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A PUBLIC HEALTH INCUBATOR

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Advancing De-Implementation of Universal BMI Surveillance

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Public health interventions often catalyze positive changes for population health, but sometimes interventions can cause undue harm. Mounting evidence suggests that population health may be improved by dismantling the widespread use of body mass index (BMI) across medical organizations and in wider society. In this report, we discuss our efforts to catalyze de-implementation of universal BMI surveillance through the organization of a transdisciplinary, exploratory two-day seminar.

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Advancing De-Implementation of Universal BMI Surveillance

Table of Contents

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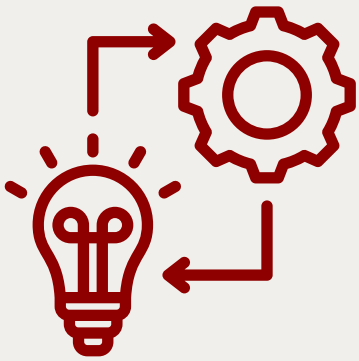
Advancing De-Implementation of Universal BMI Surveillance

Background

Over the span of a few decades, BMI has become a near universally accepted metric, the assessment of which has been deployed ubiquitously in the name of health surveillance and improvement. Yet for decades, scholars, health advocates, and activists have espoused criticisms of the historical origins of the metric (Strings, 2019; Strings, 2023), and the manifold harms to health resulting from its contemporary use (Anderson 2012). The BMI formula was first developed by Belgian statistician Adolphe Quetelet using data from European white male populations, with the intention of capturing the "average" male human physique. Never intended for clinical use, BMI became enshrined as a key tool for measuring human health during the 20th century via a process influenced in part by weight bias, commercial interests, racial biases and eugenicist ideologies (Strings, 2019; Strings, 2023; Flegal, 2023).

Today, the term BMI surveillance captures the relentless tracking and recording of BMI that now reaches into clinical settings; public health policy; human services; health research; school, employer, and military service settings; consumer-facing fitness apps and programs; and mainstream media (Poulymenopoulou et al., 2015). Some examples of contemporary BMI use include in epidemiological research (e.g., studies exploring associations between body size and health outcomes), clinical care (e.g., as a threshold for acceptance/denial of surgery) (Brownstone 2021), insurance calculations (e.g., to determine eligibility and rates for health, life, and disability insurance) and in employment wellness schemes (e.g., providing financial incentives to employees for lowering or maintaining their BMI).



Yet in recent years, a small but growing body of research literature has begun to estimate the specific harms to health that emerge from modes of BMI surveillance such as these. This research has taught us that BMI surveillance at the individual and population-level elicits psychological distress (Essayli et al., 2016; Mustillo et al., 2013) and arbitrary and harmful restrictions on access to healthcare (Brownstone et al., 2021; Leopold, 2019), while not demonstrating a positive impact on overall health (Almond et al., 2016; Thompson & Madsen, 2017). What is more, in these contexts BMI is used to categorize individuals as 'overweight' or 'obese,' leading to differential treatment of such individuals who are then unjustly branded as inherently unhealthy and problematic in the eyes of the medical establishment and the state (Greenhalgh & Carney, 2014; O'Hara et al., 2015; Schorb, 2022, Flegal, 2023). This blunt categorization of bodies as either "healthy/unproblematic" or "unhealthy/problematic" on the basis of BMI has received criticism for its inaccuracy (Flegal, 2013; Tomiyama et.al, 2016) and for its contribution to systemic injustice based in anti-fatness, in which larger-bodied people are routinely discriminated against in medical settings, workplaces, public accommodation, and society at large. In this context, the inaccuracies of BMI are used to uphold the pervasive idea that larger bodies are the source of a worldwide public health crisis while ignoring the aforementioned research that thoroughly demonstrates the significance of weight bias and stigma as a public health problem.

