Lessons from New York City’s experiences in targeting population-level nutritional intake: a case study in regulatory obesity prevention policy

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1. Introduction

During Michael Bloomberg’s 12 year tenure as mayor, his administration actively promoted New York City (NYC) as a trailblazer of international significance in chronic disease prevention.\textsuperscript{1,2} Publications by successive City Health Commissioners and Department of Health (DOHMH) staff have appeared in the media and academic journals, outlining city policy choices aimed at improving population nutrition and advocating for complementary interventions at higher jurisdictional levels.\textsuperscript{3-9} Some regulatory proposals have been subjected to lawsuits\textsuperscript{10-12} or rejected at higher jurisdictional levels.\textsuperscript{13,14} Others have been replicated elsewhere: for example, calorie posting imposed on chain restaurants has been brought to federal level in slightly modified form.\textsuperscript{15} Descriptive accounts and early evaluations of new rules directly connected to obesity prevention or to healthy food access more generally have been published by public agencies and academics.\textsuperscript{16-24} However, the broad NYC experience as an unprecedented policy effort has gone largely unexamined. In this paper, we provide an in-depth analysis of policy-making in obesity prevention during the Bloomberg mayoralty. Our findings, while specific to New York City, can inform political discussions and guide other jurisdictions on the feasibility and acceptability of different regulatory options.

2. Methods

2.1. Conceptual framework

We have used two complementary frameworks to underpin project development and analysis of the findings. Firstly, we draw on Kingdon’s multiple-stream-model\textsuperscript{25} which offers a generic,
process-oriented representation of the macro-forces and key actors that shape policy-making. Kingdon focuses on agenda-setting, i.e. the process preceding legislative or executive decision-making. He conceptualizes successful policy-making as the result of a brief coupling of otherwise largely independent streams of problem identification, policy solution, and politics. A focusing event, electoral change, or a rapid shift in public opinion open up a limited window of opportunity seized by “policy entrepreneurs”. These individuals “hook solutions to problems, proposals to political momentum, and political events to policy solutions.” Kingdon argues that processes within the policy and politics streams differ: thematic agenda-setting occurs suddenly in the political stream, whereas the definition of potential solutions that may eventually become statutory provisions proceeds incrementally in the policy stream. Similarly, in the expert-driven policy stream, consensus is achieved through “processes of persuasion and diffusion [in which] ideas survive scrutiny according to a set of criteria”, whereas political agreement is reached by bargaining around varied interests. Assuming that solutions are flexible and pre-date political opportunity, he suggests that the entrepreneurs “try to make linkages far before windows open so they can bring a prepackaged combination of solution, problem, and political momentum to the window when it does open.”

Secondly, we draw on Swinburn and colleagues’ evidence-based decision-making framework, developed on behalf of the International Obesity Task Force (IOTF). It complements Kingdon’s focus on parallel processes with a modelling of policy-making as a sequence of actions. The framework identifies five consecutive key actions for successful development and implementation of policy interventions to address obesity: (1) making a case for policy action, (2) identifying causes and contributors and corresponding intervention levers, (3) defining possible interventions and their respective contexts, (4) prospectively evaluating potential measures, and (5) developing a comprehensive policy program combining complementary interventions. Together, these two conceptual models provide a comprehensive explanatory framework for the processes and components of policy-making.
We used a case study methodology which is well suited to “retain the holistic and meaningful characteristics of real-life events”, 27-p.4 while using a wide range of evidence. 27 The two-stage data collection process comprised a document review and key informant interviews. The choice of NYC as our case study and the subsequent selection of interviewees followed a non-probability, purposive sampling approach. 28 NYC was chosen in accordance with extreme case sampling, 28 as the city has been exceptional compared to other OECD jurisdictions in terms of the timing, content and reach of the regulatory measures considered and implemented. In addition, NYC has an exceptionally large and diverse population estimated at more than 8,400,000 as of July 2013, more than twice the population of the next biggest US City. 29 The city’s size is matched by extraordinary local administrative resources. 6 Additionally, the much larger metropolitan area 30 has been ranked as the fifth most racially and ethnically diverse metro area in the country. 31 New York City itself is also more socioeconomically unequal than the United States at large, with a significantly higher per capita income, but a higher share of persons living below poverty level. 29,32 Following the logic of stakeholder sampling, 28 internal study validity is constructed by identifying a maximally complete set of relevant stakeholders. In the absence of probability sampling, external validity in case study research is achieved not through sample size and valid inferences about the underlying population, but through qualitative analysis leading to potentially generalizable theoretical propositions. 27

The goal of this study is to deliver an in-depth analysis of the policy-making processes around NYC’s dietary obesity prevention efforts and the various factors that shaped their content. We have concentrated on accounts from policy-makers, notably civil servants and appointed and elected leaders. These stakeholders possess knowledge of all stages of the policy-making process. We have not included the views of the food industry as the foremost representatives of private interests. These have been widely analyzed and found to be largely uniform and predictable in response to government interventions targeting population nutrition 33-64 and considerable attention has focused on the inherent conflicts of interest these stakeholders hold. 35-
Our approach was to explore the influence of the food industry on the policy process through the documentary review and policy-makers’ accounts.

2.2. Data collection and analysis

The document review encompassed relevant research articles and policy documents from 2002, when Mayor Bloomberg took office, to August 2014. As summarized in figure 1, we conducted systematic searches of PubMed, the New York Academy of Medicine’s grey literature repository GreyLit, and the DOHMH website for research articles, reports, and policy documents pertaining to NYC-specific regulatory obesity prevention efforts. Review data informed the development of the key informant interview schedule and complemented evidence emerging from interviews. <figure 1 here>

Potential participants were selected based on their professional role. We established an initial list of possible interviewees based on authorship of and/or mention in policy documents and research articles identified during the document review. We then used snowball sampling to recruit additional participants by asking interviewees to recommend colleagues they considered important informants based on level of involvement in relevant policy-making processes. Sixteen interview requests were submitted, with nine requests granted. Prior to interview, all participants were informed about project aims and confidentiality arrangements and provided written consent. Of the seven individuals approached who did not participate, two declined and five did not respond to multiple direct contact attempts. Seven face-to-face interviews of 50-70 minutes in length took place in the United States between September and November 2014. Two shorter interviews were conducted by e-mail in November and December 2014. Ethics approval was obtained from the Human Research Ethics Committee at the University of Adelaide (approval number H-2014-122).

