

# **Smoking Cessation Programs for Chinese American Smokers: Challenges and Preliminary Findings from Two Randomized Trials**

**Candice Wong, MD, PhD and Janice Tsoh, PhD  
University of California San Francisco**

**AANCART Meeting  
December 11, 2006<sup>1</sup>**

# *Agenda*

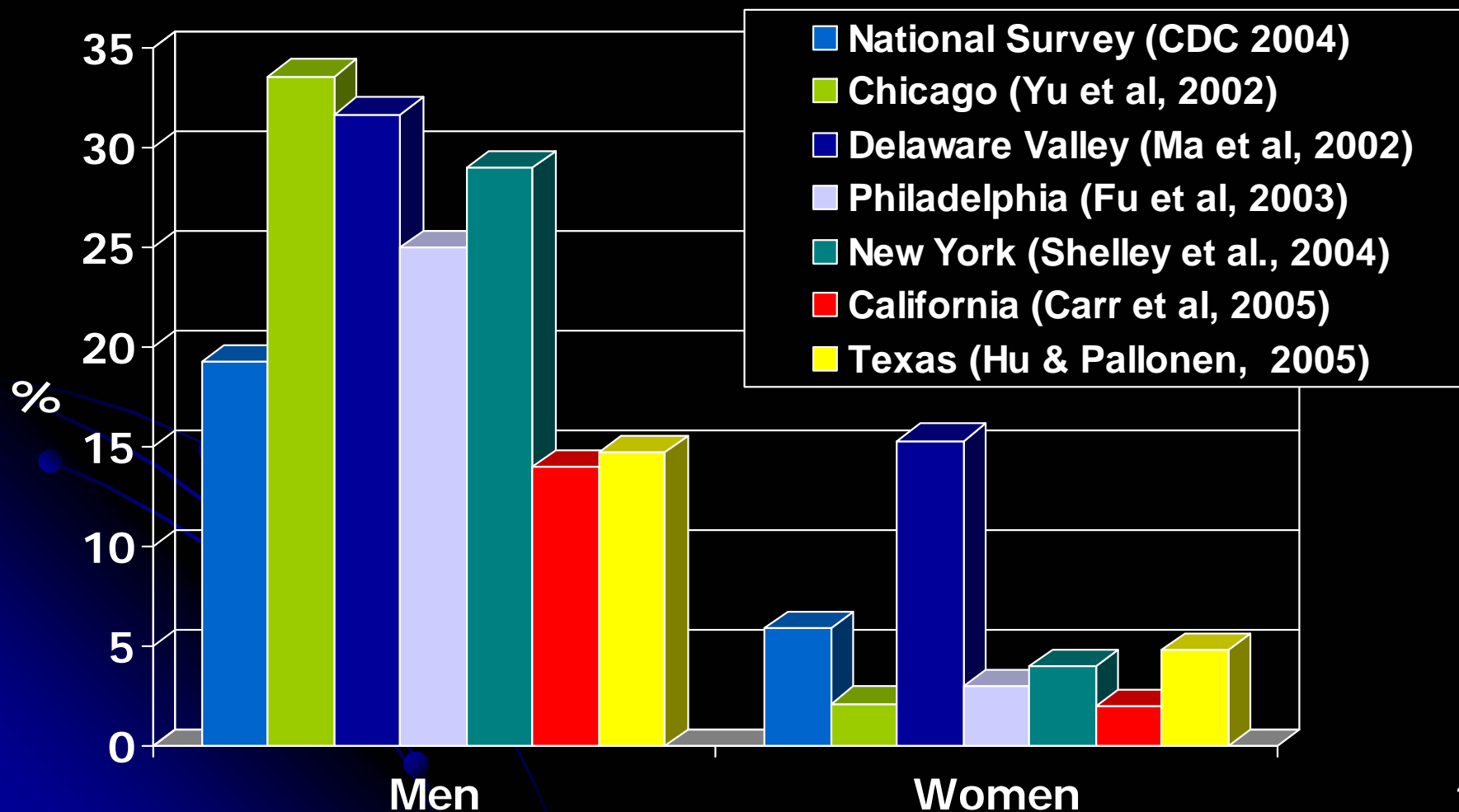
**From Two randomized smoking cessation clinical trials conducted in Northern California:**

- ❑ **Study design and intervention**
- ❑ **Challenges**
- ❑ **Baseline characteristics of Chinese American smokers**
- ❑ **Preliminary findings from each trial**
- ❑ **Future directions**

# *Background*

- ❑ Empirical data on effective smoking cessation strategies targeting Chinese American smokers, especially new immigrants, are scarce.
- ❑ Almost 70% of Chinese Americans are first generation immigrants with over 90% originating from China (U.S. Department of Homeland Security, 2004) where smoking prevalence among men is high (e.g. Gu et al., 2004), .
- ❑ The prevalence rates of smoking ranged from 9.7% among English-speaking Chinese (Chen, Cruz, Unger, & Johnson, 1998) to 34% among Chinese men residing in Chicago (Yu, Chen, Kim, & Abdulrahim, 2002).