The combined pervasiveness and estimated harmfulness of universal BMI surveillance makes it an urgent target for de-implementation. In October 2022, with support of a grant from the Harvard Radcliffe Institute for Advanced Study, faculty at the Strategic Training Initiative for the Prevention of Eating Disorders (STRIPED) hosted a two-day online exploratory seminar titled: Re-envisioning the Future of BMI Surveillance: Critical Reflection on a Contested Tactic of the "War on Obesity." Our aim was to convene a transdisciplinary group of academic, healthcare, government, and community advocacy experts to strategize towards first steps for the de-implementation of universal BMI surveillance.

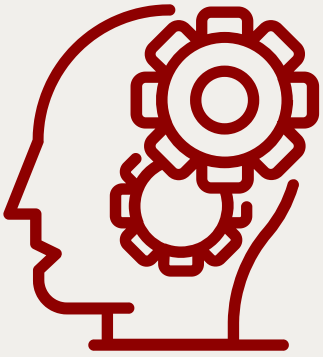
Over a period of two days, we virtually convened 20 individuals from across the United States, representing a diverse range of disciplines,

professions, identities and career stages. Our goal was to identify and strategize the initial steps towards BMI de-implementation. Participants came from various fields such as law and policy, fat activism, healthcare systems, ethics, education, public health nutrition, psychology, medicine, digital innovation, and implementation science. We also included practicing clinicians specializing in psychology, dietetics, and medicine.

We informed this seminar process using findings from de-implementation science, a field of study which facilitates “discontinuing or abandoning practices that are not proven to be effective, are less effective or less cost-effective than an alternative practice or are potentially harmful” (Walsh-Bailey et al., 2021).

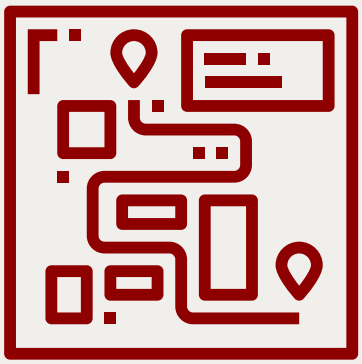
Sharing Expertise

To make the most of the range of experience and backgrounds of participants, we organized a series of 10 participant-led “lightning talks” that were meant to briefly introduce topics relevant to BMI surveillance and de-implementation science. The lightning talk topics were designed to align with participants’ specific areas of expertise and covered key content areas identified by the planning committee as important to establish shared knowledge and perspectives. Talks provided foundational knowledge and addressed the history of BMI surveillance, general principles of ethics surrounding public health surveillance, and an overview of de-implementation in public health policy. Other lightning talks approached BMI surveillance through several distinct paradigms, including fat activism, healthcare system policy, clinical considerations, mental health considerations, disability justice, racial justice, and surveillance through technology. For these talks, speakers were instructed to apply an intersectional lens to their assigned topic. Specifically, we requested that talks recognize Kimberlé Crenshaw’s foundational political framework that recognizes how multiple identity markers such as race, gender, and social class intersect with one another to produce unique and compounded experiences of multiply marginalized identities (Crenshaw, 2017).



Mapping BMI Surveillance

To delineate key factors driving BMI surveillance and identify sites for de-implementation, we guided participants through two concept mapping activities (Novak & Cañas, 2016). In the first session, we challenged participants in small groups to identify settings and sectors where BMI surveillance takes place, key individuals in these settings, their vested interests and incentives in surveillance, and their use of and perspectives on evidence in using BMI surveillance.



In the second session, the small groups reconvened to revisit their maps and identify structural forces and dominant narratives driving BMI surveillance, as well as strategic targets for de-implementation.

Identifying Targets for De-Implementation

Participants were polled to identify the top two priority sites of BMI surveillance from the concept mapping activity that the groups could collectively strategize for de-implementation. Criteria for the top two priority sites was based upon participants' perception of which site would be most impactful and which site would be most feasible for de-implementation (Puhl et al., 2014).