Data analysis followed a qualitative, inductive process through thematic analysis: the development of theoretical strands from the data was based on initial free line-by-line coding followed by organization of codes into descriptive themes, and development of analytical
themes. This approach mirrors the coding process along a developmental path from open
coding to selective coding. Concurrent initial coding of completed interviews was performed
to adjust the general direction of questioning, if necessary, as well as to inform specific questions
in subsequent interviews. All transcripts were initially coded by [author 1]. [Author 2] independently coded the first four interviews, after which [authors 1+2] compared and discussed
codes. [Author 1] then re-coded all interviews according to the combined list of codes and
resulting broader themes. These and additional methodological details are documented in the
online supplementary data.

3. Findings

A number of major themes of relevance to successful policy development and
implementation in the area of nutrition-related obesity prevention emerged from the interviews
and document review (see the online appendix for a categorized overview of publications
identified). In the following, we use Kingdon’s and the IOTF’s approaches as the explanatory
frameworks within which we present the findings from this case study. We begin with an analysis
of the drivers of policy initiation, followed by a discussion of the role that evidence played in
policy design and justification. We then explore feasibility considerations and expert-driven
decision-making as two pivotal constants during the Bloomberg era. The place of regulatory
obesity prevention within the wider health and social policy agenda is discussed with particular
emphasis on stakeholders’ diverging views on food access. Finally, we review the limitations of
New York’s expert-driven regulatory approach to obesity prevention and present lessons-learned
as well as recommendations offered by policy-makers there.

3.1. Executive leadership and agency expertise as a catalyst for policy development

All sources agreed that Mayor Bloomberg’s personal interest and political investment in
chronic disease prevention was instrumental in establishing and advancing a policy agenda in
this area. His election and tenure were clearly identified as a window of opportunity:
“You need the political will to get it done; in other words, you would need a mayor as well as a commissioner [or] other appointed official, to be able to say, this is the policy that needs to be developed and this is why. […] We did always think of Bloomberg as the public health mayor, and we knew that we were there in what I call the golden age of public health in New York City.” (Interviewee 5, DOHMH)

Bloomberg also fits Kingdon’s description of a prototypical policy entrepreneur whose “defining characteristic, much as in the case of a business entrepreneur, is their willingness to invest their resources—time, energy, reputation, and sometimes money”\(^{25}\), p.123:

“Public health is always a tough sell politically. Mayor Bloomberg did it because he believed in it. Because he saw the numbers and he thought saving lives was a good thing. He was one of the few elected officials that got it and he also was unusual in that he didn’t really care too much about his public image. […] We needed him, his approval, for anything important we wanted to do.” (Interviewee 1, DOHMH)

Indeed, Bloomberg’s election started a coupling of political and policy streams: a member of the political realm, he hooked the political will to explore and enact regulatory action to the policy stream. However, rather than presenting an endpoint where policy development moves into to concrete decision-making, the initial years were devoted to internal capacity building. This finding appears at odds with Kingdon’s proposition that pitch-ready policy solutions need to be available as soon as a political event opens a window of opportunity. Instead, in this case, a policy entrepreneur, whose election in itself represented a window of opportunity, initially set about creating conditions for policy change. An integral part of this strategy was the installation of lower-level policy entrepreneurs to drive the effort at a technical level. Thus, commitment to and expertise in chronic disease prevention was built throughout the health department hierarchy: the first Health Commissioner of the Bloomberg era, Thomas Frieden, handpicked by the Mayor,\(^{42}\) was described as the fulcrum for concrete policy change:
“He doesn’t wait for other people to generate things from the bottom up. He just says ‘this is what we need to do, here’s how we’re going to do it, let’s go’.” (Interviewee 1, DOHMH)

In addition, an expanding workforce brought skills and experience, and a re-organization of the department reflected and consolidated the focus on chronic disease prevention. A Division of Disease Prevention and Health Promotion was swiftly created under the new administration and later broken up into bureaus. For the first time, staff was allocated specifically to several high-burden chronic diseases such as diabetes. As staff numbers grew, more specialized programs and bureaus were created, including the Physical Activity and Nutrition Program that became part of the new Bureau of Chronic Disease Prevention and Control.

“The Chronic Disease Bureau did grow under the Bloomberg Administration, but it existed previously because they did have a smaller program [...] particularly around maternal and infant health and in tobacco control. So the Bureau grew by leaps and bounds during my time under the Bloomberg Administration.” (Interviewee 5, DOHMH)

Current DOHMH expertise covers the whole spectrum of obesity prevention, from regulatory and programmatic work to other essential components of the policy development and implementation process, such as the ability to generate data and conduct outreach:

“The Bureau […] encompasses all the obesity work, and includes the policy work […], a research and evaluation unit […], a programmatic unit […] and a communications unit. […] Because there is now a policy unit, the way that the department is structured around this, I think [it] streamlines a lot of things and it is a very nimble unit.” (Interviewee 3, DOHMH)

Against the backdrop of these enduring organizational changes, interviewees disagreed about the future of obesity prevention in New York City. Some regarded the end of the Bloomberg era as synonymous with the end of innovative public health interventions:

“We had this window. We had to take it. […] I knew that when Mayor Bloomberg left that our power would disappear.” (Interviewee 1, DOHMH)
Others pointed out the continuity in terms of expertise and commitment at agency level. They also observed change in institutional awareness and knowledge on nutrition:

“I think that there has been a shift nationally and locally on these issues. […] The rationale and the knowledge no longer just live with us. It’s a lot easier to have those conversations even within the agency these days because we’ve done all this work, but because they’re a part of the conversation to begin with.” (Interviewee 2, DOHMH)

Accordingly, despite Bloomberg’s pivotal role as catalyst and enabler of policy change, institutional reform preceded policy development and had a lasting impact on policy priorities.

