

Promoting healthy behaviors in U.S. Medical Students

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Objectives

- Discover how medical student and physician health affects patients' health
- Understand several existing national studies of and interventions on medical students and physicians that build on the relationship between physician health and patient counseling
- Develop possibilities for collaborations

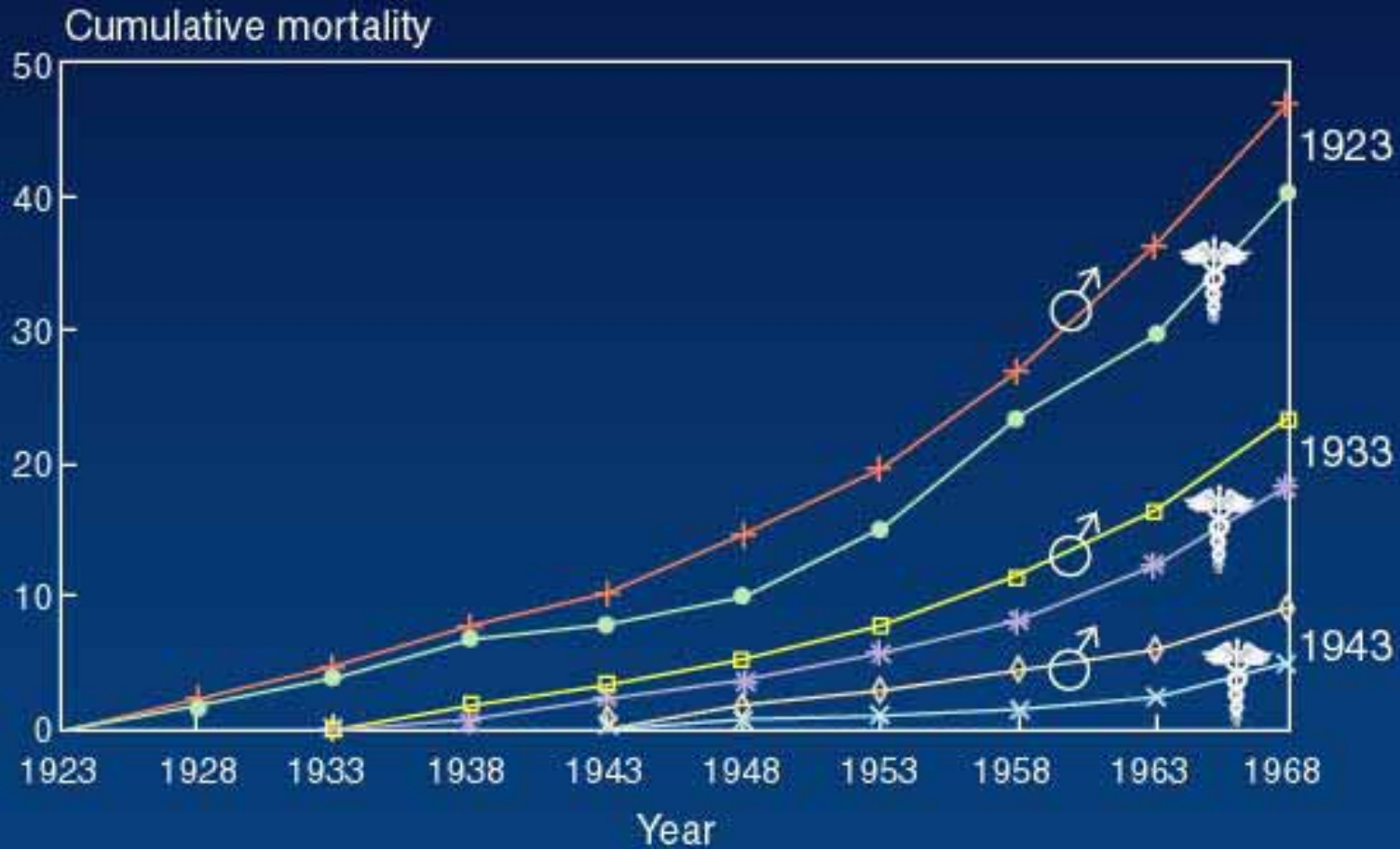
Sir James Paget's Study in 1869

<u>Category of Achievement</u>	<u># of pupils</u>
• Distinguished Success	23
• Considerable Success	66
• Fair Success	507
• Very Limited Success	124
• Failed Entirely	56
• Left Profession	96
• Died in pupilage	41
• Died in 12 years of practicing	87

And why does the health of
physicians matter? A few
questions to answer....

