

INTEGRATING TOBACCO CESSATION INTO HEALTH CARE SYSTEMS:

Strategies for Inpatients, Outpatients and Populations

Nancy Rigotti, MD

*Director, Tobacco Research & Treatment Center,
Associate Chief, General Medicine Division, MGH
Professor of Medicine, Harvard Medical School*

QUITTING IN PERSPECTIVE

National Health Interview Survey - 2010

- 69% of current smokers want to quit
- 52% of smokers try to quit each year
- Few succeed long-term (*quit for 1 year*)
 - ~ 6% succeed without help
 - 25-30% succeed long-term with best treatment
 - Only 32% of those trying to quit seek help

Where are we?

- We have effective treatments but...
- We need better treatments
- More smokers need to use what we have
 - Only 32% of smokers making a quit attempt use help

IMPACT = REACH x EFFICACY

CHALLENGE for Health Care Systems

- **Health care systems could do better**

 - Only 50% of smokers seen by a doctor last year were advised to quit

- We need to make tobacco treatment a priority for health care systems

- We need to change the paradigm

What is tobacco smoking?

- A personal choice?
- A bad habit?
- An addiction to nicotine?
- A risk factor for many diseases?
- A chronic disease itself?

A New Paradigm

Tobacco use = chronic disease

- Treating tobacco use = chronic disease management

Managing a chronic disease requires

- A multidisciplinary team
- A system of care embedded into routine care delivery
- Coordination care over time and across sites

WHAT SHOULD THE SYSTEM DO?

- Every patient coming to the health care system (office or hospital) has smoking status reliably identified and recorded in an electronic health record
- Every smoker seen is routinely given advice to quit, offered as much cost-effective assistance (medication and referral to behavioral support) as he/she will accept, and linked to community resources
- Care is offered proactively to the population of smokers
- Care is coordinated across settings and over time
- Outcomes are routinely monitored, reported & improved

A Comprehensive Tobacco Treatment Model

- **Components**
 - Hospital inpatients
 - Outpatient visits
 - Population management

HOSPITALIZATION

“Window of opportunity” for smoking cessation

- Smoke-free hospitals require temporary tobacco abstinence
- Illness motivates smokers to try to quit
- Hospitalized smokers are accessible for treatment

Does an intervention that starts in the hospital help smokers to stay quit after discharge?

HOSPITALIZED SMOKERS

Meta-analysis of Intervention Trials

(Rigotti NA, Clair C, Munafo MR, Stead L. Cochrane Library 2012)

- Bedside counseling followed by telephone support for at least one month after discharge increases smoking cessation rates by 40%
- It is effective regardless of the reason for admission
- It is not effective without continued support after discharge
- Starting NRT in hospital increases quit rates by 50% (and relieves nicotine withdrawal symptoms)

What Really Prompted US Hospitals to Address Tobacco

NATIONAL HOSPITAL QUALITY MEASURES

Among patients who

- Smoked in past 12 months AND
- Diagnosis = MI or CHF or pneumonia

Does the chart document that smoking cessation advice, counseling or medication was offered during hospital stay?

- *Data are publicly reported to compare hospital quality*
- *CEOs have ego at risk (and in future \$\$ at risk?)*
- *Low scores (2004) → Tobacco Task Force (2005)*

Challenges for Translating Research to Practice

- How do we identify patients' smoking status rapidly after admission?
- Who provides the counseling?
 - Train all staff nurses?
 - Set up a Tobacco Consult Service?
- How do we sustain the intervention after the smokers leaves the hospital?

MGH System for Inpatients

- **Step 1: Admission**

 - Routine identification of smoking status (EHR)

- **Step 2: Hospital staff** (nurse, doctor)

 - Give brief advice to quit, order NRT

- **Step 3: Smoking counselor visit**

 - Assess nicotine withdrawal relief

 - Ask, encourage smoker to make quit attempt

 - Help smoker to make a plan to quit

 - Link smoker to resources after discharge

MGH SYSTEM for Inpatients

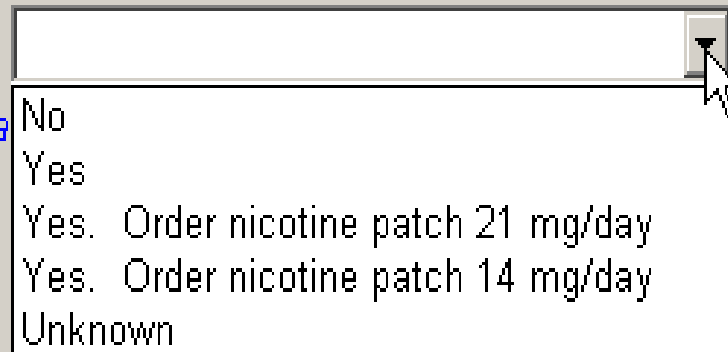
- **Step 1: Routine smoking status ID at admit**

On doctors' computerized admission order set

On nurses' computerized order entry set

Has patient smoked tobacco in the past year (Y/N)?