3.2. Evidence-driven framing of the problem and possible intervention points

Building a case for action on obesity, the first issue identified in the IOTF’s framework, was also a starting point for NYC policy-makers. All interviewees identified problem severity, particularly the high and increasing prevalence of obesity and related chronic diseases, as the driving force behind policy initiation:

“We really saw it as a major public health crisis - one that was increasing, unlike almost all of our other major health problems, which were getting better. (Interviewee 1, DOHMH)

The consistent and heavy use of evidence by NYC policy-makers has been noted previously, particularly their critical evaluation of published research and collection of local epidemiological data. Local studies included the newly instituted annual Community Health Survey and the more specific NYC Health and Nutrition Examination Survey whose first iteration in 2004 found high prevalence of metabolic syndrome and measures of obesity among New Yorkers and particularly minority residents. This reinforced an earlier study’s findings that 53% of New York City adults were overweight or obese and a quarter of residents of neighborhoods in Harlem, the Bronx, and central Brooklyn obese. The problem statements introducing the rules on trans-fats, calorie posting and soda portion size made extensive reference to obesity prevalence data from these sources. In addition, other observational data indicating shifting
consumer behavior, including a substantial increase in the proportion of average food budgets spent on prepared food, were used to define areas for intervention. Locally, DOHMH studies analyzed food environments and consumption patterns, primarily in neighborhoods with particularly dire health indicators. This research identified drinks as prominent characteristics of the limited availability of healthy foods and beverages, coupled with cost and quality concerns, the ubiquity of unhealthy foods and other unhealthy foods, and high consumption of sugary beverages.51-60

Within the IOTF framework, identifying potential points of intervention (issue 2) and instruments with which to respond (issue 3) are underpinned by the choice to view obesity as an issue amenable to successful local government intervention. Kingdon conceptualizes this as the differentiation between condition and problem, subject to a “perceptual interpretative element”.25, p.110 This involved understanding obesity as not only a problem for the federal government, but also for local government. Accordingly, interviewees consistently viewed obesity as a societal problem requiring a systemic response. City government was seen to be in a position to change the food environment, with regulatory action considered an effective and expedient tool. This shifting focus is also evident in the City's strategic health agenda: the inaugural 2004 ‘Take Care New York’ outlines individual-level actions for residents to take, while the 2012 version privileges government action on socioeconomic levers, such as food environment.61-63 As one interviewee explained, the concentration on regulatory competencies followed an early “across-the-board effort within the Health Department to update the Health Code” (Interviewee 5, DOHMH) to align with expert evidence. In addition, the administration’s perception that regulatory measures could be used to address chronic disease risk factors was reinforced by parallel evidence from successful tobacco control measures:

“Having achieved [tobacco control] as the first priority under the Bloomberg administration around public health I think gave confidence and maybe more political will- hey, this worked, and we should maybe think about that for obesity. [...] The fact that they were able to
In summary, epidemiological evidence, often collected directly at city and neighborhood level, underpinned the framing of obesity as a societal problem and served to identify possible intervention points within that paradigm.

3.3. Choosing interventional targets: the primacy of feasibility

Despite substantial evidence attesting to the high prevalence of obesity and associated risk factors, decision-makers had to select concrete regulatory measures without much knowledge of their potential impact. Policy design therefore relied on program logic and practical feasibility. Interviewees noted the dearth of research on effectiveness in real-life settings:

“We were really charting the course of trying to implement what people were saying on paper should be done around policy and practice to prevent obesity, but we didn’t have a blueprint.”

(Interviewee 5, DOHMH)

To mitigate the risks in making policies with incomplete evidence, the IOTF advocates a portfolio approach (issue 5), i.e. mixing interventions based on varying anticipated effectiveness and projected overall impact. This is based on the observation that resource-intensive small-scale interventions, typically directed at high-risk groups, usually come with good evidence of effectiveness. By contrast, potentially high-impact population-wide approaches remain largely untested and often involve longer and more contextualized pathways between intervention and desired outcome. Selecting a mix of interventions serves two purposes: it helps address the multifaceted causes and mediators of obesity. It can also counterbalance the risks associated with implementing promising population-wide interventions whose outcomes are estimated mostly through extrapolation and logic. As a result, the IOTF considers such prospective evaluation (issue 4) the most challenging. However, the NYC experience suggests that the selection of a comprehensive portfolio can be even more difficult. Two reasons account for this: firstly, the
explicit shift to population-wide interventions operates independently from interventions targeting small high-risk groups. Secondly, a mix of measures as the ideal theoretical end point undervalues incremental policy-making essential to innovation: evaluation results and political experiences need to feed back into future policy making and act as stepping stones for new initiatives. Accordingly, rather than assembling a comprehensive portfolio, practical considerations and a case-by-case attitude driven by a sense of urgency characterized the Bloomberg administration’s approach:

“I’d like to say that it had a whole sequenced strategic plan but it didn’t. We had lots of ideas, ones we felt we had a decent chance of success, which would have a big impact, we tried. We all- I certainly during my time- had this intense sense of time being short. Even a successful idea can take you a couple of years […], so we just had to get the ones done while we had the opportunity. […] So, no, we didn’t think too much about it- this works, what will we do next.”

(Interviewee 1, DOHMH)

Consequently, research evidence quantifying the problem and identifying broad areas for intervention also figured heavily in justification of the choice and design of interventions. The trans-fat restriction proposal offers an example of the line of reasoning used in the absence of conclusive evidence. With data on population-wide health impact lacking, DOHMH based their case on the logic that removing a problem should naturally translate into positive health impact: with the increased share of calories consumed away from home, the prohibition of trans-fats would substantially reduce associated harmful effects. The notice of adoption estimates that between 6% and 23% of coronary heart disease cases could be prevented. The upper estimate is the pooled relative risk increase associated with elevated trans-fat intake from a meta-analysis of cohort studies, illustrating the equating of problem magnitude and impact. To alleviate concerns that the new rule would harm industry, DOHMH was able to draw on precedent from Denmark. Authoritative opinion such as recommendations by the US Department of Agriculture and the American Heart Association as well as prior political action at federal level
indicating general support for similar measures rounded out the argument in both policy documents and interviewees’ accounts of the process:

“[A] very sound rich body of scientific literature, [including] at the time a fairly recent article by Mozaffarian that laid out the impact on coronary heart disease, led to identifying trans-fat as something that the department wanted to focus on. In addition, the F.D.A. had a couple of years prior required the labelling on nutrition facts panels of trans-fat. Prior to that it would’ve been less feasible, though I guess doable.” (Interviewee 2, DOHMH)

The ability to isolate problem factors accounts for a large part of feasibility considerations:

“We recognized that trans-fats weren’t contributing to the obesity problem. They were a nutritional problem - probably not the biggest nutritional problem in America, but they were one that you could isolate off because it was an artificial chemical that shouldn’t have been in the food supply in the first place and we could just ban it. You couldn’t do that with saturated fats. You couldn’t do that with sugar.” (Interviewee 1, DOHMH)

Policy-makers put in place accompanying programmatic interventions designed to facilitate the switch and even pushed back deadlines in response to industry complaints. In retrospect, interviewees appeared almost surprised how easily the rule was implemented and met targets:

“The restaurants just called their suppliers and said, “Send me the trans-fat free oil”, and they sent it and they used that. […] There was great fear that restaurants would switch from trans-fat to saturated fat and it might make things worse. […] There was also fear in the industry that it was going to be costly or that the products wouldn’t taste good […] All that proved to be unfounded. Change proved to be very easy, and so despite the fact that we expected a law suit, we didn’t even get sued.” (Interviewee 1, DOHMH)

Similar to the argument around the restriction of trans-fats, interviewees pointed to the ease with which sugar-sweetened beverages could be isolated given their lack of nutritional value and major contribution to excess caloric intake:
“[A] concern I had about the rule, but which I think the health department did a very good job of allaying […] was ‘why do you stop at soda’. If I go to the movies and buy a 24 ounce soda and a large popcorn, there are more calories in the popcorn than in the soda. And the response was, there is some nutritional value in popcorn, there is no redeeming nutritional value in high fructose corn syrup, it’s pure calories.” (Interviewee 4, Board of Health)

This argument worked for trans-fats and soda, but could not be applied to calorie posting:

“The intent in terms of health impact between the two policies is different. […] A lot of the rationale for calorie labeling was just about consumer education. So that could be equated to tobacco control measures and policies in terms of warning labels. And not that that was the rationale that was used, but this concept of consumer education and transparency, here we’re providing information so that consumers could make better, more informed choices in the hopes that that would reduce calorie consumption. And clearly stating upfront that it needed to be evaluated, and should be evaluated.” (Interviewee 2, DOHMH)

While the problem statement put forward in the notices\textsuperscript{47,48} is almost identical to the trans-fat rule, the original justification for calorie posting largely sidestepped estimates of its impact on consumption. Instead, the rationale was presented as a response to consumer acceptance of federally mandated nutrition labels on pre-packaged foods and to opinion polls supportive of calorie information in restaurants.\textsuperscript{47} Rather than discussing the unclear anticipated effect on obesity, these arguments appear to justify the proposed intervention as in step with societal expectations. The suggestion is that this “probably reassured the board that its moves were not so far out in front of public opinion as to threaten its institutional legitimacy.”\textsuperscript{65, p.2018} It is only in the revised proposal that additional research conducted by the department prompted a more ambitious estimate of anticipated effects on consumption. The repeal and reenactment of the regulation in modified form followed a lawsuit brought by the New York State Restaurant Association. The rule was invalidated by the United States District Court for the Southern District of New York on the grounds that it was pre-empted by federal law on voluntary nutrition
However, by extending the scope of the original regulation to all chain restaurants rather than only those that provide calorie information in some form, legal obstacles could be addressed. In its re-submission to the Board of Health, DOHMH estimated that the new rule would lead to “at least 150,000 fewer New Yorkers [becoming] obese, resulting […] in at least 30,000 fewer cases of diabetes” over the following five years. This estimate was based on consumer responses to Starbucks’ voluntary introduction of a rudimentary form of calorie posting while the regulation was suspended due to the lawsuit. DOHMH research found that just under one third of consumers reported noticing the new information. Purchases by this segment of customers contained, on average, 48 fewer calories according to early data presented in the notice and 52 fewer calories according to the final published research.

Overall, policy development was consistently anchored in research evidence. However, policy-makers also demonstrated a willingness to take a leap of faith where concrete outcomes could only be predicted based on extrapolation and assumptions. Similarly, the administration actively contributed to the evidence base by conducting in depth evaluations generating part of the evidence that was found lacking.

3.4. Balancing expert policy and decision-making with community involvement

Removing agenda-setting, policy development, and formal decision-making from the usual legislative realm and instead going down the regulatory route with the Board of Health made the entire process of policy making largely expert-driven.

“Any time that anywhere legislative people tried to use a legislative process, it opened up the process to lobbying and industry groups coming and interrupting that process, or coming in with reasons why it would affect their businesses and that wasn’t the case in any changes that were made to the Health Code. […] I feel one of the reasons why we were able to get things done is because we had local regulations in place, and we were not beholden to elected officials and as much of the politic process.” (Interviewee 5, DOHMH)
Rather than representing any particular constituencies or interests outside the health realm, the Board is required by law to be made up of five members that hold medical degrees and another five with advanced degrees in a defined health-related discipline. As a result, where the Board is involved, decision-makers belong to the same community of experts as those who develop the policy proposals and can reasonably be expected to share similar views.

“Most of us keep abreast of the developments in medicine and public health, and are well aware of the role that sugary beverages have played in the obesity epidemic. And we reviewed, as part of the rule making process, a lot of the background documents, a lot of the scientific studies.” (Interviewee 7, City Health Board)

However, keeping all aspects of policy-making within the expert realm and moving quickly to maximize the number of initiatives attempted during the exceptionally supportive and expert-inclined mayoralty of Michael Bloomberg entailed sacrifices: where time was judged too short to build public support for regulatory actions that would not directly be the subject of electoral or legislative scrutiny, a lack of community engagement ultimately emerged as a threat. Interviewees described policy development as “very guarded” (Interviewee 5, DOHMH) and confined to the “four walls of the Health Department” (Interviewee 1, DOHMH) until a fully fleshed out policy would be floated and rapidly prepared for formal decision-making. Some participants argued that a degree of institutional secrecy was justified:

“New York City is a media center and especially after the early successes in tobacco, the press was always looking at us ready to write a story. There is nothing we could develop [...] without fear that it might leak out in the development process and we would get an embarrassing story and end up really hurting our ability to get it done. So everything was done with the greatest secrecy and determination that no one who wasn’t in the Department could hear about this until the plan was fully finished.” (Interviewee 1, DOHMH)

