenda that will advance the care of patients hospitalized with COPD.

2. [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6146a2.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6146a2.htm)
Program Agenda

10:00am-12:00pm

Part One-Keynote Addresses

Section Chair: Tom Kallstrom, RRT

10:00 am  Co-Chair Welcome & Introductions
           Dr. Jerry Krishnan &
           Dr. Byron Thomashow

10:10 am  Overview of the COPD Measures
           Dr. Peter Lindenauer

10:40 am  Overview of 30-Day Hospital Readmission Statistics
           Related to COPD
           Dr. Brian Carlin

11:00 am  Major Determinants of COPD related 30-Day Hospital
           Readmissions
           Dr. Byron Thomashow

11:20 am  Research and Demonstration Projects Addressing COPD
           Related Hospital Readmissions
           Part A: Peer Reviewed Published Evidence
           Dr. Jerry Krishnan
           Part B: Community Based Demonstration & Research Projects
           Dr. Keith Kanel

12:00-12:30 pm
Lunch Break

12:30-3:15 pm

Part Two-Fitting COPD into National Hospital Readmission Reduction Models

Section Chair: Dr. Jill Ohar

Each presentation will include a description of the program, a review of the evidence and the speaker’s
initial views on how COPD does or doesn’t fit into the existing infrastructure of their model. The COPD
Readmissions Summit Planning Committee will lead a challenge panel, posing pointed questions about
how specific COPD best practices can integrate into each model and the challenges and opportunities for
doing so.

a. The Transitional Care Model
   Dr. Mary Naylor
   Jalisa Bell & Phyllis Madachy

b. The Care Transitions Initiative

c. Project RED (Re-Engineered Discharge)
   Dr. Suzanne Mitchell

d. Project BOOST
   Dr. Mark Williams
3:15-3:30 pm
Refreshment Break

3:30-6:00pm
Part Three-Developing a Safe and Effective Hospital Readmissions Program for Patients with Multiple Chronic Conditions: COPD as a poster child
Section Chairs: Dr. Jerry Krishnan and John Walsh
The concluding section will start with 5 minute overviews of different perspectives relating to the existing and needed infrastructure for collaboration to build the required evidence base, followed by a short presentation by PCORI and CDC about how they are working to create such infrastructure. The majority of the time will be devoted to discussion that will lead to an agenda for future collaboration in COPD related readmission reduction research and information dissemination.

a. Researcher Perspective
   Dr. Jerry Krishnan
b. Patient Perspective
   John Walsh
c. PCORI Perspective
   Dr. Chad Boult
d. Public Health Perspective
   Dr. Janet Croft
e. Discussion
Jalisa Bell

Jalisa Bell is a certified Care Transition Coach, working to reduce hospital readmissions for Medicare beneficiaries in three Baltimore hospitals. She engages individuals moving from hospital to home, using their personal motivators to coach them on specific evidence-based behaviors to avoid preventable readmissions. She previously served as Lead Health Educator at University of Maryland School of Medicine’s Obesity and Health Promotion Study, contributing to the development of a new curriculum on nutrition and physical activity for Baltimore City students and training new educators on the intervention. She has a Bachelor of Arts in Health Administration and Policy, and will complete her Master’s degree in Human Services with Social and Community Services, Health Management and Policy Specialization in 2014.

Chad Boult, M.D., MPH., MBA

Chad Boult, M.D., M.P.H., M.B.A., is the Program Director, Improving Healthcare Systems, of the Patient-Centered Outcomes Research Institute (PCORI). Dr. Boult came to PCORI from the Johns Hopkins University, where he was a Professor of Health Policy and Management at the Bloomberg School of Public Health and held joint appointments on the faculties of the Schools of Medicine and Nursing. He has worked as a teacher, a researcher, and a board-certified physician in family medicine and geriatrics.

Dr. Boult has extensive experience in developing, testing, evaluating, and diffusing new models of health care for older persons with chronic conditions. He has published two books and more than 80 articles in biomedical scientific journals. From 2000 to 2005, he edited the “Models and Systems of Geriatric Care” section of the Journal of the American Geriatrics Society, and he has reviewed manuscripts for 20 scientific journals and served as a grant reviewer on study sections of the NIA and AHRQ. During 2009 to 2011, Dr. Boult served as a Health and Aging Policy Fellow and a Senior Advisor for Geriatrics and Long-Term Care at the Centers for Medicare and Medicaid Services (CMS).

Brian Carlin, M.D.

Dr. Carlin is currently a senior staff physician at Allegheny General Hospital in Pittsburgh, Pennsylvania. He completed his medical training at the Pennsylvania State University School of Medicine at Hershey and his internal medicine training at Allegheny General Hospital in Pittsburgh. He completed his subspecialty training in pulmonary and critical care medicine at the University of California at San Diego. He is the medical director for Lifeline Sleep Disorders Centers and Pulmonary Rehabilitation Centers in Pittsburgh. He is the current chair of the National Lung Health Education Program (NLHEP) and the immediate past chair of the COPD Alliance. He is the vice-chairperson of the education committee for the American College of Chest Physicians (ACCP) and is the chair of the training committee for the American Thoracic Society (ATS). He is a member of the board for the National Board of Respiratory Care (NBRC) and also serves as the secretary for that organization. He is the vice-chair for the inservice examination working committee for the Association of the Pulmonary and Critical Care Medicine Program Directors (APCCMPD). He has served as a president for both the American Association for Cardiac and Pulmonary Rehabilitation and the APCCMPD.
Janet Croft, Ph.D.

Dr. Croft is Chief of the Epidemiology and Surveillance Branch in the Division of Population Health in the National Center for Chronic Disease Prevention and Health Promotion at the Centers for Disease Control and Prevention. She has been a chronic disease epidemiologist for 17 years at CDC. She received an MPH in Maternal and Child Health at Tulane University and a PhD in Cardiovascular Disease Epidemiology at the University of North Carolina at Chapel Hill. She represents CDC on multiple scientific workgroups and actively promotes surveillance activities in state health departments. She has served as an author on over 200 scientific reports and publications on the epidemiology of heart disease, stroke, cardiovascular disease risk factors, and emerging public health topics. Her current surveillance interests at CDC focus on chronic obstructive pulmonary disease, congestive heart failure, and the impact of racial disparities, mental health, sleep health, and childhood trauma on chronic diseases.

Tom Kallstrom, RRT

Thomas J. Kallstrom is Executive Director and CEO of the American Association for Respiratory Care (AARC). Kallstrom, who has been a respiratory therapist for over 30 years, had spent six years as the AARC’s Chief Operating Officer. Prior to that, he held staff and management positions with Rainbow Babies and Children’s Hospital in Cleveland, OH and later at the Cleveland Clinic system. He began his career in Minnesota at University of Minnesota Hospitals.

Over the years, both as a staff member and a volunteer for the AARC, Kallstrom has carried the banner for respiratory therapists. He was a member of the Board of Directors before coming to the AARC. He has been a recognized leader in asthma disease management, working with government agencies such as the Environmental Protection Agency and National Heart Lung and Blood Institute and National Asthma Education and Prevention Program. Spearheading the development of asthma and COPD education for clinicians and patients and representing the respiratory therapist’s interests with industry, have been hallmarks of his career. He will continue to work to promote the profession and the patients that respiratory therapists care for as he takes the helm of the organization.

Keith Kanel, M.D.