# Smoking Prevalence of Chinese Residing in U.S. (published data since 2000)



# CHINESE COMMUNITY SMOKING CESSATION PROJECT



AANCART Pan Asian Council Meeting

December 11, 2006

Supported by the National Heart, Lung and Blood Institute 1 R01 [HL69363](#)

**Investigators:** Candice Wong, Janice Tsoh,  
Elisa Tong, Bruce Cooper, Neal Benowitz,  
Sharon Hall

**Community Partners:** Chinese Community Health  
Plan, Chinese Community Health Care  
Association, Chinese Hospital, Chinatown Health  
Center, Sunset Health Services, Kaiser  
Permanente Medical Group

**Consultants:** Fred Blake Hom, Edward Chow,  
Elena Tinloy, Angela Sun, Lei Chun Fung, Louisa  
Leung, Gene Lau

# Design

## 5-Year Prospective study:

- To test the efficacy of a multi-component, smoking cessation and relapse prevention intervention
- To examine a set of measures (e.g. psychosocial and smoking process) that are associated with smoking cessation

## Randomized clinical trial to compare:

Minimal vs. Intensive interventions

## Follow-up to assess smoking status:

6-, 12- and 24-month assessments

# Inclusion Criteria

- Self identified as Chinese descent
- Adult 18 years and above
- Smoked a cigarette, cigar, or tobacco pipe during 3 months prior to hospitalization
- Resides in San Francisco Bay Area
- Speaks English, Mandarin, or Cantonese
- Not currently engaging in assisted smoking cessation efforts

# How effective are smoking cessation interventions?

**Self-help manual:** OR 1.2 (95% CI 1.01 - 1.51)

**Individual counseling:** OR 1.7 – 3.0 (95% CI 1.4-2.0)

**Telephone counseling:** OR 1.2 (95% CI 1.1-1.4)

**Nicotine replacement therapy:** OR 1.72 (95% CI 1.6 - 1.8)

**Multi-component strategies show quit rate > 40%**

(USDHHS, 2000), (Silagy, 1999), (Fiore, 1996), (Lancaster, 1999B), (Stead 1999)

# Minimal Intervention

- Scripted MD advice
- Nurse/health educator strong message
- *Victory over Smoking* self-help manual
- Smoking cessation medication supplement
- Community resources for smoking cessation programs

# Intensive Intervention

- Scripted MD advice
- Nurse/health educator strong message
- *Victory over Smoking* self-help manual
- Smoking cessation medication supplement
- Community resources for smoking cessation
- 45-min counseling and skill-building session
- Nicotine replacement therapy for high-risk patients

# Intensive Intervention

- *Victory over Smoking* videotape
- Relaxation audiotape
- Five 15-minutes telephone calls at 2, 7, 21, 45, and 90 days
- For slipper/relapser - one additional intervention phone call

為您和您家人而編的  
戒煙指南



# 戰勝吸煙惡習



# Outcomes

- Smoking status at 6-, 12- and 24-months
- Number of quit attempts
- Number of cigarettes smoked/day
- Saliva cotinine level – biochemical verification of abstinence

# Enrollment Sources

<u>Name</u>	<u>%</u>
Chinese Hospital	36.8
Kaiser Permanente	22.1
Media	20.5
Chinatown Health Center	8.9
Sunset Health/Ocean Park	8.1
MD offices	4.8
St. Mary/St. Francis/CPMC/SFGH	3.2
Others	1.8

# Challenges – An Overview

- Hospitals priorities and requirements
- Staff recruitment issues
- Patient recruitment issues
- Dispensing nicotine replacement therapy
- Cross-cultural issues

# Hospitals Priorities and Requirements

- Administrative structures (IRB forms, HIPAA requirements, lack of integration between outpatient and inpatient services, etc);
- No in-hospital smoking cessation program;
- Hospital systems: Admitting, patient relations, IT, QA, nursing, social services, patient education, respiratory, cardiology, pharmacy, chronic disease management...etc.

# Staff Recruitment Issues

- Nursing shortage; Bilingual/trilingual requirements
- Few qualified and experienced with interest in research or smoking cessation program
- Unpredictability of patient referrals and short length of stay → flexibility in work schedule, on-calls, nights and weekends;
- Competitive salary and benefits
- Expand personnel to include educators or nurses from abroad

# Patient Recruitment Issues

- New HIPAA requirements → on-site patient recruiter employed by each hospital
- Lack of bilingual hospital staff to assist with referrals
- Few Chinese patients → frequent reminders
- Departmental meetings, educational seminars, medical grand rounds
- One-on-one meeting with Chinese physicians

# HIPAA Requirements

- Staff training to be in compliance with HIPAA
- Make appropriate translation of HIPAA patient information
- Modification and translation of consent forms specific to each site
- Seek IRB approval for revised consent forms at all sites

# Nicotine Replacement Therapies (NRTs)

- Logistics (Some hospital pharmacies do not stock NRT → ? treatment during hospitalization and discharge medications)
- Insurance coverage for NRT (Co-payments and reimbursements)
- Adjusting NRT protocol and criteria for Chinese patients
- Central pharmacy set-up at Chinese Hospital
- Mail options for patients

# Cross Cultural Issues

- Lack of SS# → alternative form of payment
- Low adherence with nicotine replacement therapy ~ 60% agree to use among those eligible for NRT; ~40% reported actual use, ~25% completed full course of treatment
- Notion of “Quit Date” → total abstinence vs. cut down (44% vs. 25%)
- Importance of MD referral → lower than expected refusal rate (< 10%)
- Minimal loss of follow up at 12- month (~ 8%)

# Treating Chinese American Smokers with an Expert System

PI: Janice Tsoh

Mentors and Advisors:

Sharon Hall, Kevin Delucchi, Neal Benowitz, Marion Lee (UCSF);  
James Prochaska, Joseph Rossi (URI);  
David Takeuchi (Washington University)

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**UCSF**

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“Self-Help Interventions for Chinese Smokers”<sup>23</sup>

# *Objective*

- **This study examined the efficacy of an expert system self-help intervention adapted for Chinese American smokers**

# Expert System Smoking Intervention

- **Stage-based self-help manual**
- **Individualized written feedback**
  - **sections: stage of change, decisional balance (pros and cons), underuse or overuse of different processes, specific strategies, high-risk situations and coping**
  - **comparisons: normative (general population), and ipsative (person's previous scores)**

# Stages of Change for Smoking Cessation

- Precontemplation (PC)
- Contemplation (C)
- Preparation (PR)
- Action (A)
- Maintenance (M)



# *Procedures*

- Recruitment involved media advertisements and invitations to subscribers of a health plan and a ethnic commercial website
- Participants were randomly assigned to receive a standard self-help manual or a stage-based expert system intervention after completing baseline assessment by mail
- Expert system intervention based on the Transtheoretical Model, which consisted of a manual and a series of 3 individualized feedback reports at baseline, 3, and 6 months
- All participants were re-assessed at 3, 6, 12 and 18 months

**UCSF UNIVERSITY OF CALIFORNIA, SAN FRANCISCO**  
**"SELF-HELP INTERVENTIONS FOR CHINESE SMOKERS"**  
**NEEDS YOUR PARTICIPATION**



三藩市加州大學  
華人自行戒煙研究計劃 需要你的參與

■ Researchers at the Treatment Research Center of UCSF are inviting Chinese individuals to participate in a home-based self-help program. The purpose of the study is to test two different self-help smoking cessation interventions and to determine which intervention is more useful to Chinese smokers as an aid in quitting smoking.

- Each participant will receive up to \$70 for participation.
- Study procedures can be completed by mail at your convenience.
- Whether or not you have plans to quit smoking, **we need your participation.**

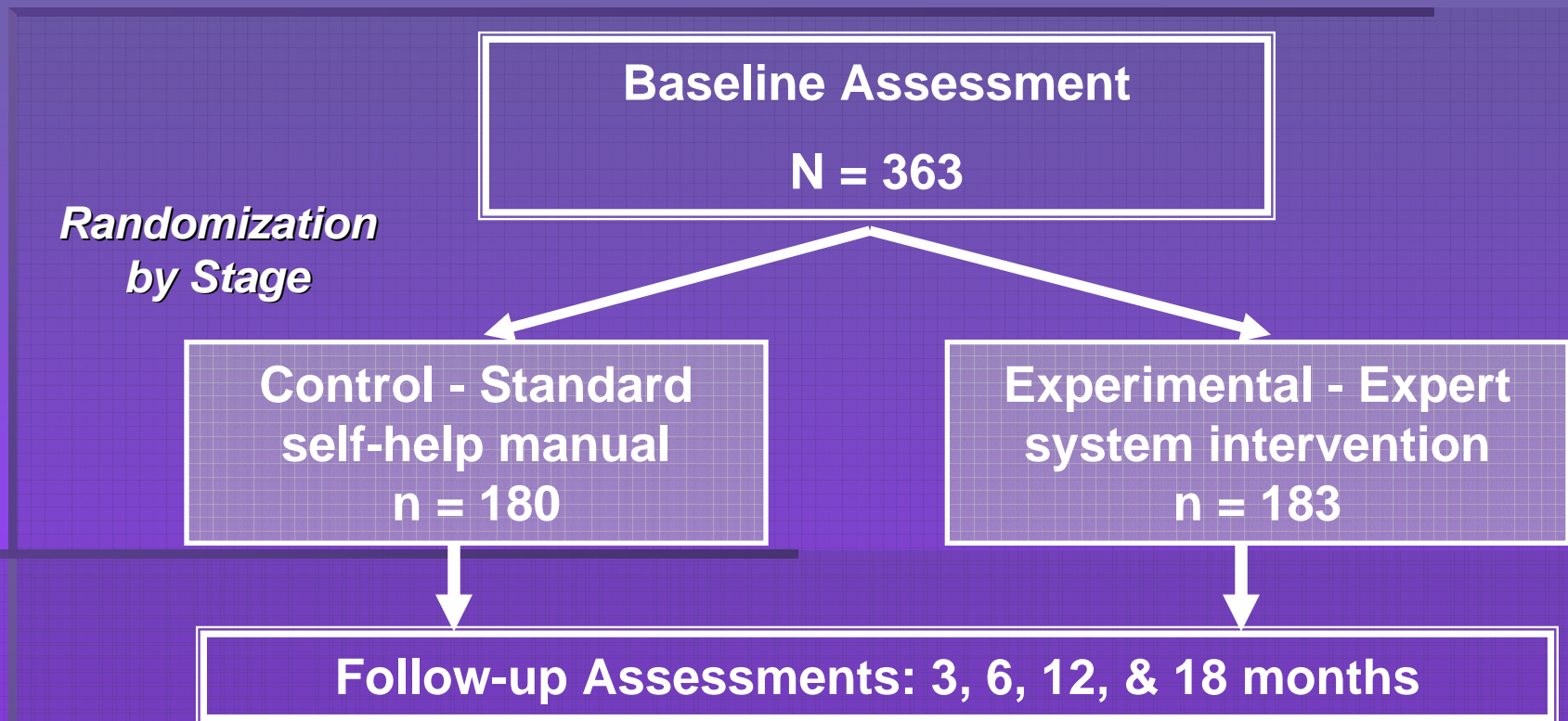
You may be eligible for the study , if you

