International Symposium on Management of Tobacco Dependence
Department of Health, Hong Kong

Nurses' Research Initiatives in Smoking Cessation in Hong Kong

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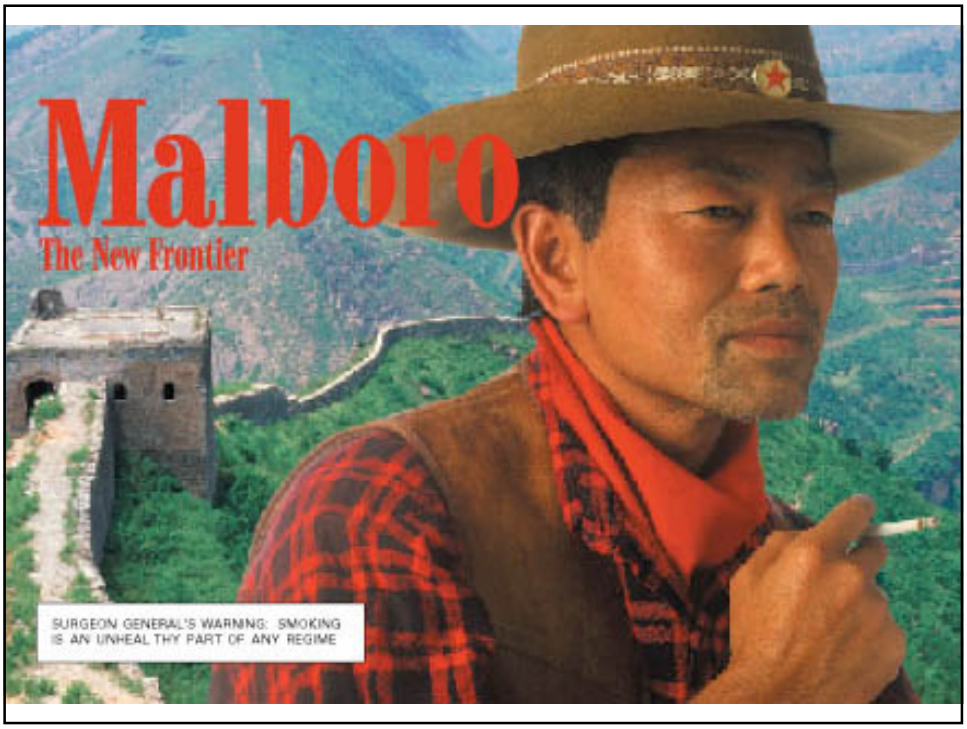
Professor and Head
Department of Nursing Studies
The University of Hong Kong

12 February 2009

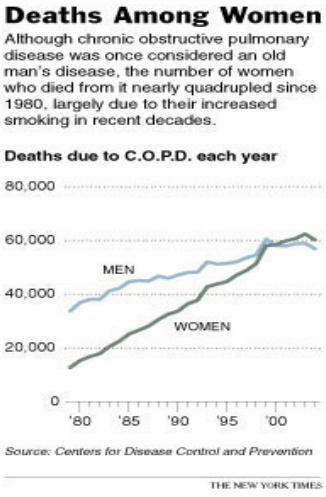
煙草殺人，戒煙救命：
我們如何制止兇手？

Who are the smokers?



From Smoking Boom, a Major Killer of Women

New York Times 29 Nov 2007



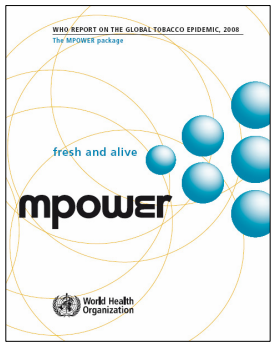
For Jean Rommes, the crisis came five years ago, on a Monday morning when she had planned to go to work but wound up in the hospital, barely able to breathe. She was 59, the president of a small company in Iowa. Although she had quit smoking a decade earlier, 30 years of cigarettes had taken their toll.