Dr. Kanel is the chief medical officer for the Jewish Healthcare Foundation and its supporting organizations. Dr. Kanel oversees relationships with regional health systems, community primary care groups, and clinical and academic physician organizations. He is Director of the multistate Primary Care Resource Center Project, funded by the CMS Innovation Center, as well as principle investigator for initiatives funded by the Agency for Healthcare Research and Quality (AHRQ) and the Robert Wood Johnson Foundation. He is an internal medicine physician with over 20 years of clinical and administrative experience in prominent academic medical centers and progressive integrated delivery systems. He was previously chief of general internal medicine at Allegheny General Hospital, where he co-founded one of the region’s first hospitalist services and was director of its primary care training program. Dr. Kanel later led successful quality and patient safety initiatives at the UPMC Health System. He has served on the faculties of the University of Pittsburgh School of Medicine, the Drexel University College of Medicine, and the Carnegie Mellon University H. John Heinz III School of Public Policy and Management. For the last 12 years he has been named to the Best Doctors in America list, and has been cited multiple times as a “Top Doctor” by Pittsburgh Magazine. Dr. Kanel is the author of multiple articles and textbook chapters on topics ranging from patient safety to electronic health information.
technology. His focus areas include quality improvement, health delivery systems, and payment policy. He received his MD from the University of Pittsburgh and his MHCM from Harvard University.

**Jerry Krishnan, M.D. Ph.D.**

Dr. Krishnan is a clinical investigator in asthma and COPD and is a leader in the field of comparative effectiveness research (CER). He is the Chair of the Steering Committee for the COPD Outcomes based Network for Clinical Effectiveness and Research Translation (CONCERT), which was funded by the Agency for Healthcare Research and Quality to develop the first, national, stakeholder-supported research agenda in CER / implementation science for COPD and by NHLBI to develop a national research infrastructure to conduct comparative effectiveness / implementation studies in COPD. Dr. Krishnan is also a Principal Investigator in the NHLBI AsthmaNet clinical trial network, and an investigator in the COPD Clinical Research Network and the AHRQ DEcIDE research program.

Dr. Krishnan is also Professor in the Division of Epidemiology and Biostatistics in the School of Public Health, and Associate Vice President for Population Health Sciences in the Office of Health Affairs. He provides oversight for developing, testing, and implementing healthcare interventions to improve care, outcomes, and affordability of care across the healthcare enterprise.

**Peter Lindenauer, M.D., M.Sc., FACP**

Peter Lindenauer is a board-certified internist and the Director of the Center for Quality of Care Research. He also serves as the Medical Director of Clinical Decision Support and Quality Informatics for Baystate Health and Associate Professor of Medicine at Tufts University School of Medicine. He is nationally recognized for his use of large administrative datasets to measure the quality of care for patients with pneumonia and COPD, to evaluate policy-level and structural approaches to quality improvement, including pay-for-performance and the use of hospitalists, and for observational studies of treatment effectiveness in perioperative medicine. His work has appeared in the New England Journal of Medicine, JAMA, British Medical Journal, Annals of Internal Medicine, Health Affairs, and elsewhere. In 2008, he received the Excellence in Research award from the Society of Hospital Medicine.

Dr. Lindenauer has played an active role in numerous national quality and safety efforts. He has served as a member of technical expert panels for the National Quality Forum, the National Surgical Care Improvement Project and CMS’s Medicare Patient Safety Monitoring System. He is an advisor to AHRQ’s Web M&M (the online journal of patient safety), is a member of the Editorial Board of the Journal of Hospital Medicine, and recently completed a one-year term on the Inpatient Functionality Workgroup of the Certification Commission for Healthcare Information Technology.

**Phyllis Madachy**

Phyllis Madachy supports the West Baltimore Readmission Reduction Collaboration and served as Project Director for The Center’s Opting for Independence program funded by the Administration on Aging’s Community Innovations for Aging in Place Program. She supports new partnerships and contracts that focus on better health outcomes for Medicare beneficiaries and develops linkages at both the direct service and leadership levels with the network of home and community based services for older adults, including the network of area agencies on aging. In her previous role as administrator of the Howard County (Maryland) Area Agency on Aging, Ms. Madachy implemented several evidence based programs for self management of chronic health conditions and authored the implementation
guide on the Chronic Disease Self Management Program (CDSMP) in Maryland. She has a graduate degree from The Johns Hopkins University in Management.

Suzanne Mitchell, M.D., M.S.

Dr. Mitchell is Assistant Professor of Family Medicine at Boston University School of Medicine and board certified in family and palliative medicine. She received her medical degree from Wake Forest University School of Medicine and Masters of Science in Clinical Research from UCLA. Dr. Mitchell completed family medicine residency training in Los Angeles CA. She completed the Boston University academic fellowship in 2010 and received an AHRQ mentored clinical researcher award studying the impact of patient-doctor communication on health disparities, health service utilization and shared decision making behavior. Dr. Mitchell teaches workshops nationally on the Re-Engineered Discharge (Project RED) and in the use of effective communication strategies including motivational interviewing, shared decision making and discussing goals of care. She is a member of the BU research team on transitions of care and the Project Re-Engineered Discharge (RED) with a special interest in the use of novel health technology to enhance patient safety and informed patient choice, with peer reviewed publications on the use of virtual reality and artificial intelligence agents for medical professional and patient education. She is an active member of the teaching faculty at the Boston University School of Medicine and continues to practice primary and palliative care in medically underserved communities.

Mary Naylor, Ph.D., FAAN, RN

Mary D. Naylor, PhD, RN, FAAN, is the Marian S. Ware Professor in Gerontology and Director of the NewCourtland Center for Transitions and Health at the University Of Pennsylvania School Of Nursing. Dr. Naylor is also the National Program Director for the Robert Wood Johnson Foundation program Interdisciplinary Nursing Quality Research Initiative, aimed at generating, disseminating, and translating research to understand how nurses contribute to quality patient care. Dr. Naylor received her MSN and PhD from the University of Pennsylvania and her BS in nursing from Villanova University.

Since 1989, Dr. Naylor has led an interdisciplinary program of research designed to improve the quality of care, decrease unnecessary hospitalizations, and reduce health care costs for vulnerable community-based elders. As the chief architect of the Transitional Care Model, Dr. Naylor’s work is elucidating the unique needs of chronically ill older adults and their family caregivers and offering high quality, cost-effective, evidence-based solutions to address a major health concern in the U.S. and across the globe. Her team is also providing a roadmap for others who seek to bring empirically tested research into health care organizations, to improve the quality of health care and to advance the policy changes essential to sustain such approaches to care.

Jill Ohar, M.D.

Dr. Ohar is Professor of Medicine at the Wake Forest University School of Medicine and Director of Clinical Operations at the Wake Forest University Baptist Medical Center. Dr. Ohar earned her Bachelor of Science degree, graduating magna cum laude, from Muhlenberg College in Allentown, Pennsylvania, and her medical degree from Medical College of Pennsylvania in Philadelphia. Her postdoctoral training included an internship in obstetrics/gynecology at the Medical College of Pennsylvania and a residency in medicine at Medical College of Virginia in Richmond, where she completed a subsequent clinical fellowship in pulmonary diseases. A clinical investigator and a frequent guest lecturer, Dr. Ohar is the author or coauthor of numerous journal articles, reviews, abstracts, and book chapters. She sits on the
editorial board for Journal of COPD Management and is Ad Hoc Reviewer for New England Journal of Medicine, European Respiratory Journal, American Journal of Respiratory and Critical Care Medicine, and Chest. She has published in such journals as Critical Care Medicine, Annals of Internal Medicine, and Chest, among others. She is a member of the American College of Physicians and the American Thoracic Society and a fellow of the American College of Chest Physicians.