- are Chinese or Chinese American
- read English or Chinese
- are 18 or older
- smoked at least 5 cigarettes in the last 7 days
- have smoked at least 100 cigarettes in your lifetime
- are not currently involved in any smoking cessation programs

[Chinese Version](#)   [FAQ](#)   [Participate Now!](#)

# *Treating Chinese Smokers with Interactive Expert System*

## **Study Design**



•Participants will be paid \$20 for baseline and \$10 for each follow-up assessment, a bonus \$10 for completing all assessments (total up to \$70)

# Key Challenges

## ❖ Outreach / Recruitment

- ✓ Smokers at various levels of readiness
- ✓ Outreach channels
- ✓ Communication by mail/phone

## ❖ Assessment Tools

- ✓ Translation issues (countries of origins)
- ✓ Literacy required to complete questionnaires
- ✓ Length

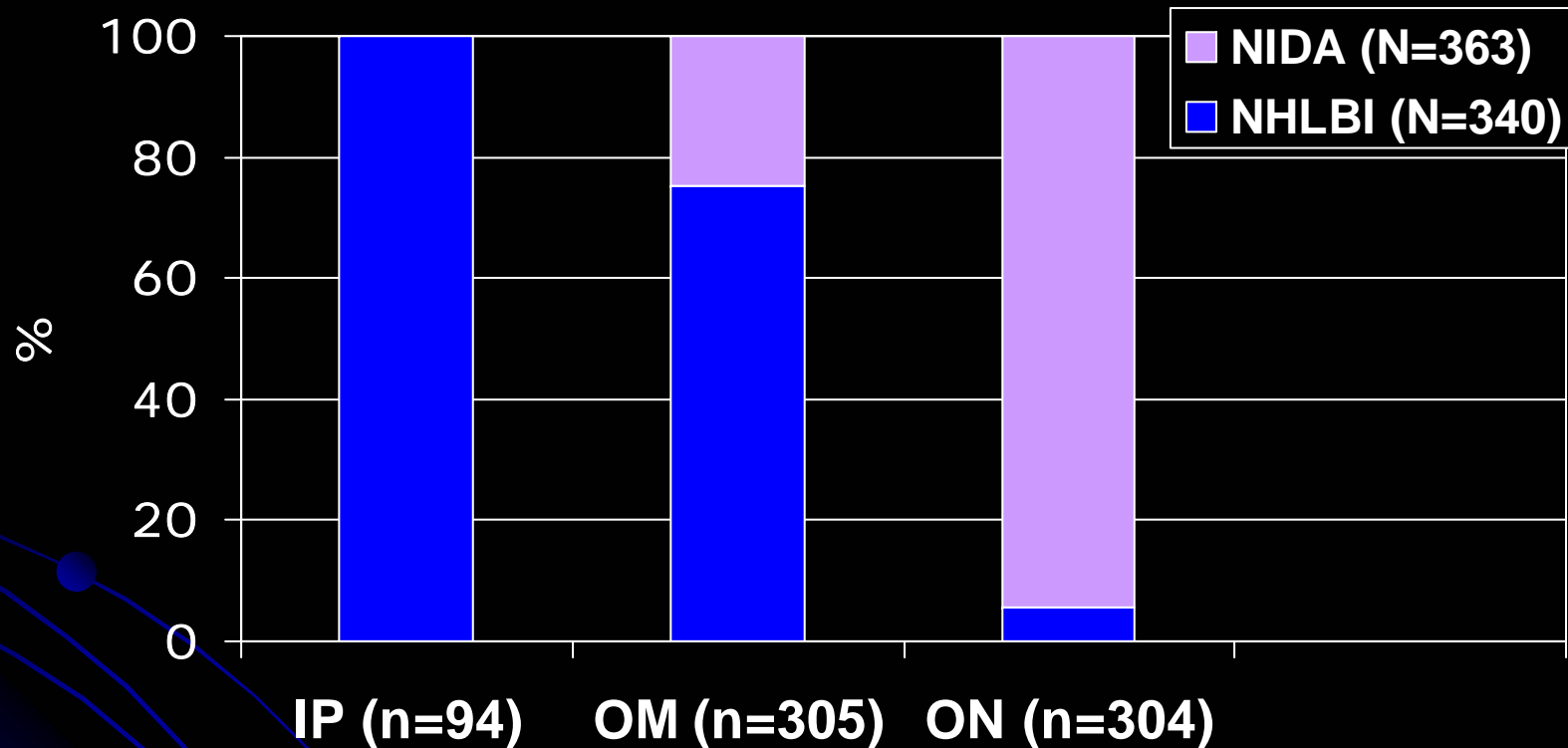
## ❖ Intervention Materials

- ✓ Communication styles/ formats
- ✓ Cultural and linguistic appropriateness  
(e.g., trust & credibility; directive; authority vs respect; being singled-out vs specific tailoring)

# *Baseline Characteristics*

- Combined data from the two clinical trials

## Source of Participants by Health Status at Baseline (N =703)



Note:

- Participants smoked  $\geq 5$  cigarettes in the past 7 days were included.
- Groups: IN = Inpatient/ hospitalized at baseline; OM = outpatient/community with a medical condition; ON = outpatient without a medical condition

## Socio-Demographic Profile of Participants by Health Status at Baseline

	IP n= 94	OM n= 305	ON n= 304	Total N= 703
Mean Age, y $\pm$ SD	65.3 $\pm$ 15	53.8 $\pm$ 14	37.6 $\pm$ 12	48.3 $\pm$ 17
Gender, % female	5.3	9.8	18.8	13.1
<b>Birthplace, %</b>				
USA	2.1	6.6	3.9	4.8
Taiwan	1.1	3.9	19.4	10.2
Hong Kong	4.3	16.4	17.4	15.2
Mainland China	85.1	62.3	54.9	62.2
Vietnam	5.3	6.9	1.3	4.3
Mean Years in USA $\pm$ SD	21.8 $\pm$ 17	20.2 $\pm$ 14	10.6 $\pm$ 8	17.5 $\pm$ 13
English Fluency, % "Not at all"	58.5	24.3	6.9	21.3
Language Preference, % Chinese	94.7	87.2	83.9	86.7
Health Care Coverage, % "Yes"	97.4	84.9	64.4	77.1

## Socio-Demographic Profile of Participants by Health Status at Baseline (continued)

	IP n= 94	OM n= 305	ON n= 304	Total N= 703
Marital Status, % Married	81.9	78.0	66.4	73.5
Education, %				
Less than high school	50.9	19.7	0.7	13.1
High school, some college	34.5	42.5	37.7	39.4
Bachelors or above	14.5	37.8	61.6	47.4
Employment, % work full/part time	26.6	51.5	65.1	53.9
Income, % below 20K/year	63.8	42.6	29.3	39.7

## Baseline Smoking Behavior among Participants by Health Status

	IP n= 94	OM n= 305	ON n= 304	Total N= 703
Mean age first smoke (yrs)	17.3	18.7	18.9	18.6
Mean years smoke regularly $\pm$ SD	45.2 $\pm$ 16	32.6 $\pm$ 14	17.2 $\pm$ 11	26.6 $\pm$ 16
Mean cigs/day $\pm$ SD (avg 7 d)	7.3 $\pm$ 6	11.7 $\pm$ 8	9.5 $\pm$ 7	10.2 $\pm$ 8
Number of cigs/day				
$\leq$ 5	50.0	24.3	33.6	31.7
6-10	26.6	30.2	31.6	30.3
11-20	23.4	37.4	28.9	31.9
>20	0	8.2	6.0	6.1
At least One 24-hr quit attempt past year, %	29.8	48.5	58.4	50.3

## Quit Smoking Methods Used by Health Status at Baseline

	IP n= 94	OM n= 305	ON n= 304	Total N= 703
<b>Quit Method Used Past Year</b>				
“Cold Turkey”	60.6	67.9	52.0	60.0
Cut down cigarettes	1.1	18.0	41.8	26.0
Nicotine gum/patch/spray	7.7	30.8	22.4	24.0
Counseling/Class	1.1	4.9	5.0	4.4
Bupropion	1.1	3.0	0.7	1.7
Stop Smoking Hot Line	0	1.3	2.0	1.4
Herb/acupuncture	1.1	2.3	0.7	1.4

# *Preliminary Findings*

from each trial



# CHINESE COMMUNITY SMOKING CESSATION PROJECT



# Number (%) Self-reported Abstinence at 6-month Follow up Assessment

	In-Pt n=104	Out-Pt n=229	Total N=333
<b>Intensive Arm</b>	28 (54)	32 (27)*	60 (35)
<b>Minimal Arm</b>	27 (52)	18 (16)*	45 (28)
<b>Total</b>	55 (53)	50 (22)	105 (32)

# Number (%) Self-reported Abstinence at 12-month Follow up Assessment

	<b>In-Pt n=98</b>	<b>Out-Pt n=220</b>	<b>Total N=318</b>
<b>Intensive</b>	22 (46)	34 (30)*	56 (35)
<b>Minimal</b>	24 (48)	27 (25)*	51 (33)
<b>Total</b>	46 (47)	61 (28)	107 (34)

# Number (%) Loss of Follow up at 12-month Assessment

	<b>In-Pt</b> 31/131	<b>Out-Pt</b> 22/249	<b>Total</b> 53/380
Adverse Event	21 (68)	1 ( 5)	22 (42)
Consent Withdrawn	2 ( 2)	6 (27)	8 (15)
Loss of Contact	8 (26)	15 (68)	23 (43)
<b>Overall Attrition Rate</b>	<b>24%</b>	<b>9%</b>	<b>14%</b>

# Significant Findings

Compared to in-patient smokers, out-patient smokers:

- Younger age and more acculturated
- Smoked more cigs/day
- Higher nicotine addiction score
- Less confident to stay off cigarette
- Goal of abstinence is to “Slowly Cut Down”

# Significant Findings:

Majority of smokers in our study:

- Smoke few cigs/day
- Have medium-high nicotine addiction score
- Displayed highly addicted behavior ...
  - Smoked more in AM
  - Smoked within 30 minutes from awakening

# Treating Chinese American Smokers with an Expert System

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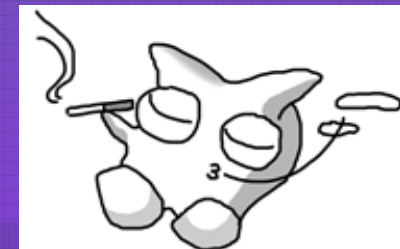
“Self-Help Interventions for Chinese Smokers” 44

# Stage Distribution (N = 363)

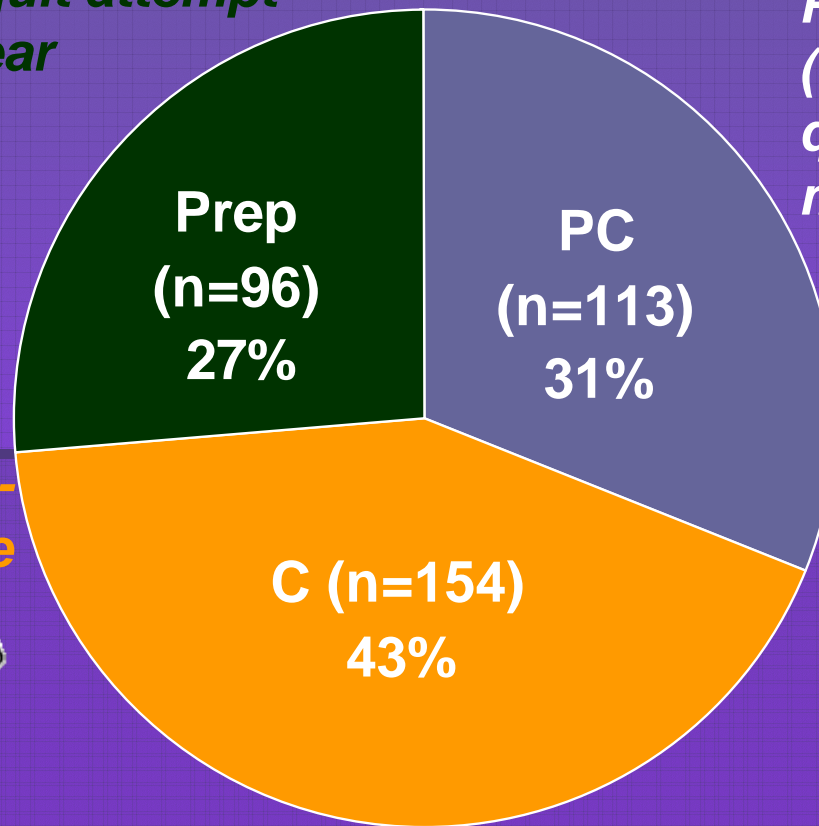
**Preparation (Prep) - Plan to quit within next 30 days + 24hr quit attempt in the past year**



**Precontemplation (PC) - No intent to quit in the next 6 months**



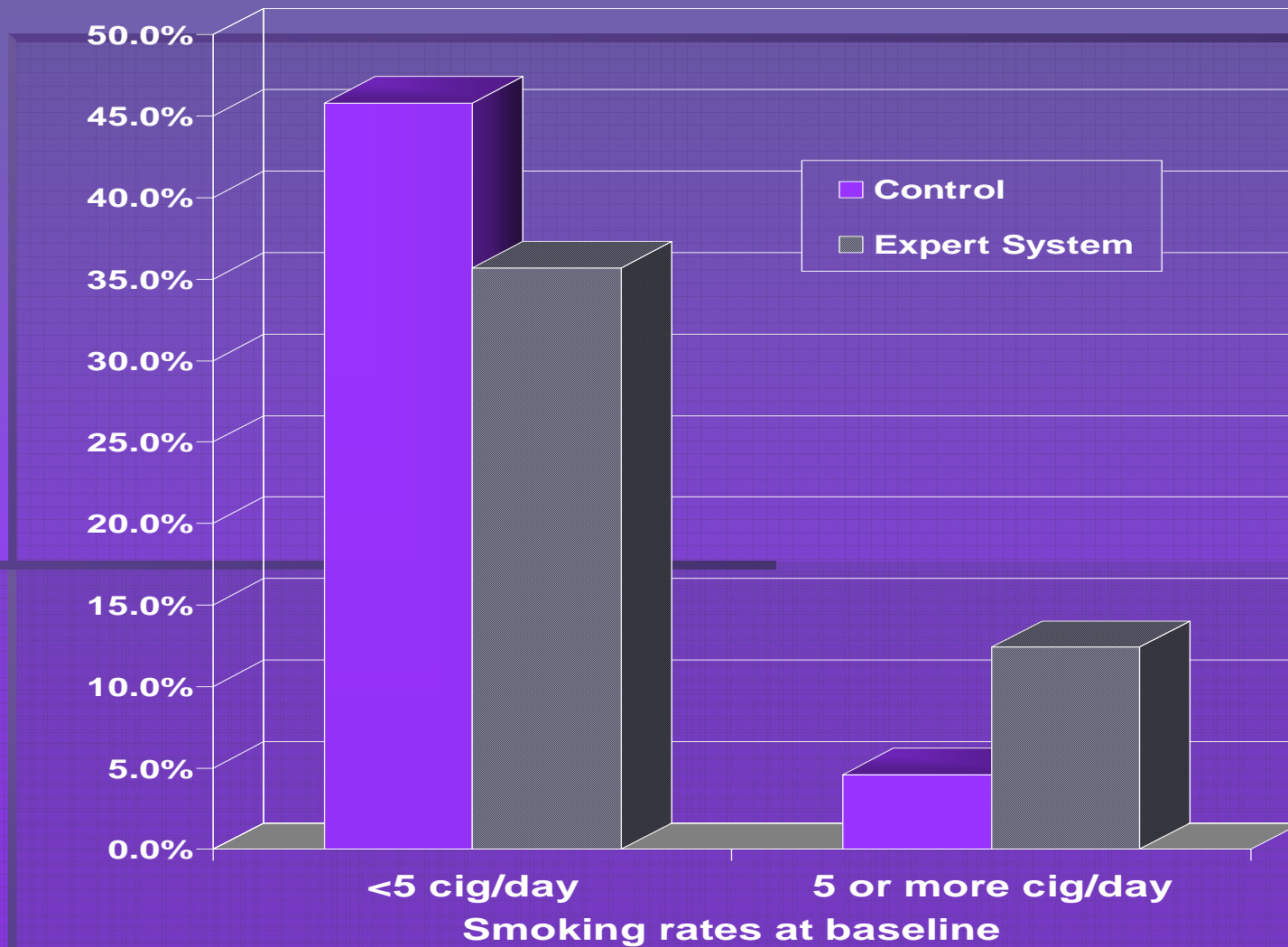
**Contemplation (C) - Intend to quit in the next 6 months**