Others pointed out that these isolationist tendencies came at the expense of preparatory work:
“I think they got a little cocky because of the success of some of the earlier initiatives. […] The smoking stuff, for all the initial grumbling, got great press. And I think they got a little cocky, didn’t do their political homework well enough. […] The problem was not with group politics, but with public perception […]. They might have done better to have spent six months or a year in a public relations kind of campaign and doing more public education on the subject. It would have been great to have some African-American athlete or celebrity be a spokesperson for this kind of proposal.” (Interviewee 4, Board of Health)

The lack of community support became most relevant in relation to the ultimately failed attempts to address sugary beverage consumption through a state tax, exclusion from SNAP (Supplemental Nutrition Assistance Program/food stamp) benefits, and the portion cap rule. Predictably, lobbying efforts by the beverage industry were perceived as a major stumbling block in swaying public opinion and gaining legislative support. But while usual industry arguments centered on personal choice and responsibility were widely expected, industry efforts to capitalize on the diversity of NYC constituencies caught policy-makers by surprise.

“The group that I think surprised us the most and disappointed us the most were the minority groups. On the food stamp proposal in particular, the hunger advocates came out very vocally against that. We were presented as somehow we were being mean to poor people. […] With the portion cap, I was really shocked and terribly disappointed at the civil rights groups that came out against it [such as] the NAACP [National Association for the Advancement of Colored People].” (Interviewee 1, DOHMH)

During the public comment periods for the three rules that came before the board, the joint original proposal on trans-fat and calorie posting received approximately 2,200 comments, with 99% supportive of the trans-fat proposal and 97% supportive of calorie posting.46,47 By contrast, the soda portion size rule yielded approximately 32,000 comments in support and 6,000 in opposition (~ 84% positive).69 Despite the fact that, in all cases, written comments and oral testimony were strongly coordinated by public health advocacy organizations and researchers,
much greater participation on the soda rule, particularly in opposition, highlights clear
differences in reception. Questioning of the overall regulatory strategy itself ultimately
contributed to courts considering the regulation “arbitrary and capricious”\textsuperscript{12,70,71} Reference to
jurisdictional limitations, namely that “food retail stores like supermarkets, bodegas, and
pharmacies are not subject to the proposed rule because they are regulated by the State
Department of Agriculture and Markets”\textsuperscript{69} was seen as inadequate to address this criticism.

At the same time, industry behavior motivated at least one Board of Health member to vote
in favor of the soda portion cap, despite concerns over the measure’s incomplete reach:

“The industry people were so obnoxious and so offensive that they lost me entirely. […] The
other thing that really bothered me is they really did a good job, from a political and public
relations point of view, buying off minority politicians. One of the speakers at the public
hearing was a City Council member from Central Harlem who read a statement that had
clearly been prepared by the beverage companies.” (Interviewee 4, Board of Health)

This sentiment was echoed by other interviewees who also commented on the widespread
misrepresentation of the rule’s content by industry lobbyists and in media coverage.

“In almost all the media coverage it was referred to as a soda ban, as if we were completely
banning soda, as if we were taking away people’s rights. After the media campaign [and after]
pour[ing] a lot of money into groups to protest the rule, surveys were done asking New
Yorkers, do you think the soda ban is a good idea or bad idea? 60% thought the soda ban, and
again it wasn’t even really a ban, was a bad idea.” (Interviewee 7, Board of Health)

In summary, the expert-driven approach helped focus policy design on research evidence
without dilution by private interests, but policy-making in relative isolation from public debate
also left room for the public discussion to be seized by industry.

3.5. Regulatory obesity prevention within the wider health and social policy agenda
Generally supportive members of the Board of Health and the City Council had some reservations about the use of government regulation to reduce soda consumption, particularly in terms of a dichotomy with equitable access to healthy food:

“I worry a little bit about that sort of public health approach to obesity [...] Nobody has to smoke, everybody has to eat, they’re different cases. There is such a powerful socioeconomic gradient associated with obesity and access to healthier alternatives, both in terms of foods and in terms of life circumstances between lower income communities and upper income communities. [...] So, I would prefer a world for obesity in which we were in the position [of providing] more positive assistance for people eating more healthily and exercising more and leading more healthy lives.” (Interviewee 4, Board of Health)

“Philosophically, I would say we in the City Council had a slightly different take. [...] The Mayor looked a lot at this through the concept of food choices in a somewhat punitive way, let’s limit access to this and that. [...] Where we saw things slightly differently is I’m a big advocate, as was the Council, for food access. I believe that partially why people make bad choices is because they don’t understand how many calories things have, what they translate into, but also because they don’t have any other choice.” (Interviewee 6, City Council)

Similarly, the federal Department of Agriculture ultimately decided its rejection of New York City’s SNAP exclusion request by reference to its “longstanding tradition of supporting and promoting incentive-based solutions to the obesity epidemic”. Against this backdrop, access to healthy food in particular was seen by the City Council as an area in which executive initiative was lacking. This perception may be attributed to DOHMH view of food access and obesity prevention as complementary, but not identical issues:

“That whole concept of food deserts caught on at that time […], so there was an interest in the City Council, there was an interest in the Deputy Mayor’s Office and so they created this Food Policy Coordinator really around increasing access to healthy foods, not so much obesity
prevention. Later, the two themes sort of merged, but that came from a totally different direction.” (Interviewee 1, DOHMH)

“They’re related to each other by improving the food environment by bringing fruits and vegetables in, by reducing the marketing because you’re now marketing fruits and vegetables or something else instead, you are displacing and changing the unhealthy food environment at the same time. […] But I think in that sense there is a stronger community coalition around that work, it’s in a more natural alignment.” (Interviewee 3, DOHMH)

Adding to may be mixed local evidence regarding the relationship between food insecurity and obesity prevalence: local studies demonstrated an association of obesity with socioeconomic status\(^72,73\) and an association between neighborhood socioeconomic status and fast food/convenience store density.\(^74-76\) At the same time, research did not find any consistent, population-wide association between food insecurity\(^77-79\) and the relationship between obesity and food outlet density appeared more complex than hypothesized.\(^80-82\) In its response to comments on the soda portion cap favoring better education and food access, DOHMH pointed to less publicized regulatory changes and programmatic interventions.\(^69\) In addition to a variety of school food changes,\(^83\) these included the 2006 Regulation of Nutrition in Child Care Facilities,\(^84\) the 2012 Regulation of Nutritional Requirements for Children’s Camps\(^85\) and Executive Order No. 1225\(^86\) applying food standards to city food procurement.\(^87\) Following an agreement between City Council and Mayor, the order also added a Food Policy Coordinator to the Deputy Mayor’s office. The position addressed the general absence of horizontal approaches and bridged some of the dissonance between Council and DOHMH.

