How can we help more smokers quit?
Broadening the Reach of Evidence-Based Tobacco Cessation Programs

David W. Wetter, Ph.D.
Jon M. and Karen Huntsman Presidential Professor
Director, Center for HOPE
(Health Outcomes and Population Equity)

Cho Lam, Ph.D.
Associate Professor

Thank you to the National Cancer Institute, National Institute on Drug Abuse, National Institute on Minority Health and Health Disparities, Centers for Disease Control, Cancer Prevention Research Institute of Texas
• Center for HOPE

• Opportunities and challenges with respect to increasing the reach of evidence-based smoking cessation treatments

• Partnerships between Quitlines and healthcare systems as one potential approach (3 Randomized Clinical Trials)
  • Ask – Advise – Connect (2 Trials)
  • Project Health: Testing behavioral and pharmacological approaches to increasing reach among unmotivated smokers

• Partnerships with Mental Health Facilities (2 Implementation Projects)
  • Tobacco Free Campus
  • Project TEACH

• Summary/Next Steps/Future Directions
Team Science
(active current collaborators)

University of Utah
• Neng Wan, Ph.D.
• Tom Greene, Ph.D.

Rice University
• Chris Fagundes, Ph.D.

UT M.D. Anderson Cancer Center
• Paul Cinciripini, Ph.D.
• Jan Blalock, Ph.D.
• Liang Li, Ph.D.

UT School of Public Health
• Maria Fernandez, Ph.D.

UT School of Social Work
• Yessenia Castro, Ph.D.

Georgia State University
• Claire Adams, Ph.D.

Moffitt Cancer Center
• Christine Vinci, Ph.D.

University of Memphis
• Santosh Kumar, Ph.D.

Ohio State University
• Emre Ertin, Ph.D.

Georgia Tech
• Jim Rehg, Ph.D.

University of Houston
• Virmarie Correa-Fernandez, Ph.D.
• Lorraine Reitzel, Ph.D.

Oklahoma Cancer Center
• Jennifer Irvin Vidrine, Ph.D.
• Darla Kendzor, Ph.D.
• Michael Businelle, Ph.D.

Austin Travis County Integral Care
• Bill Wilson, Ph.D.
The Center for HOPE: Infrastructure and bridge between scientists and community organizations (e.g., health care, government, education, nonprofits, faith based, social services) throughout Utah and the Mountain West.

Mission: Bring communities and researchers together to create long-term solutions to prevent cancer and improve health among underserved and rural/frontier populations.

Vision: A region (Mountain West) with equity in cancer incidence, morbidity and mortality (i.e., no cancer health disparities).

Major Research Foci:

- Cancer health disparities, particularly those related to socioeconomic status, rural/frontier status, and ethnicity
- Implementation and dissemination of evidence-based interventions for cancer prevention and control
- Behavioral interventions to reduce cancer risk (e.g., tobacco cessation, HPV vaccination)
Opportunities and Challenges with respect to Increasing the Reach of Quitlines

Opportunities

- Approximately half of all smokers attempt to quit each year, but the vast majority do not engage in evidence-based treatment (only about 6% of smokers successfully quit each year)

- Quitlines are wonderful vehicles for delivering evidence based tobacco dependence treatments and have tremendous potential reach
  - 95% of US households have telephone service
  - Efficacy of Quitlines supported by >5 meta-analyses
  - Quitline counseling addresses numerous barriers to receiving behavioral treatment
    - convenient
    - treatment dose can be tailored to individual needs
    - available in multiple languages
    - time commitment is reduced
    - requires no travel, childcare, or parking
    - overcomes literacy problems of written self-help materials or web-based approaches
    - inexpensive relative to equally effective in-person treatments

Challenges

- Quitlines are grossly under-utilized (treating only 1-2% of smokers annually)
Can we partner with healthcare systems to increase the reach of evidence-based tobacco use treatment via Quitlines?

