

Cancer Prevention Among Economically and Medically At-Risk Groups

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Key Points

- Individual VS. population-based approach
- Dissemination cannot be an afterthought



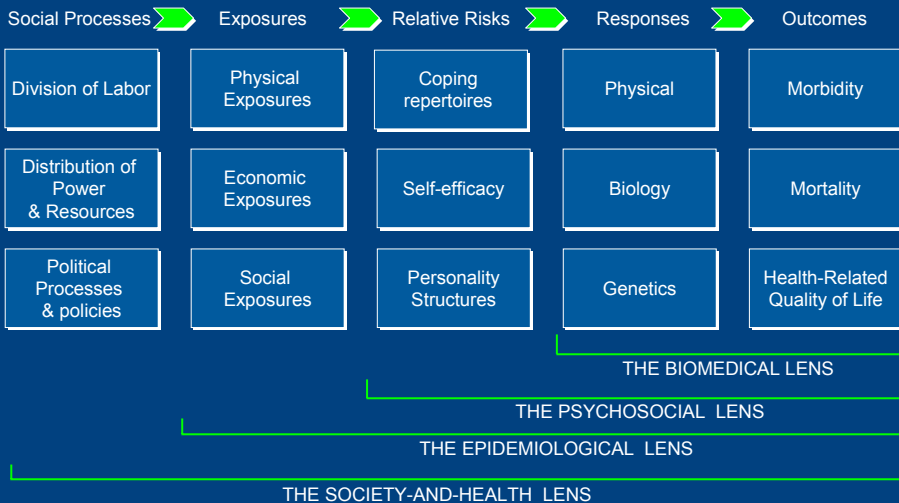
Prevention Paradox

- A preventive measure that brings large benefits to the community affords little to each participating individual (Rose, 1992)
- Downstream measures that yield possibly large benefits to sick or at-risk individuals afford little to the overall health of the community (McKinlay, 1995)

Disparities

- Disparities in cancer morbidity and mortality by race/ethnicity and socioeconomic position (SEP) are well-documented
- While individual health behaviors do not fully explain disparities in cancer incidence and overall mortality they are determinants of risk patterns.
- Persons of higher SEP engage in fewer high risk behaviors than persons of lower SEP

Alternative disciplinary lenses for factors influencing health outcome



Sorensen *et al.*, ARPH, 1998

Influences on smoking among low income women

- Everyday responsibilities
- Material circumstances
- Social support and social networks
- Personal and health resources