To strategize for de-implementation in the identified priority sites, we designed an activity based on recommended practices from implementation science (Powell et al. 2015). In this activity, participants worked through a guided worksheet in small groups to identify various de-implementation strategies and propose how each might be applied to de-implementing BMI surveillance at each of the two selected target sites. After the group activity, the whole group reconvened to share their strategy ideas while a facilitator noted and synthesized each group's ideas for each site. This led to the creation of the diagrams in the following section. The first of these sites is depicted in the diagram below: Health Insurance Companies. The second site is depicted in the diagram underneath: BMI report cards in schools. The diagrams below are unedited copies of the plans that were drawn up during the seminar. We note that the plans we co-created during the seminar activity should be considered starting points for strategizing rather than comprehensive, finalized plans of action.

Top-ranked most impactful site for de-implementation: Health insurance companies

De-implementation Strategies

- Assess for readiness; identify facilitators, barriers
- Demonstrate disincentives
- Identify early adopters
- Utilize mass media

01

Implementers

- Commercial insurers and their executives (e.g., Chief Executive Officers, Chief Marketing Officers, Diversity-Equity-Inclusion officers), actuaries, other decision-makers
- America's Health Insurance Plans (AHIP; professional association for commercial insurers)
- Government payers, such as Centers for Medicare and Medicaid Services (e.g., CMS administrator)
- National Association of Medicaid Directors
- Institute for Clinical Economic Review
- Affinity/advocacy groups within workplaces

02

Action Steps

- Conduct cost-benefit analysis, simulations to identify disincentives, undesirable consequences of stratifying risk by BMI
- Identify models (i.e., employers/settings where removal of incentives for collecting BMI has been successful)
- Advocate to remove direct incentives for collecting BMI (e.g., reimbursement incentives)
- Demonstrate disincentives by educating insurers about ineffectiveness of stratifying risk by BMI and potential harm to profits
- Produce and disseminate research on harms of care denial because of BMI thresholds for access (e.g., surgical procedures, eating disorders treatment)
- Advocate to generate external pressure on insurers to remove non-evidence-based BMI cut-offs used for denying care

03

Other Impacted Groups

- U.S. Preventive Services Task Force i.e., indirect influence on insurance companies through CMS. (CMS; Centers for Medicare and Medicaid services)
- Providers who are compelled to collect BMI, weight loss counsellors (especially community-based providers who may face loss of reimbursement revenue)
- Pharmaceutical companies
- Hospitals and healthcare systems
- Healthcare users, covered individuals

04

Additional Considerations (e.g., timeframe, unintended consequences)

- Replacement considerations: Must ensure that CMS and private insurers do not replace collection of BMI with a more harmful indicator/metric
- Political climate considerations: CMS hesitant to take bold policy actions because of charged political climate (e.g., 5th Circuit Court and conservative activist groups)

05

Top-ranked most feasible site for de-implementation: BMI report cards in schools

De-implementation Strategies

- Remove BMI report card mandates from state-level and/or local policy
- Strategic de-implementation: Start with easier states/states with less anticipated resistance
- Utilize mass media
- Identify champions to support advocacy

01

Implementers

- State-level policymakers
- School boards and superintendents
- School nurses
- Parents/caregivers
- Champions within the school community (e.g., members of school PTAs)
- Coalitions of researchers, community partners affected

02

Action Steps

- Lobby to pass legislation/change regulations that require administration
- Educate and foster organizing and advocacy campaigns among parents/caregivers and young people
- Use social and other forms of mass media to generate interest, attention, increase awareness of adverse consequences of BMI report cards
- Collect data from local sites to provide context
- Identify and build relationships with potential champions in a given region

03

Other Impacted Groups

- Parents/caregivers
- Students
- Policymakers themselves – even those who are not implementers may play a role, including as parents themselves
- Teachers
- Health officers
- School nurses and other school-based health providers may be affected if they are mandated to measure BMI or if there are funding contingencies

04

Additional Considerations (e.g., timeframe, unintended consequences)

- Regulatory considerations: Family Educational Rights and Privacy Act (FERPA) could be an alternate approach to consider, based on privacy rights of students and families
- Replacement considerations: Ensuring removal of BMI report cards does not lead to something else harmful
- Potential barrier: Belief in the power and efficacy of report cards
- Cost considerations: Frame this to policymakers, school boards as an unnecessary and expensive strategy
- Need for cultivating relationships, especially in states more resistant to change of these policies