If Yes selected, smoking counselor will be notified a



A screenshot of a computer interface showing a dropdown menu. The menu is open, displaying several options: "No", "Yes", "Yes. Order nicotine patch 21 mg/day", "Yes. Order nicotine patch 14 mg/day", and "Unknown". A mouse cursor is visible over the dropdown arrow on the right side of the menu box.



**Generates electronic list of smokers for the
Tobacco Treatment Service**

MGH System for Inpatients

- **Step 1: Admission**

 - Routine identification of smoking status (EHR)

- **Step 2: Hospital staff** (nurse, doctor)

 - Give brief advice to quit, order NRT

- **Step 3: Smoking counselor visit**

 - Assess nicotine withdrawal relief

 - Ask, encourage smoker to make quit attempt

 - Help smoker to make a plan to quit

 - Link smoker to resources after discharge

Single (F+I)

Resources

Quit Smoking Programs

Brigham and Women's/Faulkner Hospital	617-732-8983
Dana-Farber Cancer Institute	617-632-2099
Massachusetts General Hospital	617-726-7443
MGH Community Health Associates <i>(Charlestown, Everett, Revere)</i>	781-485-6210
Newton-Wellesley Hospital	617-243-6566
North Shore Medical Center	978-741-4151

Telephone Support

Massachusetts Smokers' Helpline
 1-800-TRY-TO-STOP
 1-800-8DEJALO (En Español/ Em Português)
 1-800-TDD-1477 (Hearing impaired)

National Quitline
 1-800-QUIT-NOW

Internet Websites

www.trytostop.org
www.quitnet.com
www.smokefree.gov

Form #84772 (5/06)

Fold

A Guide For Hospital Patients Who Smoke*



* Or use other forms of tobacco



MGH System for Inpatients

■ Step 1: Admission

Routine identification of smoking status (EHR)

■ Step 2: Hospital staff (nurse, doctor)

Give brief advice to quit, order NRT

■ Step 3: Smoking counselor visit

Assess nicotine withdrawal relief

Ask, encourage smoker to make quit attempt

Help smoker to make a plan to quit

Link smoker to resources after discharge

Staff fax referral form to Quit line

Quit line calls smoker to offer counseling \pm NRT

Quit line gives doctor feedback on patient

QUITWORKSSM

A Service of the Massachusetts Smokers' Helpline

In Collaboration with the Massachusetts Department of Public Health and Massachusetts Health Plans

- If a patient is interested in quitting smoking, fill out this form with them.
- Fax completed form to 1-866-560-9113.
- The Massachusetts Smokers' Helpline will contact the patient, offer free cessation services, and send feedback reports to the provider listed below.
- This program is free for all Massachusetts residents regardless of insurance status.
- Important: Hospitals Refer at Discharge

Patient Stamp, Label or Info (Name, Record Number/DOB, Date)

QuitWorks is moving to e-news updates. Health care providers, please enter your email to receive QuitWorks updates and special offers for your patients!

Provider Email Address

Massachusetts Referral Form

Patients: Complete this section

First Name	Last Name	Are you 18 or older?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Mailing Address		City	State	Zip
()				
Phone Number				
When should we call? (check all that apply) <input type="checkbox"/> Morning <input type="checkbox"/> Afternoon <input type="checkbox"/> Evening <input type="checkbox"/> No preference				
Language Preference: <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Other (specify) _____				
May we leave a message? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Primary Insurance of Tobacco User: <input type="checkbox"/> Blue Cross Blue Shield MA <input type="checkbox"/> Tufts Health Plan <input type="checkbox"/> Harvard Pilgrim <input type="checkbox"/> MassHealth/Medicaid <input type="checkbox"/> Other <input type="checkbox"/> None				
I authorize this provider to release the information on this referral form to QuitWorks so that I may be contacted and participate in the QuitWorks program. I also authorize QuitWorks to disclose information about my progress in attempting to quit smoking to the health care provider listed on this form.				
Patient Signature		Date		

Health Care Providers: Complete this section

Referring Provider:	_____	()	Phone Number
Facility:	_____	()	Fax Number
Address:	_____		
Send feedback report to:			
<input type="checkbox"/> Same as above	or	_____	_____
	Name	Phone Number	Fax Number
PEDIATRICS ONLY:			
Patient's relationship to child:	<input type="checkbox"/> Mother	<input type="checkbox"/> Father	<input type="checkbox"/> Other (specify) _____
Child/Children's name: (to help with recordkeeping) _____			