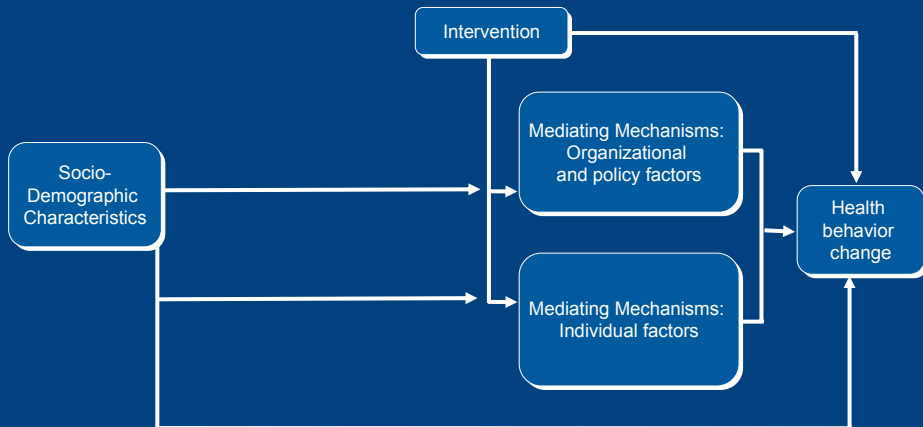
Source: Graham 1993

Smoking prevalence among women aged 18 – 49, Britain, 1991

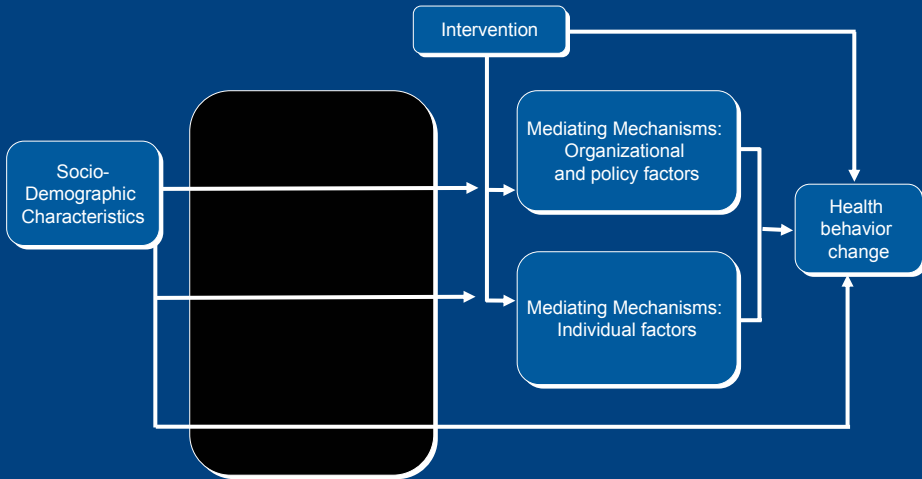
	Smokers (%)
Women w/ no school qualifications	46
Plus low-skilled job	50
Plus social housing	67
Plus claimant	73
None of above	22

Graham, 1998

The Health Behavior Change Process

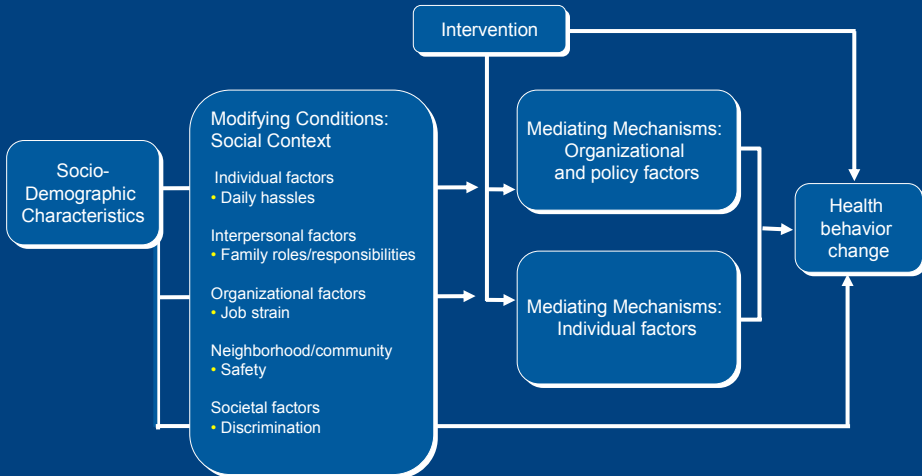


The Health Behavior Change Process



Sorensen *et al* (2003)

The Health Behavior Change Process



Sorensen *et al* (2003)