05

Ripple effects

Since the seminar, we have asked participants to share the ripple effects of their attendance. These are the subsequent impacts and influences that the seminar had on participant's efforts to repeal BMI and work broadly on tackling systemic anti-fatness across medical institutions and wider society:

"In recent months I've started to work on connecting more with local groups and leaders that are interested in pushing back on weight stigmatizing policies and practices in our community. I've also reached out to some fellow researchers in my state to start working on collaborations. Currently we're putting together a panel for our state's Public Health Association conference on de-implementing BMI surveillance."

"It's been so affirming to know that I have like-minded colleagues at prominent universities and public health programs who are so focused on BMI de-implementation. When one works on structural problems, it is easy to feel isolated and even despairing, and it gives me a sense of hope in the comradeship and collective power we have to be helpful in BMI de-implementation efforts"

"Since the conference, I have been investigating ways to measure weight bias for health research application...and have been speaking with professors in the epidemiology department on the harms of stigmatizing research on body size."

"The seminar absolutely influenced how I think about BMI surveillance. There are a few tangible ways that the seminar has impacted my work over the past five months. I incorporated more discussion of BMI measurement and its potential harms in my current [teaching] courses this semester. In my counseling course, they completed a case study where the BMI measurement/discussion caused harm in terms of the patient-provider relationship. In my weight bias class, the students did several readings related to issues with BMI and BMI surveillance and completed a reflection on BMI surveillance ("Should BMI be routinely measured in clinical and public health settings? Why or why not? If so, when and how?). I also included content related to BMI de-implementation in guest lectures and panels at [participant's medical school]. I worked with one student who attended a panel at [participant's medical school], who submitted a policy resolution to the State Medical Society related to BMI de-implementation. "

"I've since worked with a fellow workshop participant to write two op-eds for medical journals about the harms of BMI surveillance"

"Since my day-to-day work is around weight stigma advocacy, I have had the opportunity to speak often about BMI and the harm it does. I have received positive feed-back about taking part in a workshop looking at de-implementation."

"I got asked to be an expert reviewer for a systematic review on "Interventions for Weight Management in Children and Adolescents" for the U.S. Preventive Services Task Force, to help them update their 2017 recommendation on this topic. I used the things I learned in the workshop to encourage a focus away from BMI in my critique."

What Comes After BMI?

Since the seminar, progress to de-implement BMI surveillance has been made in public health research, in eating disorders care and in school surveillance programs (National Academies of Sciences, Engineering, and Medicine, 2023; Mishra, 2023; Poole et.al, 2023a, Poole et.al 2023b). However, there is still much work to be done. Importantly, several participants commented on the pragmatic need to propose alternatives to BMI when advocating for its de-implementation in policy contexts. There is no single clear alternative to offer, and what replaces BMI will be largely dependent on the contexts in which it is deployed. However, de-implementation science can provide useful tools to navigate this process. For example, actions for de-implementation of harmful interventions are typified as “Removing, Replacing, Reducing, and Restricting” (Norton & Chambers 2020). In some clinical interactions, replacing BMI measurement for health-focused metrics such as blood pressure or cholesterol levels may be necessary and useful. However, other forms of surveillance-based BMI usage, such as workplace health and wellness schemes, may be more appropriately removed and not replaced. On this matter, some participants noted an ethical obligation to question the imperative to measure people's bodies as a target of population-based surveillance, given the historical evidence that such surveillance produces pathways to injustice and inequity (National Human Genome Research Institute). The de-implementation science framework can usefully facilitate the complex process of deciding what comes after BMI in each site of its deployment.

Throughout this seminar, our aims were twofold: to demonstrate how a handful of methods could meaningfully facilitate collective strategizing between diverse advocates toward the shared goal of de-implementing BMI surveillance and to catalyze into action the growing community of advocates and scholars who recognize the harms of BMI surveillance. De-implementing universal BMI surveillance is a complex, but urgent task, and by harnessing the right tools and communities, we believe it is possible.

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