## *Smoking Outcomes by Treatment Groups*

	<b>Control</b>	<b>Expert System</b>	<b>Whole Sample</b>
<b>N</b>	<b>180</b>	<b>183</b>	<b>363</b>
<b>12-month</b>			
<b>7-day abstinence</b>			
<b>Observed (n = 307)</b>	<b>24.5%</b>	<b>25.8%</b>	<b>25.2%</b>
<b>Intention-to-treat</b>	<b>21.1%</b>	<b>21.3%</b>	<b>21.2%</b>
<b>18-month</b>			
<b>7-day abstinence</b>			
<b>Observed (n = 301)</b>	<b>24.4%</b>	<b>32.9%</b>	<b>28.4%</b>
<b>Intention-to-treat</b>	<b>21.1%</b>	<b>25.7%</b>	<b>23.4%</b>

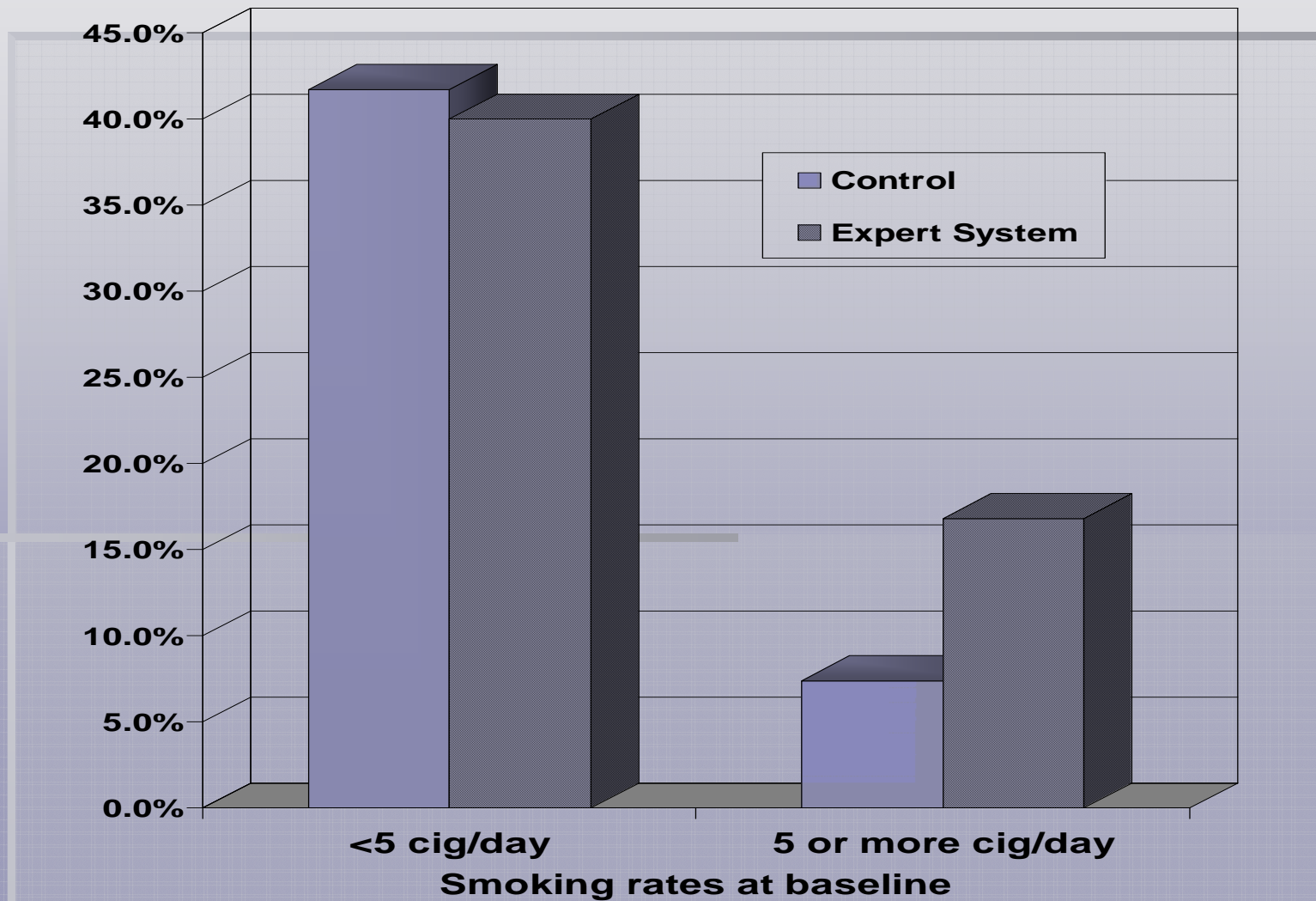
# 12-Month Abstinence by Treatment Groups and Smoking Rates at Baseline