Definitions of Risk

“At-Risk”—individual perspective

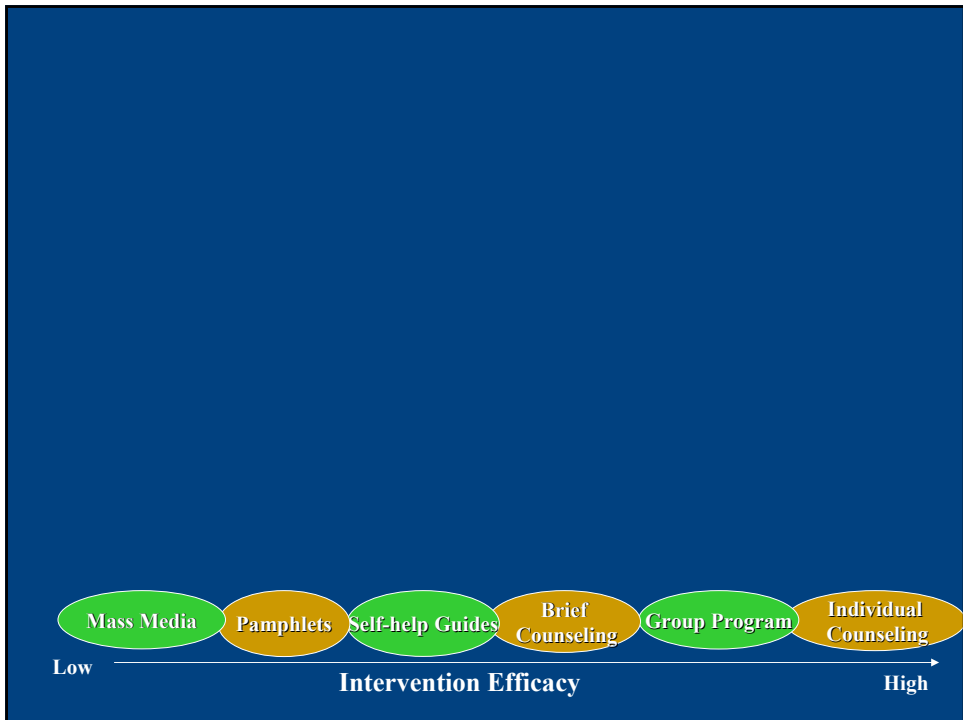
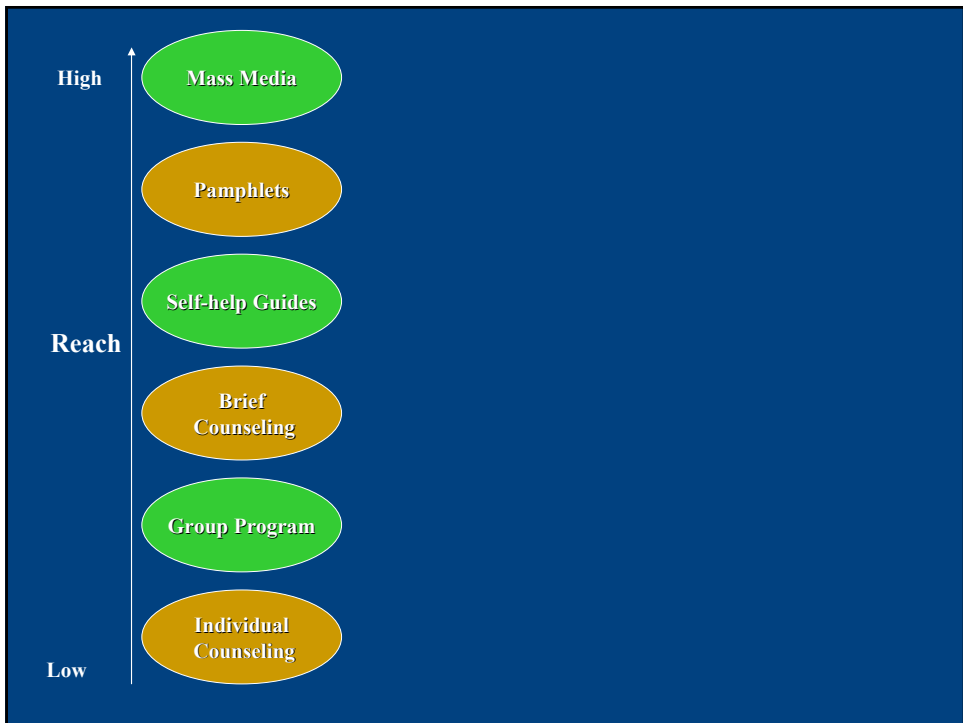
- small groups of individuals with highest levels of risk