**Byron Thomashow, M.D.**

Dr. Thomashow is a Clinical Professor of Medicine Columbia University Medical Center and an Attending Physician at the New York-Presbyterian Hospital. He serves as medical director of the Jo-Ann LeBuhn Center for Chest Disease on the Columbia campus. He was a member of the executive committee of the medical board of the New York-Presbyterian Hospital for most of the last 10 years and chaired the Quality Care Committee for the Society of Practitioners of the Columbia University Medical Center. He presently chairs the Respiratory Disease Council of the New York-Presbyterian Healthcare Network and co-chairs the New York Presbyterian smoking cessation initiative. He helped found and is now chairman of the board of directors of the COPD Foundation. He is the co-chair for the NY State COPD Summit (June 2010) and co-chair of the COPD Coalition National Meeting. He was a member of the steering committee and the co-primary investigator at the Columbia site for the National Emphysema Treatment Trial and has been and remains actively involved in multiple national clinical research projects.

**John Walsh**

Mr. Walsh is the Co-founder and President of the COPD Foundation, a not-for-profit organization dedicated to developing and supporting programs which improve the quality of life through research, education, early diagnosis and enhanced therapy for persons whose lives are impacted by COPD. He is also the Co-founder of the Alpha-1 Foundation, a research organization which has invested more than $46 million to support Alpha-1 research and research-related projects, which includes funding grant awards to almost 90 academic institutions in North America and Europe, and AlphaNet, Inc. (a unique not-for-profit health disease management services company run by and for patients). He is a former member of the NIH Director’s Council of Public Representatives, is on the NIH’s Council of Councils and a member of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Advisory Council. He is also a member of the US COPD Coalition Executive Committee, Past-Chair of the International COPD Coalition (2006-2008), Past Chair (2005-2006) of the National Health Council’s Board of Directors and is currently a board member, Past Chair and former member of the American Thoracic Society Public Advisory Roundtable (PAR), was the Presidential Appointee (2004-2005) of the American Thoracic Society’s Board of Directors and a Trustee of the Foundation of the American Thoracic Society (2006-2008). In 2002, Mr. Walsh’s contribution to pioneering collaboration in orphan drug development was recognized by the FDA with the Commissioner’s special citation. Mr. Walsh regularly testifies before Congress and advisory groups as a patient advocate. Mr. Walsh was diagnosed with Alpha-1 genetic-related COPD in 1989.

**Mark Williams, M.D., FACP, FHM**

Mark V. Williams, MD, FACP, FHM, is Professor and Chief of the Division of Hospital Medicine at Northwestern University Feinberg School of Medicine. Dr. Williams graduated summa cum laude from Emory University School of Medicine and completed a residency in Internal Medicine at Massachusetts General Hospital. He also completed a faculty development fellowship in General Medicine at the University of North Carolina-Chapel Hill, the Woodruff Leadership Academy at Emory, the Program in
Palliative Care Education and Practice at Harvard, and the Advance Training Program in Health Care Delivery Improvement sponsored by Intermountain Healthcare's Institute for Health Care Delivery Research. A Past President of the Society of Hospital Medicine and Editor-in-Chief of the Journal of Hospital Medicine, he actively promotes the role of hospitalists as leaders in delivery of health care to hospitalized patients. Dr. Williams was Principal Investigator on the Hartford Foundation-funded, $1.4 million, 3-year Project BOOST "Better Outcomes for Older adults through Safe Transitions." In 2009 he served as a Co-Chair for the AMA Physician Consortium for Performance Improvement (PCPI) Transitions of Care Work Group which developed measures for the hospital discharge transition that have been approved by the National Quality Forum, and was named to Technical Expert Panels on Care Transition Measures for CMS and the Medicare Payment Advisory Committee (MedPAC).
Resource Guide

Readmissions/Care Transitions Toolkits

Guide to Patient and Family Engagement in Hospital Quality and Safety (Online)
Agency for Healthcare Research and Quality, 2013
This guide was developed by AHRQ to promote increased engagement by patients and families in their health care. Engagement by patients and families in their health care has been shown to lead to measurable improvements in safety and quality. This guide is intended to help hospitals work as partners with patients and families in improve safety and quality.

Medications at Transitions and Clinical Handoffs (MATCH) Toolkit for Medication Reconciliation
Agency for Healthcare Research and Quality, 2012
This toolkit provides a guide to improving medication reconciliation through Medications at Transitions and Clinical Handoffs (MATCH). Medication reconciliation is a comparison of a patient's current medication regimen against the physician's admission, transfer, and/or discharge orders to identify discrepancies. Medication reconciliation is intended to decrease medication errors and patient harm. This toolkit can also be used to identify and respond to any gaps in an existing medication reconciliation process.

Re-Engineered Discharge (RED) Toolkit
Agency for Healthcare Research and Quality, 2013
http://www.ahrq.gov/professionals/systems/hospital/toolkit/
This toolkit was developed by Boston University Medical Center with a contract from the Agency for Healthcare Research and Quality to assist hospitals implementing RED. RED has been tested to show it is an effective method for reducing readmissions and post hospital emergency department visits.

Hospital Readmissions: An Alliance Reform Toolkit produced with support from the Robert Wood Johnson Foundation
Alliance for Health Reform, 2013
This toolkit provides a range of resources to address the challenges that hospitals face to improve their readmissions rates in an annotated bibliography. These resources cover the scope of the problem, the ACA rule, initiatives to reduce readmissions, stories about readmissions penalties, policy impact, and recommendations for change.

ASHP Medication Reconciliation (Med Rec) Toolkit
American Society of Health-System Pharmacists, 2013
http://www.ashp.org/menu/PracticePolicy/ResourceCenters/PatientSafety/ASHPMedicationReconciliationToolkit_1.aspx
Medication Reconciliation (Med Rec) and improving care transitions are critical steps in managing patient care. This resource provides tools, references, recommendations, and ideas and examples of success stories and lessons learned.
Patient Hand Off Tool Kit
Association of periOperative Registered Nurses, 2012
http://www.aorn.org/PracticeResources/ToolKits/PatientHandOffToolKit/
The U.S. Department of Defense Patient Safety Program and AORN developed this toolkit to standardize hand-off communication among caregivers and increase patient care efficiency. The toolkit is based on the Department of Defense Patient Safety Program TeamSTEPPS initiative.

Toolkit
Colorado Foundation for Medical Care
http://www.cfmc.org/integratingcare/toolkit.htm
This interactive toolkit guides the user through care transition improvements from getting started to participants, community engagement, root cause analysis, interventions, and finally measures.

Health Care Leader Action Guide to Reduce Readmissions
Health Research & Educational Trust, 2010
This guide outlines four steps to help health care leaders begin the conversation about addressing hospital readmissions. It also synthesizes underlying strategies from interventions that have proven successful at reducing unplanned readmissions. These strategies should help hospitals reduce readmissions during hospitalization, at discharge, and in the period immediately following discharge.

How-to Guide: Improving Transitions from the Hospital to Community Settings to Reduce Avoidable Rehospitalizations
Institute for Healthcare Improvement, 2013
http://www.ihi.org/knowledge/Pages/Tools/HowtoGuideImprovingTransitionstoReduceAvoidableRehospitalizations.aspx
This guide is designed to support hospital-based teams and their community partners in codesigning and reliably implementing improved care processes to ensure that patients who have been discharged from the hospital have an ideal transition to the next setting of care. The guide includes four key recommendations for improving transitions out of the hospital; a review of necessary leadership support and fundamental improvement methods and resources for testing changes before they are implemented; case studies; and a recommended system of measure to guide improvement, resources, and references.

