‘Comparative Ethics’ of Financial Incentives for Health Promotion

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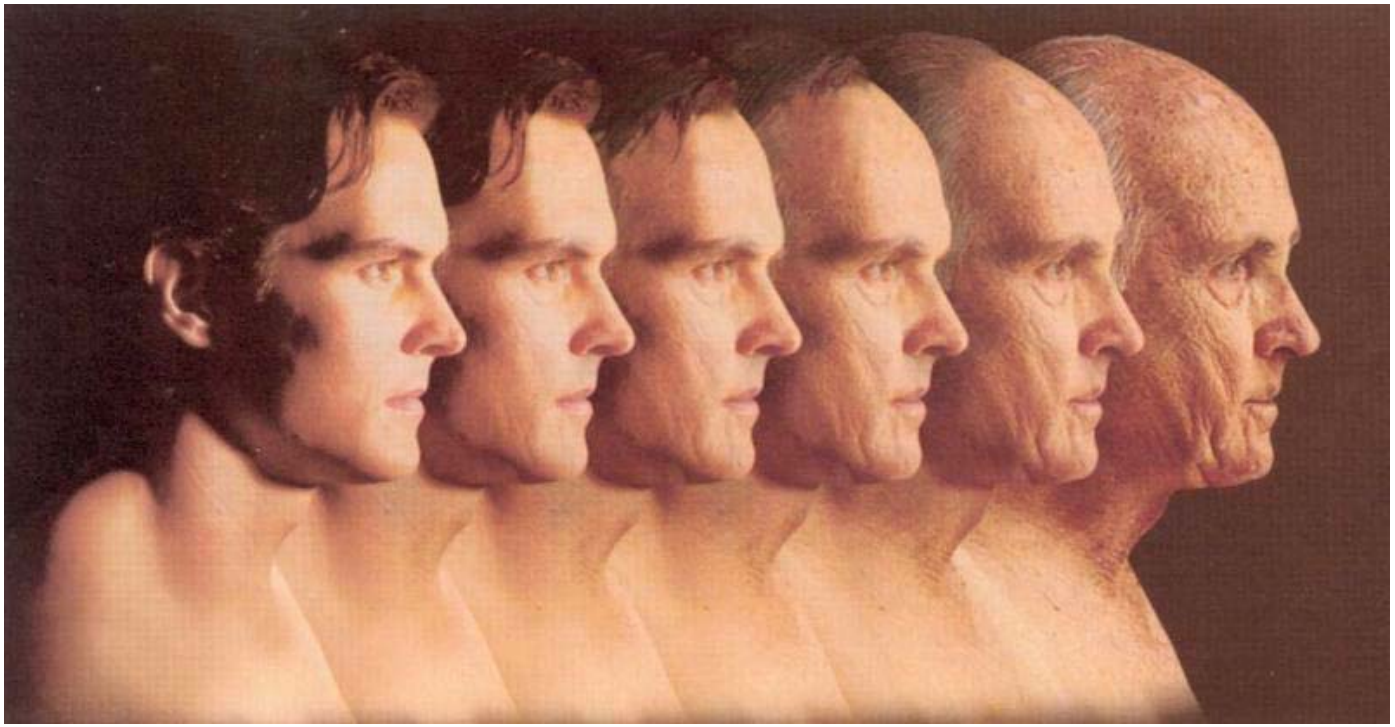
Why intervene?

- ✓ Externalities (e.g., healthy subsidize unhealthy)
  - justice considerations
  - inefficiencies
- ✓ Internalities (e.g., people fail to consider future consequences of medication non-adherence)
  - liberal societies routinely help those who've failed to help themselves (beneficence)
  - how (who) to judge which internalities merit intervention?

Herrnstein RJ, Loewenstein GF, Prelec D, Vaughan W. Utility maximization and melioration: Internalities in individual choice. J Behav Dec Making 1993;6(3):149-85.

Internalities: present-biased “preferences”



- We tend not to feel “connected” with our future selves, and thus adopt behaviors that please our present selves (whether or not we recognize the incipient harms to our future selves)

Bartels DM, Rips LJ. Psychological connectedness and intertemporal choice. J Exper Psychol: Gen 2010; 139: 49-69

The incentives train has left the station…

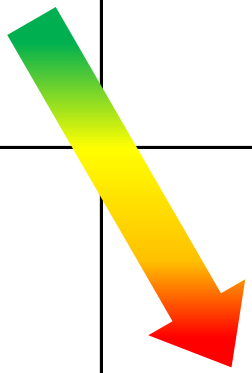
- 2010 *Patient Protection and Affordable Care Act* increases by 50% the amount employers can use to incentivize employee health behaviors ("Safeway amendment")

- >50% large employers are using incentives in 2011 health plans

National Business Group on Health (2010). Large Employers' 2011 Health Plan Design Changes. Washington, DC: NBGH.

Gradient of ethical concerns

	Nature of Incentive	
Nature of program	***Reward (carrot)***	***Penalty (stick)***
Voluntary		
-target process	**Fewest arguments against**	---
-target outcome	---	---
Mandatory		
-target process	---	---
-target outcome	---	**Most arguments against**



Concerns with incentivizing health

1. Infringement on autonomy

Halpern SD, Madison KM, Volpp KG. Patients as Mercenaries? The ethics of using financial incentives in the war on unhealthy behaviors. Circulation: Cardiov Qual Outcomes 2009; 2: 514-516.