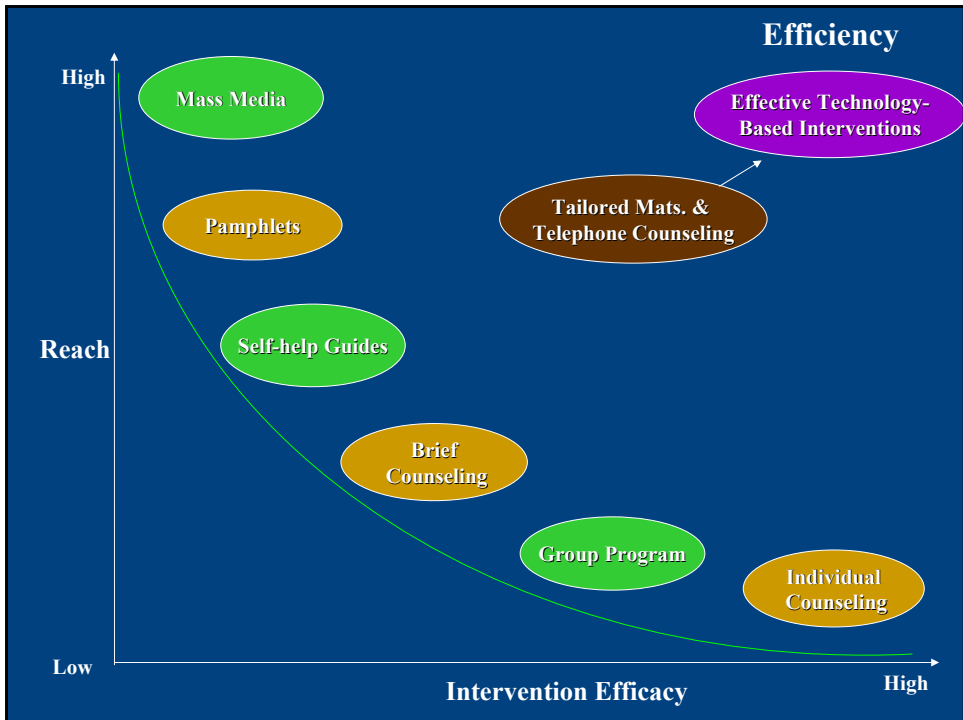
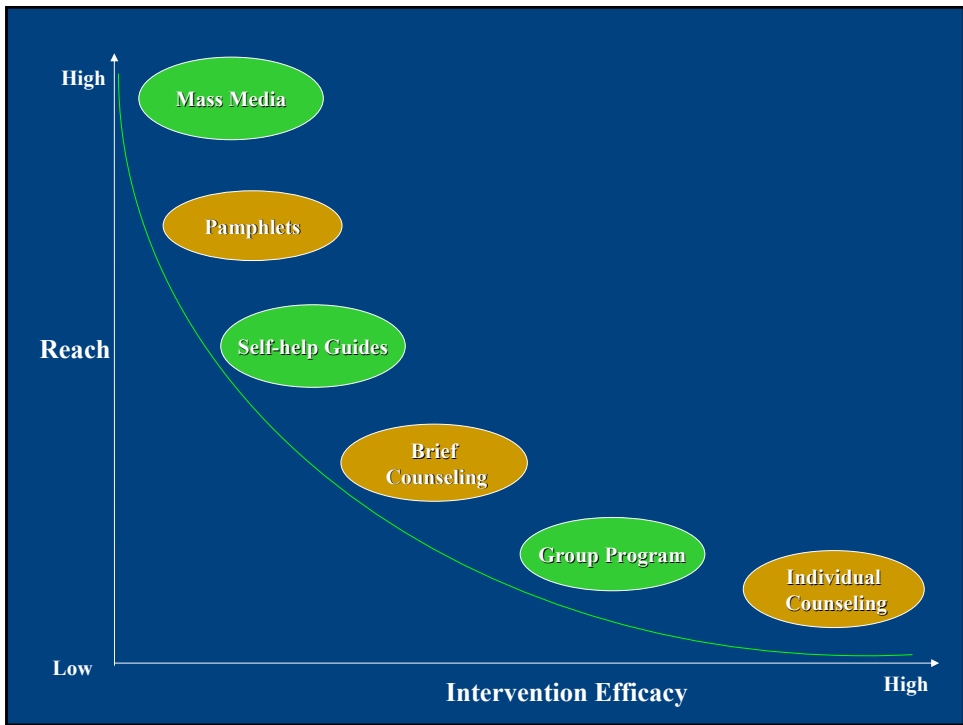
“At-Risk”—population perspective

- large groups of individuals for whom risk is elevated due to medical or socioeconomic status
- groups for whom there may be inherent motivators that will increase the likelihood of their response to an intervention

Social Context

- Influence of social networks
- Cultural and language factors
- Barriers posed by restricted access to social and material resources
- Health experiences that impact on need/ability to change