**Opportunities**

- Healthcare systems have tremendous reach - 70% of smokers see a primary care provider at least once per year
- Healthcare systems provide an infrastructure for delivery or dissemination of evidence-based cessation treatments
- Partnerships directly respond to numerous calls to improve dissemination of evidence-based tobacco treatments through partnerships with health care providers

**Challenges**

- Tobacco treatment not well integrated with health care
  - 5 As (Ask, Advise, Assess, Assist, Arrange); Ask-Advise-Refer
- Time and competing demands in primary care
- Referrals to quitlines in primary care settings are low
- Even when referred, the vast majority of smokers fail to follow through
Ask – Advise – Connect
• Developed partnerships with two healthcare systems to test a system change designed to connect smokers with treatment delivered via the Texas Quitline

• Kelsey-Seybold Clinics (KSC)
  - Primarily employed, insured, and of higher SES

• Harris Health
  - Safety net health care system for the 3rd largest county in the U.S.
  - 2 hospitals, 35 clinics
  - >1 million unique patient visits per year for primary care
  - Poor (44% live under the poverty line; almost half are uninsured)
  - Diverse (56% Latino; 26% African American; 4% Asian)

Study Design (Two RCTs)

- Two pair-matched, group-randomized clinical trials
  - Study 1: 10 Kelsey-Seybold family practice clinics (9 months)
  - Study 2: 10 Harris Health community health centers (18 months)

- Randomization: Clinics randomized to:
  - **Ask - Advise – Refer (AAR)**
    - Ask – systematically identify all smokers at every visit
    - Advise – strongly urge all smokers to quit
    - Refer – refer patients to Quitline for assistance and provide a referral card
  - **Ask - Advise – Connect (AAC)**
    - Ask – systematically identify all smokers at every visit
    - Advise – strongly urge all smokers to quit
    - Connect – directly send patient information to Quitline through the Electronic Health Record (EHR); Quitline proactively calls patient within 48 hours (5 attempts)

- Treatment enrollment tracked and recorded by Quitline staff
  - Weekly reports (enrolled, declined, needs call back, unreachable)
Kelsey-Seybold Study Results
(N = 32,701 unique patients)
(N = 3,663 smokers; 11.2%)

AAC associated with 13-fold increase in smoking cessation treatment enrollment compared to AAR

Harris Health Results
(N = 112,112 unique patients)
(N = 17,959 smokers; 16.0%)

AAC associated with a 29-fold increase in smoking cessation treatment enrollment compared to AAR

OR = 32.1 (p=.0001)

0.5%
14.7%

Real World Dissemination of AAC

Implementation of an Automated EMR System to Connect Smokers in a Safety Net Healthcare System with Treatment

- Completed grant to implement AAC in Harris Health
- Collecting biochemically verified 6-month smoking abstinence rates
  - 7-day point prevalence (ITT) = \( \frac{369}{2,081} \) = 18%
  - 7-day point prevalence (completers only) = \( \frac{369}{1,237} \) = 29%

Use of an Automated EMR System to Link Underserved Smokers with Cessation Treatment

- Recently completed grant to implement AAC at Good Neighbor Healthcare Center (GNHC)

Disseminating AAC

- Ongoing project supported by CMS Medicaid 1115 Waiver (DSRIP)
- Implementing AAC in 5 FQHC systems comprising 10 clinics
- Collecting biochemically verified 6-month abstinence data
AAC Summary

• AAC resulted in 13- to 30-fold increase in treatment enrollment

• Effect size larger in safety net healthcare system

• 6-month abstinence rates among very low SES, safety net health care system patients were generally equivalent to typical Quitline rates - 18% (ITT) and 29% (completers)

• AAC has tremendous potential to increase delivery of evidence based treatment via population level scale up

• AAC type approach (e.g., E-Referral) is now being implemented at many Quitlines around the country

• AAC is a good model of using the health information technology infrastructure that could be expanded to other clinical and preventive services
What’s the Problem Though?
• **Problem**
  - Only 15% of smokers at Harris Health engaged in treatment (even less at Kelsey)
  - Just like at Harris Health, 80-90% of current smokers are not currently ready to quit smoking (over 41 million people)
  - 83% of Quitlines will not treat smokers who are not ready to quit

• **Project HEALTH behavioral intervention as one potential approach**
  - Project HEALTH tested a behavioral approach to increasing the use of Quitline-delivered cessation treatment among *low income smokers who were not motivated to quit* (participants were drawn primarily from Harris Health)
Motivation And Problem Solving (MAPS): A Hybrid Behavioral Approach