Smoking is hazardous to health across the life span

- Smoking is the most preventable cause of death in our society
- Approximately 4.83 million people died from tobacco related illness in 2000 (Ezzati & Lopez, 2003)
- By 2025, tobacco is expected to be the single biggest cause of death worldwide: 10 million people will die per year (WHO, 2004)
- About half of all persisting regular smokers (650 million) will eventually be killed by tobacco

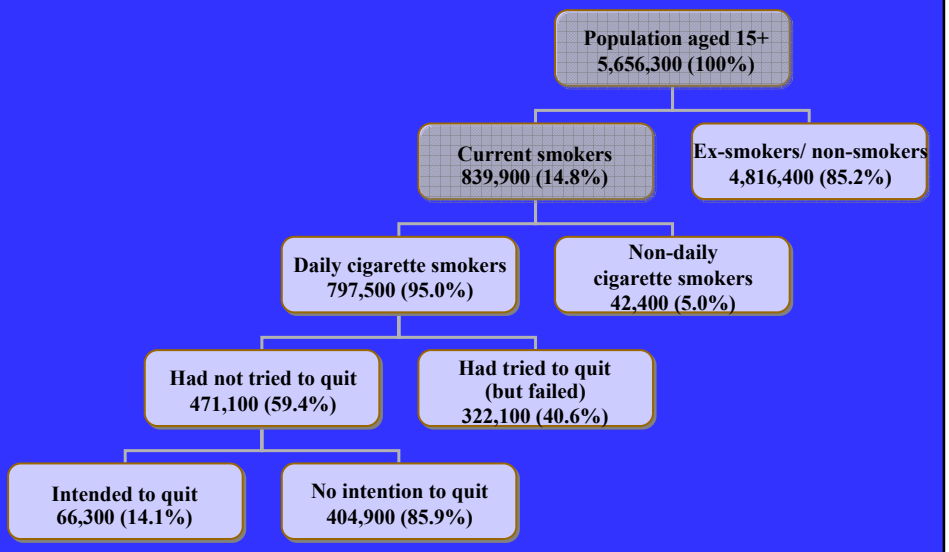
WHO: Six effective tobacco control policies

- **M**onitor tobacco use and prevention policies
- **P**rotect people from tobacco smoke
- **O**ffer help to quit tobacco use
- **W**arn about the dangers of tobacco
- **E**nforce bans on tobacco advertising, promotion and sponsorship
- **R**aise taxes on tobacco



(WHO, 2008)

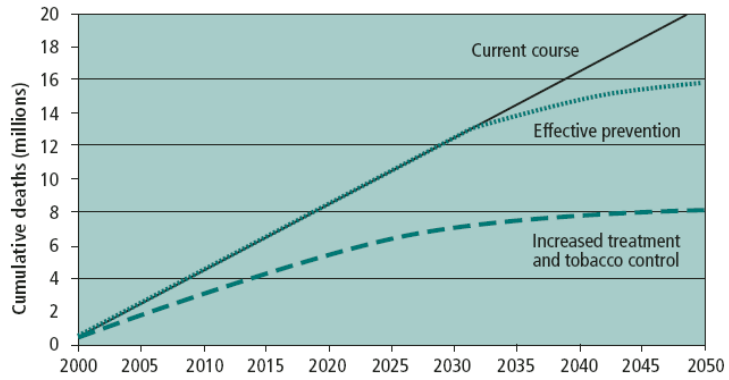
Proportion of Current Smokers in 2005



(Census & Statistics Department: 2006 Thematic Household Survey)

The importance of cessation treatment plus tobacco control policy to reduce smoking-related mortality

Figure 6.2 Projected tobacco-related mortality patterns



(WHO - The World Health Report 2003)

Estimated abstinence rates for intervention delivered by various number of clinician types

Number of clinician types	Number of arms	Estimated odds ratio (95% C.I.)	Estimated abstinence rate (95% C.I.)
No clinician	30	1.0	10.8
One clinician type	50	1.8 (1.5, 2.2)	18.3 (15.4, 21.1)
Two clinician types	16	2.5 (1.9, 3.4)	23.6 (18.4, 28.7)
Three or more clinician types	7	2.4 (2.1, 2.9)	23.0 (20.0, 25.9)

(Source: AHCPR, 2000)

Nurses as leaders in smoking cessation counseling

- Nurses being the largest group of health care providers
- Nurses in hospitals are frequently in close contact with many smoking patients and their family members
- Nurses follow up patients for a much longer period of time
- Evidence showed that nurse-delivered smoking cessation interventions are effective and practicable

The HKU Smoking Cessation Counselor Training Centre

HKU Department of Nursing Studies and Department of Community Medicine developed a smoking cessation counselor training program for nurses and other health care professionals, the ***first*** of its kind in Hong Kong and China