Q #1: what are contemporary
physician mortality rates?

Deaths: HMS Physicians vs. US White Men



But you should control
physician mortality rates for....

Average Age at Death

(for men dying over the age 25, 1984-1995)

Race/Sex Group	Occupation	Number of Deaths	Average Age at Death
White men	Physicians	13,790	73.0
	Lawyers	14,389	72.3
	All Professionals	214,744	70.9
	All deaths	3,386,475	70.3
Black men	Physicians	372	68.7
	Lawyers	258	62.0
	All Professionals	14,059	65.3
	All deaths	443,585	63.6

Q #2: why are physician
mortality rates lower?

<u>Characteristic</u>	<u>Not high SES BRFSS</u>	<u>High SES BRFSS</u>	<u>Women Physicians</u>
Cigarette smoking			
Smoking (%)			
Never	52.9(0.4)**	64.0(1.9)**	77.7(0.7)
Current	25.0(0.4)**	8.0(1.0)**	3.7(0.4)
Average cigarettes/day	17.6(0.2)**	16.0(0.2)	12.0(1.1)
1 cigarette-abstinent day in last year (%)	50.5(0.9)**	47.0(6.1)**	75.3(4.0)
Number of years quit (%)			
<1 year	11.9(0.5)**	6.7(2.1)	3.5(0.8)
1 - <5 yrs.	20.8(0.7)	14.0(2.3)	16.2(1.7)
>5 yrs.	67.3(0.8)**	79.3(2.9)	80.3(1.9)

* $p \leq 0.01$ for the difference between this BRFSS category and WPHS

** $p \leq 0.0001$ for the difference between this BRFSS category and WPHS

Frank, et al

Arch Intern Med 2/1998

<u>Characteristic</u>	<u>Not high SES BRFSS</u>	<u>High SES BRFSS</u>	<u>Women Physicians</u>
Alcohol drinking			
No drinking in past month	43.9(0.4)**	63.3(1.9)**	72.4(0.9)
Average days/month drinking	6.1(0.1)**	7.2(0.3)**	8.5(0.2)
Average drink/episode	2.0(0.0)**	1.6(0.0)**	1.4(0.0)
Average episodes/month of >4 drinks	0.4(0.0)**	0.1(0.0)	0.1(0.0)
Other			
Average fruit & vegetable score	3.3(0.0)**	3.8(0.1)**	3.5(0.0)
Average Block dietary fat score	27.3(0.3)**	21.6(0.9)	24.1(0.3)
Seatbelt wearing (%)			
Always/Nearly always	85.5(0.3)**	95.1(0.8)	96.3(0.4)
Sometimes/Seldom	11.3(0.3)**	4.5(0.8)**	3.3(0.4)
Never	3.2(0.2)**	0.4(0.2)	0.4(0.1)

*p≤0.01 for the difference between this BRFSS category and WPHS

**p≤0.0001 for the difference between this BRFSS category and WPHS

Q #3: do physicians' healthier
personal habits make a
difference clinically?

Physicians' Personal Health Practices vs. Her Counseling or Screening Patients at Least 1x/yr.

Physician's fat consumption	% counseling on cholesterol at least 1x/year**
Below median fat score	30.2%
Median fat score	22.6%
Physicians' exercise	% counseling on exercise at least 1x/year**
Complies with ACSM rec.	46.1%
Doesn't comply with ACSM rec.	39.6%
Physicians' alcohol consumption	% counseling on alcohol at least 1x/year**
≤ 2 drinks per week	41.7%
> 2 drinks per week+	31.9%
Physicians' cigarette smoking	% counseling on tobacco at least 1x/year
Non-smoker	63.4%
Current smoker	47.8%

**p<0.01

Frank, et al Arch Fam Med, 4/2000; Res Q Ex Sport, 6/2004

Physicians' Personal Health Practices vs. Her Counseling or Screening Patients at Least 1x/year (continued)

Physicians' receiving flu shot in last yr.	% recommending flu shot 1x/year***
Yes	51.2%
No	32.9%
Physicians' performed breast self exam	% performing breast exam 1x/year
≥ 12 x/year	61.6%
< 12 x/year	51.0%
Physicians' sunscreen use	% doing skin cancer counseling 1x/year***
Always/almost always	30.6%
Seldom/rarely/never	19.3%
Post-menopausal physicians' HRT use	% counseling about HRT 1 x/year***
Yes	45.5%
No	28.8%

***p<0.001

Physicians' Personal Screening Practices in Prior Years vs. Her Screening or Counseling Patients at Least 1x/yr.