Health Communication Strategies

Tailored Materials

- Individualized communication
- Personal data related to health outcome are used to determine the most appropriate strategies/information for each person's unique needs

•Telephone Counseling

- One-to-one counseling
- Lower cost than traditional counseling approaches
- More convenient

Research Model

- Cross-level theoretical approaches
- Understanding of social context
- Focus on large, at-risk populations
- Utilize health communication technologies

P R O J E C T



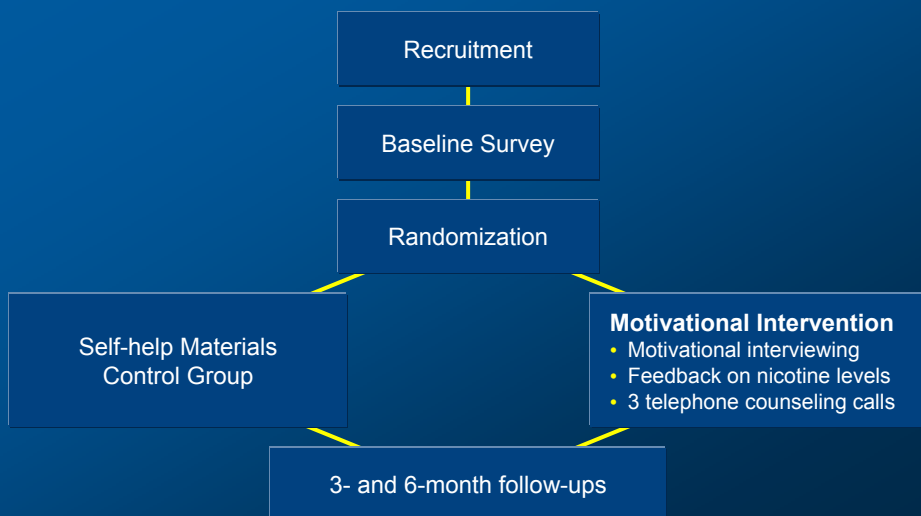
Keeping Infants Safe from Smoke



Importance of Home as a Source of ETS Exposure

- Children spend large amounts of time at home
- No laws protecting children from ETS exposure
- Intensity and duration of exposure is higher at home

Project KISS Study Design (n=282)



Brief Interventions

Key Components of Motivational Interviewing

- **F**eedback
- **R**esponsibility
- **A**dvice
- **M**enu
- **E**mpathy
- **S**elf-Efficacy