- **Motivational Enhancement Framework**
  - Motivation changes rapidly and treatment strategies should change to match motivation

- **Social Cognitive/Cognitive Behavioral Strategies**
  - Strong empirical support for problem-solving/coping skills training approach

- **Case Management/Patient Navigation (Wellness Program)**
  - Includes plan and assistance for dealing with stressors and concerns presumed to influence behavior change

- **Chronic Care Model**
  - Continuing proactive care throughout the process of cessation including recycling and relapse prevention

- **Tailored for underserved populations**
  - Approach has been modified and refined over the course of almost 20 years based on extensive feedback and data from underserved populations (e.g., low SES, minority)
### Study Design and Participant Characteristics

#### Standard Treatment (ST)
- ST (Self-help materials; Referral to Texas Quitline; repeated every 6 months)

#### MAPS - 6
- ST
- 6 MAPS calls

#### MAPS - 12
- ST
- 12 MAPS calls

- Participants followed for 2 years (N=603)
- Five assessments: Baseline, 6, 12, 18, and 24 Months
- All participants (i.e., in any treatment cell) can receive up to 600 pieces of nicotine gum *when ready to make a quit attempt*

#### Demographics

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Overall Sample</th>
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<tbody>
<tr>
<td>Age</td>
<td>46.9(10.7)</td>
</tr>
<tr>
<td>Gender (% female)</td>
<td>54.2</td>
</tr>
<tr>
<td>Race (%)</td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>18.4</td>
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<tr>
<td>African American</td>
<td>63.0</td>
</tr>
<tr>
<td>Latino</td>
<td>7.5</td>
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<tr>
<td>Other</td>
<td>11.1</td>
</tr>
<tr>
<td>Partner Status (%)</td>
<td></td>
</tr>
<tr>
<td>No Partner</td>
<td>79.8</td>
</tr>
<tr>
<td>Total Household Income</td>
<td></td>
</tr>
<tr>
<td>&lt;$30,000/year (%)</td>
<td>92.0</td>
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<tr>
<td>Education (%)</td>
<td></td>
</tr>
<tr>
<td>≤ High School/GED</td>
<td>27.2</td>
</tr>
<tr>
<td>Cigarettes/Day</td>
<td></td>
</tr>
<tr>
<td>10 or fewer</td>
<td>34.5</td>
</tr>
<tr>
<td>11-20 Per Day</td>
<td>44.0</td>
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<tr>
<td>21-30 Per Day</td>
<td>15.8</td>
</tr>
<tr>
<td>31 or more Per Day</td>
<td>5.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Follow-up (%)</th>
<th>6 Months</th>
<th>12 Months</th>
<th>18 Months</th>
<th>24 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Months</td>
<td>72.6</td>
<td>66.3</td>
<td>65.7</td>
<td>61.7</td>
</tr>
</tbody>
</table>
### Reach (Receipt of Quitline Treatment) - MAPS

<table>
<thead>
<tr>
<th>Avg. Calls Received</th>
<th>6 Months</th>
<th>12 Months</th>
<th>18 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAPS - 6</td>
<td>2.9</td>
<td>3.6</td>
<td>3.9</td>
</tr>
<tr>
<td>MAPS - 12</td>
<td>3.5</td>
<td>4.9</td>
<td>5.9</td>
</tr>
</tbody>
</table>

**Follow-Up timepoints (Months):**

**Percent Receipt of Quitline Treatment**

- **MAPS-12 vs. ST:** P=0.031
- **MAPS-6 vs. ST:** P=0.057

**Diagram Key:**
- ST
- MAPS-6
- MAPS-12
Summary

• Key Conclusions:

• Proactive counseling (MAPS) is effective with respect to increasing treatment engagement among unmotivated smokers

  • Might be particularly appropriate for use in a stepped care approach or with smokers at high risk for disease or disability (e.g., cardiac patients)

• A relatively large proportion of unmotivated smokers, approximately 25-35%, will engage in treatment simply with a repeated offer of treatment

  • Repeated offers of treatment using simple, low cost strategies or technologies (e.g., texts), should they be demonstrated to be effective, might lend themselves well to large population level scale up
Taking Texas Tobacco Free, or TTTF, is a three-year cancer prevention project funded by the Cancer Prevention and Research Institute of Texas (CPRIT)
Psychological Distress and Smoking

Figure 1. Smoking rates for US civilian noninstitutionalized adults 1997–2014, by sex and level of psychological distress. Figure shows original survey estimates for each year with 95% confidence intervals and trend line estimated using exponential smoothing.