Physicians' cholesterol tested	% screening/counseling patients on cholesterol at least 1x/year***
Yes	33.8%
No	21.9%
Physicians' blood stool tested	% screening/counseling patients re: colorectal Ca at least 1x/year
Yes	35.9%
No	31.6%
Physicians' skin examined	% doing cancer/sunscreen screening/counseling at least 1x/year
Yes	36.2%
No	22.3%

Models for Significant Correlates of Physicians' Counseling at Least 1x/Year About Prevention, By Prevention Type

	Cholesterol	BP	Colo-rectal cancer	Skin Ca/sunscreen use	HIV risks/testing	Flu vaccine	Diet
Practices related personal habit	***	--	--	****	--	****	--
Has screened self in past year	****			****	--	--	--
Personal history of related disease						--	--
Changing related habits	*	--	*	--	--	--	
Ethnicity	****						***
Primary Care/Ob/Gyn	****	****	****	****	****	****	****
Region of country	--						*
Practice site	****					*	
More work control							
More career satisfaction							
Performs more CME						**	

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$ **** $p \leq 0.0001$

Models for Significant Correlates of Physicians' Counseling at Least 1x/Year About Prevention, By Prevention Type *(Continued)*

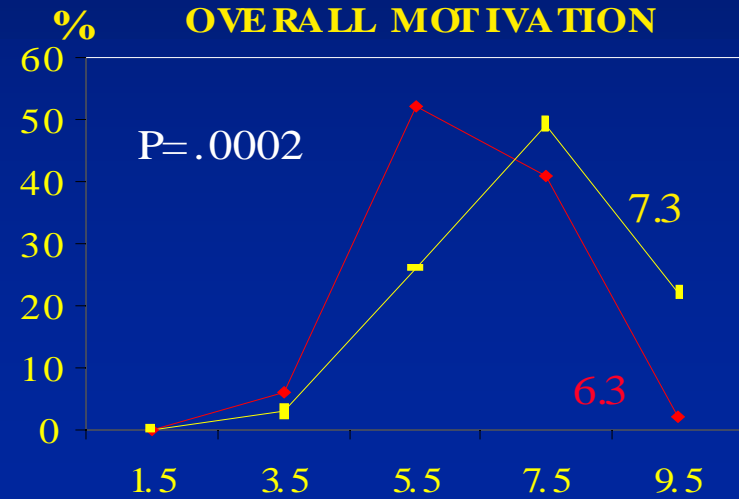
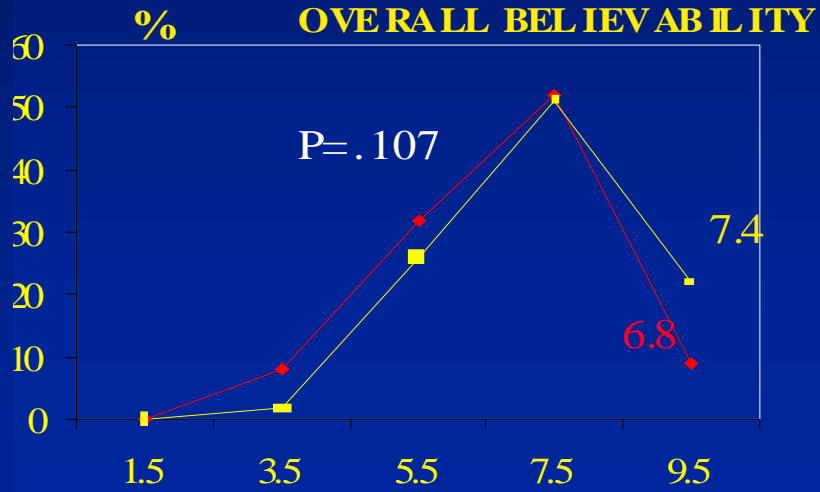
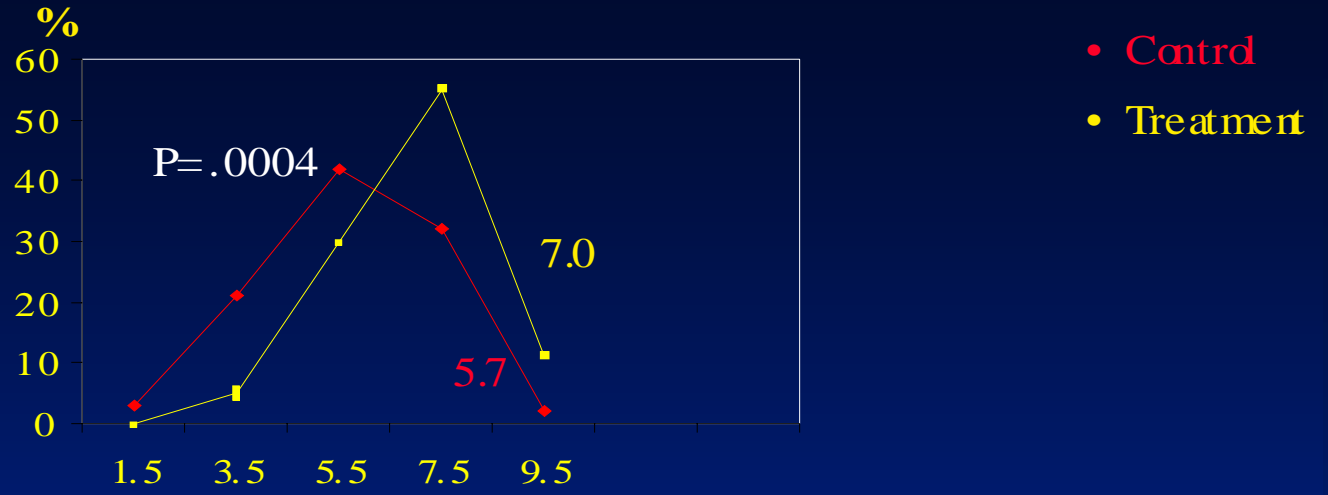
	Weight	Exercise	Smoking Cessation	Alcohol	Breast Exam	Mammo- gram	Hormone therapy
Practices related personal habit	--	*	**	****	**	--	***
Has screened self in past year	--	--	--	--	--	**	
Personal history of related disease		--	--	--			
Changing related habits		**	*	--	--	--	
Ethnicity	***			*			
Primary Care/Ob/Gyn	****	****	****	****	****	****	****
Region of country				*			*
Practice site							*
More work control							**
More career satisfaction							
Performs more CME	**	*		**			