Local health departments’ capacity to initiate and coordinate “cross-agency conversations and policymaking [in order to] insert health concerns into a vast range of policymaking activities within their jurisdictions”\(^88\) has been increasingly stressed, often by reference to NYC. Yet, instead of a systematic Health in All Policies approach, engagement in obesity prevention was based on office-holders’ personal interest:
“In an informal way, that happened just when ideas got floated around City Hall. And there was a deputy mayor sitting at City Hall who was over health as well as the social service agencies and so that deputy mayor, to a certain extent, was an advocate for health considerations in anything that was happening. But there wasn’t any formal adoption of Health in All Policy.” (Interviewee 1, DOHMH)

The new role and its authority to develop city-wide food standards in cooperation with the Health Commissioner formalized cooperation at least on food policy matters. It presents a focal point for whole-of-government representation and advocacy, while recognizing that while “DOHMH is widely understood to have the content expertise on this issue […], this role focuses on building collaboration between and among about 15 agencies who have some operational role in food, so it’s all about collaboration. Our success also depends on cooperation with New York State and regular[ meetings] with similarly situated food policy advisors in cities nationwide.” (Interviewee 8, City Hall)

“Food and hunger and nutrition has been siloed in health, and I think that’s a mistake. So that is something we wanted to break through by having a Mayor’s office who would have a tremendous convening power at the highest levels of government, for all of the city agencies.” (Interviewee 6, City Council)

To this end, the Food Policy Task Force brought together representatives from City Hall, the Departments of Health and Education, the City Council, and others to work together on policy proposals around access to healthy food. A 2008 internal review concluded that “although most of the City’s food programs are developed within specific agencies, the Food Policy Coordinator appears to have been able to promote coordination between different agency initiatives, reduce programmatic overlap, improve inter-agency communications, and ultimately help bring the initiatives to fruition.” One of those initiatives established 1,000 permits for Green Carts, mobile food vendors providing fruits and vegetables to underserved areas. The initiative
encountered unexpectedly harsh opposition from bodega owners and other businesses, similar to the reception the soda portion rule would receive a few years later.

“It was such ill-conceived opposition, because they don’t carry fruits and vegetables. Yes, if we were selling soda on the street it would have been tremendous competition, but it really was not going to be competition. [The opposition was] very well organized. The bodegas have business associations; they give a lot of donations. The Korean business association which owns a lot of greenmarkets is very well organized. I thought they would be opposed, I didn’t think they would be that opposed.” (Interviewee 6, City Council)

The Food Policy Coordinator was credited in part with the eventual passage of the bill despite this opposition, making it “more palatable to Council members because it was part of a larger, coherent City food policy” and leveraging “relationships with community based organizations [that] were critical in the development of a coalition of more than 100 organizations that supported the Green Cart legislation” Current initiatives advanced within the Food Policy Coordinator’s mandate to “increase access to and utilization of food support programs” build on existing infrastructure rather than aiming for new regulation or legislation:

“Our goal is to maximize federal dollars available through the SNAP and School Food programs. This means increasing enrolment in SNAP among historically under-enrolled populations and taking advantage of new provisions that allow us to apply for universal free lunch in schools, and to mandate ‘Breakfast after the Bell’.” (Interviewee 9, City Hall)

Both the executive and the legislative branch claim responsibility for early rule changes and programs around access to healthy foods:

“I would say actually we started with trying to increase access to healthy food- New York City Health Bucks, that was the idea there- and with the Healthy Bodegas Initiative- that was again the idea of increasing access to healthier foods.” (Interviewee 5, DOHMH)
“We put funding in the budget to expand greenmarkets in low income areas, and to purchase for the greenmarkets the technological equipment needed to allow farmers to take food stamps. Now the distinction there is, an executive, in the budget, looks at it thinking big city wide things. This is a smaller funding program, a couple of million dollars, but that’s typically what a legislature does. […] We as the City Council also passed the first ever zoning laws to incentivize supermarkets in low income areas, called Fresh Zoning. […] Basically it says if you put a supermarket in your first floor, you can build a bigger building.” (Interviewee 6, City Council)

In 2005, DOHMH introduced Health Bucks which supplements food stamps spent at NYC greenmarkets with additional vouchers for fresh fruits and vegetables. The program built on an initiative, funded by the City Council since 2006, to facilitate the use of newly introduced electronic food stamps at greenmarkets. The example of these programs provides evidence of highly complementary initiatives from executive and legislature, but the relationship with DOHMH was judged uneven by the City Council. An Obesity Task Force, also convened under the auspices of the Food Policy Coordinator, assembled representatives from city agencies and the Mayor’s Office, but not the City Council. Plans outlined in its 2012 report included a range of activities related to healthy food access and nutrition education, but the most thoroughly presented proposal was the soda portion cap for which legislative support turned out to be clearly lacking. In addition, there was also a preference for executive solutions where legislative political will could have been leveraged:

“Actually, [for] the trans-fat issue and the calorie count, we had Council members that wanted to pass legislation to do that. […] After the Board did it we actually passed legislation to codify it, so that if a future mayor wanted to get rid of it they would have to actually repeal it. […] It was odd, now that I think about it, it was not consistent. […] They may have then been less collaborative with the things they were going to try jam through the Board of Health.”

(Interviewee 6, City Council)
Overall, the perceived dichotomy between obesity prevention and food access put the Bloomberg administration at odds not only with anti-hunger and civil rights advocates, but also with the City Council. Ceding some exclusive control over strategic directions and integrating the two issues through the Food Policy Coordinator position helped the Department of Health to maximize policy outcomes where political agreement could be reached.

3.6. **Procedural and substantive limits to harnessing city regulatory powers**

There was notable appreciation of the regulatory powers of the Board of Health, with one member describing it as “far and away the most powerful government body with which I have ever been associated” (Interviewee 4, Board of Health). However, the limits of executive rule-making and city authority in a federal system became very apparent. Pre-emption at state and federal level in taxation and SNAP implementation rules prevented the city from enacting a sugary beverage tax locally and banning soda from food stamp eligibility. At the same time, the at times strained relationship between legislative and executive branches and two court decisions overturning the soda portion size cap illustrates the limits of executive action, particularly where it follows the previous legislative failure of related proposals. The final ruling by the State Court of Appeals, held that the Board of Health did “exceed the scope of its regulatory authority” and “engaged in lawmaking [that] infringed upon the legislative jurisdiction of the City Council”, which by all accounts would have opposed the measure. Concern that such a ruling would severely restrict the executive in developing innovative regulatory approaches does not appear to have been a major concern at the time:

“[The threat of a lawsuit] might deter us if we thought we would be sued […] because of the political price you pay for losing a lawsuit.” (Interviewee 1, DOHMH)

However, with the rule struck down, the general assumption that “agency rulemaking receives deferential judicial review” has been invalidated. This, in turn, may influence both future judiciary decisions and executive policy-making. One interviewee even voiced concern about spill-over effects on the Board’s authority in infectious disease, concluding that
“it was a little irresponsible to play fast and loose with those [powers] the way they did with the soda ban.” (Interviewee 6, City Council)

On the other hand, in the NYC context, the soda portion cap also shows how the failure of one policy gave rise to creative thinking about alternatives:

“It’s my recollection that there was a general thought in public health to think about other strategies besides a tax that might be effective. […] Because the tax proposals met with such opposition the thinking was let’s try something else. (Interviewee 7, Board of Health)

All major policies were evaluated and findings disseminated in academic journals as part of the administration’s commitment to building the evidence base. In the short term, none of the NYC interventions substantially reduced calorie intake: measures targeting food access rather than obesity directly achieved some success in adding healthy choices to the food environment and in increasing the use of SNAP benefits at farmers’ markets. With regard to interventions that made calorie intake a direct evaluation metric, calorie posting did not change restaurant purchases, despite moderate increases in the number of patrons who reported noticing the information. Nevertheless, policies that fail to live up to their anticipated direct impact may still achieve a degree of success not captured by evaluation designs:

“[Research on the effect of calorie posting] still doesn’t capture the full impact because anecdotally people have talked about changing either patterns of purchases, they used to get it every morning and now they only get it once a week, or that they saw that they purchased a large amount of calories and compensated later in the day.” (Interviewee 2, DOHMH)

Most importantly, this regulation as well as proposed policies that were not enacted or implemented such as the three failed soda initiatives may have changed attitudes and behaviors more widely and ultimately contributed to positive health impacts.

“Life expectancy expanded dramatically during the Bloomberg administration. […] Sugary drink consumption is plummeting and we have good data on that. Childhood obesity rates are
also going down in New York City right now. So a lot of things did succeed in the ultimate thing we care about, even though some of the policies themselves didn’t go through.”

(Interviewee 1, DOHMH)

Indeed, New York experienced a general increase in life-expectancy that outpaced national trends\(^99\) and obesity prevalence among city elementary and middle school students decreased by 5.5\% between 2006/07 and 2010/11.\(^{100}\) In addition, a study of obesity prevalence among children from low-income families receiving benefits under the federal WIC scheme was conducted before and after the entry into force of the new childcare regulations in 2007.\(^{101}\) This research showed that early childhood obesity declined across New York City, with larger decreases observed in neighbourhoods classed as high-risk.\(^{101}\) However, these improvements, often observed in studies with ecological design, do not allow any claim of causality in relation to food policy. Nevertheless, antismoking laws, the first priority of the Bloomberg administration and “associations with both citywide and targeted policies”,\(^99\) which would certainly include food policy, are suggested as potential contributors to improved life-expectancy. Regardless of their ultimate attributable health impact, these controversial regulatory measures, including those not implemented, may have changed attitudes and behaviors simply through the extensive public and political debate they generated:

“Even though we lost all those major policies [on sugary drinks], in focus groups people now all tell us, ‘oh yeah, that stuff is bad, I’m trying not to drink it’. So we have changed the image of that product in the city. That is a success that we didn’t expect, but we’re pleased it happened. I think, in general, there’s a dynamic relationship between messages you hear in the media and policy change. Messages can enable policy changes to occur. Policy changes can enable the national conversation to change.” (Interviewee 1, DOHMH)

Consequently, while key interventions did not result in substantially altered consumption patterns or never made it to implementation, the overall policy effort may have contributed to obesity prevention. In particular, the contentious and highly politicized debates around proposed
measures likely had a constructive effect in increasing public awareness and paving the way for
easier passage of future regulation.

3.7. **Recommendations proposed by NYC policymakers**

The lessons and recommendations for other jurisdictions put forward by interviewees
coaesed around three themes directly connected to key issues encountered during the policy-
development, decision, and implementation processes. Interviewees stressed the importance of
creating supportive public opinion to stave off opposition, particularly from well-resourced
industry. Targeted community outreach beyond mass education campaigns was seen as a key
ingredient. They also expressed the sentiment that shifting the focus from changing the behavior
of consumers to changing corporate behavior could reframe interventions as a question of justice
and social responsibility rather than a threat to individual choice.

“We should have had a broad-based coalition so we’d have done more community organizing
around it and made the case for community groups that this is a case where this big rich
industry is making money, making profits, by making you sick. You should be angry about
that and you should be working with us on this.” (Interviewee 1, DOHMH)

“I would recommend that there be a lot more community support building so that especially
individuals and communities that are most affected by excessive soda consumption and
obesity are on board with this.” (Interviewee 7, Board of Health)

Others agreed that community outreach was necessary, but should not be the primary occupation
of health departments. Instead, they advised harnessing relationships with experts, advocates,
and the media to support political decision-making and influence public opinion:

“I feel like that is what the public comment period was for. […] You can always do more on
community engagement, but that’s more of the role of an advocacy organization than it is
probably the Health Department’s or public agency’s. […] I think those relationships are
critical, but it’s not really the function of a public health agency to do direct community outreach- it’s to engage other stakeholders to do that outreach.” (Interviewee 5, DOHMH)

“I think really knowing the evidence and a strong relationship with the researchers, because they can speak to that as an independent voice as it goes out. A strong understanding of the media landscape, journalists and publications that understand public health and you can talk to and really explain, because there is a big education piece.” (Interviewee 2, DOHMH)

Interviewees also confirmed that a favorable constellation of circumstances similar to Kingdon’s three streams was instrumental in allowing measures to be formulated and implemented. In particular, political will, maximization of regulatory, expert-driven decision routes, technical expertise in the policy stream, and implementation capabilities were seen as critical components. However, in terms of concrete levers for future policy action in NYC, interviewees from all institutions echoed the view that the most conspicuous targets for regulatory action have already been addressed and other areas such as zoning are complex subject matters and more difficult to address from a legal and decision-making perspective.