Aims and outcomes

International Perspectives on CV Nursing

Sabina DeGeest, PhD, RN, Section Editor

Nurses' Initiatives in Smoking Cessation in Hong Kong

Sophia Chan, PhD, RN, RSCN

- To educate nurses and other health professionals to help patient stop smoking using pharmacological, psychological and behavioral interventions
- The program was positively rated by participants
- A total of over 300 nurses, 200 social workers, and 70 pharmacists, 100 doctors in Hong Kong and China were trained and became Smoking Cessation Counselor (SCCs)
- This initiative has successfully created a new role for nurses in Hong Kong to promote smoking cessation among the patients
- The SCCs are now providing service in the Smoking Cessation Clinics in the Hospital Authority starting 2002

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Preventive Medicine 40 (2005) 389–406

Preventive Medicine

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RESEARCH BRIEF

Building an Integrated Model of Tobacco Control Education in the Nursing Curriculum: Findings of a Students' Survey

Sophia S.C. Chan, PhD, RN; Winnie K.W. So, PhD, RN; David C.N. Wong, MSc; and Tai-Hing Lam, MD

Training nurses and social workers in smoking cessation counseling: a population needs assessment in Hong Kong☆

Janice M. Johnston, Ph.D.[a], Sophia S.C. Chan, Ph.D., R.N.[b], Steve K.K. Chan, B.Sc.[a], T.H. Lam, M.D., M.Sc.[a], Iris Chi, D.S.W.[c], Gabriel M. Leung, M.D., M.P.H.[a,*]

[a]Department of Community Medicine, University of Hong Kong, China
[b]Department of Nursing Studies, University of Hong Kong, China
[c]School of Social Work, University of Southern California, Los Angeles, CA 90089, United States

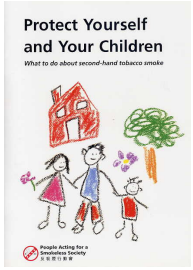
Available online 25 August 2004

Preventing secondhand smoke exposure in children

- **Settings: maternal & child health centers and paediatric units**
  - provide education to parents on the health hazards of household second hand smoke (SHS) toward themselves and their infants/children
  - advise non-smoking parents to motivate their smoking spouses to quit smoking
  - advise to implement household no-smoking policy
  - advise to stop smoking

A RCT of a nurse-delivered health education intervention to mothers of sick children (Chan & Lam)

- **Aims**: To assess the effectiveness of nurses providing health education intervention to mothers of sick children to (1) prevent the children from exposure to SHS; and (2) help the fathers quit smoking
- **Settings**: Pediatric wards/ outpatient departments of 4 HA hospitals in Hong Kong
- **Subjects**: Non-smoking mother, with a smoking husband, and all living in the same household
- **Sample size**: 1483




東方日報 港聞五 16

父母吸煙 逾半子女罹咳嗽

勸夫戒烟招數：開窗戶或帶離子女

吸煙為禍

家有吸煙父母的子女常見疾病

二手煙可引致肺炎

成煙招數短期有效

Seminars in Oncology Nursing, Vol 19, No 4 (November), 2003: pp 284-290

Preventing Exposure to Second-Hand Smoke

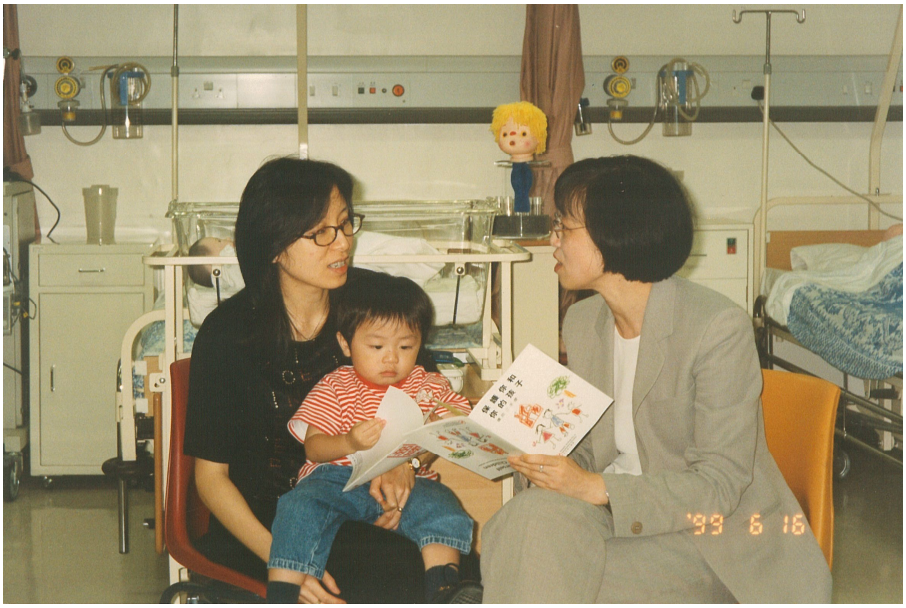
Sophia Chan and Tai Hing Lam

THE SCIENCE OF HEALTH PROMOTION

Smoking Control

Helping Chinese Fathers Quit Smoking Through Educating Their Nonsmoking Spouses: A Randomized Controlled Trial

Sophia S.C. Chan, PhD, MPH, MEd, RN; Gabriel M. Leung, MD, MPH; David C.N. Wong, MSc; Tai-Hing Lam, MD, MSc



Results (1)

- 1483 subjects were recruited from Nov 1997 to Sep 1998 (752 in intervention group; 731 in control group)
- Child's household ETS exposure for 3, 6, and 12 months

Children with household ETS exposure	Intervention (n = 752)		Control (n = 731)		
	n	(%)	n	(%)	p-value
At 3 month	275	(36.8)	310	(42.6)	.02
At 6 month	384	(51.3)	387	(53.2)	.48
At 12 month	390	(52.1)	420	(57.7)	.03

Results (2)

- Father's cessation of smoking at 3, 6, and 12 months (by intention to treat)

Quit rate (in point-prevalence)	Intervention (n = 752)		Control (n = 731)		
	n	(%)	n	(%)	p-value
At 3 month	60	(8.0)	38	(5.2)	.03
At 6 month	69	(9.2)	61	(8.3)	.57
At 12 month	80	(10.6)	65	(8.9)	.26

A RCT of a smoking hygiene intervention to families of new born infants to reduce secondhand smoke exposure at home (Chan , Lam, Emmons et al)

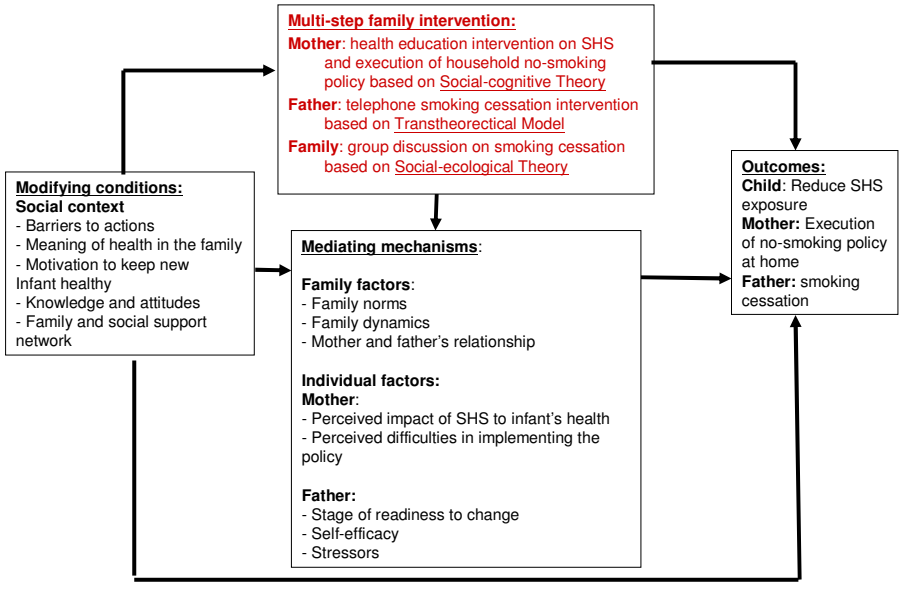
- **Aims**: To assess the effectiveness of an educational intervention to motivate non-smoking mothers to execute no-smoking policy at home and a telephone counseling to help fathers quit
- **Settings**: Maternal and Child Health Centers, Department of Health, Hong Kong
- **Subjects**: Non-smoking mother, with a smoking husband, and all living in the same household
- **Sample size**: 208

RCT of a FAMILY intervention

- A RCT to test the effectiveness of a family-based smoking cessation intervention delivered by nurses in Maternal and Child Health Centres (funded by the US Flight Attendant Medical Research Institute)
- Target: Families with smoking father, non-smoking mother with an infant