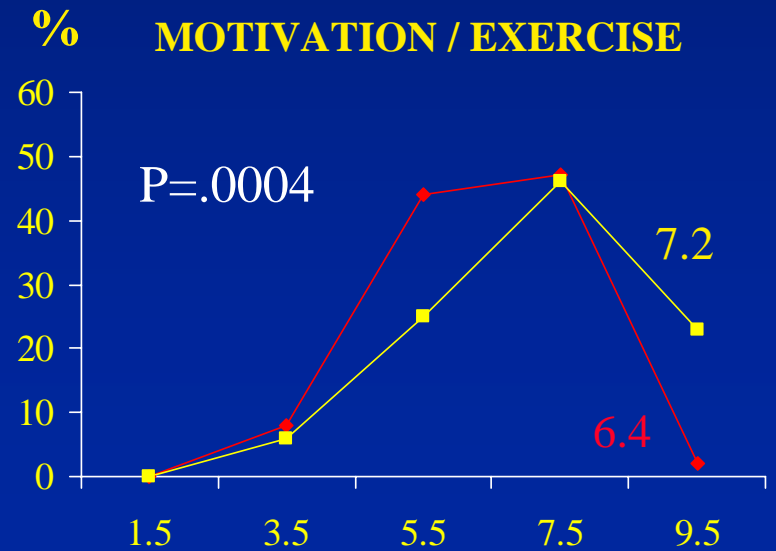
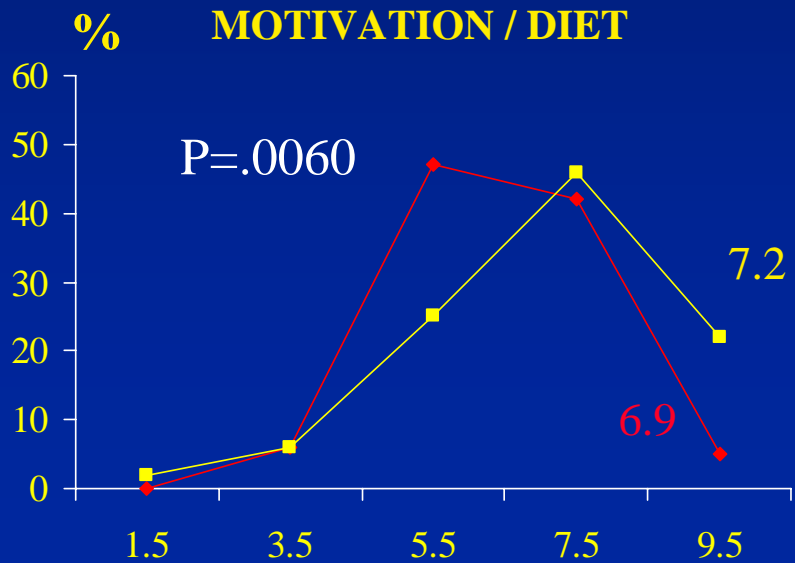
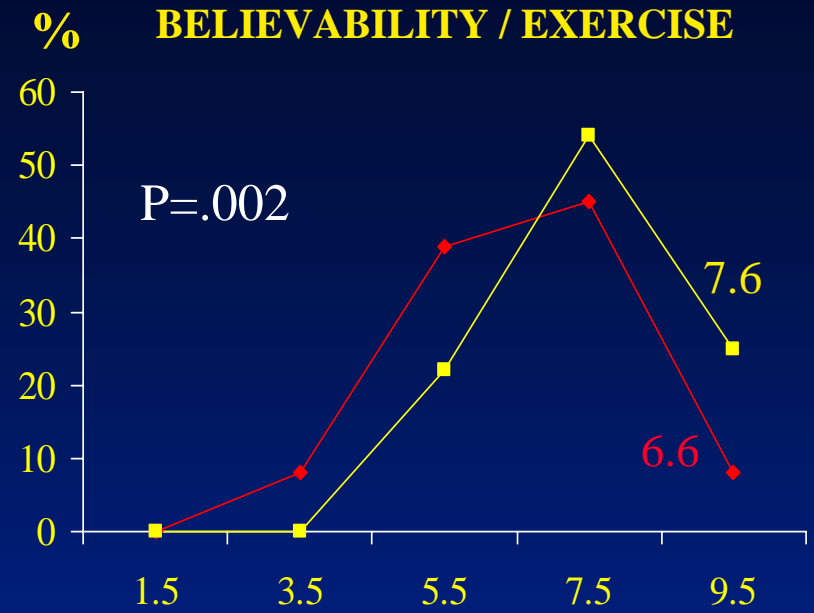
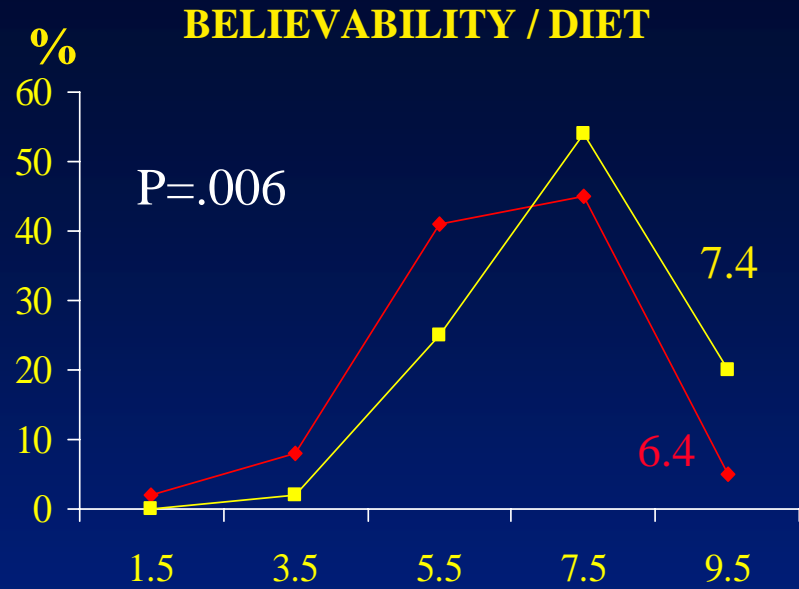
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Q #4: do patients care about
physicians' healthier personal
habits?

