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Case 17, Day 2
May 9, 2011

LO: Describe examples of upstream policies that are obesity-related.

Upstream Interventions Targeting Obesity Are Increasingly Seen As Integral To Effective, Multi-Stream Public Health Responses, But Their Use May Still Be Limited

> … "Rigid adherence to an arcane view of science and false consciousness about the purported 'objectivity' of the public health enterprise are likely to promote narrow disciplinary sectarianism when an even more ecumenical approach to public health challenges is required. Despite several decades of debate on the notion of objectivity in science, some observers still just don't get it."[1]
> *(John B. McKinlay and Lisa D. Marceau: Upstream Healthy Public Policy: Lessons from the Battle of Tobacco; 2000)*

***Abstract**: Upstream interventions use policy approaches that target large populations, not individuals, through tools such as government regulation or economic incentives. For five decades, public health approaches in the United States have been influenced by a predominant view that lifestyles are the major cause of ill health, and researchers looked downstream at individual's choices regarding food, substances, exercise, and a range of behaviors. Only recently is that changing, with issues of obesity and overweight being tackled with a multilevel approach. There is a growing consensus among researchers that more upstream investments are needed to address the obesogenic environment, which the U.S. Centers for Disease Control and Prevention (CDC) says characterizes American society.[2]*

Introduction: As Denise works on designing an obesity intervention strategy for Fairbanks, it becomes clear behavioral changes alone by individuals like Mrs. Rose and her family won't move the needle. So Denise and her partners begin to brainstorm strategies that will target the individual, interpersonal, institutional, community, and policy levels. While it is highly unlikely such intervention strategies that can work will be inexpensive, it is a positive step well-acknowledged by researchers who are studying evidenced-based approaches to confront the problems of obesity and overweight. There is a growing consensus that effective interventions to address the prevalence of obesity require a multi-strategic approach involving all levels of society, reaching individuals and the population.[3]

Research on the social determinants of health (SDOH) provides evidence challenging a long-held health model that blames individuals, particularly those with the least resources and power, for behavior choices that lead to poor health outcomes. Rather, people's health and health choices are influenced by where they are born, live, and work, as well as factors of power and resources at multiple levels, which also are influenced by political policy choices.[4,5] The SDOHs greatly influence how individuals and communities possess the physical, social, and personal resources to identify and achieve goals and respond to the environment. The burden of disease, including obesity prevalence, is disproportionately located among people and communities that are economically, politically, and socially disadvantaged.[6] This theory, therefore, proposes that for the majority of Americans who are either overweight or obese, will power alone will not curb individual behaviors leading to these weight problems. Instead, investments need to be made "upstream."

Researchers use three terms to describes types of health interventions regarding behavior change, such as curbing the rise in obesity and overweight (see appendix 1 for framework model and illustration of examples).

- **Downstream**: These are campaigns aimed at changing behaviors that put individuals at risk and cause other problems. A typical intervention would be encouraging Alaskans to change their individual behaviors by increasing their consumption of fruits and vegetables and boosting the rates of physical activity, as the state of Alaska is recommending.[7]
- **Midstream**: These approaches focus on building collaborations and providing resources and skills so individuals or communities can implement their own interventions to address problems of obesity and overweight. An intervention could involve grants and community partnerships created to promote physical activity or community gardens.[8]
- **Upstream**: These actions are macro-level and population focused, normally in the form of policy, economic incentives, or legislation.[3,7] These aim to make change in the environment so the unwanted behavior can be prevented and better habits can begin. This is also called a socio-ecological approach, which assumes economic, political, and social environments greatly influence eating habits and physical activity behaviors.[6]

However, there is some disagreement among researchers concerning precise definitions. For instance, midstream interventions can be classified as actions that influence population behaviors, and downstream approaches are classified as health services and clinical interventions.[6] Generally, with upstream interventions, policy interventions such as a public awareness campaign to promote regular physical activity are considered politically weak, compared to laws or regulations that are considered hard instruments. An example of a hard-instrument, upstream intervention tackling weight issues would be the soda, bottled water, and candy tax passed in 2010 by the Washington State Legislature, which was repealed in November 2010 by referendum I-1107. That campaign saw the American Beverage Association spend a record $16.7 million—largest on a ballot measure in the state's history—compared to tax supporters, who spent a modest $425,000.[9]