Family intervention

Conceptual Framework



Smoking cessation intervention research on medical population

- **Settings: SCHC, hospital wards, outpatient clinics**
  - Provide *brief* interventions to motivate clients to quit smoking
  - Provide *intensive* interventions to help smoking patients quit using a stage-matched approach

A RCT of a nurse-delivered stage-matched smoking cessation intervention for cardiac patients (Chan & Lam)

- **Aims:** To study the effectiveness of the stage-matched intervention provided by nurses to motivate Chinese cardiac patients to quit smoking
- **Settings and subjects:** Cardiac out-patient clinics of 9 selected HA hospitals in Hong Kong; cardiac patients who are smokers
- **Sample size:** 1824
- **Outcome**: Quit rate 28%

2004-12-06 港聞 A12 明報

「過程如追女仔」效果顯著

針對性輔導三成人戒煙

港大醫學研究系列

40年來煙不離手的黃霑最終因肺癌病逝，再一次喚醒市民吸煙的禍害，但戒煙不得其法往往最惱人。港大最新研究發現，猶如鼓勵男士向心儀對象逐步展開追求攻勢的「分階段針對性戒煙輔導服務」成效顯著，有急切戒煙需要的心臟病煙民，接受此輔導後，三成人成功戒煙

（四之一．公共衛生篇）

明報記者 陳佩儀

專人跟進心臟病煙民

研究戒煙能否治陽痿

公共衛生中心 分析數據助訂政策

戒煙輔導成效比較

分階段針對性戒煙輔導方法

Other randomised controlled trials (RCTs)

- RCT of a smoking reduction intervention for patients who do not want to quit smoking
- RCT of a adherence intervention for erectile dysfunction patients

Smoking cessation intervention research on well-population

- Youth
- Women
- Elders

Youth Quit line: An accessible telephone-based smoking cessation hotline for youth (Chan , Lam et al)

- **Aims**: To publicize the importance of quitting among youth smokers and to encourage and support those who want to quit through advice and peer counseling through telephone
- **Settings**: Telephone hotline: managed by trained counselors of HKU medical, nursing and social work students
- **Subjects**: Cantonese speaking youth smokers who smokes at least 1 cigarette per day

Youth Quitline

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The Establishment and Promotion of the First Youth Quitline in Hong Kong

Challenges and Opportunities

Sophia S. C. Chan
David C. N. Wong
Daniel Y. T. Fong
Angela Y. M. Leung
Debbie O. B. Lam
Yim-Wah Mak
Tai-Hing Lam
University of Hong Kong

Initiative to support young female smokers in Hong Kong

Using gender-specific strategies in the Youth Quitline

By Sophia Chan, David Wong, Angela Leung, Yim-Wah Mak, Daniel Fong, Doris Leung, Debbie Lam and Tai-Hing Lam of the University of Hong Kong.

YQ results at 6-month follow up

Characteristics	Baseline (n = 613)	6-month follow up (n = 613)	p-value
Perceived health states, n (%) - Very good - Good - Bad - Very Bad (missing case = 255)	 17 (2.7) 276 (43.6) 219 (34.6) 15 (2.4)	 24 (3.8) 304 (48.0) 44 (7.0) 2 (0.3)	**<0.01***
Importance of quitting smoking, Mean±SD (Scale: 1 to 10) (missing case = 414)	7.23 ± 2.2	7.2 ± 2.6	0.26**
Level of difficulty on quitting smoking, Mean±SD (Scale: 1 to 10) (missing case = 419)	6.84 ± 2.5	5.8 ± 2.7	**<0.01****
Confidence on quitting smoking, Mean±SD (Scale: 1 to 10) (missing case = 414)	5.5 ± 2.4	6.4 ± 2.5	**<0.01****

* McNemar-Bowker Test
** Paired t-test

YQ conclusions

- Until June 2008, 613 youth smokers joined our program and completed the 6-month follow up.
- After 6-month follow up, it is found that
  - subjects reported better perceived health status
  - perceived difficulty on quitting smoking had been reduced
  - confidence on quitting had been strengthened
  - 22% (n=136) youth smokers have quit smoking

女 性 反 吸 煙 工 作 組

Women Against Tobacco Taskforce (WATT)

Empowering women's effort in creating a smoke-free environment

Organizers
Department of Nursing Studies
Department of Community Health,
School of Public Health
Li Ka Shing Faculty of Medicine, HKU