PRHI Readmission Reduction Guide: A Manual for Preventing Hospitalizations
Pittsburgh Regional Health Initiative, 2011
This guide describes the key steps needed to transform care and break the cycle of readmissions. The guide includes an overview of PRHI’s Perfecting Patient Care process improvement methodology. Individual steps in the improvement process are highlighted through the guide using examples of chronic disease readmissions from PRHI’s COPD pilot project.

Implementation Guide to Improve Care Transitions
Society of Hospital Medicine
http://tools.hospitalmedicine.org/resource_rooms/imp_guides/CT/Implementation_Download.html
This toolkit requires free online registration to access. Once downloaded, this thorough guide walks through the entire process of implementing Project BOOST including sample plans and forms.
Get Started Implementing the Care Transitions Intervention in Your Community
Washington State Department of Social & Health Services, 2013
This guide for implementing the Care Transitions Intervention walks through the eight sections (stages) of implementation. The guide was intended for Washington State’s Agencies on Aging to address the need to improve care transitions among the aging population.

Educational and Policy Resources

Evidence Based Care Transitions Models Side by Side, March 2011
Administration on Aging, 2011
http://aoa.gov/AoARoot/AoA_Programs/HCLTC/ADRC_CareTransitions/toolkit/docs/AOA_080_Chart6_ExEvidBasedCare.pdf
This document compares four hospital-to-home care transition models and two models of care coordination that center on primary care. The models share the elements of interdisciplinary communication/collaboration, patient/participant activation, and enhanced follow-up. The document includes a short description and breakdown of each model. The breakdown compares the target population, length of intervention, training, qualifications, estimated costs, and provides the website for each model.

Reduce Hospital Readmissions with Care Transitions Planning
Amerigroup Public Policy Institute, 2011
This policy brief provides best practice recommendations for investing in coordinated care to reduce the rates of hospital readmissions. It also includes an outlook of potential savings for persons with disabilities and seniors.

Contemporary Evidence About Hospital Strategies for Reducing 30-Day Readmissions: A National Study
The Commonwealth Fund, 2012
http://www.commonwealthfund.org~/media/Files/Publications/In%20the%20Literature/2012/Jul/1615_Bradley_contemp_evidence_hosp_strat_readmissions_JnlAmColCardio_07_18_2012_ITL_v2.pdf
Hospitals nationwide are taking preliminary steps to avoid hospital readmissions. Hospitals are instituting various practices to address preventable readmissions. This summary of a national study reviews the continuity within hospitals to follow the specific practices put in place to address the readmissions.

Gaining Ground: Care Management Programs to Reduce Hospital Admissions and Readmissions Among Chronically Ill and Vulnerable Patients
The Commonwealth Fund, 2013
The three case studies presented in this study include sites bundling interventions involving multidisciplinary teams to improve provider communication, patient and family education, care transitions from the hospital, and follow-up ambulatory care to reduce preventable hospital admissions and readmissions.
In May 2013, The Commonwealth Fund and the Institute for Healthcare Improvement convened 15 experts to help address the current controversy over the measurement of hospital readmissions. Experts agreed that the current readmissions metric is an imperfect proxy for broader health system failures, but that it also provides a valuable foundation on which to build a better metric. This issue brief presents their findings.

This report studies four hospitals that are influenced by the policy environment, their local health care markets, membership in integrated systems that offer a continuum of care, and the priorities set by leaderships. These hospitals offer lessons for reducing avoidable readmissions.

This report summarizes the results for the 22 hospitals/systems that completed the Transitions of Care Survey both at the start of the PAVE Project to establish baseline measures and again at project end, to assess the qualitative improvements in the region as a whole.

This document explores causes of hand-off communication failures and provides guidance on how to target specific solutions from the root causes. The Joint Commission also includes their SHARE acronym to guide successful hand-off communications.

This tool is a resource for state policy makers in addressing hospital readmissions. The report looks at readmissions at the state level and the interconnectedness of health systems and causes of hospital readmissions from a policy perspective.

This paper explains the National Transitions of Care Coalition's vision for improving transitions of care and increasing quality of care and patient safety while controlling costs. The NTOCC includes seven specific steps: improve communication during transitions, implement electronic medical records that include standardized medical reconciliation elements, establish points of accountability for sending and receiving care, increase the use of case management and professional care coordination, expand the
role of the pharmacist in transitions of care, implement payment systems that align incentives, and develop performance measures to encourage better transitions of care.

**Improving Transitions of Care: Findings and Considerations of the "Vision of the National Transitions of Care Coalition"
**National Transitions of Care Coalition, 2010
This paper elaborated on recommendations by NTOCC to address care transitions. Specific guidance is given for methods on improving transitional communications; recommendations for medical reconciliation through electronic health records and an expanded role for pharmacists; establishing points of accountability, case management, and care coordination; and developing payment system incentives and performance measures.

**Transitions of Care Measures
**National Transitions of Care Coalition, 2008
[http://www.ntocc.org/Portals/0/PDF/Resources/TransitionsOfCare_Measures.pdf](http://www.ntocc.org/Portals/0/PDF/Resources/TransitionsOfCare_Measures.pdf)
This paper explains the importance of measuring transitions of care—the types of measures that exist and methods of evaluation. NTOCC presents a framework for measuring transitions of care based on the key elements of optimal transitions of care.

**BOOSTING a Team Approach to Patient Care
**Society of Hospital Medicine, 2012
[http://higherlogicdownload.s3.amazonaws.com/HOSPITALMEDICINE/e50d3bc4-44f8-4817-b826-c3f10a65ca30/UploadedImages/SHM_CaseStudy_Piedmont_v2_9_2012_single.pdf](http://higherlogicdownload.s3.amazonaws.com/HOSPITALMEDICINE/e50d3bc4-44f8-4817-b826-c3f10a65ca30/UploadedImages/SHM_CaseStudy_Piedmont_v2_9_2012_single.pdf)
This case study describes the experience of Piedmont Hospital in Atlanta, Georgia implementing Project BOOST Mentoring Program and how the hospital will proceed moving forward.

**Improving Outcomes Through Safe Transitions
**Society of Hospital Medicine, 2012
[http://higherlogicdownload.s3.amazonaws.com/HOSPITALMEDICINE/e50d3bc4-44f8-4817-b826-c3f10a65ca30/UploadedImages/SHM_CaseStudy_StMary_v2_9_2012_single.pdf](http://higherlogicdownload.s3.amazonaws.com/HOSPITALMEDICINE/e50d3bc4-44f8-4817-b826-c3f10a65ca30/UploadedImages/SHM_CaseStudy_StMary_v2_9_2012_single.pdf)
This Case Study of SSM St. Mary’s Medical Center in St. Louis, Missouri explains the hospital’s experience implementing Project BOOST to address the hospital’s readmissions.

**Transitional Care Model
**University of Pennsylvania
[http://www.nursing.upenn.edu/media/transitionalcare/Documents/Information%20on%20the%20Model.pdf](http://www.nursing.upenn.edu/media/transitionalcare/Documents/Information%20on%20the%20Model.pdf)
This brief on the Transitional Care Model provides an overview of the model; description of the 10 essential elements; and summary of the effects of the model on quality, cost, and value.
Patient Information and Tools

Taking Care of Myself: A Guide for When I Leave the Hospital
Agency for Healthcare Research and Quality, 2010
This is a guide that providers can use to give patients information to help them care for themselves when leaving the hospital. The guide consists of forms on personal health, medicines, and future appointments.