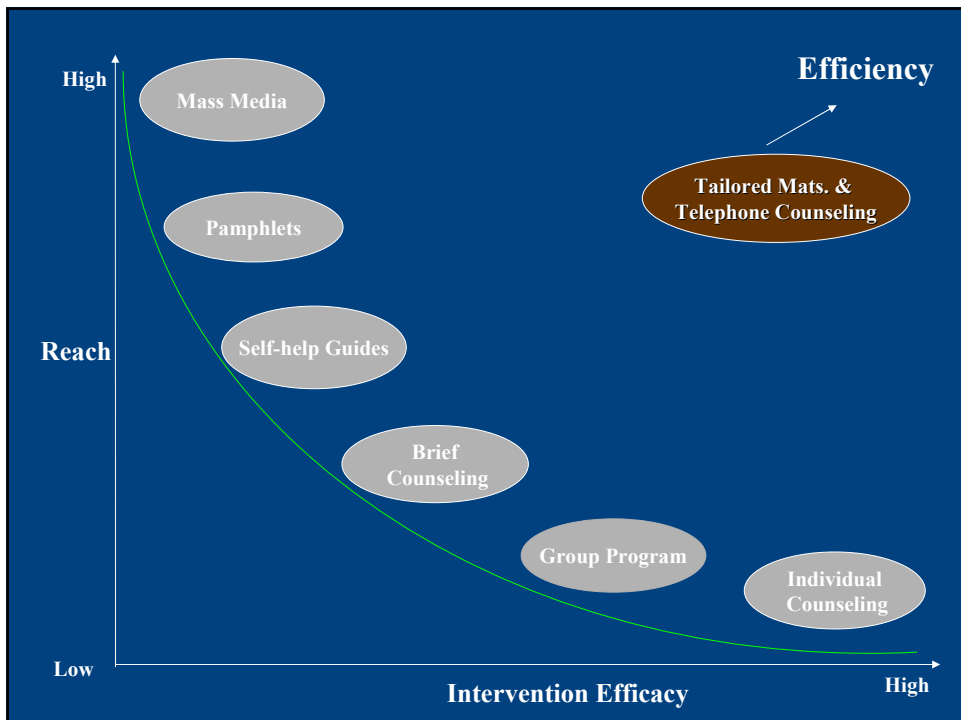
Peanuts by Charles Schulz



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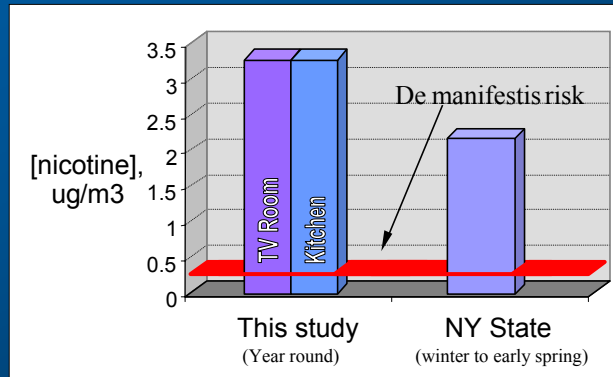


Project KISS Sample Description (n=282)

	M%	SD
Age	28	8.0
Education	11	2.45
Race/Ethnicity		
• White	46%	
• African-American	20%	
• Hispanic	30%	
Single Parents	50%	

	M%
Unemployed	76%
# of people in home	2.4
# of other smokers in home	
• 0	57%
• 1	36%
• 2+	7%

Weekly Average Nicotine Concentrations in Homes

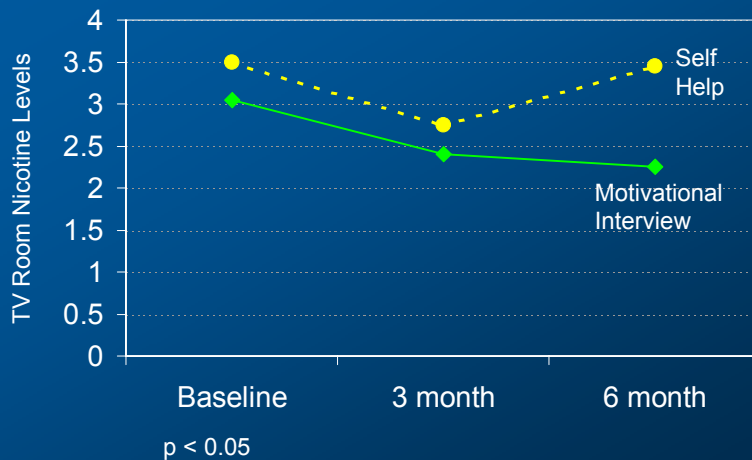


Predictors of Kitchen Nicotine Level

- Reduction of child's exposure
- Cigs/day
- # Smokers in household
- Employment Status
- Ethnicity

Overall Multiple $R = .451$, $F(5,222) = 11.07$, $p < .001$; Multiple $R^2 = .203$ (adjusted $R^2 = .185$)

TV Room Nicotine Levels by Treatment Group Across Time



Emmons, et al., Pediatrics, 2001

KISS— Next Steps

- Enhance intervention effectiveness, while moving to a dissemination model
 - Rapid-read exposure assessments
- Re-evaluate mediators
- Build KISS into existing infrastructures for newborn/pediatric care



Healthy Directions
taking steps to better health



C. Barzotti

"I have everything tied up in making ends meet."