Funded by
Food and Health Bureau
Health Care and Promotion Fund

Press Conference – WATT

MARCH 2007- AUGUST 2007, WWW.INWAT.ORG

For women smokers in Hong Kong

Providing a gender specific smoking cessation program

By: Sophia Chan, EMYWong GM Leung and TH Lam

女性反吸煙工作組戒煙輔員工作坊

Study design

Phase 1:
Establishing WATT & conducting survey on staff and volunteers from WATT
- To ascertain their knowledge, attitudes and learning needs on counseling female smokers

↓

Phase 2:
Designing and delivering training course to staff and volunteers from WATT
- To design a gender-specific training program for smoking cessation counselors based on the finding from Phase 1
- To deliver the training program to staff and volunteers from WATT

↓

Phase 3:
Providing an intensive gender-specific intervention by experience nurse counselors
- To provide a face-to-face / telephone counseling to female smokers and evaluate its effectiveness

Study Design (Cont'd)

Phase 3 (an intensive intervention) :

Female smokers call the smoking cessation hotline

↓

Female smokers who is eligible for the project will be invited to the first visit

↓

Baseline: i) simple body check, ii) history taking on smoking habit & iii) giving advice on smoking cessation

↓

1 week follow-up - a telephone interview

↓

1 month follow-up – a face-to-face or telephone interview

↓

3 month follow-up – a telephone interview

↓

6 month follow-up – a telephone interview
(Subject will be invited to do biochemical validation .)

Comparing results between baseline and 3-month follow up

Characteristics	Baseline (n = 274)	3-month follow up (n = 274)	p-value
Perceived health states, n (%) - Poor to Normal - Good to Excellent (missing case = 30)	 82 (30) 192 (70)	 8 (3.0) 236 (86.1)	**<0.01***
Importance of quitting smoking, Mean±SD (Scale: 1 to 100) (missing case = 28)	85.7 ± 15.4	84.1 ± 16.7	0.13**
Level of difficulty on quitting smoking, Mean±SD (Scale: 1 to 100) (missing case = 30)	74.3 ± 19.1	63.3 ± 26.9	**<0.01****
Confidence on quitting smoking, Mean±SD (Scale: 1 to 100) (missing case = 31)	56.8 ± 21.5	62.1 ± 26.1	**0.012****
Self-efficacy on resisting smoking, Mean±SD - External Stimuli (Scale: 7 to 35) (missing case = 53) - Internal Stimuli (Scale: 5 to 25) (missing case = 42)	 18.4 ± 3.4 10.9 ± 3.3	 19.6 ± 5.1 13.1 ± 4.4	 **<0.01**** **<0.01****

* McNemar-Bowker Test
** Paired t-test

Comparing results between baseline and 3-month follow up

Characteristics	Baseline (n = 274)	3-month follow up (n = 274)	p-value
Stage of readiness, n (%) - Action - Preparation - Contemplation - Pre-contemplation (missing case = 108)	 45 (16.4) 62 (22.6) 112 (40.9) 53 (19.3)	 60 (21.9) 7 (2.6) 99 (36.1) 0	**<0.01****
Daily cigarette consumption, Mean±SD (missing case = 97)	14.7 ± 8.8	8.9 ± 6.7	**<0.01****

** Paired t-test

- 66 female smokers (24.1%) reported that they quitted smoking at 3-month follow up.

Conclusions

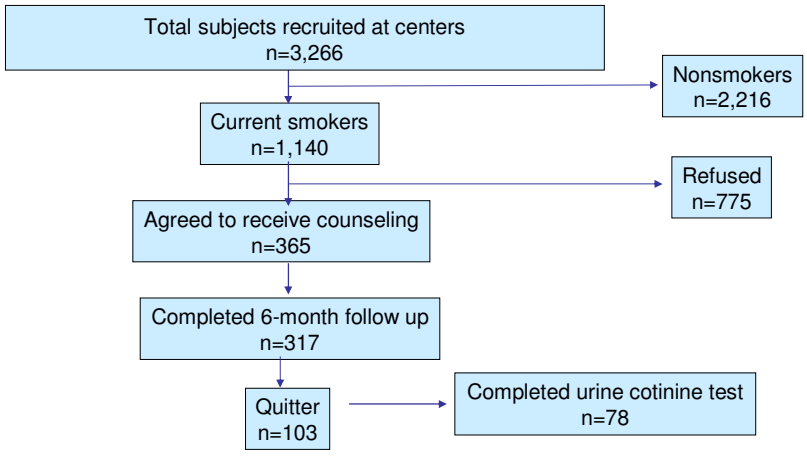
- Until December 2008, 274 female smokers joined our program and completed the 3-month follow up.
- After 3-month follow up, it is found that
  - female smokers had better perceived health states
  - perceived difficulty on quitting had been reduced
  - confidence on quitting had been strengthened
  - self-efficacy on resisting smoking had been increased
  - more female smokers moved up to "Action Stage"
  - daily cigarette consumption had been reduced
  - 66 female smokers quitted smoking