How to Avoid Being Readmitted to the Hospital
Robert Wood Johnson Foundation, 2013
http://www.rwjf.org/content/dam/farm/toolkits/toolkits/2013/rwjf404088
This one-page tool presents what patients can do to avoid being readmitted. These suggestions cover communication, medications, and planning.

COPD Related Resources and Information

COPD Best Practices Community
American Association for Respiratory Care
http://connect.aarc.org/Directory1/Communities/ViewCommunities/GroupDetails/?ListKey=68d57097-3ccc-4cbc-934e-15b559a04544&communitykey=f5f08a73-4cbe-4194-912c-d8ff15ace09b&tab=GroupDetails
The COPD Best Practices Community is an online discussion forum to share information and documents. The forum is aimed at discussing the effect of the Affordable Care Act (ACA) on the healthcare system, the readmissions penalties, and payment reductions and forming a community to discuss best practices for addressing upcoming challenges.

APART – Apria’s Preventable Admissions Reduction Team
Apria
http://Apria.com  (APART information coming soon)
Help reduce COPD and/or CHF readmissions and get patients on the road to a healthier lifestyle with APART – Apria’s Preventable Admissions Reduction Team. APART is a new patient-centered program that uses home-based intervention to reduce unplanned hospital readmissions. COPD and/or CHF patients who participate in the APART program will receive two home visits from a licensed respiratory therapist. During these visits, the respiratory therapist will assess the physical activities in the daily life of the patient, perform a reconciliation of medication, document the patient’s prescription compliance, and educate the patient about COPD and/or CHF and the course of treatment.

APART provides physicians with an easy-to-use, online platform where they can track a patient’s status in real time and seamlessly communicate with the discharge hospital, the primary care physician and any additional healthcare providers who are assisting the patient in the home.

This collaborative approach will maximize improvement in post-discharge patient outcomes. APART represents a true continuity of care model – helping to ensure a smooth and safe transition of the patient from the hospital to the home.
By increasing patient engagement, and providing services that foster a partnership between practitioners, patients and their families, everyone benefits.

**Transition of Care Program and Rehospitalization Rates for Patients with COPD Who Require Home Oxygen Therapy Following an Exacerbation: An Update**

Brian W. Carlin1, Kim Wiles2, Dan Easley2, Nan Rees3; 1Allegheny General Hospital, Pittsburgh, PA; 2Klingensmith HealthCare, Ford City, PA; 3St. Clair Hospital, Pittsburgh, PA

**Background:** The overall 30 day readmission rate for patients with COPD following hospitalization for an exacerbation approaches 25% in the Western Pennsylvania area. Strategies need to be developed to effect a reduction in this readmission rate.

**Objective:** To evaluate the effects over the past year of a home care based, respiratory therapist centered transition of care program for patients who require home oxygen therapy following hospital discharge from an exacerbation.

**Method:** The Discharge, Assessment and Summary at Home (D.A.S.H., Klingensmith HealthCare) program was implemented for patients who require supplemental oxygen use following hospital discharge. Data from the initial six months was reported previously. This data is a summary of the fourteen months of the program. The program consists of face-to-face visits by a respiratory therapist with the patient in the home environment on days 2, 7, and 30 following hospital discharge. Phone interviews by a care coordinator are then conducted in between these visits. Education, behavior modification, skills training, oxygen titration during performance of activities of daily living, clinical assessment, and adherence data collection are key components of the program. Four hundred thirty nine patients who were discharged from the hospital and required supplemental oxygen were enrolled into the program.

**Results:** The 439 patients enrolled were from 23 different hospitals in the Western Pennsylvania area from March 2010 through May 2011. The primary discharge diagnosis was: COPD in 301 (69%); CHF 57 (13%); hypoxemia 33 (8%); pneumonia 19 (4%); and other 29 (7%). The 30 day readmission rate for the entire group was 7%. The 30 day readmission rate for those with COPD due to a recurrent exacerbation was 3% (8/301), for those with CHF due to an exacerbation was 5% (3/57), and for those with non-COPD diagnoses for any reason was 7% (3/81). 6% (18/301) patients with COPD were readmitted within 30 days for a diagnosis other than an exacerbation.

**Conclusions:** Since the inception of the respiratory therapist based transition of care program, the 30 day rehospitalization rate remains below 7% for patients who were discharged from the hospital and required supplemental oxygen.

For more information contact Brian Carlin ([bwcmd@yahoo.com](mailto:bwcmd@yahoo.com) or 412-298-8944).

CipherHealth

CipherHealth

[www.cipherhealth.com](http://www.cipherhealth.com)

At CipherHealth, we believe that every respiratory patient deserves follow-up. Our technology does this efficiently and effectively. Our tools are proven to improve care transitions from hospital to home, ultimately reducing costly future hospitalizations. In addition to having healthier patients, achieving lower readmission rates helps hospitals avoid updated CMS payment penalties for COPD. Finally,
CipherVoice can augment your existing follow-up programs by reducing provider phone time and quickly reallocating your resources to the patients who need them most.

CipherVoice contacts COPD patients multiple times in the critical 30-day window after discharge and builds a database of patient issues. Using our follow-up management system, nurses can then reach out to those patients at risk for an adverse event, such as a readmission. The result is not only dramatically reduced readmissions, but also the opportunity for hospitals to better understand the root causes of readmissions among a growing disease population at a time when CMS is actively measuring 30-day readmissions for the condition. Detailed analytics provide valuable insight to clinicians on key drivers of patients’ compliance to their discharge instructions and help identify successful strategies that nurses and caretakers can execute to improve patient compliance.

For further information please contact:
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P: 516-428-2245
E: mdutka@cipherhealth.com
W: www.cipherhealth.com

COPD Foundation Educational Materials
COPD Foundation
The education materials from the COPD Foundation are designed to provide education and awareness for patients, families, and caregivers. An Educational Materials Tutorial serves as a reference for the various materials. The materials include brochures and publications and are free to download. The printed versions are available free of charge for patients, caregivers, and family members through the COPD Information Line by calling 866-316-COPD (2673).

COPD Information Line
COPD Foundation
http://www.copdfoundation.org/About-Us/What-We-Do/COPD-Information-Line.aspx
The COPD Information Line, 866-316-COPD (2673), is a toll-free number for peer-to-peer information and referrals on COPD by patients and caregivers impacted by COPD. A “Chat Live” with an Associate is also an option and is available from 9AM to 9PM EST Monday through Friday.

PRHI Readmission Brief: Chronic Obstructive Pulmonary Disease
Pittsburgh Regional Health Initiative, 2011
This brief presents the findings of an observational study conducted on all admissions for patients 19 years and older who were hospitalized at least once with COPD in southwestern Pennsylvania during a one year timeframe. The study utilized hospital discharge data from claims data reported to the Pennsylvania Health Care Cost Containment Council. The findings underscore the importance of comprehensive patient-centered care and accountable collaboration of medical specialty support and of tackling competing treatment priorities and therapeutic contraindications in the development of urgently-needed clinical practice guidelines that address the needs of complex chronic disease patients.
Disease Management Program for Chronic Obstructive Pulmonary Disease: A Randomized Controlled Trial
Kathryn L. Rice, 2010
This randomized, controlled study at five Veterans Affairs medical centers researched whether a simplified disease management program reduces hospital admissions and emergency department (ED) visits due to COPD. The study concluded that a relatively simple disease management program reduced hospitalizations and ED visits for COPD.

All-cause 30-day Readmissions for Matched Inpatients with COPD Receiving Nebulized Short-acting or Long-acting Beta agonists
Vamsi Bollu, Scott Robinson, John Karafilidis, Krithika Rajagopalan, Bernadette Johnson, John S Walsh, Frank R. Ernst, Sidney Braman
aSunovion Pharmaceuticals, Marlborough, MA, USA; bPremier Research Services, Charlotte, NC, USA; cMt. Sinai Hospital, New York, NY

OBJECTIVES: Chronic Obstructive Pulmonary Disease (COPD) is a major public health issue and a leading cause of morbidity and mortality in U.S.1. High frequency of exacerbations can lead to rapid decline in lung function in COPD patients2. The study objective was to evaluate 30-day readmission rates among COPD patients who received arformoterol, a nebulized long-acting beta agonist, or nebulized short-acting beta agonists (neb-SABA) during an inpatient stay.

METHODS: Data from the Premier Database, a U.S. nationally representative hospital database, were used. The study included adult inpatients aged 40 and older, discharged between January 2006 and March 2010, having a principal diagnosis code for COPD (ICD-9-CM 491.xx, 492.xx, 496) or secondary COPD diagnosis with a principal respiratory diagnosis. Patients receiving arformoterol daily on ≥80% of days following initiation were compared to patients receiving only neb-SABA during hospitalization. Arformoterol patients were matched 1:2 with Neb-SABA patients on age, gender, severity of illness, and principal/secondary COPD diagnosis. Chi-square tests were used to evaluate differences in unadjusted readmission rates. Multivariate logistic regression was performed, adjusting for age, gender, race, admission type, severity, principal/secondary COPD diagnosis, use of other respiratory drugs and respiratory therapy, oxygen use, and hospital size and teaching status.

RESULTS: The final sample included 812 arformoterol patients and 1651 Neb-SABA patients, who had not died during the initial COPD visit. ICU use, which was not a match criterion, was greater among arformoterol patients (35.5% versus 19.9%, p<0.0001), possibly indicating greater disease burden. Unadjusted readmissions were significantly lower for arformoterol patients than Neb-SABA patients (8.7% vs 12.1%, p=0.0169). Adjusted odds of readmission were estimated to be 44% less for arformoterol patients (OR 0.56, 95% CI 0.41-0.78).

CONCLUSIONS: All-cause 30-day readmissions were significantly fewer for arformoterol patients than Neb-SABA patients, both before and after adjusting for patient and hospital factors such as ICU care.
**Re-hospitalization Risk in Patients with Chronic Obstructive Pulmonary Disease (COPD) Initiating Nebulized Long-acting vs. Short-acting Beta₂-agonists**

Vamsi Bollu¹, Annie Guérin², John Karafilidis¹, Geneviève Gauthier², Robert Hiscock², Eric Q. Wu²

¹ Sunovion Pharmaceuticals Inc.
² Analysis Group Inc.

**RATIONALE:** The goals of COPD treatment are to minimize the impact of existing exacerbations and prevent subsequent exacerbations. COPD exacerbations often lead to increases in hospitalizations and overall healthcare utilization, mortality risk and morbidity. The objective of this study is to compare the re-hospitalization risk in COPD patients receiving nebulized long-acting beta₂-agonists (neb-LABA) or nebulized short-acting beta₂-agonists (neb-SABA) post-discharge from a COPD-related hospitalization.

**METHODS:** Data from a large U.S.-based pharmacy and medical claims database between years 2001-2011 were analyzed. Inclusion criteria consisted of COPD patients > 40 years receiving a neb-LABA or a neb-SABA treatment ≤30 days after the discharge date of a COPD-related hospitalization with a primary diagnosis of a respiratory-related disease [ICD9-CM-code 460.xx-519.xx] along with ≥1 COPD diagnosis [ICD9-CM-code 491.xx, 492.xx, 496]). Patients were required to be continuously enrolled for ≥6 months prior to and after they filled their first neb-LABA or neb-SABA prescription after hospitalization discharge date (the index date). Patients were required to be adherent to their index treatment for the first 3-months following the index date. To select patients with similar severity profiles, neb-LABA and neb-SABA patients were matched in terms of age, gender, index hospitalization duration, comorbid conditions, and healthcare costs measured during the 6-month period preceding the index date. Differences in baseline and outcomes variables between the two groups were analyzed with Wilcoxon signed-rank test for continuous and McNemar test for categorical variables. Re-hospitalization risks were observed over the 6-month period following the index date and compared between patients treated with neb-LABA or neb-SABA using multivariate Cox proportional hazard models.

**RESULTS:** A total of 246 patients (neb-LABA=123; neb-SABA=123) were matched, following all the inclusion and exclusion criteria. The mean age was about 67 years and 54% were female. Average COPD duration was 2.6 years in the neb-LABA group and 2.1 years in the neb-SABA group (p=0.0215). The index hospitalization average length of stay was 4.4 days. A higher percentage of neb-LABA patients had acute respiratory failure diagnosis during the index hospitalization visit (31% vs. 17%; p=0.0095). After adjusting for potential confounders, the risk of re-hospitalization was 47% lower in the neb-LABA group compared to the neb-SABA group (HR=0.53, 95% CI 0.30-0.96).

**CONCLUSIONS:** In this retrospective database analysis in a matched population of COPD patients receiving neb-LABA vs. neb-SABA treatment following a COPD-related hospitalization, those who received a neb-LABA had a significantly lower risk or re-hospitalization during the 6-month follow-up period.

**Apps**

**COPD Tracker from Everyday Health**

Everyday Health, Inc.  

This is a free app designed for people with COPD to help track how they’re feeling, symptoms, weather, and any additional notes. In addition to tracking, patients are able to monitor local air quality, humidity, and wind. The tracker allows the user to e-mail his or her doctor with the tracked symptoms; have
access to 30+ articles about coping with COPD, respiratory infections, wheezing, lung disease, and other topics; and have access to the COPD active online community at EverydayHealth.com.

**SmartScope**  
Futura mHealth  
[http://www.sys-con.com/node/2786177](http://www.sys-con.com/node/2786177)

This app has COPD patients complete an eight-question survey once a day. The survey information is sent to his or her provider who, based on the survey responses, assesses the likelihood of an attack. The survey includes questions on breathlessness and the quality and color of consistency of their mucus, and any additional symptoms such as coughing or wheezing. For some questions, patients use devices like a peak-flow meter or a thermometer and transfer data using Bluetooth or manually. The system was developed by Temple University’s Dr. Gerald Criner. The app itself launched roughly a year ago, but versions of the system have been used by Temple University Hospital since 2006. There are two versions of the app. The first version is a registered Class I device by the FDA. The second version includes some data analysis and is expected to receive Class II approval from the FDA by the end of the year. Futura mHealth says this app can reduce hospital admissions for COPD by 38 to 40 percent.

**Interactive Tool to Support Self-management Through Lifestyle Feedback, Aimed at Physical Activity of COPD/DM Patients (RCTIt’sLiFe!)**  
Maastricht University Medical Center  
[http://clinicaltrials.gov/show/NCT01867970](http://clinicaltrials.gov/show/NCT01867970)

This study is currently recruiting participants. Physical activity is an important factor for a healthy lifestyle and the level of activity among chronically ill persons is often far from optimal. Technological persuasion can enhance human persuasion and therefore a monitor and feedback tool, consisting of an accelerometer linked to a smart phone and webserver, has been developed and tested. The main objective is to measure the effects of the monitoring and feedback tool embedded in a Self-management Support Program on physical activity. The secondary objective is to measure the effect on self-efficacy, quality of life, and health status.

