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Imprecision and Unconscious Moralism in Public Health Risk Communication

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Abstract
Risk communication is a foundation of the practice of public health. It is traditionally based on a carefully considered epidemiological computation of the likelihood of experiencing a condition given the presence of a particular exposure or behaviour. The extent to which numerical precision is important in such communication is a function of the availability of good statistics, the ability of the target audience to appreciate the meaning of the statistics, and the emotional heft represented by the chosen statistic. There is an inherent danger, however, in overweighting the latter consideration at the expense of the former two. When emotional impact and behavioural change become goals to the exclusion of complete scientific credibility, we risk brushing against the realm of propaganda in service of unexplored unconscious societal moralism. In this era of heightened distrust of state authority, it behooves public health communication to avoid the suggestion of data misrepresentation in service of behaviour change, regardless of how socially desirable that change might be.

Keywords: Unconscious Moralism, Public Health, Risk Communication

1. Public Health in Service of Social Norms

As economies become more intertwined, cross-border travel faster and more convenient, and telecommunications more seamless, the world continues to shrink both perceptually and effectively. The combination of rapid air travel and economic globalization has made every epidemic a potential pandemic, and thus every local public health decision worthy of the attention of global health policymakers.

Public health has become ever more present in our lives, now more noticeably so in the wake of the pandemic. Historic attempts to control tobacco consumption or driving speed were unrolled with minimal objection or examination. But calls for pandemic behaviour restrictions and COVID-19 vaccine uptake have met with very vocal resistance from those suspicious of state legitimacy, agenda, and purity of motivation. Much of this opposition has been framed twofold as an assault by public health on both individual autonomy and the very moral fabric of society. (Rodenberg, 2021) Distrust of public health in the Western world is at a very high level. (Hurt, 2022)

In a 2010 paper, (Dawson, 2010) Angus Dawson drew an important distinction between public health ethics and medical ethics. He argued that public health, as its own ethical framework, must do away with the bioethical "dogmas" of sacrosanct individual autonomy that is the core of ethical clinical care, contractual obligations arising from the consumerist model of health care, and an overreliance on the rule of law to justify interventions and restrictions. In essence, Dawson drew our attention to the problem of medical ethics dominating all bioethics, in particular public health ethics.

In his book, *The Philosophy of Public Health* (Dawson, 2012), Dawson further argued that within the practice of public health lies an implicit duty to promote social capital, which is loosely defined as a positive emergent phenomenon arising from social networks, akin to influence or trust. He stated that some of the important factors of social capital are, "norms, values and attitudes." (Dawson, 2012)

The quest for social capital necessitates a role of public health that is never iconoclastic or fringe-oriented, but rather one that follows mainstream, though not necessarily dominant, values threads. An example would be public health campaigns seeking to promote safe needle exchange programs for heroin addicts. Such programs are often opposed by social conservatives as they are seen as celebrating and promoting an immoral activity. (Goldberg, 2021) Public health leverages the social capital of social liberals who support such programs from a values perspective. Relying solely on the effectiveness data of needle exchange programs would likely be unproductive, since values-based decision-making is not necessarily evidence-based. (Brighouse et al., 2018) Thus, if needle-exchange programs did not align with the values of a substantial part of the population, they would likely not be adopted, regardless of the quality of evidence showing their successes at reducing drug usage.

Other examples abound. Publicly funded abortion care has been shown to be fiscally and socially advantageous. (Donohue & Levitt, 2020; Torres et al., 1986) Yet the legality of abortion has been substantially diminished in much of the United States this past year. Values are a pillar of social capital; and values, while defined as more personal and inherent in character, are nevertheless influenced by prevailing cultural morality.

The COVID-19 pandemic has rendered ever more so the precariousness of public trust in state-mediated health communication. Public health communicators must thus walk a fine line between transparent, nonjudgmental and objective expression of useful information, and the projection of societal value, inasmuch as such value dictates desired behaviour change, and inasmuch as that change aligns with the aforementioned social norms. According to public health orthodoxy, the roles of communicators during a crisis are to alert the public to the nature of the emergency, enumerate steps that authorities are taking and that the public should be taking, inform the public of key developments during the evolution of the crisis, explain some technical points, and lastly to assuage panic.