An outreached multi-disciplinary intervention in the treatment of tobacco dependency in community elderly (Lam et al)

- **Aim:** To develop a multi-disciplinary demonstration project on smoking cessation outreach service for the elderly
- **Settings and subjects**: Community centres; elders in the general public
- **Sample size**: 365
- **Outcomes**: Quit rate 28%

The Elderly Project: Phase 3 Mobile Outreach Clinic

From Nov 2002 to Sept 2005



2009/2/26

44

Results

- MSCS provided smoking cessation service to 275 elderly smokers from 15 Sep 2002 to 29 Aug 2003
- Assuming all non-contacts did not quit (by intention to treat analysis)
  - 7 days point prevalence quit rate: 42% (114/275)
  - 1-month continuous abstinence: 33% (91/275)

Effectiveness of an Elderly Smoking Cessation Counseling Training Program for Social Workers*

A Longitudinal Study

Gabriel M. Leung, MD, MPH; Sophia S. C. Chan, PhD, RN; Janice M. Johnston, PhD; Steve K. K. Chan, MMedSc; Pauline P. S. Woo, PhD; Iris Chi, DSW; and Tai-Hing Lam, MD, MSc

Chest 2007; 131:1157-1165

The Elderly Project: Phase 3 Characteristics of clients

Demographics:

- 71% male; Mean age of 76 years; 43% married; 61% had some formal education; 86% retired

Smoking history:

- 70% smoked ≤ 1 cigarette per day; 62% started smoking at age ≤ 20 years old; and 65% had mild nicotine dependency

Quitting history:

- 59% had tried to quit ≥ 1 time; 75% at precontemplation (8%) and contemplation (67%) stage of readiness to quit.

The Elderly Project: Phase 3
Quit rate at 6-month

	7-day pp quit rate	95% CI
Self-Reported	28.2% (103/365)	24%-35%
Validated	20.2% (74/365)	16%-25%

Outcomes

- 102 social service units/ private homes and the Central and Western District Council participated MSCS
- MSCS organized 90 health talks to a total of 3,266 elderly (1,140 smokers and 2,126 non-smokers)
- 365 elderly participated individual smoking cessation counseling (67% with NRT prescription)
- Self-reported quit rate (7-day point prevalence) at 6-month = 28% (by intention-to-treat analysis)
- Validated quit rate (urine cotinine) at 6-month = 20%

HKU Smoking Cessation Services

Department of Nursing Studies
School of Public Health
The Hong Kong Council on Smoking and Health

The establishment and evaluation of a smoking cessation clinic in Hong Kong (Hedley, Lam, Chan et al)

The first Smoking Cessation Health Centre (SCHC) in Hong Kong

- **Aim:** to provide and evaluate smoking cessation counseling intervention by nurses
- **Setting and subjects:** Ruttonjee Hospital (2000-03), The Centre for Health Promotion, HKU (since 2004); general public and referral centre
- **Sample size:** 1203
- **Outcome:** Quit rate 27%

HKU/COSH: Quitline 2002-2004

HKU Smoking Cessation and Counseling Centre

- HKU Department of Nursing Studies, Centre for Health Promotion – provided smoking cessation counseling services by trained and qualified smoking cessation counselors
- A centre for professional training and referral
- Hospital Authority: 16 clinics + 1 quitline
- Department of Health: 1 clinic + 1 quitline
- HKU: 1 clinic + Youth Quitline + woman smoking cessation programme