- Individuals (n=130) in the Emory Clinic waiting room
- Randomized to
 - 2 minute standard diet and exercise video or
 - standard plus 30 seconds on doc's habits

DOCTOR'S HEALTH





Q #5: does counseling actually
make a difference in patient
outcomes?

Q #6: do tobacco, diet,
exercise, and alcohol really
impact mortality rates?

Q #7: surely, then, physicians
must be counseling?

Points about physician health / Foundation of Healthy Doc

- Physicians live longer
- Physicians live longer because they have healthier habits
- Physicians with the healthiest habits are more likely to advise their patients about related preventive habits
- Appropriate physician revelation about healthy personal habits can make us more believable and motivating to patients
- Counseling patients makes a difference in their habits and their health
- Four behavioral choices account for about 40% of U.S. mortality (likely similar in Canada, but a great investigation to do?)
- Physicians don't do prevention counseling at very high rates

Q #8: what to do next, then?

The Healthy Doc--

Healthy Patient Project

STUDY DESIGN

- Population: the Class of 2003 at 17 medical schools from freshman orientation through fourth year
- Two parallel studies
- 228-item, self-reported questionnaire
- Demographics & personal and clinic prevention practices of US medical students
- Comparable with national surveys

Q #9: are medical students' personal health practices as good as physicians'?

Behavioral characteristics of US medical students are positive overall...

- Median of 4 hrs/wk of exercise, with strenuous exercise preferred
- 84% reported never smoking cigarettes
- Both sexes typically drank fewer than 2 drinks/episode
- Median of 7 hours of sleep per night
- 97% reported health to be at least good
- Typically ≤ 1 day of poor physical or mental health/month
- Both genders (especially women) unlikely to be overweight/obese
- Reported rates of any chronic condition were $\leq 2\%$ except for hypertension among men, and obesity, dyslipidemia, and depression in both genders.

...But there is still room for improvement

- Average daily fruit/vegetable consumption (2.5 servings) was as poor as that of their peers
- As were binge drinking rates (25% females & 43% males) for the last month, with no change over medical school ($p=0.5$)
- Unlike their other relatively positive behaviors compared with their peers, medical students had low rates of preventive screening

Q #10: do medical students show the same personal-clinical relationships as do practicing physicians?

ALCOHOL AND COUNSELING RELEVANCE (Freshmen)

	Moderate relevance	High relevance
Non- drinkers	29%	63%
Drinkers	43%	51%

BINGE DRINKING AND COUNSELING RELEVANCE (Freshmen)

	Moderate relevance	High relevance
Binge drinkers	51%	43%
Non-binge drinkers	35%	59%

Personal Health Behaviors Versus Counseling Frequency and Perceived Relevance

	N	Relevance (% highly)	p-value	N	Frequency (% usly./ always)	p-value
Alcohol Consumption			0.003			0.2
Heavy/Binge Drinker	1561	46		493	24	
Light to moderate	2008	55		589	30	
None	1015	62		291	32	
Tobacco use in past month			0.009			0.001
None	3663	69		1116	58	
Light/infrequent	808	63		213	50	
>10 cig/smk day or >19 days any tob.	156	58		57	47	
Priority of practicing safe sex when sexually involved			0.0006			0.0040
<i>Sexually active singles</i>						
< High	512	46		190	10	
High	1552	59		369	21	

**Personal Health Behaviors Versus Counseling Frequency and
Perceived Relevance (Continued)**

	N	Relevance (% highly)	p-value	N	Frequency (% usly./ always)	p-value
Fruit & Vegetable Consumption servings/day			0.0006			0.03
>= 0 to <= 1.9	1075	49		381	13	
> 1.9 to <= 2.7	1062	61		307	15	
> 2.7 to <= 4	1098	62		285	20	
> 4	1055	70		266	24	
Exercise Score Based Upon Godin score Quartiles			0.3			0.08
>= 0 to <= 26	1104	66		329	26	
> 26 to <= 41	1085	69		294	33	
> 41 to <= 57	1114	70		327	29	
> 57	1053	71		323	36	