Examples of upstream policy areas that influence the food environment (Australian context), as modeled by Sacks et al.[6]

Sector	Local Gov.	State Gov.	National Gov.	International	Organizational
Retail	Density of food outlets	Products sold in schools	Food taxes/subsidies	Nutrition labeling	Product placement in stores

As seen in the failed tax in Washington, upstream interventions can tax unhealthy foods or reduce their availability by limiting access, though taxes may have unintended consequences of harming lower-income persons who purchase food products deemed unhealthy—a reason why some voters may have voted for I-1077. Or government initiatives can seek changes to the built environment or encourage healthy school lunches through subsidies and nutritional standards that require more fruits and vegetables. Such support is crucial, as behavior change leading to healthier diets and more activity cannot occur if the environment provides no opportunities for persons to change.[10] Some research shows these approaches work. In Australia, partial bans on ads for unhealthy foods during kids' television program were found to have a 100% chance of being cost-effective, saving AU$300 million.[11] An example of an upstream change frequently debated in this country is the possible adjustment of subsidies provided to U.S. farmers ($16

billion in 2009) under the Farm Bill, in an effort to effect commodity prices, free up resources to support more vegetable crops, and limit supplies of subsidized grains that support industrial meat production. However, the actual impacts of farm subsidies on the rise in obesity is unsettled.[12,13] Researchers looking at upstream obesity interventions argue that policy activities need to be integrated across public health approaches (upstream, midstream, downstream) and by different levels of government. Thus billboard restrictions against unhealthy food promotion should work in tandem with other sectors, like a campaign to educate youth to eat healthier food.[6]

The effectiveness of upstream interventions in the United States is well vaunted in the field of public health. In fact the CDC's "10 great public health achievements of the 20th century" were each influenced by policy changes, from automobile safety regulations to fluoridation of public drinking water.[14,15] Nor was change easy, as seen in the U.S. automotive industry's intense lobbying against the passage of the Highway Safety and National Traffic and Motor Vehicle Safety acts in 1966 and the industry smear campaign against consumer advocate Ralph Nader.[16] Despite the CDC's self-congratulatory assessment of the public health's system's upstream prowess, data reveal a downstream research focus on obesity. A 2008 review of policy metrics reviewed 78 articles on multiple issues addressing obesity-related policy research (organization research, agency decisions) and policy studies (law and regulations enacted by elected officials). It found only three focused on upstream outcomes, 13 on midstream outcomes, and 31 on downstream outcomes.[15] The Public Health Agency of Canada reviewed the cost-effectiveness of public health interventions, including those targeting obesity, and found that high-quality data on "effectiveness and cost-effectiveness are lacking for many preventive health interventions, particularly those health promotion, health protection, and healthy public policy interventions that target the 'upstream' determinants of health."[11] Brownson et al. refer to the public health adage of "what gets measured gets done" as emblematic of current obesity policy approaches of interest to public health. They note that more efforts need to be made to develop surveillance tools to determine the effectiveness of upstream policy interventions in issues such as school-based nutrition and physical activity.[15]

Power and Politics: Decisions to implement evidence-based upstream interventions ultimately are political.[17] Public health is by definition publicly financed, and public health bodies are subject to the authority of governments that support them. The successful muzzling of the CDC to limit research on widespread U.S. gun-related violence, in response to congressional funding threats, is one of the more glaring examples.[18] But even with an evidence-based logic framework model that relates outcomes to distal factors, like the cheap cost of nutrient poor and calorie rich beverages and how that impacts weight gain, how far can any public health body—the CDC, the Alaska Department of Health and Social Services—realistically intervene. All are subject to the power of the purse of legislative bodies and an uneven playing field that allows corporate donations to literally buy votes on any controversial public health proposal. This is further aggravated by a resurgent "New Right," who are seeking to strip government involvement in the market and over "individual freedoms" and to dismantle an activist state[1]—seen most recently in a GOP $5.8 trillion federal budget cutting proposal in Congress that would convert Medicaid and Medicare into block grant programs.[19]

The upstream intervention model, attempting to reduce the prevalence of obesity and overweight in Fairbanks and elsewhere, ultimately must confront an imbalance of power in the arena where