## Predictors of 12-month Abstinence (N=363)

Variable	Odds Ratio	95% CI	Wald $\chi^2$	<u>p</u>
Expert System (ES)	0.65	0.32 - 1.32	1.41	.24
Smoked>5/d (SMK5)	0.11	0.02 - 0.22	22.12	<.001
ES x SMK5	4.71	1.30 - 17.09	4.09	.02
Preparation	2.98	1.63 - 5.43	9.17	<.001
FTND	0.91	0.77 - 1.06	0.97	.23
Age above 40	0.91	0.54 - 1.96	0.07	.93
Medical Condition	2.13	1.08 - 4.22	4.72	.04

# 18-Month Abstinence by Treatment Groups and Smoking Rates at Baseline



## Predictors of 18-month Abstinence (N=363)

Variable	Odds Ratio	95% CI	Wald $\chi^2$	p
Expert System (ES)	0.96	0.48 - 1.93	0.01	.92
<b>Smoked&gt;5/d (SMK5)</b>	<b>0.13</b>	<b>0.05 - 0.34</b>	<b>17.86</b>	<b>&lt;.001</b>
ES x SMK5	2.75	0.89 - 8.47	3.12	.08
<b>Preparation</b>	<b>2.08</b>	<b>1.18 - 3.77</b>	<b>6.41</b>	<b>.01</b>
FTND	0.92	0.80 - 1.07	1.14	.28
Age above 40	1.69	0.94 - 3.04	3.13	.08
Medical Condition	1.56	0.82 - 2.94	1.86	.17

# Summary

- The expert system intervention outperformed a standard manual condition at 12-month for Chinese American smokers who smoked 5 or more cigarettes daily. However, the treatment interaction effect was no longer significant at 18-months.
- Being in the preparation stage of change predicted smoking abstinence at 12 and 18-month regardless of the intervention.
- Have a medical condition were more likely to be abstinence at 12-month regardless of the intervention.

# Implications

- It is feasible to treat Chinese American smokers who are not ready to quit smoking.
- Preliminary findings support the use of a stage-based expert system intervention for treating Chinese American smokers who smoked 5 or more daily.
- Chinese smokers who smoke less than 5 cigarettes per day could benefit from low-cost self-help interventions. Further research exploring effective cessation strategies for light smokers who smoke less than 5 cigarettes/day is warranted.

# *Future Directions*

Need to examine –

- **Longer term follow up**
  - ✓ if abstinence rates increase over time
  - ✓ predictors of long-term abstinence
- **Smoking reduction strategy** with the goal of complete abstinence
- **Significant others' involvement** in smoking cessation efforts
- **Role of CYP2A6 Gene and nicotine metabolism** on abstinence and relapse

# 華人減煙及戒煙研究計劃

## Smoking Reduction & Cessation Interventions for Chinese Smokers

MAIN

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三藩市加州大學 University of California, San Francisco

**JOIN NOW!**



Smoking Reduction and Cessation Interventions for Chinese Smokers  
**NEEDS YOUR PARTICIPATION**

The purpose of this study is to test the efficacy of various strategies in helping Chinese smokers reduce or quit smoking.

All participants will receive up to \$120.

Half of the Participants will receive  
FREE Nicotine gum or lozenge.

All study procedures can be  
completed by mail or online.

### Participants must be:

- Chinese/Chinese American
- Able to read and speak Chinese or English
- 18 years of age or older
- Smoking 5 or more cigarettes daily
- Living in California
- Currently not participating in other smoking cessation programs

**ALL SMOKERS ARE WELCOME!**  
whether or not you plan to quit smoking





**UCSF**

University of California  
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If you are a  
Supporter

If you are a  
Smoker

中文主頁

## 親友協助華人自行戒煙研究計劃

Family Assisted **Self-Help Interventions**  
for Chinese Smokers

## We Need Your Participation

whether or not you, your friend or family member  
has plan to quit smoking.



**R**esearchers at UCSF are inviting Chinese individuals who would like to support their loved ones to quit smoking to participate in a research study. This study examines the effectiveness of a family assisted intervention that a family member or friend of a smoker can use to help his/her loved ones to quit smoking.

Each participant will receive  
up to **\$70** for participation.

Study procedures can be completed  
by **mail** or **online** at your convenience.

**participate now!**

If you are interested in supporting and assisting your loved ones to stop smoking  
please click here to go to **supporter** participant home page to read more about our study.

If you smoke and you have a family or friend of yours who are interested in supporting you to stop smoking  
please click here to go to **smoker** participant home page to read more about our study.