The latter role necessarily flirts with the promotion of propaganda, insomuch as propaganda is defined as information used to promote a particular political cause or viewpoint; and unexamined social norms are indeed causes or viewpoints. It behooves us to examine the likely moral motivations and assumptions underpinning every public health communication missive. To that end, this paper presents two examples of such missives whose representations of risk are skewed by unexamined moralism which, I argue, are promoted through the selection of statistics meant to inflate the perception of risk.

2. Examples of Communication Oversteps

Example 1 – Ernestine's Women's Shelter Ad

In 2011, an ad by Ernestine's Women's Shelter in Toronto stated, "Approximately 3-5 children in every Canadian classroom have witnessed their mother being assaulted." After that statement, the ad presented another statistic: "70% of men in court-ordered treatment for domestic violence witnessed it as a child."

The ad was accompanied by the heartbreaking photo of a small child with his head in his hands. The clear implication was that domestic abuse is transmitted intergenerationally and that a child witnessing his mother being assaulted is likely to become an abuser himself.

The intent of the ad is admirable. Evidence is strong that children who witness abuse can suffer an array of mental health challenges, often lasting well into adulthood. (Willis et al., 2010) However, evidence for the cyclical nature of domestic abuse is not as well established. The United States government's Office on Women's Health website (*Office on Women's Health*, 2022) offers citations to peer-reviewed studies supporting their claims that "Many children exposed to violence in the home are also victims of physical abuse" and "Children who witness domestic violence or are victims of abuse themselves are at serious risk for long-term physical and mental health problems." But the following statement, that "Children who witness violence between parents may also be at greater risk of being violent in their future relationships" is glaringly unsupported by an accompanying citation.

This is not a benign omission, as one writer notes that, "While abusive behavior can be repetitive, it's important to note that abuse does not always occur in a cyclical pattern. In fact, assuming that violence occurs in cycles can lead to victim-blaming." (Plumptre, 2021)

The two statistics featured in the Ernestine's ad stand out first for their frightening scale and implications, and second for the absence of any attempt to connect them. It is implied, but not stated that many of those 3-5 children who witness abuse will grow up to become those 70% of men in court-ordered abuse programs. For a fast or innumerate reader, the incorrect assumption would be that 70% of children who observe abuse would become abusers when they grow up.

What allows this assumption is the absence of any estimate of relative risk. Depending on assumptions made when constructing a contingency table, and absent any additional information, the data presented in the ad could lead one to compute a 50% additional risk of becoming an abuser if abuse is witnessed. Or, making different contingency assumptions, witnessing abuse could actually substantially *reduce* the risk of becoming an abuser.

Clearly, an assumption of a protective effect of abuse-witnessing is facetious. But absent any information to guide a reader's appreciation of the risk numbers, the natural assumption is one of high association between with these particular exposures and outcomes, fueled as it is by the emotional force of the ad's imagery. It could be argued that this is the intent of the ad's phraseology and design: to compel an overestimation of risk in service of an emotional response toward a policy goal.

Example 2 – CANFAR Ad

Similarly, a Toronto subway ad posted by the Canadian Foundation for AIDS Research (CANFAR) in 2007 offered two statistics and a specific claim or question: "Did you know that 86% of HIV Positive Canadians are male; And 2/3 of boys, aged 15 to 19 are sexually active? You think your kids aren't at risk? Think again."

The clear implication is that sexually active boys are at high risk for contracting HIV/AIDS. And while it is certainly true that any sexually active individual is at risk for contracting any number of sexually transmitted diseases, the selection of the "86%" figure appears to be strategically chosen to suggest to the casual reader that that is indeed the proportion of elevated risk for Canadian boys. It is a shockingly high level of risk, sure to cause any parent to pause and possibly panic.

The problem, of course, is that those two figures are not necessarily statistically linked. In the early 2000s, there were approximately 58,000 Canadians living with HIV; 86% percent of that figure would be 49,880 males living with HIV, based upon the ad's claim. But what is the denominator? Canada's male population hovered around 16 million in 2007, suggesting a risk of exposure to an HIV positive male at 0.3%.

Importantly, youth between the ages of 15 and 19 accounted for approximately 1.5% of all HIV reports, according to CANFAR's own website in 2007, (*Canadian Foundation for AIDS Research*, 2011) out of a base population of approximately 3 million. This drops the prevalence of HIV among Canadian male youth to 0.03%. This is a far leap from the inciting and suggestive 86% teased in the ad.

Furthermore, the ad targets sexual activity specifically. Yet in 2007, sex was responsible for only 37% of male HIV diagnoses in Canada. (*Avert*, 2007) Drug use was a far more likely driver of infection for this demographic. The ad also makes the assumption that the sexual activity in question is both *unprotected* and likely penetrative, or at the very least unsafe. Whereas sexual activity need not be a risk for HIV transmission if proper steps are taken. (Petrova & Garcia-Retamero, 2015) The ad therefore seems designed to cast a judgmental eye on youth sexual activity as a whole, and not specifically HIV-unsafe sexual activity.

3. Applicability of the CERC Framework

Much like the adage oft applied to diplomacy, public health in a democracy is the "art of the possible", with what is possible gated by public enthusiasm. Absent the heavy hand of the law, compliance and behaviour change must be encouraged and nudged rather than compelled. Enthusiasm must be cultivated and not threatened. Historically taking cues from the art of advertising, public health has been successful in such nudges via emotional tactics like associating certain behaviours with preferred social networks. Anti-tobacco campaigns expressing sentiments similar to, "smoking is not cool" are an example. They successfully associated a preferred behaviour with the desired social norm.

There is no denying that such approaches are successful. Qualitative analyses consistently show that emotion in public health advertising often elicits the desired response. (Lewis et al., 2007) But these are usually "positive emotional appeals" and not appeals to fear or social disengagement. (Lewis et al., 2007) Advertising strategies for health promotion range over a spectrum from individually oriented public service advertising to socially oriented counter-advertising. (Dorfman & Wallack, 1993) But fear-based or judgement-based messaging is controversial. As one writer noted, "Using appeal to fear as a tool of persuasion can be valid or fallacious depending on the truth of the premises within the argument." (Simpson, 2017) And frankly, such approaches have been shown to be ineffective. (Ten Hoor et al., 2012)

The two examples presented above are troubling for three reasons. First, their sly presentation of unrelated measures is meant to suggest to the reader a level of risk that a proper expression of numbers would not render. Second, the unstated (and presumably unconscious) judgement against sexual activity in the second ad belies an unexplored moralism that is beyond Dawson's justifiable norms of social capital. And third, in this time of deepened scrutiny of public health messaging, any deviation from complete and truthful transparency only serves to impair the longer-term goal of incremental positive behaviour change born of informed rather than coerced action.

In 2002, the US Centers for Disease Control and Prevention (CDC) published the Crisis and Emergency Risk Communication (CERC) manual. It was updated in 2012, 2014, and 2018. (Prevention, 2018) The manual presents a 6-point framework for proper public health communication, the second of which is, "accuracy is critical to credibility." The COVID-19 pandemic revealed deep failures in this regard, with guesses presented as certainties in the wake of a novel virus about which very little was initially known. (Sauer et al., 2021) But clearly this tendency predates the pandemic, as the two examples above demonstrate.

Public health communicators must recommit to the CERC principles and not be seduced by the methods and promises of commercial advertising, where behaviour change is desirable at any cost. Our goal is not to sell a product or achieve a singular behaviour change but rather to catalyze community cohesion such that shared social goals can be both agreed upon and pursued. This must be the essence of public health ethics in a post-pandemic world.

4. Conclusion

When public health marketing is performed without due consideration of statistical precision, the communication products of a public health initiative run the risk of being perceived as propagandistic, or at the very least expressive of an unexplored societal moralistic norm. It is possible, though, to embrace accuracy in both computation and nuance, and still convey an effective public health message. The temptation to cherry-pick

statistics to convey emotional impact disproportionate to their reflection of reality must be resisted. Otherwise, we risk eroding public confidence and impairing our ability to enact positive population health improvement.

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