We need (and often want) help

- 20.6% of Americans smoke; 75% wish to quit
- Each year, 45% do quit for at least 1 day
- New pharmaceuticals, anti-smoking policies, and behavior modification programs abound
- Yet only 2-3% achieve prolonged abstinence annually

Centers for Disease Control and Prevention. Cigarette Smoking Among Adults and Trends in Smoking Cessation -- United States, 2008. MMWR 2009;58(44):1227-32.

Concerns with incentivizing health

1. Infringement on autonomy

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4. Extrinsic incentives crowding out intrinsic motivations

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Are incentives sustainable?

- RCT among 878 smokers from 85 General Electric worksites in U.S.
- Usual care = information about smoking cessation programs
- Intervention = usual care + incentives bundle:
  - $100 for completion of program, $250 for short-term cessation, $400 for 6 month cessation
- Relapse checked 6 mos. after incentives ended (12 mos. after quit)

Table 2. Incentives for Smoking Cessation at General Electric

Outcome	Usual Care Group	Incentive Group	P-value
Quit within 6 months	11.8%	20.9%	< 0.001
Prolonged cessation 6 months later	5.0%	14.7%	< 0.001
Relapse-free 12 months later	3.6%	9.4%	< 0.001

Relapse rate 36%
(27% in UC group, n.s.)

Volpp KG, Troxel A, Pauly M, et al, New England Journal of Medicine. 2009; 360: 699-709.

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4. Extrinsic incentives crowding out intrinsic motivations
5. **Discrimination among heterogeneous populations**

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Treatment-effect heterogeneity

- Are incentives equally effective across individuals to whom they would be targeted?

- Implications for:
  - ethics
  - cost-effectiveness

- Requires large sample size

Individual Characteristics that Could Modify Incentives' Effects
• Income
• Perceived Wealth
• Other demographic characteristics
• Time-discounting (present biases)
• Environmental cues/reinforcers
• Readiness to change
• Physiologic dependence
• Genetic predispositions
• Concomitant use of other interventions

Detecting treatment-effect heterogeneity

Disincentive (vs. control) → Patient characteristic (e.g., social support) → Probability of quitting smoking

540 people, evenly distributed across intervention groups, yields 80% power to detect overall **10% absolute improvement** in behavior rate (15% vs. 25%)

Good support

	Quit smoking	Do not quit smoking
Disincentive	35%	65%
Control	20%	80%

Poor support

	Quit smoking	Do not quit smoking
Disincentive	15%	85%
Control	10%	90%

Treatment-by-support interaction is also **10%** (5% vs. 15%); if sample evenly distributed among 'good' and 'poor' support, **810** people yields 80% power

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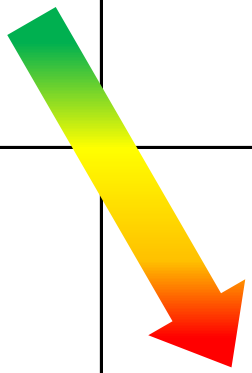

Process vs. outcomes: A false dichotomy?

Voluntariness ↑

Target	Type of target	Barriers to full participant control	Concern for discrimination
Gym attendance once per week	Behavior; relationship to outcome indirect	None, unless no gyms available	Minimal
30 min aerobic exercise once per week	Behavior; relationship to outcome somewhat direct	May be less achievable for people with lower functional status	Low
Losing 10% of body weight	Intermediate outcome	Social / genetic factors may influence access ability to lose weight	Moderate
Reduction of systolic blood pressure to < 120 mmHg	Intermediate outcome	Social factors may influence access to meds; genetics may influence response; baseline BP will affect ability to meet goal	Moderate-Substantial
Avoidance of heart attack or stroke	Clinical outcome	All of the above barriers, plus other risks for cardiovascular disease	Substantial

↓ Attractiveness to employer / insurer

Targeting process vs. outcomes

Targets ($1000 cap)	Process	Outcome	Mixed	Control
Process (behavior class attended or cessation aid script filled)	$200 x 5	$0	$100 x 5	$0
Outcome (negative cotinine tests)	$0	$400+$600	$200+$300	$0

Beware Sticks masquerading as Carrots!

- ✓ State government health plan announces that individuals who achieve and maintain a BMI < 25 next year will receive 20% of their annual insurance premiums back at year's end *(but at beginning of year, rates increase 20% compared with current year)*

- ✓ West Virginia Medicaid reform: "Basic plan" a step backwards

American College of Physicians. Ethical considerations for the use of patient incentives to promote personal responsibility for health: West Virginia, Medicaid, and beyond. Philadelphia; 2010.

At what level to intervene?

- Should we (a) pay people to lose weight or (b) subsidize food producers/farmers to produce healthier food?
  - Comparative effectiveness of influencing individual choices vs. changing the game?
- Should we incentivize patients or providers for cholesterol reduction?
  - Comparative ethics of discrimination potential vs. adverse selection potential

Conclusions

- Many ethical complexities re: incentives for health promotion have been overstated, but certain plan designs present serious concerns

- Rather than rapid rollout (or condemnation), we need broad-based research programs to understand how: