Precursory Prevention: Togetherness for Better Health

David I. Gregorio, PhD, MS

INTRODUCTION

There is little question that the prevention science framework affords us an evidence-based approach for mitigating threats to health and safety, with remarkable effect. Over the past 100 years, life expectancy has doubled. Maternal, infant, and child mortality rates have declined precipitously, as have illnesses and costs attributable to vaccine-preventable diseases. Interventions to reduce communicable disease transmission have shown their worth, as have practices for lowering the risks of heart disease, cancer, and diabetes. Smoking and social drinking, once sanctioned behaviors, are on the wane. Dental caries, food- and water-borne illnesses, occupational injuries, and motor-vehicle fatalities are appreciably less common.

Yet, despite these notable accomplishments, a sizable and growing number of Americans question the legitimacy of public health practices and our evidence-based disease control efforts around such issues as water fluoridation, clean air regulations, toxic media, junk food, sex education and family planning, climate, alcohol and tobacco sale regulations, gun safety advisories, and occupational health standards. Opposition to vaccines, mask mandates, and restrictions on public gatherings have seriously undermined coronavirus disease 2019 (COVID-19) mitigation efforts despite evident costs to human health, the economy, and social well-being.[1]

As public health challenges grow more imminent and foreboding, prevention science may be at an impasse. One in 10 adults purportedly question the accuracy and reliability of science, and 1 in 4 believe that its impact on society has been mostly negative.[2] With tragic implications, the proportion of Americans who do not plan to ever get a COVID-19 vaccine changed little despite a $250 million information blitz over the past 12 months.[3] Worse, today's claims by skeptics and deniers to disregard health guidance have the potential to fuel future grievances and mobilize audiences about topics beyond population health to education, commerce, the law, and culture. Legislative initiatives intended to constrain sexual education curricula, women's reproductive rights, ballot access, and public protest, for example, share many themes, tactics, and players with those at the center of challenges to our public health system and services.

Contempt for science, bolstered by a multimodal conglomerate of economic, political, and social forces, blurs the distinctions between information, disinformation, and infotainment.[4] Expertise, once the by-product of training and skill, is now proffered to influencers who under 'illusions of explanatory depth'[5] amass followers through a sea of anecdotes, ad hominem attacks, false equivalencies, and fact shaming of those holding differing points of view. Calling out 'plandemic conspiracies'[6] by elites and a malevolent government, these purveyors of outrage inspire doubts on matters they define as too difficult, costly, or inappropriate to resolve. With stunning testimonials about miraculous, unexamined remedies that are inexplicably being withheld from the public, accompanied by screeds on individual liberty, medical freedom, the nanny state, constitutional rights, and natural law, these issue entrepreneurs foment distrust about the severity of health concerns, the efficacy of recommended interventions, and the motives of scientists and governments that advocate for action. All the while, those trusted others within our workplaces, neighborhoods, or family circles who previously were depended on to share perspectives and strategies for daily living have, to a significant extent, been muted by the bombardment of online opinion.

Early analyses of science denial highlighted the propensities of individuals to be unwilling to reject contradictory evidence (belief perseverance), selectively embrace supporting data (confirmation bias), avoid discomforting information (cognitive dissonance), and/or prioritize identity over subject matter (reactance). More

From the Department of Public Health Sciences, School of Medicine, UConn Health, Farmington, Connecticut

Address correspondence to: David I. Gregorio, PhD, MS, Department of Public Health Sciences, School of Medicine, UConn Health, 263 Farmington Avenue, Farmington CT 06030-6325 E-mail: gregorio@uchc.edu.

recent work has emphasized how socially shared in-group identities contribute to animosities regarding out groups. Whenever scientific activities are perceived as undermining personal and/or group identities, distrust and dismissiveness of science are the likely by-products.[7]

EARNING TOGETHERNESS

What is to be done? It remains unclear whether conventional informational approaches to prevention will produce desired outcomes if we are unable to decouple political ideology and personal self-interests from public health concerns. Facts will not displace distrust; evidence may not overcome anecdotes; and health services, however efficacious, cannot be counted on to offset the ill effects of disbelief. Acknowledging that skepticism does not necessarily reflect information deficits or misunderstanding of methodologies, that science denial may actually express other underlying ethical and social concerns, and that further communication may not produce behavior change and possibly harden the view of skeptics and deniers is an appropriate first step.

Presently, the prevention framework addresses primordial strategies to modify the root causes of illness, minimize exposures before illness onset, prompt early interventions to reduce disease impact, and assure delivery of effective health services while discouraging over-medicalization in health care (Figure 1). In furtherance of this framework, precursory prevention (i.e., activities that precede the dissemination of health-promoting guidance) is proposed as an appropriate antecedent to conventional health promotion/disease prevention efforts.

Precursory prevention would constitute intentional activities directed at fostering well-mannered and public-minded engagement (i.e., civility, the consideration of others as a collective duty), without regard to any particular health concern. As a possible antidote to nihilism, extremism, or self/sectarian interests that might otherwise predominate, precursory prevention would capitalize on our pluralistic tendencies to distribute rights and responsibilities between and within groups. Its goal would be a more dynamic, diverse, and equitable social setting for in-group and out-group members to meet and mix, express values, set priorities, acquire skills, and ultimately address mutual concerns. The many benefits of such abundant, accessible, and inclusive opportunities for interaction within the public square have been noted by, among others, Jacobs[8] who characterized the essence of great cities, Oldenberg[9] who chronicled the importance of public gathering places, and Klinenberg[10] who most recently wrote about the capacity of an inclusive social infrastructure to mitigate inequality and improve civic life.