Lawrence & Williams, *Nicotine & Tobacco Research*, 2016, Vol. 16, No. 6
Mentally Ill Persons Experience Disproportionate Harm from Smoking

- Persons SMI have higher rates of death and disabilities (Mauer et al., 2006, Colton et al., 2006, Schroeder et al., 2010)
  - Person with SMI die, on average, 25 years earlier than those without SMI

- Smoking is one of the leading risk factors associated with mentally ill persons’ shorter lifespan and higher rate of disabilities (Mauer et al., 2006, Colton et al., 2006, Schroeder et al., 2010)
  - Persons with SMI may account for as many as 200,000 of the 440,000 smoking-attributable premature deaths every year

- Despite a clear and demonstrated need to reduce smoking among persons with SMI, their smoking status is rarely assessed and smoking cessation interventions are seldom incorporated into their treatment plan
The goal of TTTF, a multi-levels, multi-components program, is to increase the REACH of smoking assessment and cessation services for Texans with mental illness.

Achieve this goal through:

- **Clinic** – Implement tobacco-free campus policies at Local Mental Health Authorities and integrate tobacco use assessment & treatment into consumer care.

- **Employee** – Providing tobacco education to LMHAs employees.

- **Provider** – Providing tobacco assessment and treatment training to LMHAs providers.

- **Community** – Increasing education and outreach.
Why Tobacco Free Policies?

• Workplace with complete smoking ban…
  • Has fewer employees who smoke (i.e., more non-smokers and ex-smokers) Hopkins et al., 2010
  • Reduces exposure to environmental tobacco smoke among non-smokers
  • Smokers smoke fewer cigarettes per day, are more likely to consider quitting, and quit at higher rates Brownson et al., 2002, Hopkins et al., 2010
  • Helps ex-smokers maintain abstinence by eliminating smoking cues and temptations in the workplace
Barriers to Implementing Smoking Assessment/Treatments in Mental Health Facilities

- **LMHA staff:**
  - Are unfamiliar with the fact that persons with SMI are more likely to smoke
  - May not understand the full extent of the association between smoking and mental illness
  - Are unfamiliar with the profound smoking-related health disparities experienced by persons with SMI
  - May believe that banning smoking would exacerbate consumers’ psychiatric symptoms, increase behavioral problems, and hasten consumers’ relapse or premature withdrawal from treatment programs
  - Do not consider helping consumers stop smoking as part of their professional responsibility
  - Do not feel confident about their abilities to deliver smoking cessation treatment to consumers

- These barriers result in a mental health culture that reinforces smoking and neglects the needs of smoking cessation treatments
• Kick-off meeting
  • Readiness survey
    • Needs & readiness
    • Selected 18 LMHAs
  • Memorandum of understanding
    • Defined responsibilities in a collaborative manner
• Technical assistance/Consultation
• Nicotine patches and gum
• Signage
Employee-level components

• On-site tobacco education workshop for all staff (clinical and non-clinic) at each LMHA
  • Nicotine addiction
  • Hazards of smoking
  • High rates of smoking among persons with SMI
  • Smoking-related health disparities experienced by persons with SMI
Provider-level components

• On-site tobacco use assessment and treatment training workshop for all clinical providers at each LMHA.
  • Brief, evidence-based tobacco use assessment and treatment (Ask, Advise, Assess, Assist, Arrange follow-up)
• 1-day Motivational Interviewing (MI) workshop.
• 2-day *Treating Tobacco Dependence in Mental Health Settings* workshop for prescribers.
• 5-day Certified Tobacco Treatment Specialist Training.
Community-level components

