

Implementing An Evidence Based Smoking Cessation Model: The Colorado Model of Inpatient Tobacco Treatment (COMITT)
Allen Wentworth



University of Colorado Hospital
UNIVERSITY OF COLORADO HEALTH

The Health Problem

- Smoking continues to be the leading preventable cause of death and disability in the United States.
- It is a major risk factor for chronic diseases including heart disease, stroke, cancer, and respiratory illnesses.
- 70% of smokers want to make a quit attempt in the next six months.
- Nicotine and behavioral dependence make quitting very difficult.



University of Colorado Hospital
UNIVERSITY OF COLORADO HEALTH

Effects of Continued Smoking on Patient Care

- Worse Patient Outcomes
 - Longer hospital stays
 - Higher probability of readmission
 - Greater likelihood that primary condition will recur
 - Delayed wound healing
 - Medication complications
 - Increased ED utilization



University of Colorado Hospital
UNIVERSITY OF COLORADO HEALTH

UCH Treatment for Smokers

- 2004
 - referral to RT for educational material handout
- 2011
 - referral to smoking cessation counseling service using Tobacco Treatment Specialists
- Lingering problems
 - Inconsistent smoking status ascertainment / updating
 - EHR poor for tracking smoking status and tx outcomes
 - Inconsistent/non-existent pharmacological support for inpatients
 - Inconsistent MD knowledge and advice



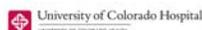
The New Grant

- **“Hospital-Initiated Treatment for Smoking Cessation – Bringing Best Practices to Colorado”**
- 33 month grant/\$722,000 to UCHealth, supports:
 - Salaries to implement and evaluate state-of-art cessation tx
 - Required upgrades to EHR, clinical path systems, and IVR
- Funded by Colorado Const. Amendment 35
 - 2004 tobacco tax increase, generates ~\$20-25 million/year for tobacco control and cessation
- Administered by Colo. Dept. of Public Health & Environment



The grant-funded program

- The Ottawa Model of Smoking Cessation
 - Identify, treat, and follow-up with patients who smoke as part of routine care in the hospital
 - Evidence-based (previous study: 50% improvement of smoking cessation rates at 6 months)
 - Addresses **safety** and **comfort** for patient with nicotine addiction



University of Colorado Hospital Policy and Procedure Smoking Cessation Protocol

- Treat all current smokers admitted to UCH, cont.
 - Positive Current Smoking status and packs per day entered also triggers BPAs requesting NRT and a smoking cessation consult
 - TTS (Tobacco Treatment Specialist) will:
 - Assess the patient's nicotine withdrawal and comfort
 - Use motivational interviewing techniques to engage the patient in a brief discussion of their tobacco use, interest in smoking cessation, and options
 - Enroll pt. in an Interactive Voice Response (IVR) cessation follow-up program if interested allowing 6-months of free support, counseling and data collection
 - **Order first box of patches (FREE) for enrolled patients via electronic Rx to UCH Pharmacy upon discharge**



7

University of Colorado Hospital Policy and Procedure Smoking Cessation Protocol

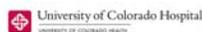
- **Identify** all current smokers admitted to UCH
 - Registered Nurses enter current smoking status into EPIC.
- **Treat** all current smokers admitted to UCH
 - Current Smoking Status (a meaningful use question)
 - If answer is Current Everyday Smoker; Current Someday Smoker; or Smoker, Current Status Unknown AND



8

Best Practice Alert NRT

- **Smoking < 10 cigarettes per day**
 - Nicotine patch 7 mg One patch daily - Weeks 1 through 6
- **Smoking 10-19 cigarettes per day**
 - Nicotine patch 14 mg One patch daily - Weeks 1 through 6, then
 - Nicotine patch 7 mg One patch daily - Weeks 7 through 10
- **Smoking 20-29 cigarettes per day**
 - Nicotine patch 21 mg One patch daily - Weeks 1 through 6, then
 - Nicotine patch 14 mg One patch daily - Weeks 7 & 8, then
 - Nicotine patch 7mg One patch daily - Weeks 9 & 10
- **Smoking 30 - 39 cigarettes per day**
 - Nicotine patch 28 mg (21 mg + 7 mg) One patch of each daily - Weeks 1 through 6, then
 - Nicotine patch 21 mg One patch daily - Weeks 7 through 10, then
 - Nicotine patch 14 mg One patch daily - Weeks 11 & 12, then
 - Nicotine patch 7mg One patch daily - Weeks 13 & 14
- **Smoking ≥ 40 cigarettes per day**
 - Nicotine patch 42 mg (21mg + 21mg) Two 21 mg patches daily - Weeks 1 through 6, then
 - Nicotine patch 35 mg (21 mg + 14 mg) One patch of each daily - Weeks 7 & 8, then
 - Nicotine patch 28 mg (21 mg + 7 mg) One patch of each daily - Weeks 9 & 10, then
 - Nicotine patch 21 mg One patch daily - Weeks 11 & 12, then
 - Nicotine patch 14 mg One patch daily - Weeks 13 & 14, then
 - Nicotine patch 7mg One patch daily - Weeks 15 & 16