**Pocket MD**  
Pocket.MD  
[http://www.pocket.md/](http://www.pocket.md/)  
[http://www.pocket.md/682/MijnLuchtpunt.html](http://www.pocket.md/682/MijnLuchtpunt.html)

Pocket.MD is an online service providing a comprehensive directory of mobile applications created by pharma, biotech, and medical device companies. The site allows users to search by condition to find the app most suitable for them. Users can search by “Chronic Obstructive Pulmonary Disease” and find appropriate apps. One such app, My Air Point from the Boehringer Ingelheim Company, is a self-management program that allows COPD patients to monitor the status of their COPD, track medication, receive help choosing and following an exercise plan, and help build an individual care plan with their healthcare professional goals.
Telemonitoring

CSSS Grand Littoral program for people with COPD
Centres de la Santé et des Services sociaux (CSSS) Grand Littoral in Eastern Quebec

After a review of current services in 2006, the CSSS Grand Littoral in Eastern Quebec found that poor coordination of care for home-based patients with chronic disease was a significant problem. Working with New IT, later bought by TELUS, Grand Littoral began implementing a software application involving a series of questions, information and reinforcement messages based on best practices and the patient’s medication regimen. Patients complete a data form with peak flow rate, symptoms, medications, activities, and qualitative information. A monitor is lent to a patient for three months and initial support is provided. From the monitor, information flows to CSSS and is reviewed by the case manager. Case managers are either nurses or respiratory therapists. When readings fall outside the given parameters, an alert is triggered to the case manager and patient. This helps encourage a quick response time. A study has shown that telemonitoring has improved patient knowledge, attitude and behavior, and therefore the ability for patients to manage their own condition. Patients have also reported increased contact with nurses, reduced delays in nursing interventions, and nurses and respiratory therapists noticed a decrease in required home visits.

AMICA – Telemonitoring system for COPD patients
European Ambient Assisted Living Programme (Spanish University of Cadiz)
http://interlinks.euro.centre.org/model/example/AMICATelemonitoringSystemForCOPDPatients

This research project constructs and validates a telemedicine system for COPD patients, through providing home care for older people affected by COPD. The technological support allows for self-management of the disease, medical monitoring as well as the enhancement of the social interaction of the patients. The potential impact is to predict and prevent exacerbations, to reduce hospitalization and healthcare costs, and to improve patients’ and information caregivers’ quality of life. The main benefits are the early detection of COPD exacerbations and increased self-management of the disease by the patients in their own home. AMICA supports the possibility of ageing well at home, by enjoying a longer, healthier, and higher quality of daily life assisted by technology to help maintain independence, autonomy and dignity.

A collection of references on the use of telemonitoring for COPD patients
European COPD Coalition

The European COPD Coalition, in response to a January 2013 press release on the InMedica website announcing that “telehealth is [projected] to reach 1.8 million patients worldwide by 2017, according to The World Market for Telehealth – An Analysis of Demand Dynamics – 2012,” collected literature analyzing the use of telemonitoring for COPD patients and their care givers. The list of 17 studies/articles published online from 2009 is a non-exhaustive list provided by non-partisan sources, mainly the well-established medical journals. The list presents the main conclusions of each study. The general conclusion is that telemonitoring for COPD patients holds some promises for improvement of care, but the full benefits have not been proven. Before asserting that telemonitoring is a real benefit to the quality of care for COPD patients and their care givers, further improvements and research are needed.
Clinical impact of home telemonitoring on patients with chronic obstructive pulmonary disease

BACKGROUND: Chronic obstructive pulmonary disease (COPD) affects millions of people worldwide. A complication of COPD is exacerbations that result in increased utilization of healthcare services, readmissions to the hospital, and a decline in health-related quality of life. Home telehealth has been shown both to improve health-related quality of life and to reduce admission rates. Using clinical data from a home telemonitoring group, this study sought to investigate the clinical impact of telemonitoring.

SUBJECTS AND METHODS: Fifty-seven subjects with COPD were included in a 4-month telemonitoring project. Differences between the clinical parameters during the first and last months of participation in the project were tested for significance, and the levels for the first month versus the difference were tested for correlation.

RESULTS: Significant declines were observed in prescriptions for antibiotics and steroids (p=0.03), clinical consultations (p=0.05), mean systolic blood pressure (p<0.001), standard deviation of systolic blood pressure (p=0.03), and mean diastolic blood pressure (p=0.02). No significant differences were observed for mean of oxygen saturation (p=0.77), standard deviation of oxygen saturation (p=0.36), mean of forced expiratory volume in 1 s (p=0.17), mean of forced vital capacity (p=0.29), mean of pulse rate (p=0.78), standard deviation of pulse rate (p=0.57), and standard deviation of diastolic blood pressure (p=0.27).

CONCLUSIONS: The results suggest that telemonitoring improves the condition of the patient by lowering the blood pressure, the number of prescribed antibiotics and steroids, and the number of clinical consultations.
In our online catalogue you’ll find attractive, up-to-date and easy to understand educational materials including the Big Fat Reference Guide Ver2.1 (BFRG), the most comprehensive educational tool available for persons with COPD and much more. All materials are free of charge.

You only pay for shipping to your location!
Please view our online catalogue at: http://copd.onondemand.com

You will need to register as a REGISTRANT for healthcare professionals or as a PEP Coordinator for PR Centers that are formally enrolled in the PEP program.

For additional information please visit our website at www.copdfoundation.org or call us at 1-866-316-COPD (2673)
COPD POCKET CONSULTANT GUIDE (PCG)
AVAILABLE NOW IN A FREE APP!

Visit our COPD Pocket Consultant Guide Online Community for physicians and other healthcare professionals to interact with one another and submit their questions and comments about the PCG. Conversations from this site will determine future updates.
http://pocketconsultantguide.copdfoundation.org/

Includes:
- 7 Severity Domains
- Spirometry Grades Chart
- COPD Assessment Test (CAT)
- Breathlessness Scale (mMRC)
- Therapy Chart
- COPD Medications
- Spirometry Results
- And Much More

For additional information, please visit
www.copdfoundation.org or call 1-866-316-COPD (2673)
Scan this QR code for our PCG Community Page!
CMS National Dry Run: Chronic Obstructive Pulmonary Disease (COPD) 30-Day Mortality and Readmission Measures
Agenda

- Introductions (next)
- Purpose of dry run and measures
- Plans for implementation
- Dry run overview
- Details of the measures
- Resources
- Questions and answers
Introductions

• Centers for Medicare & Medicaid Services (CMS)

• Yale New Haven Health Services Corporation – Center for Outcomes Research and Evaluation (CORE)

• Mathematica Policy Research (MPR)
Agenda

• Introductions
• Purpose of dry run and measures (next)
• Plans for implementation
• Dry run overview
• Details of the measures
• Resources
• Questions and answers
Purpose of Dry Run

• Educate hospitals about measures in advance of public reporting
• Provide hospitals with results and data
• Help hospitals interpret results and data
• Encourage hospitals to ask questions
Why Measure COPD Outcomes?