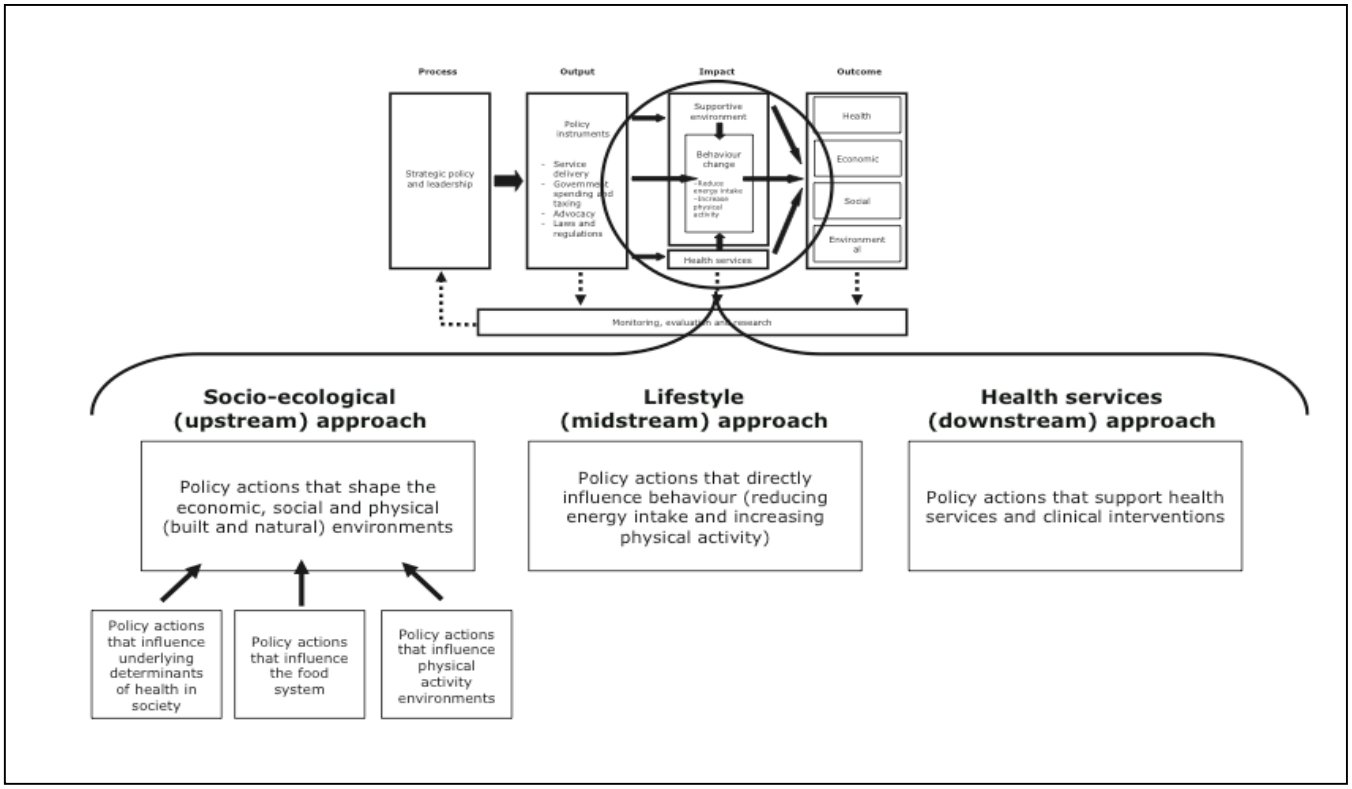
those approaches would be implemented. In a frequently cited study of Congress's failure to pass anti-tobacco legislation in 1998 because of a successful corporate financed lobbying campaign by big tobacco, John McKinlay and Lisa Marceau conclude the victory cost $40 million. They called that "a paltry sum"[1]—and it proved a great value for the business interests promoting a well-documented lethal product linked to the deaths in 1 in every 5 Americans annually.[20] The lesson from this defeat, they claim, is clear: "Downstream health promotion activities (such as primary and secondary smoking prevention, community level interventions, and provider education) obviously have an important role and should be continued—but to some they resemble fixing with a pick and shovel what is being destroyed with a bulldozer."[1] It is not clear how far public health bodies will mobilize their limited resources to direct obesity intervention strategies in the political space where upstream approaches are developed. Nor is it clear if the shovel and pick will remain the preferred tools.