This form can be downloaded from WWW.QUITWORKS.ORG

Fax this form toll-free to 1-866-560-9113

MOVING FORWARD

Hospitalized smokers

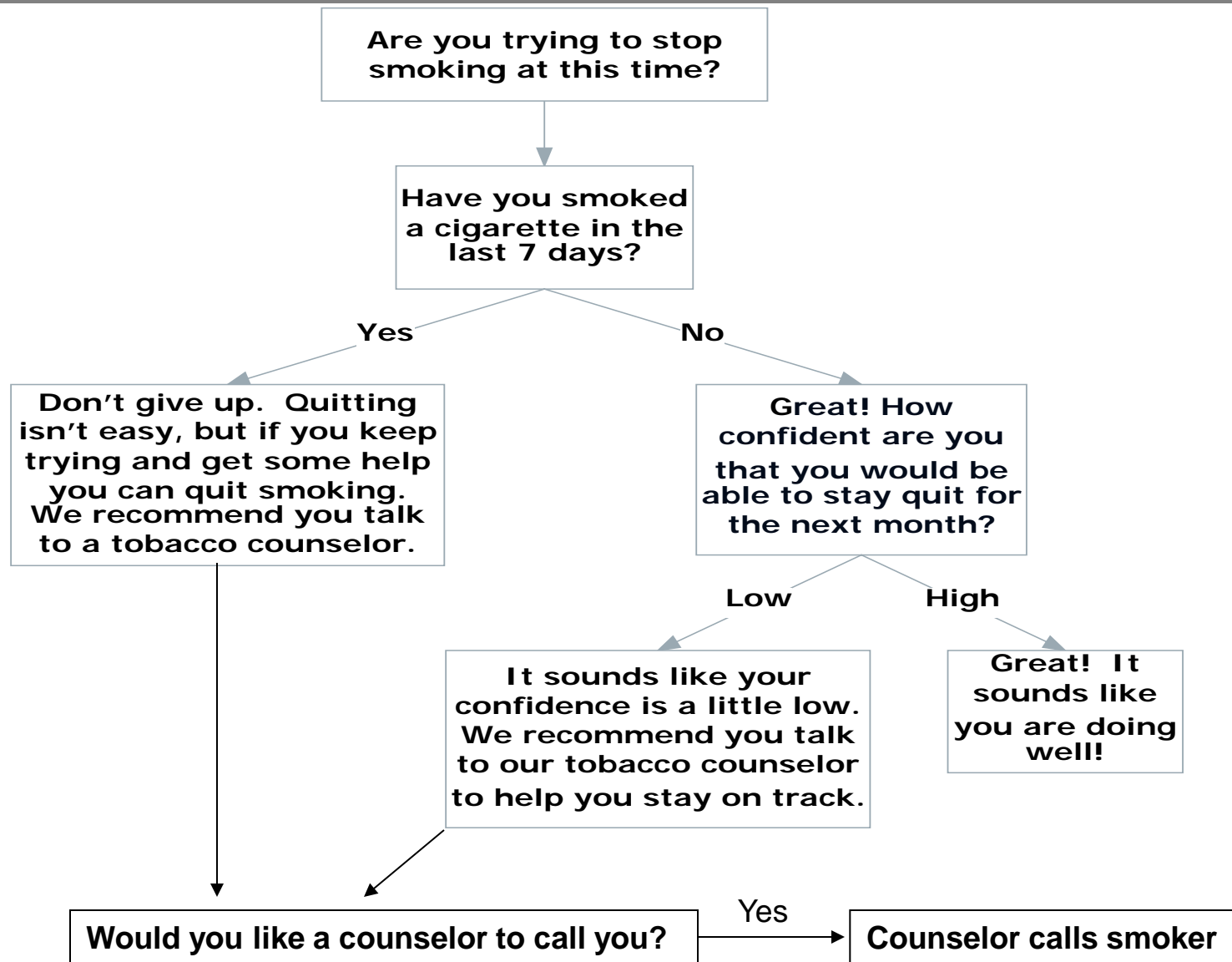
- **Sustaining treatment after discharge**
 - Counseling support
 - Medication use

Sustaining Treatment after Discharge: **Counseling support**

- **Interactive Voice Response (IVR) calls**
 - *Efficient (many calls can be made at any time)*
 - *Low cost per call*

 - *Remind patient to stay quit*
 - *Encourage adherence with medication*
 - *Offer optional call from a counselor to the smoker*
 - *Assess outcomes*

Example of IVR Call Script (Day 14)



Sustaining Treatment after Discharge: Medication Use

- Remove barriers to starting drug immediately
- Remove barriers to using full course
 - *A free 30-day supply*
 - *Given to the patient at discharge*
 - *Any approved medication allowed*
 - *Refillable for total of 90 days of treatment*

Helping HAND Study

Improving tobacco treatment delivery after discharge

(NIH grant: RC1 HL099668)

- Randomized controlled trial
- All smokers receive counseling in hospital
- Standard care vs Sustained care

Sustained Care

*5 calls (3, 14, 30, 60, 90 days) made to patient
Offered call from counselor at each contact
90 days of free medication*

Standard Care

*Medication is recommended
Smoker is given telephone number for free quitline*

Helping HAND Study

Improving tobacco treatment delivery after discharge

(NIH grant: RC1 HL099668)

■ Eligibility

Smoker (≥ 1 cigarette in past week)

Admitted to MGH for any diagnosis

Seen by a smoking counselor

Wants to quit smoking after discharge

Exclude comorbid ongoing substance abuse

Exclude severe cognitive or psychiatric problems

Baseline Characteristics

	Control	Intervention
	N=199	N=198
Demographics		
▪ Age (mean yr)	51.2	53.9
▪ Sex (% male)	45.7	51.5
▪ Race		
▪ White (%)	83.4	78.8
▪ Black (%)	5.0	4.0
▪ Hispanic (%)	5.5	5.6
▪ Education		
<=High school/GED	52.8	50.0