- One of the leading causes of death in the U.S.
- A leading cause of readmissions to the hospital
- Variation across hospitals indicates room for improvement
COPD Mortality: Opportunity for Improvement

- National mortality rate: 7.9%
- Hospital risk-standardized mortality rate (RSMR) range: 4.3%-13.0%
COPD Readmission: Opportunity for Improvement

- National readmission rate: 21.1%
- Hospital risk-standardized readmission rate (RSRR) range: 16.3%-29.3%
Shifting and Narrowing the Curve
Readmissions & Care Coordination

• Promoting effective communication and coordination of care is a priority within the National Quality Strategy (NQS) and CMS Quality Strategy

• Health care providers and communities together, can decrease readmissions:
  • CMS has proposed readmission measures in other settings (e.g., post-acute care, physician)
  • CMS quality initiatives encourage readmission reduction
    • QIOs, Partnership for Patients, Hospital Readmission Reduction Program, and Community Care Transitions
Mortality & Patient Safety

• Making care safer by reducing harm caused in the delivery of care is a priority within the National Quality Strategy (NQS) and CMS Quality Strategy
  • Leading causes of mortality

• CMS quality initiatives encourage improvements to patient safety
  • QIOs, Partnership for Patients, and HAC Reduction Program
Agenda

- Introductions
- Purpose of dry run and measures
- Plans for implementation (next)
- Dry run overview
- Details of the measures
- Resources
- Questions and answers
Plans for Implementation

• In the IPPS FY2014 Final Rule, CMS added the COPD readmission and mortality measures to the Inpatient Quality Reporting (IQR) program.

• CMS added COPD readmission measure to the Hospital Readmissions Reduction Program.

• CMS will post the measures’ results on Hospital Compare.
Agenda

• Introductions
• Purpose of dry run and measures
• Plans for implementation
• Dry run overview (next)
• Details of the measures
• Resources
• Questions and answers
Dry Run Overview

• Timeline: August 12 – September 11, 2013

• QualityNet

• Results:
  – Hospital-Specific Report (HSR)
  – Measure Information and Instructions Report

• Resources:
  – Methodology reports, FAQs, other materials
  – copdreadmission@yale.edu
  – copdmortality@yale.edu
## 2013 Dry Run Timeline

<table>
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<th>August 2013</th>
<th>September 2013</th>
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| **August 12 – September 11**  
Dry Run  
Dry run and national provider call announcement | **August 20th**  
National provider call |
| Background materials posted on *QualityNet* | **August 12 – September 11**  
Hospital Q&A period via email* |
| Distribution of Hospital-Specific Reports via *My QualityNet* | |

*Questions will be accepted through September 11th. Responses to all questions will be sent by September 16th.*
Agenda

- Introductions
- Purpose of dry run and measures
- Plans for implementation
- Dry run overview
- Details of the measures (next)
- Resources
- Questions and answers
Design of Measures

• Developed and calculated using administrative claims data

• Includes Medicare FFS patients aged ≥ 65 admitted for acute exacerbation of COPD (or admitted for respiratory failure with secondary diagnosis of acute exacerbation of COPD) in 2009-2011

• Includes non-federal acute care hospitals. Critical access hospitals (CAH) are included.

• Reported as risk-standardized mortality (RSMR) and readmission (RSRR) rates
Exclusion Criteria: Mortality

Admission for patients ≥65 years of age with COPD admission

- Not enrolled in Medicare FFS for 12 months prior to hospitalization
- Transfers into the hospital
- Inconsistent or unknown mortality status
- Unreliable data
- In hospice within one year prior to or on the day of admission
- Discharges against medical advice

Initial Index Cohort

Randomly select one hospitalization per patient per year

Final Index Cohort

Hospitalizations not selected
Exclusion Criteria: Readmission

Admissions for patients ≥65 years of age with COPD admission

- Not enrolled in Medicare FFS for 12 months prior to hospitalization
- Transfers out of the hospital
- In-hospital deaths
- Hospitalizations without at least 30 days post-discharge information
- Admissions within 30 days of a prior index admission
- Discharges against medical advice

Final Index Cohort
Risk Adjustment

• Accounts for differences in patient characteristics and comorbidities across hospitals

• Includes:
  • Secondary diagnosis codes from index admission (except for potential complications of care)
  • All diagnosis codes from previous year
Transferred Patients: Mortality

- Measure assigns patient’s outcome to hospital that initially admitted patient
Transferred Patients: Readmission

- Measure assigns patient’s outcome to hospital that discharged patient to non-acute care setting
Mortality Measure Outcome

- Death from any cause within 30 days of admission date for index hospitalization
Readmission Measure Outcome

- All-cause unplanned readmission:
  - To any acute care hospital
  - Within 30 days of discharge

- Multiple readmissions within 30 days of discharge only count as one outcome event
Planned Readmissions are Not Counted

- Readmission measure only
- Generally not a quality signal
- Algorithm developed with expert and public input
- Details available on QualityNet
Risk-Standardized Rates

- Calculating risk-standardized mortality rate (RSMR) and readmission rate (RSRR)

\[
\text{RSMR or RSRR} = \frac{\text{Predicted outcome}}{\text{Expected outcome}} \times \text{National outcome rate}
\]
Categorizing Hospital Performance

• Categories of measure results:
  – No different than U.S. national rate
  – Worse than U.S. national rate
  – Better than U.S. national rate
  – Number of cases too small (<25 cases)

• Final RSMR and RSRR reported with interval estimate
Categorizing Hospital Performance

National COPD Mortality Rate (7.9%)

Better than COPD Mortality rate

Example Hospital 1
4.2% (2.4%, 6.5%)

No different than COPD Mortality rate

Example Hospital 2
8.2% (5.9%, 10.0%)

Worse than COPD Mortality Rate

Example Hospital 3
11.3% (9.4%, 12.9%)

Risk-Standardized Mortality Rate (RSMR)
Agenda

- Introductions
- Purpose of dry run and measures
- Plans for implementation
- Dry run overview
- Details of the measures
- Resources (next)
- Questions and answers
Resources

- **http://www.QualityNet.org**

**Claims-Based Measures**

The Centers for Medicare & Medicaid Services (CMS) uses a variety of data sources to determine the quality of care that Medicare beneficiaries receive.

For the quality of care measure sets listed below, CMS uses Medicare enrollment data and Part A and Part B claims data submitted by hospitals for Medicare fee-for-service patients. (Hospitals are not required to submit additional data for the claims-based measures.)

- **Agency for Healthcare Research and Quality (AHRQ) Indicators** – including Patient Safety Indicators (PSIs) and Inpatient Quality Indicators (IQRs)
- **Hospital-Acquired Conditions (HAC) Measures**
- **Mortality Measures** – including acute myocardial infarction (AMI), heart failure (HF), and pneumonia (PN)
- **Hospital Value-Based Purchasing (HVBP) Mortality Measures**
- **Readmission Measures** – including AMI, HF, PN, Hospital-Wide All-Cause Unplanned Readmission Measure (HWR), Hospital-Level 30-Day All-Cause Risk-Standardized Readmission Rate Following Elective Primary Total Hip Arthroplasty (THA) and/or Total Knee Arthroplasty (TKA)
- **Complication Measure** – including Hospital-level Risk-Standardized Complication Rate Following Elective Primary Total Hip Arthroplasty (THA) and/or Total Knee Arthroplasty (TKA)
- **Medicare Spending Per Beneficiary (MSPB) Measure**

Each measure set is calculated using a separate, distinct methodology and, in some cases, separate discharge periods. (For the AMI, HF, PN Mortality and Readmission measures, administrative data from Veterans Administration (VA) medical centers are also used.)
Questions & Comments

• Email Q&A period
  August 12 – September 11, 2013
  copdreadmission@yale.edu
  copdmortality@yale.edu

Note: Please do NOT email or attach to emails any patient identifiable information
Questions?