Back to the Case: Researchers on upstream obesity interventions agree that opportunities for greater involvement exist to impact the food and physical activity environments.[3,6,10] The prevalence of childhood obesity in the last 20 years, despite the dramatic rise in programs and clinical interventions, is a testament to the failure of the current prevention and treatment approaches.[3] Meanwhile, public health officials like Denise and her peers are increasingly tasked with developing responses to the obesity epidemic and its related chronic disease outcomes, including the potential use of a socio-ecological response. At the same time, the public health sector also appears to have the least amount of policy leverage over the actual determinants of outcomes related to obesity and overweight.[6] Going back to criticisms raised about downstream approaches, McKinlay and Marceau argue that politics will inevitably be intertwined in meaningful public health actions, otherwise public health risks being relegated to the prevention and promotion of individual risk behaviors, which evidence appears to show is failing with obesity. To be successful, public health must acknowledge the powerful forces against it and the strategies used to engineer its defeat. It must also rethink its posture on "scientific objectivity" and engage solutions in their sociocultural context.[1] There is no indication in this case that Denise or her public health colleagues have mapped out a pragmatic political strategy that can realistically confront the coalitions that would trip up upstream obesity approaches that could help Mrs. Rose and her Fairbanks neighbors. Denise may soon find herself paddling up a river with a pick and shovel.

1. McKinlay and Marceau argue that in Britain, the news media were more effective in delivering public health reform to curb tobacco use than the nation's public health system[1]; in the United States, some major milestones in public health policy are mostly credited not to public health professionals, but journalists and advocates like Ralph Nader and Upton Sinclair. Will U.S. public health professionals have the fortitude to be at the sharp of the spear in the fight against obesity, or will they likely promote what McKinlay and Marcaeu call "narrow disciplinary sectarianism"?
2. Did the ease of passage of I-1107, financed for less than $17 million, indicate a price point for an electoral outcome that that could impact a modest upstream effort that could help to curb obesity at the state level?

Appendix 1. Public health approaches to obesity: upstream, midstream, and downstream (as described by Sacks et al); zooming to 200% may help with the diagram.[6]

	Socio-ecological (upstream) approach	Behavioural (midstream) approach	Health services (downstream) approach
Perspective of the obesity epidemic	The economic, social and physical environments are major determinants of population eating and physical activity behaviour patterns.	Population eating and physical activity behaviour patterns are major determinants of obesity prevalence.	Individual behaviours, motivations, genes and metabolism are major determinants of the presence of obesity in patients.
Obesity prevention intervention targets	Policy interventions shape the circumstances and conditions which are the underlying determinants of health and social equity in society. Policy actions target the food environments, physical activity environments and the broader socioeconomic environments (including taxation, employment, education, housing and welfare), thus indirectly influencing population behaviours.	Policy interventions target population or subpopulation behaviour change, aiming to improve eating and physical activity behaviours by using policy instruments such as social marketing and programmes.	Policy interventions support health services and clinical interventions. The focus is on managing and reducing existing weight problems in individuals and working with families to prevent overweight or obese children becoming overweight or obese adults. This includes medically managed, individual-based behaviour change.
Responsibility for action	Primarily governments, with the private sector responsible to some extent (corporate social responsibility)	Governments, civil society and the private sector	Governments, health professionals and non-government health services
Primary policy outcome measures	Improved prosperity, social equity and environmental sustainability, together with improved health outcomes	Improved population eating and physical activity behaviour patterns and obesity prevalence	Improved anthropometry and disease risk for individuals



References:

1. McKinlay JB, Marceau LD. Upstream healthy public policy: lessons from the battle of tobacco. *Int J Health Serv.* 2000;30(1):49-69.
2. U.S. Centers for Disease Control and Prevention. *Defining overweight and obesity*. 2011; http://www.cdc.gov/obesity/defining.html. Accessed May 3, 2011.
3. Flynn MA, McNeil DA, Maloff B, et al. Reducing obesity and related chronic disease risk in children and youth: a synthesis of evidence with 'best practice' recommendations. *Obes Rev.* Vol 7 Suppl 1. England2006:7-66.
4. Canada's leadership in addressing the social determinants of health. *12 great achievements* 2010; http://cpha100.ca/12-great-achievements/canadas-leadership. Accessed October 9, 2010.
5. Raphael DE. *Social determinants of health : Canadian perspectives* Toronto: Canadian Scholars' Press; 2004.
6. Sacks G, Swinburn B, Lawrence M. Obesity Policy Action framework and analysis grids for a comprehensive policy approach to reducing obesity. *Obes Rev.* Vol 10. England2009:76-86.
7. Fenaughty A, Fink K, Peck D, Wells R, Utermohle C, Peterson E. *The burden of overweight & obese in Alaska.* February 2010; http://www.hss.state.ak.us/dph/chronic/obesity/pubs/ObesityBurdenReport_2010.pdf, Accessed May 4, 2011.
8. Rychetnik L, Webb K, Story L, Katz T. *Food security options paper: a planning framework and menu of options for policy and practice interventions.* Gladesville NSW: NSW Centre for Public Health Nutrition; 2003. http://sydney.edu.au/science/molecular_bioscience/cphn/pdfs/food_security.pdf. Accessed May 6, 2011.
9. La Corte R. Beverage tax battle leads spending among initiatives. *The Bellingham Herald.* October 29, 2010; http://www.bellinghamherald.com/2010/10/29/1692506/beverage-tax-battle-leads-spending.html. Accessed May 7, 2011.
10. Maio GR, Manstead A, Verplanken B, et al. *Tackling obesities: future choices – lifestyle change – evidence review.* Cardiff: United Kingdom Government Office for Science; 2006. http://www.bis.gov.uk.offcampus.lib.washington.edu/assets/bispartners/foresight/docs/obesity/05.pdf. Accessed May 6, 2011.
11. Public Health Agency of Canada. *Investing in prevention - the economic perspective*. 2010; http://www.phac-aspc.gc.ca/ph-sp/preveco-02-eng.php. Accessed May 8, 2011.
12. Alston J, Rickard B, Okrent A. Farm Policy and Obesity in the United States. *Choices.* 3rd Quarter 2010;25(3).
13. Bittman M. A Food Manifesto for the Future. *The New York Times.* February 1, 2011; http://opinionator.blogs.nytimes.com.offcampus.lib.washington.edu/2011/02/01/a-food-manifesto-for-the-future/#more-78951. Accessed May 7, 2011.
14. U.S. Centers for Disease Control and Prevention. *Ten great public health achievements in the 20th Century*. 2008; http://www.cdc.gov/about/history/tengpha.htm. Accessed October 10, 2010.

15. Brownson RC, Seiler R, Eyler AA. Measuring the impact of public health policy. *Prev Chronic Dis.* Vol 7. United States2010:A77.
16. Schroeder S, Isaacs S. Where the public good prevailed: government's public-health successes. *The American Prospect*. June 3, 2001; http://prospect.org/cs/articles?article=where_the_public_good_prevailed. Accessed May 8, 2011.
17. Scutchfield FD, Howard AF. Moving on upstream: the role of health departments in addressing socioecologic determinants of disease. *Am J Prev Med.* Vol 40. Netherlands2011:S80-83.
18. Kistner W. Firearm injuries: the battle over science. *PBS Frontline*. May 1997; http://www.pbs.org/wgbh/pages/frontline/shows/guns/procon/injuries.html. Accessed May 8, 2011.
19. Hulse C. House Approves Republican Budget Plan to Cut Trillions. *The New York Times.* April 15, 2011. http://www.nytimes.com/2011/04/16/us/politics/16congress.html?_r=2. Accessed May 7, 2011.
20. U.S. Centers for Disease Control and Prevention. *Smoking and tobacco use*. 2011; http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/tobacco_related_mortality/. Accessed May 8, 2011.

Key References: For a comprehensive survey of current research, including upstream interventions, I would recommend: Flynn MA, McNeil DA, Maloff B, et al. Reducing obesity and related chronic disease risk in children and youth: a synthesis of evidence with 'best practice' recommendations. *Obes Rev.* Vol 7 Suppl 1. England2006:7-66. For a critical look at the shortcomings of public health in an upstream environment, read this: McKinlay JB, Marceau LD. Upstream healthy public policy: lessons from the battle of tobacco. *Int J Health Serv.* 2000;30(1):49-69.