Baseline Characteristics

	Control	Intervention
	N=199	N=198
Tobacco use		
▪ Years smoked (mean)	16.9	17.4
▪ % smoke w/in 30 min	74.4	80.8
Past 30 days:		
▪ Cigarettes/day	16.9	17.4
▪ % other tobacco product	2.5	3.5
▪ % electronic cigarette	6.0	5.6
▪ % marijuana	16.1	13.6

Helping HAND Study

Improving tobacco treatment delivery after discharge

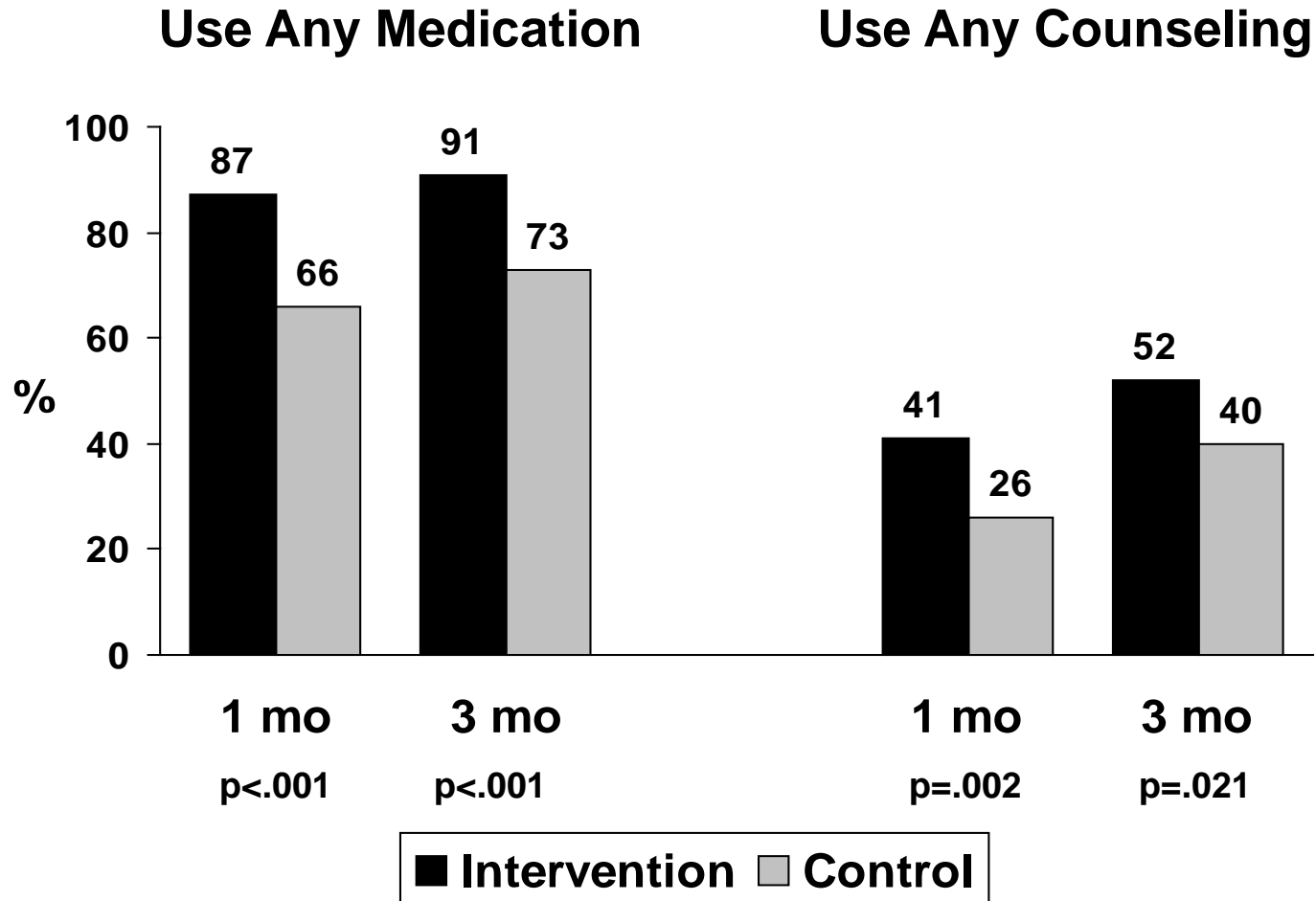
(RC1 HL099668)

Use of Treatment

- 65% of IVR calls are answered
 - High level of patient satisfaction with IVR calls*
- 50% request medication refills
 - 95% was NRT – usually combination NRT*

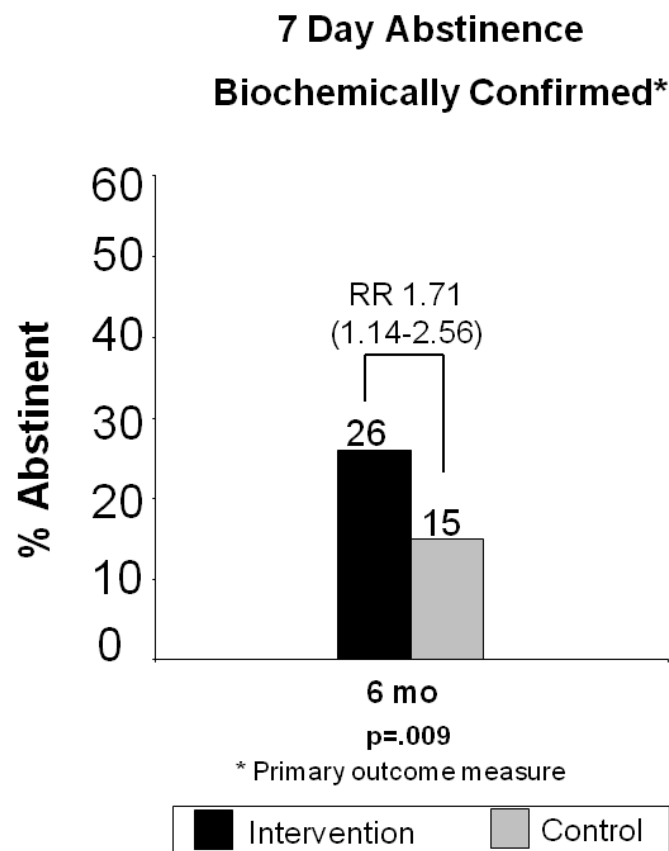
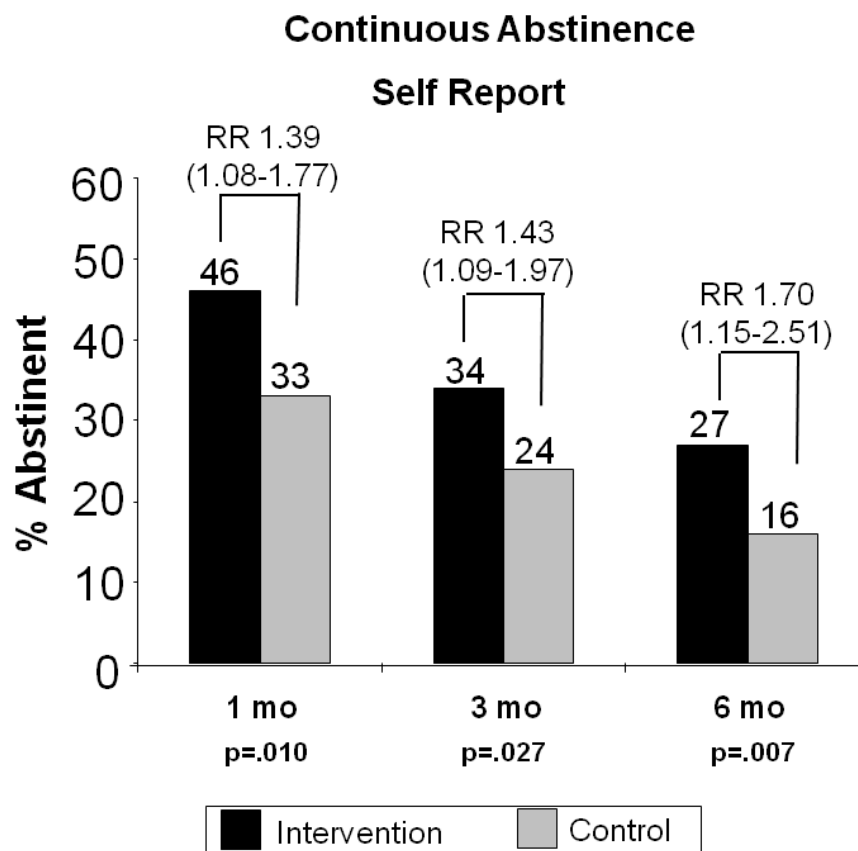
Use of Treatment after Discharge

Helping HAND 1 Study



Tobacco Abstinence after Discharge

Rigotti et al, JAMA 2014; 312:719-28



Helping HAND 2 Study

Adapt the model for broad implementation

(NIH/NHLBI R01)

- **Streamline care delivery**
 - Link request for counseling during IVR call to telephone quitline in real time (*“warm transfer”*)
- **Broaden eligibility**
 - Include patients with other substance abuse
 - Prioritize patients living with HIV
- **Expand to more hospitals**
 - 3 hospitals in 2 states (MGH, NSMC, UPMC)
- **Status:** 1350 patients enrolled 1/2013-7/2014

Helping HAND 3 Study

Adapt the model for a psychiatric inpatient unit

(NIMH R01 MH104562)

- Randomized controlled trial (n=422)
- 1 psychiatric hospital (Austin, Tx)
 - **Sustained care**
 - In-hospital counseling by MHW/SW (40 min)
 - Rx for NRT after discharge
 - IVR calls after discharge – link to Quitline
 - **Standard care**
 - Brief advice to stay quit (5-10 min)
 - Handouts with information about quitline
- Follow up at 1, 3, 6, 12 months

CHART Consortium

Consortium of Hospitals to Advance Research in Tobacco

■ 7 NIH-funded randomized controlled trials

Smoker enrolls in telephone quitline while in hospital, counseling starts in hospital and continues after

Enroll in web-based counseling after discharge

Train nursing staff to do the intervention

Clinical Goal: Pool results to test whether programs can reduce hospital readmission rates

2012 Joint Commission Tobacco Measures

Good news, bad news

- Apply to all hospital patients
- Require documentation of smoking status
- Require documentation of offer of
 - Medication and counseling
 - In the hospital and after discharge
- *Reporting of post-discharge call outcomes*
- Hospitals are not required to use them

A Comprehensive Tobacco Treatment Model

- **Components**
 - Hospital inpatients
 - **Outpatient visits**
 - Population management

TREATING TOBACCO IN THE OFFICE

2008 U.S. Public Health Service Guidelines – 5A's

- Routine advice to quit is effective
- Brief counseling is more effective
 - **ASK** all patients about smoking
 - **ADVISE** all smokers to quit
 - **ASSESS** smoker's readiness to quit
 - **ASSIST** smokers to quit
 - **ARRANGE** follow-up care

TREATING TOBACCO IN THE OFFICE

U.S. Public Health Service Guidelines – 5A's

- **ASK** Done by office staff (*vital sign*)
- **ADVISE** Core clinician role
- **ASSESS**
- **ASSIST** Fax / email referral to Quitline
- **ARRANGE** or health system resource

A NEWER WAY TO 'ASSESS'

- Don't ask a if a smoker is ready to quit
- Just offer treatment

“Quitting smoking can be hard, but there is good treatment and I can help you. Would you like to try?”

QUITWORKS system

Staff fax referral
form to Quit line

Quit line calls
smoker to offer
counseling \pm NRT

Quit line gives
doctor feedback on
patient

QUITWORKSSM

A Service of the Massachusetts Smokers' Helpline

In Collaboration with the Massachusetts Department of Public Health and Massachusetts Health Plans

- If a patient is interested in quitting smoking, fill out this form with them.
- Fax completed form to 1-866-560-9113.
- The Massachusetts Smokers' Helpline will contact the patient, offer free cessation services, and send feedback reports to the provider listed below.
- This program is free for all Massachusetts residents regardless of insurance status.
- Important: Hospitals Refer at Discharge

Patent Stamp, Label or Info (Name, Record Number/DOB, Date)

QuitWorks is moving to e-news updates. Health care providers, please enter your email to receive QuitWorks updates and special offers for your patients!

Provider Email Address

Massachusetts Referral Form

Patients: Complete this section

First Name	Last Name	Are you 18 or older?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Mailing Address		City	State	Zip
()				
Phone Number				
When should we call? (check all that apply)				
<input type="checkbox"/> Morning	<input type="checkbox"/> Afternoon	<input type="checkbox"/> Evening	<input type="checkbox"/> No preference	
Language Preference:				
<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Other (specify) _____		
May we leave a message?				
<input type="checkbox"/> Yes <input type="checkbox"/> No				
Primary Insurance				
<input type="checkbox"/> Blue Cross Blue Shield MA	<input type="checkbox"/> Tufts Health Plan	<input type="checkbox"/> Harvard Pilgrim		
of Tobacco User:				
<input type="checkbox"/> MassHealth/Medicaid	<input type="checkbox"/> Other	<input type="checkbox"/> None		
I authorize this provider to release the information on this referral form to QuitWorks so that I may be contacted and participate in the QuitWorks program. I also authorize QuitWorks to disclose information about my progress in attempting to quit smoking to the health care provider listed on this form.				
Patient Signature				Date

Health Care Providers: Complete this section

Referring Provider:	()	Phone Number
Facility:	()	Fax Number
Address:		
Send feedback report to:		
<input type="checkbox"/> Same as above	or	Name
		Phone Number
		Fax Number
PEDIATRICS ONLY:		
Patient's relationship to child: <input type="checkbox"/> Mother <input type="checkbox"/> Father <input type="checkbox"/> Other (specify) _____		
Child/Children's name: (to help with recordkeeping) _____		

This form can be downloaded from WWW.QUITWORKS.ORG

Fax this form toll-free to 1-866-560-9113

1 - Click Referral in the Electronic Health Record

Home Select Desktop Pt Chart: Summary Oncology Custom Reports Admin Sign Results ? Resource Popup

New Entry: Smoking status

Select Date: 09/09/2011 Approximate

Patient Counselor Refer patient to tobacco coordinator

Years Smoked:

Packs Per Day: <= 0.5 1 1.5 2 > 2

Quit Date: Approximate

Result:

Comments:

Select Response:

- Never smoker
- Current every day smoker
- Current some day smoker
- Former smoker
- Smoker, current status unknown
- Unknown, if ever smoked

Tobacco Treatment Coordinator

- calls smoker
- does brief assessment, refers to treatment
- sends email back to doctor

Partners Tobacco Treatment Model

■ Components

- Hospital inpatients
- Outpatient visits
- Population management

Population Management

Rationale

- Treat the whole population (*public health approach*)