• Social media, health fairs, and print materials.
Results

- All 18 LMHAs have implemented 100% tobacco-free campus policies (half of all counties in Texas)
- Over 5,000 staff and 150,000 consumers have been protected from tobacco smoke exposure
- Over 2,000 clinical employees completed tobacco assessment and treatment training
- Over 200 counselor completed Motivational Interviewing training
- Over 75 prescribers completed specialized training on using pharmacotherapy to treat smoking cessation
- Over 60 clinical providers have completed training and were certified as Tobacco Treatment Specialist
Providers Were More Likely to Assess & Treat Smoking

- Ask, Advise, Assist, Arrange

- NRT, Some Treatment

Pre-Implementation vs. Post-Implementation
Community-level Results

- We estimated that we have reached over 117,000 individuals through various channels of community education and outreach
  - Distribution of tobacco cessation leaflets and brochures
  - Health and wellness fairs
  - Tobacco-free anniversary announcement in local newspapers
  - Facebook https://www.facebook.com/TakingTexasTobaccoFree/
  - Tobacco cessation videos on YouTube https://www.youtube.com/channel/UC3bYTjR1f0oqmWJTBlyv89g)
  - TTTF website www.takingtexastobaccofree.com
  - Professional conferences
“If our consumers need additional treatments beyond the interventions offered by TTTF, our staff may not be able handle them.”

- Complex relationship between tobacco use & SMI
- Severe nicotine dependence
- Symptoms interfere with quit attempt
- “Chantix issue”
- Nicotine influences metabolism of psychiatric medications

Project TEACH – Tobacco Education and Cessation in the Health System

- Expands on TTTF—provides additional training and support to LMHAs’ staff
- MD Anderson Cancer Center Moon Shots Program
ECHO (Extension for Community Healthcare Outcomes)

• TEACH use ECHO to links specialists at an MD Anderson’s Tobacco Treatment Program (TTP) with providers at LMHAs

• Tele-mentoring
  • Distance learning for health professionals
Every week, LMHAs’ staff attend a TEACH meeting and meet with TTP specialists via videoconferencing.

Join meeting using any devise (desktop computer, iPad, phone).

Each meeting has two elements:
- Didactic presentation (one-to-many)
  - 18 different training topics that address needs for prescribers and counselors
- Case consultation (many-to-many)
  - Community providers sharing knowledge with one another

TEACH has completed 2nd year of project
- 39 meetings/year
- 22 attendees/meeting
• Creating partnerships tailored to the needs of specific settings and partners (e.g., health care, mental health facilities) can dramatically increase the reach of evidence-based tobacco cessation treatments (e.g., Quitline, counseling, NRT)

• Specific strategies shown to be effective include Ask-Advise-Connect, proactive counseling (MAPS), tobacco-free policies, tobacco assessment & treatment training

• This work can serve as models for integrating tobacco cessation services into settings that focus on helping underserved populations (e.g., safety net health care systems, mental health facilities)
Future Directions

• There is still a critical need to increase the reach of evidence based treatments into low SES populations – that is where we will get the most bang for our cessation buck (in our opinion)

• Identifying factors that influence adoption, implementation, and sustainability of systems to engage and treat smokers is a critical area for further study (e.g., implementation and dissemination science)

• Developing and evaluating new strategies for increasing reach is also a critical area for further study (e.g., multi-level approaches for increasing the impact of healthcare systems addressing low income populations):
  • Clinic-level
  • Provider team-level
  • Patient-level

• Implementing strategies for broad scale dissemination (e.g., can we design interventions for disseminating AAC more broadly?)
QUESTIONS?

THANK YOU. THANK YOU. THANK YOU.
from the bottom of my heart.

how can I ever thank you

thank you

gee thanks. you are the best. thanks.

THANKS 1,000,000

thanks a bunch. ahh thanks

thank you

thank you.

thank you :: thank you :: thank you :: thank you :: thank you :: thank you :: thank you

thank you ever so much
WE CAN HELP YOU QUIT SMOKING

The Project On-Track research study provides FREE nicotine patches and quitting advice to participants, as well as monetary compensation.

PARTICIPANTS MUST:
- Be age 19 and older
- Have a working phone number
- Speak, read, and write in English
- Be interested in quitting smoking

Contact us to learn more:
801-213-6190
ontrack@hci.utah.edu