

# American Cancer Society's QUITLINK: 13-month results of a randomized clinical trial evaluating Internet-based smoking cessation programs

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Vance Rabius, PhD  
K Joanne Pike, MA, LPC  
Alfred McAlister, PhD  
Dawn Wiatrek, PhD  
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## Research Partners

Oregon Center for Applied Sciences  
ProChange  
QuitNet  
SmokeClinic  
Centre for Addiction and Mental Health & V-CC Inc



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## Design

6-group  
5 tailored-interactive  
1 targeted-static

## Challenges

Research Partners  
Clients  
Enrollment in trial  
Registration at site  
Respond at evaluation



Table 1: Research Sites and Characteristics

Site	Description
Oregon Center for Applied Sciences	Tailored presentations with role models mimic counseling experience <a href="http://www.hcimarketplace.com/products/description.htm?index=2">http://www.hcimarketplace.com/products/description.htm?index=2</a>
ProChange	Tailored and individualized feedback based on the Transtheoretical Model of Behavior Change; stage-matched on-line workbook specifies how to apply each of the processes and principles of change <a href="http://www.prochange.com/smokingcessation/">http://www.prochange.com/smokingcessation/</a>
QuitNet	QuitNet® is an evidence based program that provides lifetime support through its highly interactive features and peer-to-peer social support. Features include personalized content, email delivered up to 5 years, individual quitting stats, one-to-one counseling and other expert advice by tobacco treatment specialists. <a href="http://www.quitnet.com/">http://www.quitnet.com/</a>
SmokeClinic	Includes a structured initial assessment, behavioral exercises and preparation for quit day, and post cessation relapse prevention strategies, including mood assessment <a href="http://www.smokeclinic.com/home.asp">http://www.smokeclinic.com/home.asp</a>
CAMH - VCC	V-CC's Smoking Cessation Software supports quitters with a personalized, community-driven and interactive cessation program with online peer support in a nurse-moderated discussion board <a href="http://racs.stopsmokingsystem.net/">http://racs.stopsmokingsystem.net/</a>
Break Away from the Pack PDF files	Three stage-based booklets written to prepare a person for their quit attempt, provide help while quitting, and assistance staying quit. This link is no longer active. PDF files are available upon request from <a href="mailto:vrabius@cancer.org">vrabius@cancer.org</a>



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## Enrollment

October 2004 to May 2005  
Over 7 million visitors to [www.cancer.org](http://www.cancer.org)  
217,121 visitors to smoking cessation section  
41,045 visitors to project entry page  
24,924 answered initial eligibility questions  
18,559 provided informed consent  
6,780 completed intake  
6,451 met all eligibility requirements and were randomized  
18 or older  
English speaking  
Daily smoker  
Residing in the United States



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## Participant Characteristics

Female 70%  
Mean age 41  
Smoking rate 21 cigarettes per day  
Previous quit attempts 6.3

Similar to clients requesting telephone counseling in these characteristics, self-efficacy, and perceived social support.

However differ in that significantly:

more educated – 75% vs. 59% receive some college education  
more likely to be Caucasian – 87% vs. 74%  
less likely to report a symptom of depression at intake – 30% vs. 45%



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### Registration and utilization at interactive sites

Site*	Randomized	Registered	Mean number of visits	Five visits or more
S1	1052	72%	9.7	20%
S2	1103	80%	2.2	9%
S3	1042	95%	1.9	6%
S4	1101	84%	1.8	8%
S5	1106	73%	6.0	28%

\* The order of sites does not correspond to the order of sites in the previous slide, which identifies the research partners.



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### Follow-up

On-line survey with 2 email prompts  
 After 10 days began attempting telephone contact  
 54% responded at 4-month follow-up (3,500/6,451)  
 44% responded at 7-month follow-up (2,859/6,451)  
 38% responded at 13-month follow-up (2,468/6,451)  
 Online – 16% at 4 & 7 months, 13% at 13 months  
 Phone – 84% at 4 & 7 months, 87% at 13 months



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### Tailored vs. Targeted

No significant overall difference in cessation rates among participants assigned to the tailored or targeted sites.

	4 months		7 months		13 months	
	Tailored	Targeted	Tailored	Targeted	Tailored	Targeted
ITT*	11.3%	10.9%	10.6%	9.7%	11.3%	10.1%
RO**	20.7%	20.5%	23.9%	22.3%	29.6%	26.4%

\* Intent to treat \*\* Respondent only All quit rates are 30-day point-prevalence



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### Hi Utilization vs. Low Utilization Sites

The two sites had significantly higher average utilization than the other three.

	High*	Low*
Average number of visits:	7.8	2.0

\* = High vs. Low,  $t = 6.8$ ,  $df = 2188$ ,  $p < .0001$



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### Hi Utilization vs. Low Utilization Sites

The two sites with higher average utilization produced significantly better quit rates than the three sites with lower average utilization.

Quit Rates	High***	Low***
	ITT*	12.5%
RO**	32.1%	27.9%

\* = Intent to treat  
 \*\* = Respondent only  
 \*\*\* = High vs. Low,  $p < .05$  for both ITT & RO comparisons  
 All quit rates are 30-day point-prevalence



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### Medication use

50.6% of clients reporting using medications in their quit attempt. There were no significant differences in proportion of medication use among the six sites.

Clients who used medications in their quit attempt were more successful than those who did not.

	Meds – Yes	Meds – No
RO**	32.1%*	25.4*

\* = Chi-square = 13.1,  $df = 1$ ,  $p < .001$

\*\* = Respondent only – since medication use is assessed at follow-up, only respondent-only rates are appropriate  
 All quit rates are 30-day point-prevalence

This suggests that the study of Internet based assistance and the effectiveness of medication use may be a fruitful area of future study.



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QUITLINK Discussion - Limitations

Limitations:

- Static comparison vs. true control
- Sample size – power
- Response rate
- Self-report, no biochemical validation

Discussion

- Quit rates for all sites are encouraging.
- Compare favorably with rates for telephone counseling
- Current mood as mediator
- Future research



QUITLINK Contact Information

Vance Rabius, PhD  
Senior Scientist  
American Cancer Society  
11701 Stonehollow Drive  
Austin, TX 78758

512-997-3920 - phone  
877-747-9528 - fax (toll free)  
vrabius@cancer.org - email