Smoking cessation counseling

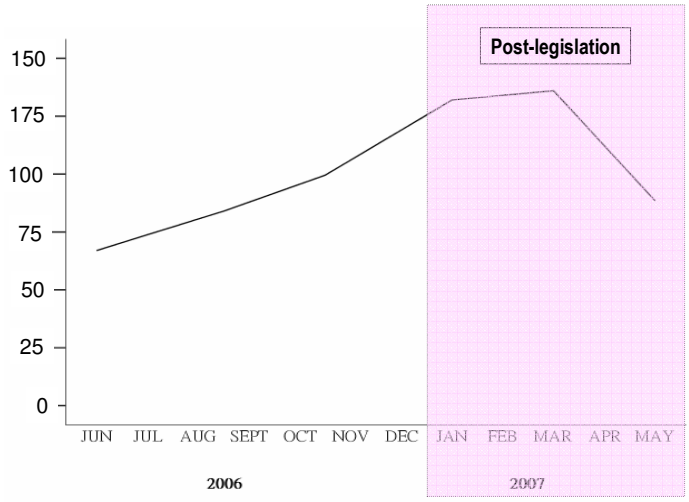
After implementation of legislation…1 January 2007

Our research and training still continues…

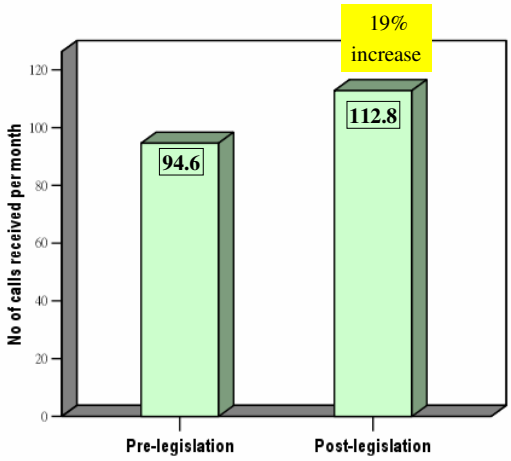
A case study on the HKU Youth Quitline

Impact of the smoke-free legislation on Youth Quitline

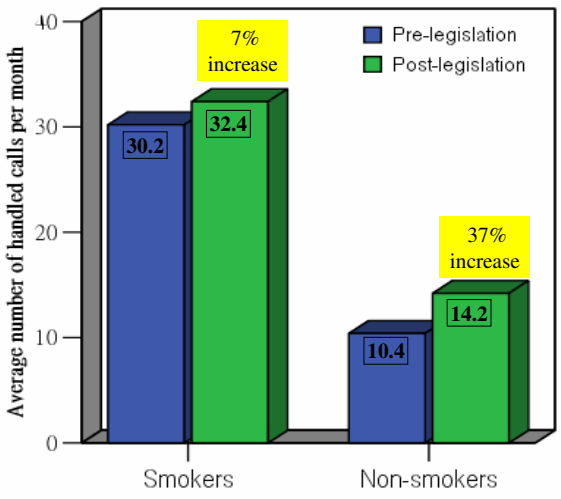
No of calls received from June 06 to May 07



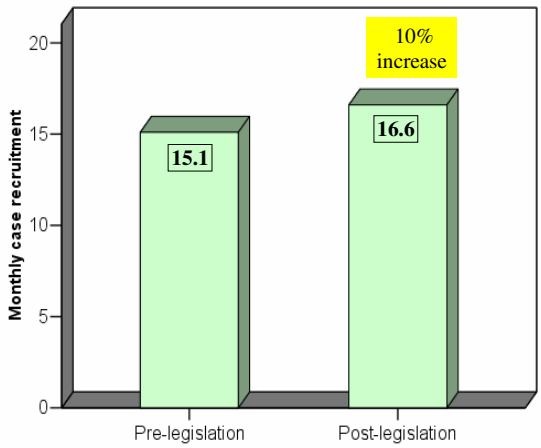
Legislation impact on calls received per month



Legislation impact on calls handled per month



Legislation impact on case recruitment per month



From evidence to practice and policy

- The establishment of Smoking Cessation & Counseling Centers- hospital model, community model
- Training Centre at the University of Hong Kong
- Regular training courses on smoking cessation counseling to health care professionals in HK and China (nurses, social workers, pharmacists, physicians)
- Development further evidence in effective smoking cessation interventions

Conclusion

- Smoking is hazardous to health and is a key target for health promotion
- Expanding nurses role and acting as leaders in smoking cessation treatment and intervention
- Establishing evidence-based nursing interventions to shape practice and influence policy
- International and local evidence concluded that nurse-delivered smoking cessation interventions are effective in promoting health, preventing disease, and saving health care cost

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- Department of Health, HKSAR
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- Health Care Promotion Fund
- Health and Health Services Research Fund