Aims

- evaluate an intervention to improve multiple behavioral risk factors for cancer prevention in working class
- evaluate the relationship between the intervention and mediating mechanisms, modifying conditions, and primary outcomes
- assess the feasibility of delivering a comprehensive cancer prevention intervention in a managed care environment

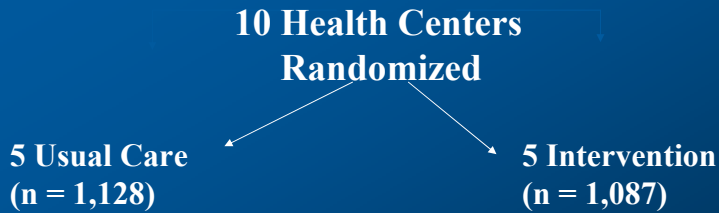


Intervention Targets

- ↑ increase intake of fruits and vegetables
- ↓ decrease intake of red meat
- ↑ increase physical activity
- ↑ increase intake of multi-vitamins



Design



Tailored Intervention

- delivered in English or Spanish
- personal health advisor
 - one in-person session
 - four telephone sessions
- brief in-person study endorsement from participant's clinician
- multiple mailings of tailored materials
- community events



Health Advisor Counseling Protocol

- establish linkage with provider/health center
- motivational interviewing + social context
- define participant's view of health
- define facilitators and barriers
- set/review goals
- praise success
- emphasis on social support
- encourage use of materials/ community engagement



Geocoding Criteria

Live in a neighborhood in which:

- \geq 25% have less than high school education
- \geq 66% working class
- \geq 20% below poverty level



Sample

- n = 2,200 HVMA patients
- appt with participating IM clinician
- reside in neighborhood meeting geocoding criteria
- 18 - 75 years old
- no cancer at the time of enrollment
- agree to participate in randomized trial
- Enrolled 2,219 participants



Risk Behaviors (n=2219)

Smoker	Yes	15%
Fruit & Vegetables	< 5 svgs/day	86%
Red Meat	> 3 svgs/week	50%
Physical Activity	< 2.5 hr/week	40%
Multivitamin	< 7 /week	63%

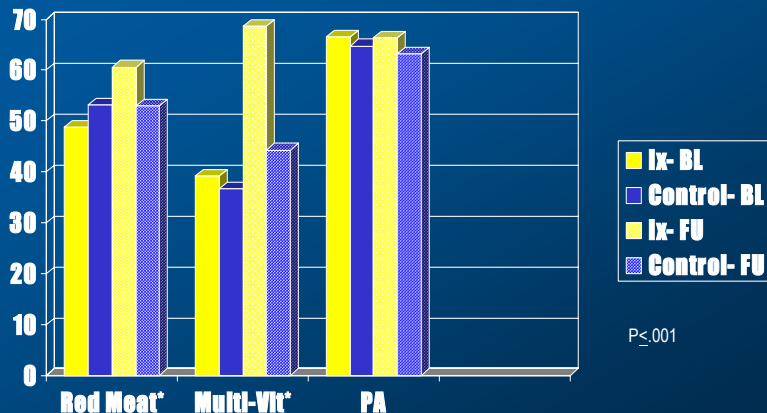


Intervention Reach

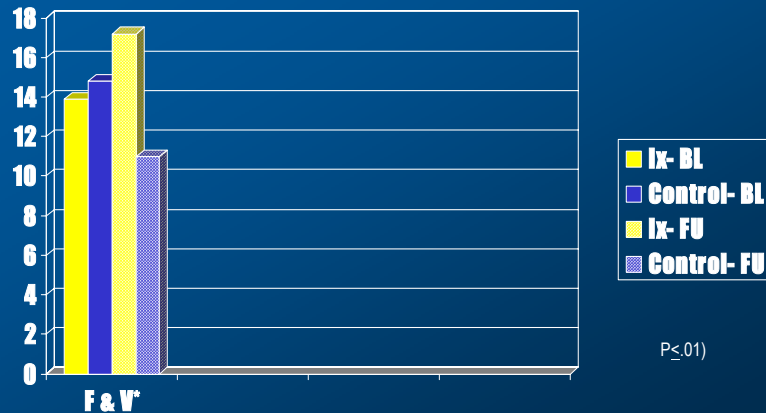
Intervention Activities	% Participants (n=1077)
Clinician endorsement received	78%
Physical activity clearance completed	95%
Initial counseling sessions completed	97%
# Counseling calls completed	
0	4%
1-2	4%
3	11%
4	82%



Adjusted Percent of Participants with Each Health Behavior at Baseline and Follow-Up by Intervention Group (n=1,954)