9

Best Practice Alert TTS Consultation

- Address patient using motivational interviewing techniques in a non-judgmental approach
- Emphasize **comfort, and safety!**
- Follow-up during admission
- Enroll in IVR Program
- Give coupon for NRT



10

IVR Enrollment

Follow-up counseling is offered by interactive voice response (IVR) telephone technology that includes

- (a) pre-recorded advice keyed to individual patient needs
- (b) a warm-transfer option to speak with a live tobacco treatment specialist
- (c) collection of patient smoking and cessation treatment measures.



11

NRT Contraindications

- Recent (= 2 weeks) myocardial infarction
- Serious underlying arrhythmias
- Serious or worsening angina pectoris
- Pregnancy and breastfeeding
- Adolescents (less than 18 years or less than 45kg.)



12

Adherence to OMSC and Implementation Challenges

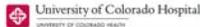
- Two OMSC treatment options (bupropion and varenicline) are not COMITT options unless pts are taking them at admission.
- COMITT provides participants with a two-week supply of NRT at discharge, the OMSC does not.
- The OSMC model includes treatment of recent former smokers, COMITT does not.
- The OMSC model distributes and displays educational materials, COMITT does not.
- COMITT cessation-counseling f/u schedule is modified from the OMSC schedule to align with NRT re-supply timing.
- COMITT sends reminder postcards to program participants in advance of telephone calls; the OMSC does not.



13

Challenges to Implementation

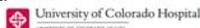
- Uncertainty about the host institution's ability and motivation to sustain the program;
- Delays caused by numerous slow-moving approval processes and conflicting priorities;
- Need for meticulous advance planning for all critical aspects of the program, and clear articulation of program details to stakeholders within the institution.
- IT'S ALL POLITICAL!



14

What's Been Accomplished

- UCH admitted 12,485 patients, of whom 95% had a smoking status entered in their Epic.
- A total of 2,033 inpatients (16%) were current smokers
- Higher rate among male inpatients (20.7%)
- More than half of current smokers were admitted to any of five hospital departments: medical specialties (13%), progressive care (11%), neurosciences (11%), oncology (11%) or pulmonary (9%)
- Former smokers were significantly older than others.
- Smokers were more likely to be men.



15

What's Been Accomplished

- The system is working
 - 94% smoking status accuracy
 - 95% smoking status recorded
- Inpatient smokers now receive nicotine patches 40% of the time (up from zero)
- Nearly three-fourths (72%) of inpatient smokers receive bedside consult
- More than one-fourth with consults (28%) enroll in COMITT program
- Program enrollees do better than non-enrollees (30% vs. 20% quit rate)

 University of Colorado Hospital
UNIVERSITY OF COLORADO HEALTH

16

Clues From Canada!

COST-EFFECTIVENESS

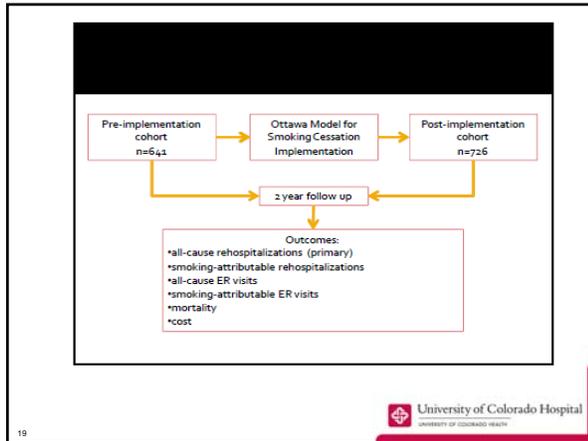
 University of Colorado Hospital
UNIVERSITY OF COLORADO HEALTH

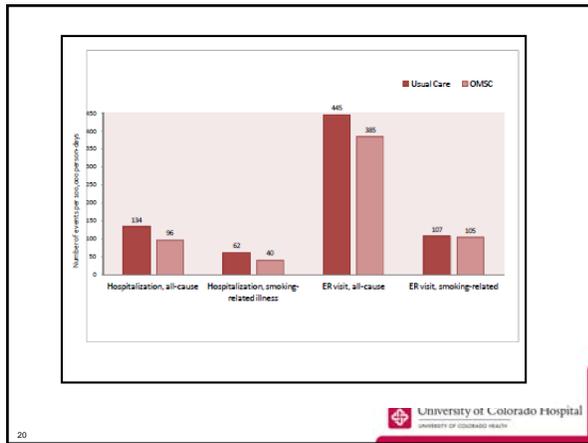
17

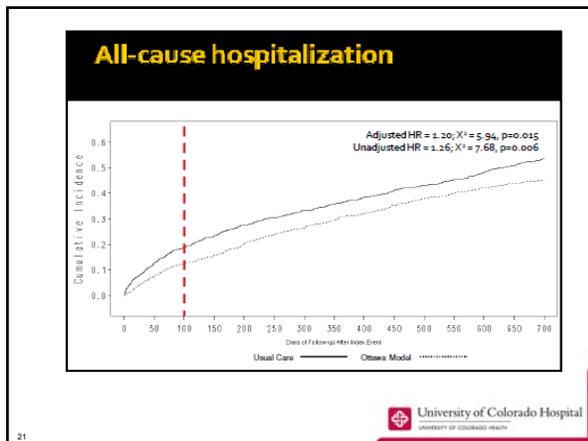
Methods

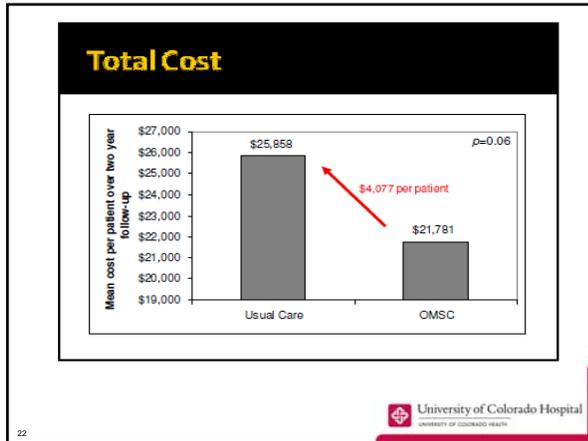
- Study Design:
 - Multi-centered, two group, before and after cohort study
 - Data linkage to healthcare administrative databases
- Setting:
 - 12 Ontario Hospitals
- Participants:
 - > 17 years
 - Current smoker (Current < 7 days)
 - Eligible for OHIP during study

 University of Colorado Hospital
UNIVERSITY OF COLORADO HEALTH









- ### Conclusions
- Implementation of the OMSC hospital-based intervention is associated with, over two years:
 - a 50% RRR in mortality
 - a significant reduction in all-cause and smoking-related re-hospitalization
 - no difference in ER visits
 - a reduction in health care utilization costs of \$4,077
- University of Colorado Hospital
UNIVERSITY OF COLORADO HEALTH

From Canada to Colorado

- Using 100-day re-hospitalization result and current UCH COMITT volume (2,500 inpatients per year):
- If individual re-hospitalization in first 100 days costs more than \$4,450, the program pays for itself in cost-savings.**

University of Colorado Hospital
UNIVERSITY OF COLORADO HEALTH

Potential Reimbursement

- RRT/TTS may bill Medicare/Medicaid on outpt basis using codes G0436 (3-10 min), G0437 (>10 min).
- Counseling must be in “incident to” a physician’s visit
- Reimbursement per Medicare is G0436 - \$23.92, G0437 - \$49.12
- Set up outpt “Smoking Cessation” Clinics with Advanced Practitioner’s writing prescriptions and RRTs/TTS providing counseling
- ED visits could be a teachable moment



25

Opportunities

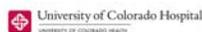
- Program currently being implemented systemwide (UCHealth)
- Investigating automated telephone calls (IVR) for post-discharge maintenance
 - may lower cost
 - potential national model
- Maybe potential for UCH / UCHealth to train other professionals on inpatient system change
- Invitation for UCH to co-brand Tobacco Treatment Specialist (TTS) training program
 - under development in SOM
 - only one west of Mississippi



26

Thank You For Your Time

Questions?



27