Sample EUSM interventions -- Class of 2003 -- M1s

- Orientation lecture on HD principles
- Anatomy manual on muscles and related exercises
- Used their data in biostats class and for homework
- Students presented on physician health in small group sessions
- Visit to our mountain house
- Lunchtime panel on integrated lifestyles
- Healthy quick cooking class
- Personal health prescriptions offered

Sample EUSM interventions -- Class of 2003 -- M2s

- Work with PBL mentors on HD concept
- New slant for impaired physician panel
- Pathophys of hepatic dis lecture emphasized personal practices
- 1 hr in Behavioral Sci on med student alcohol and tobacco use
- Exercise elective and seminar
- Wine tastings
- Health “Heads Up”
- Weekly yoga
- Healthy breakfasts before exams
- Healthy Asian cooking
- Massage lunchtime talk and demo
- Presented at SNMA meeting

Sample EUSM interventions -- Class of 2003 -- M3s

- *All clerkships*: met directors, distributed flyer, encouraged good food
- *Dermatology*: Skin Ca letter, article, sunscreen
- *Ethics*: Advanced directive, BDI/CAGE
- *Family Medicine*: 3 visits, fruit/veg/ex log, ideal job and life
- *Gyn/OB*: WPHS Pregn/DV/Pap/Mammo articles, ACS BSE cards, condoms, emergency contraception
- *Internal Medicine*: tobacco lecture, HRA, model counseling
- *Pediatrics*: personal HPs on rotation and in life
- *Psychiatry*: Suicide and depression article
- *Surgery*: personal HPs of director
- *Validation project*

Observational HD study hypotheses were confirmed

- 1) Medical schools' encouragement of students to be healthy significantly influences students' patient counseling frequency ($p=0.002$) and perceived relevance ($p=0.0007$) of such counseling
- 2) Medical students' personal health practices are correlated with their counseling frequency ($p<0.0001$) and perceived relevance ($p=0.008$)
- 3) Medical students were healthy, and reported many good health habits when compared with other young U.S. adults

Dean and student opinions about HD Principles

	Dean's avg (n=17)	Students' avg (n=1336)
Medical school faculty members should set a good example for medical students by practicing a healthy lifestyle.	1.4	2.1
Medical schools should encourage their students and residents to practice healthy lifestyles.	1.3	1.9
In order to effectively encourage patient adherence to a healthy lifestyle, a physician must adhere to one him/herself.	2.1	2.2

Scale = 1 (strongly agree) to 5 (strongly disagree)

Effect of the intervention on counseling freq during SP exams

extensive vs. minimal/no counseling -- adjusted for gender, intended specialty, and agreement (at baseline) with the statement that physicians have a responsibility to promote prevention.

Topic	Crude OR (95% CI)	Adj OR (95% CI)	P-value from adj
Diet	1.49 (1.04-2.12)	1.49 (1.01-2.19)	0.04
Exercise	1.65 (1.16-2.35)	1.56 (1.04-2.34)	0.03
Tobacco	1.05 (0.54-1.42)	1.10 (0.77-1.56)	0.6
Alcohol	0.52 (0.32-0.85)	0.47 (0.27-0.82)	0.01

Pilot Study in Bogotá, Colombia

- 43.9% of regularly active students (RAS) vs. 20.7% of sedentary students (S) “usually or always” counseled patients about exercise or physical activity ($p=0.006$)
- 50.1% of RAS vs. 31.7% of S reported “having had extensive training on the topic of physical activity and exercise” ($p=0.009$).
- 26.9% of current smokers (CS) vs. 52.4% of never/non-current smokers (NCS) “usually or always” counseled patients on smoking cessation ($p=0.002$)
- 16.9% CS vs. 4.8% NCS disagree with the statement “I will be able to provide more credible and effective counseling if I don’t use tobacco” ($p=0.001$)

Bottom lines:

1. U.S. women and men physicians', and medical students') health is good (though improvable)
2. This matters clinically
3. We should determine if this is true for Canadian physicians (likely yes), and what are particular needs at UBC/in BC
4. Together, we should do something about the results, and test it (2010)

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