Adjusted Percent of Participants with Each Health Behavior at Baseline and Follow-Up by Intervention Group (n=1,954)



Effect Modification

- Gender
- Education
- Race/ethnicity
- Birth country of respondent and parents
- Poverty status



Costs per Patient by Category

Category	Cost per Patient (% of total costs)
Staff time re: intervention delivery	\$45 (27)
Health advisor time	\$71 (42)
Telephone charges	\$3 (2)
Printing	\$18 (11)
Incentives	\$17 (10)
Postage	\$6 (4)
Materials supplies	\$2 (1)
Baseline Survey	\$2 (1)
Total	\$168

Conclusions

- a tailored intervention that incorporated aspects of the social context led to:
 - significant improvements in behavioral risk factors for cancer
 - no changes in physical activity
 - no differences in effectiveness was comparable across subgroups defined by ethnicity and income



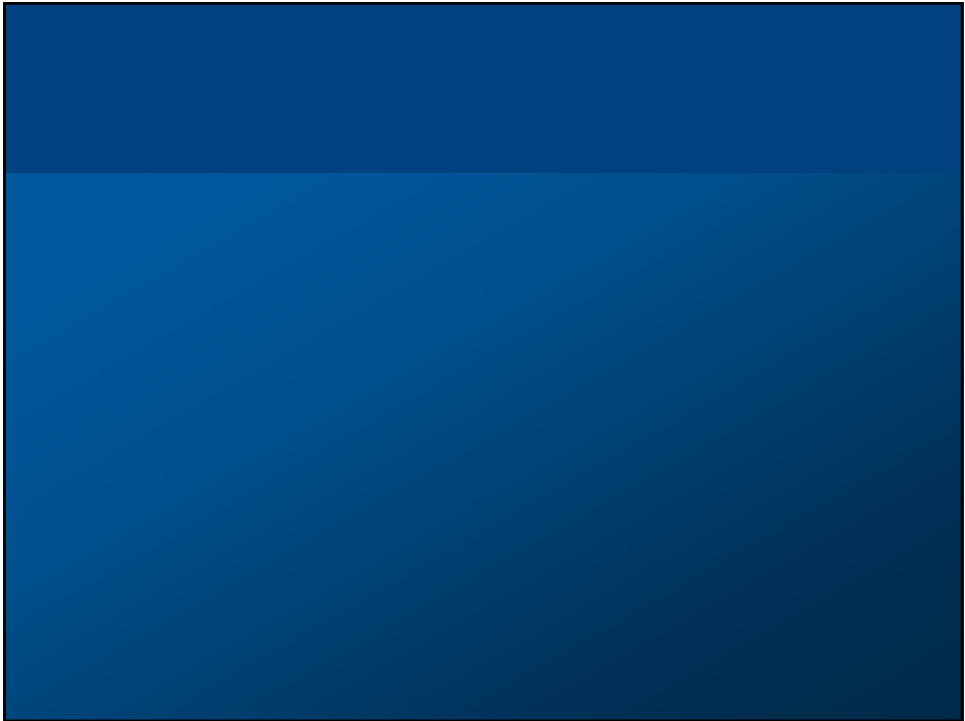
Summary –Key Points

- Individual and population-based approaches can be integrated
- Dissemination cannot be an afterthought

Future Directions

- Key Infrastructures and partners are critical for dissemination efforts
- Multi-level theoretical frameworks are needed
- Integrate technology, 'efficient' interventions, and environmental strategies

From Prevention Paradox to
Prevention for the Population



Predictors of Kitchen Nicotine Level

Step	Variable	Multiple R	Multiple R ²	Adjusted R ²	Unstandardized Coefficient (B)	Standardized Coefficient (β)
	Constant			1.67		
1	Reduction of child's exposure	.306	.094	.089	-.376	-.213
2	Cigs/day	.367	.135	.127	.035	.197
3	# smokers in household	.407	.166	.154	-.566	-.173
4	Employment Status	.427	.183	.168	-.595	-.153
5	Ethnicity	.451	.203	.185	-.613	-.148

Overall Multiple R=.451, F(5,222)=11.07, p<.001; Multiple R² = .203 (adjusted R² = .185)

CSSS Enrollment