“Part of the truth is so much was done, I’m not sure how much low hanging fruit, no pun intended, there still is. [...] In part maybe it’s just stuff is harder and more time consuming now, and maybe there isn’t as much urgency because they want to continue what we did and see what that yields, and then go from there.” (Interviewee 6, City Council)

With regard to possible actions in other jurisdictions, interviewees suggested that policy-makers should appreciate and take advantage of the role of municipal law-making in advancing a policy agenda in this area. This is an idea that has also been stressed in previous research. Decision-makers should pay particular attention to the varying areas of legal authority within both the executive and legislative branches in their respective local entities.

“My observation is that corporations have much more power at federal level than state, and more at state than at local. That’s why we were able to innovate at local level; we didn’t have
too much battling with corporations here. When we went to the state level, we got beat pretty bad by them. The history of tobacco control showed that the innovation starts at the local level and it spreads from there to the state.” (Interviewee 1, DOHMH)

“I think what you want to do is figure out ways that you act very locally, because that’s what a legislature can do that a mayor can’t. You want to find ways when your mayor does something right to back it up. And then use whatever type of particular legislative power you have as a city council, in some cities that’s zoning, in others it might be tax law, every city’s different, and use them creatively.” (Interviewee 6, City Council)

The trailblazing function then, more so than individual policy success or evidence generation, was setting a nationally and internationally highly visible precedent of redefining what conceptually encompasses municipal responsibilities:

“Up until this time, everybody looked to the federal government for leadership in public health and state and local governments were kind of the implementation arms. […] When a local health department said, ‘No, we’re actually going to create an agenda. We’re going to innovate here at the local level.’ that was a pretty radical idea- that a mayor would take on a public health agenda, nobody thought that would ever happen. That’s not what mayors do- mayors fight crime and pick up the garbage.” (Interviewee 1, DOHMH)

No interviewee went so far as to suggest that regulatory intervention alone could substantially change consumption patterns. However, there was agreement on the intermediate effect of political discussion and accompanying programmatic work in changing social norms as well as strong sentiment that political responsibility for public health needs to be re-defined.

4. Conclusions

In this paper, we have provided an in depth analysis of policy-making in obesity prevention during the Bloomberg mayoralty. During this period, the New York City Department of Health championed a number of interventions that directly targeted nutritional intake through
These included instituting stringent standards in settings in which the city acts as food provider, removing trans-fats from restaurant food, requiring calorie posting in chain restaurants, restricting soda portion size, proposing a statewide sugary drinks excise tax, and enforcing stricter local rules for SNAP product eligibility. The latter three proposals were met with fierce resistance from various quarters, including minority business organizations, civil rights advocates, and the majority of the City Council. These stakeholders considered restrictive approaches inequitable or harmful to small businesses and preferred regulatory and programmatic work with a more enabling focus, such as access to healthy foods.

Our analysis related the policy-making characteristics of key Bloomberg-era regulations to the models proposed by Kingdon and the International Obesity Task Force. While the observations reported here largely conform to the models, we observed two crucial differences: firstly, the involvement of the political stream was kept to a minimum due to the administration’s decision to keep decision-making largely within the domain of experts. At the same time, political will played an important role in initiating and sustaining policy development. Kingdon’s model does not foresee the development of innovative policies from theoretical research evidence nor does it take into account the need to first build capabilities for such policy development to occur. Conceptualizing policy-entrepreneurs as figures that pop up occasionally only to link pre-existing elements does not capture the strategic approach taken by Bloomberg and lower-level policy entrepreneurs in fundamentally changing administrative structures to sustain agenda change. Secondly, the expert decision-making routes favored by the Bloomberg administration presented the challenge of balancing institutional secrecy, maintained for fear of derailing policy development, with the need to build community and legislative support. The executive branch clearly underestimated the importance of the latter two elements when it decided to go down the regulatory route. As a result, the loss of the soda lawsuit, partially attributed to legislative and public opposition, is now regarded as a possible inhibitor for future policy innovation as the precedent weighs on future regulatory attempts. Nevertheless, there is
also anecdotal evidence that this and other widely discussed measures changed perceptions among policy-makers and the public nationally and internationally.

Notwithstanding the crucial role of New York’s unconventional three-term Mayor, our findings may serve to encourage other jurisdictions that lack Bloomberg-style leadership to explore their options for regulatory obesity prevention. In particular, other jurisdictions should look to maintaining awareness of the problem and developing tailored solutions in anticipation of a change in political circumstances. This research should also encourage researchers to actively create policy entrepreneurs by disseminating relevant findings to receptive policy-makers and by explaining the applicability of their research to specific jurisdictional contexts.

At the same time, our research underscored that political action and public support for a particular public health agenda are intertwined and mutually supportive. This observation cautions against decoupling regulatory change from programmatic interventions and highlights the importance of community involvement through public education and participatory policy development. Intersectoral and inclusive policy development, while more cumbersome and drawn out in the short term, may prove advantageous in the long run by changing social norms and paving the way for implementation of publicly acceptable and politically sustainable interventions. Jurisdictions seeking to extract lessons should therefore also consider the limits of regulation in isolation. Despite the international buzz generated by the precedents set in NYC, decision-makers in this research clearly acknowledge the value of cross-sectoral health policy approaches. In addition, much of the impact of the proposed and implemented regulatory changes is described as increased awareness of the problem severity and risk factors in the general population and among policy-makers outside the public health field. Consequently, while New York City exemplifies innovative and pragmatic approaches to chronic disease prevention, it has not transformed conventional approaches to health policy-making nor would this be conducive to effective obesity prevention.
References