Advantages

- Reach smokers before they get sick
- Reduce burden on busy PCP's

Approach

- Proactive outreach (vs. reactive)
- Ongoing monitoring (vs. episodic)

Pilot Program: Direct-to-Smoker Study

Strategy

- Reach out to all smokers in a defined population
- Make treatment barrier-free (*no cost, no visits*)

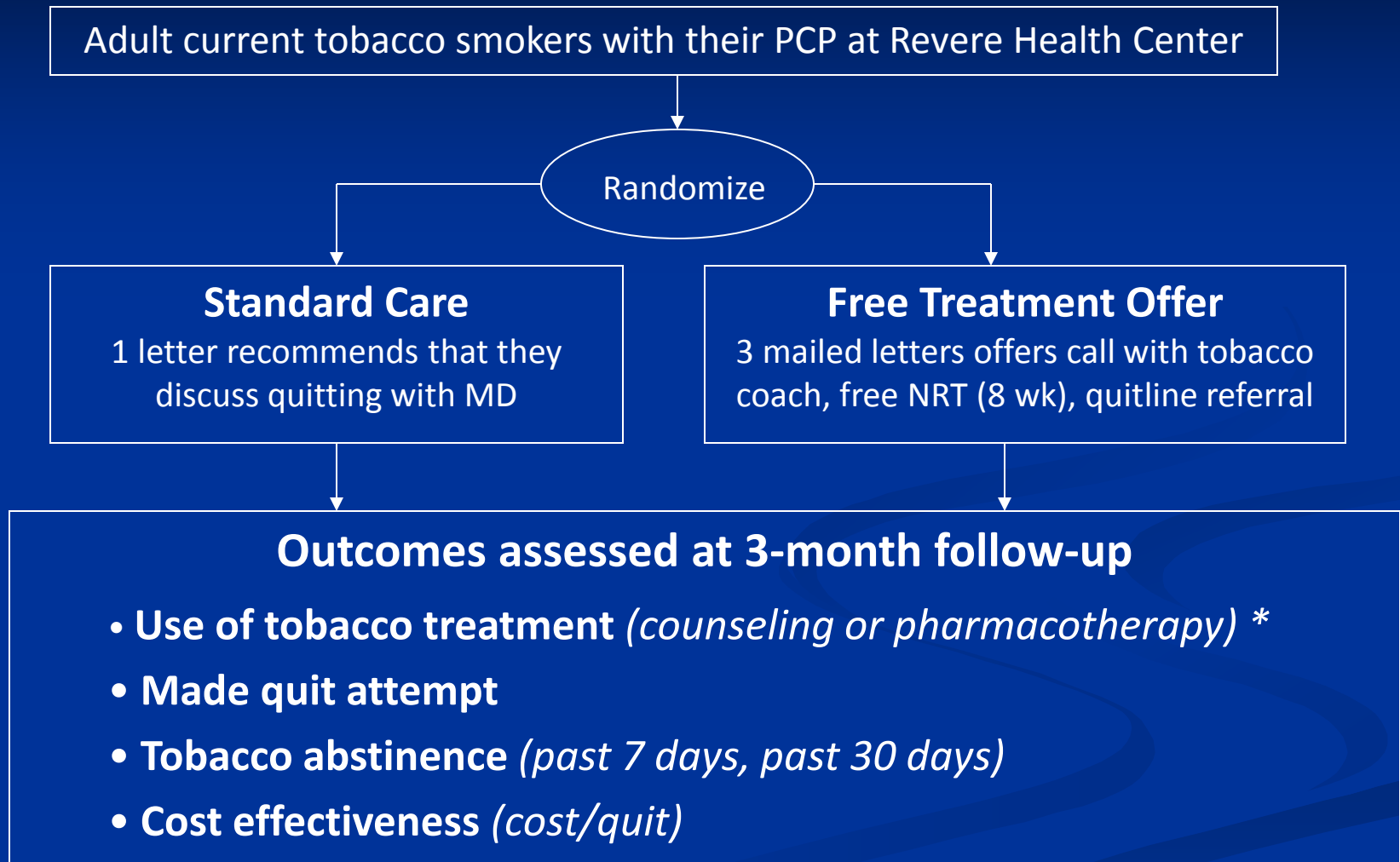
Medication

- Mail free NRT for up to 8 weeks

Counseling

- Free phone call with Tobacco Coach
- Tobacco Coach makes fax referral to state quitline for free counseling

Direct to Smokers Study



Direct-To-Smoker Results

Patient Response To Offer

- 43 (10.3%) of 413 smokers in the DTS group accepted the treatment offer
- 42 (98%) requested NRT; 30 (70%) were referred to counseling

3-Month Follow-Up	Control N=177	Intervention N=413
Used any tobacco treatment	13 (7.3%)	60 (14.5%)*
Any counseling	2 (1.1%)	7 (1.7%)
Any medication	12 (6.8%)	55 (13.3%)*
Nicotine Replacement Therapy	7 (3.9%)	48 (11.6%)*
Bupropion or varenicline	7 (3.9%)	15 (3.6%)
Tobacco abstinence past 7 days	2 (1.1%)	22 (5.3%)*
Tobacco abstinence past 30 days	1 (0.6%)	17 (4.1%)*

Cost Effectiveness

- **\$464 Estimated marginal cost per 7-day quit at 3 months**

* P < .05 in multiple logistic regression model adjusted for age, sex, race, insurance, CHD, diabetes

Newer Population Health Approach

- CLIQ Study (RCT)

Target patients identified as smokers in EHR

IVR system makes “cold calls” to smokers

Offers free NRT and telephone counseling (8 wks)

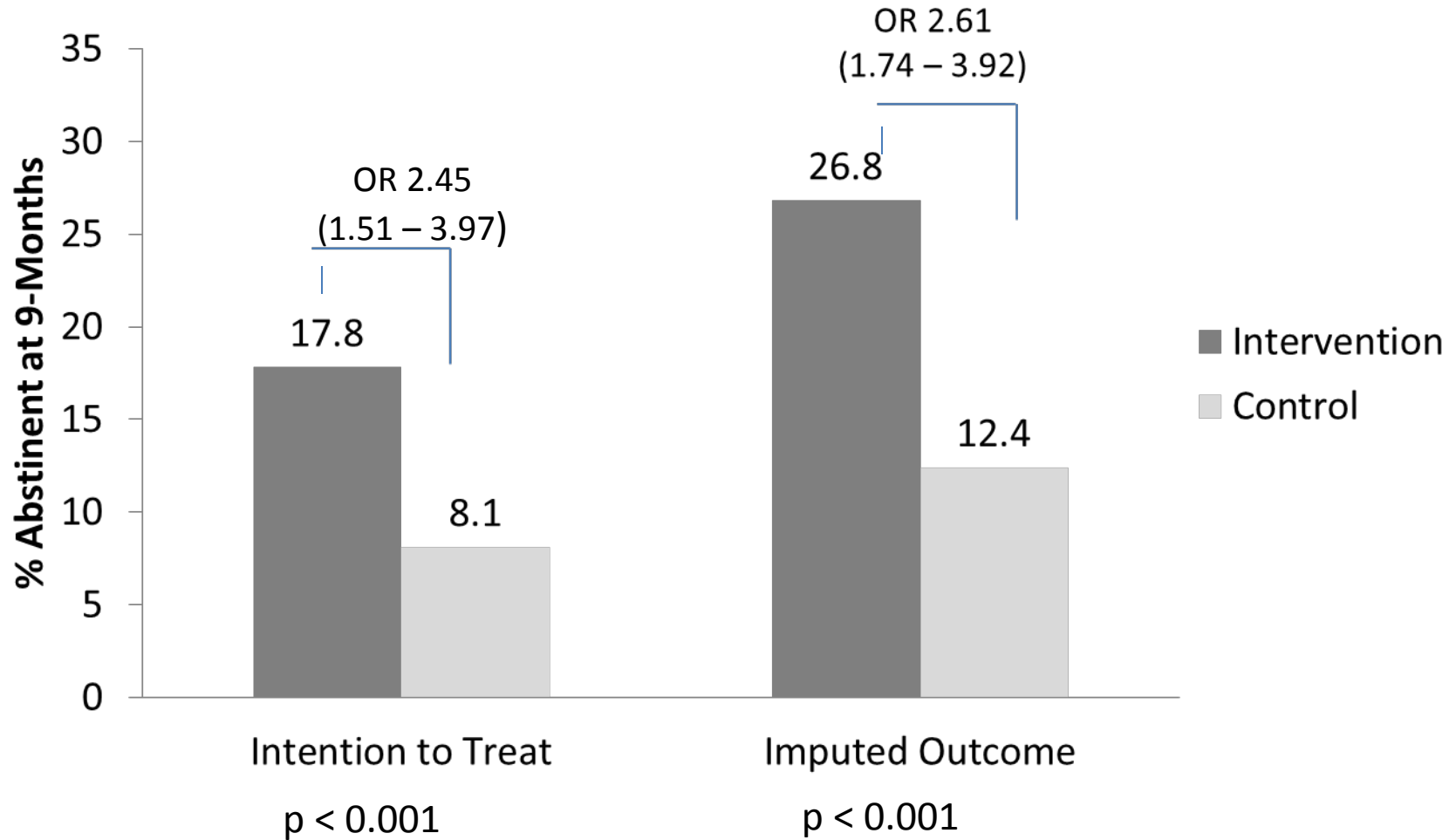
Measure quit rates (self-report) at 9 mo follow-up

Test effectiveness: Compare to usual care

CLIQ Study

Haas et al. *JAMA Intern Med* (2014)

Figure 2. Self-report 7-day Tobacco Abstinence 9-months Following Randomization



TREATING TOBACCO USE AS A CHRONIC DISEASE

- **Chronic disease management**
 - Coordinate care across systems and over time
 - Multidisciplinary team of providers
 - Meet the smoker wherever he/she appears
- **Population health management**
 - Inpatient
 - Outpatient
 - Direct outreach

Take Home Message

Treat Tobacco Use Like a Chronic Disease

**It needs long-term management and
as much of your attention as
treating hypertension and diabetes**