Research on intergroup contact, first proposed by Allport[11] and subsequently replicated in countless studies, reveals that recurring engagement among persons of dissimilar backgrounds improves social harmony and increases creativity and problem solving by expanding the ways we act, think, and assess the world around us.[12,13] Less settled but also highly suggestive, findings indicate that interactions at church, schools, community boards, social clubs, worker organizations, and other public institutions as well as those incidental encounters at the checkout line, dog park, neighborhood eatery, bleachers, or polling stations can engender the trust, understanding, and cooperation between individuals and out-group members.[14,15] Experimental efforts to facilitate intergroup contacts among unalike individuals have been shown to improve interaction and understandings between groups across a range of topics from race/ethnic relations to sexual orientation, poverty and homelessness, immigration, disabilities, and mental health.[16,17]

Precursory prevention aimed at individuals might encourage participation at concerts, games, street festivals, classes, shows, and community services. The intention here is to incentivize volunteerism, raise awareness of public affairs, and encourage community leadership training. Opportunities that offer unique, personal ways to
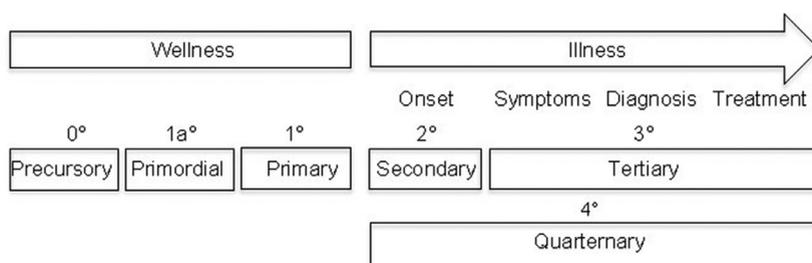
Figure 1. Incorporating precursory prevention within the prevention science framework.

make new acquaintances, gain knowledge and skills, or acquire valued resources heretofore unavailable appear most promising in accelerating intergroup contacts.[18] Instruction, to the extent it would be advisable, would avoid health topics and instead focus on skills that raise public awareness, build movements, and promote change.[19] Equally important could be instruction about how to locate print and electronic data and evaluate its validity and usefulness, without regard to subject matter.[20]

By comparison, precursory prevention that targets groups, not just their constituents, should emphasize superordinate values, such as commitment, cooperation, individuality, patriotism, and related themes, that cut across personal identities and overshadow any pre-existing prejudices regarding in-group/out-group differences. Collective tasks and team memberships in the spirit of community service tend to reinforce shared affinities and goals and decrease the likelihood that any in-group will assert superiority or disrespect for others.[21]

At the system level, precursory prevention should emphasize infrastructure enhancements and policy initiatives with the potential to increase occasions and reasons for greater intergroup contact. Options extend from maintaining baseline and process assessments of community assets and measuring the scope and density of social networks across locales to identifying stakeholder readiness to act; coaching stakeholders to recognize and act on opportunities for intergroup contact; improving crowdsourcing platforms for problem-solving information; enhancing written, auditory and visual communication competencies; reversing the regulations and covenants that limit access of individuals to housing or employment opportunities; promoting colocation of public resources (e.g., skateboard parks proximate to band shells, libraries nearby transit stations, etc.) and mixed land use; encouraging walkability/bikeability; reducing blight; building playgrounds, parks, plazas, and passive green spaces; prioritizing public transportation; preserving community landmarks; diversifying shops and marketplaces; and securing affordable user fees for public goods and spaces.

Determining whether precursory prevention contributes to population health will require incremental considerations. First, measurable short-term effects of precursory prevention might consider changes in the extent of participation in and/or greater diversity at community events and within voluntary associations. One could also examine the changes in attitudes and beliefs regarding the will and intention of others, tolerance of divergent opinions, the use of confrontational language and ad hominem argument, the extent of normative disapproval of bullying, emotional outbursts or other intimidating behaviors, degree of self-awareness

and ego suppression, level of digital literacy, dependence on unsubstantiated information and their sources, sharing of epistemologies and logic of inquiry, beliefs about public health as a collective good, amount of charitable giving, and experiences in advocacy for human rights/social justice. From there, the intermediate impact of precursory prevention might be judged according to improvement in public understanding of scientific methods and causal reasoning, knowledge of prevailing hypotheses under study, access to confirmable data sources, and summary findings. In its course, the final test of precursory prevention is its impact on the public's health knowledge, beliefs, expectations, and behaviors across communities.

FINAL THOUGHTS

Prevention science works, but its activities often are rejected, distorted, or supplanted by skeptics and influencers who exploit the demands of work and family, a growing achievement gap, wealth insecurity, and upheaval of traditional norms and practices to further polarize constituencies. The public deserves a full-throated response and commitment to welcoming and engaging communities where every personal biography is understood to be an essential contributor to our public history. Failing that, prevention science may unfortunately continue to face the prospect of unheeded efforts that diminish our ability to promote health.

Precursory prevention should not be seen as simply encouraging people to work together, nor should it be considered a means of stifling dissent or advancing a specific prevention strategy or a presumed panacea for sociopolitical ills embedded in our social institutions. Precursory prevention is about capacity building in the spirit of social capital committed to offsetting further polarization across communities.

Going forward, we should anticipate and prepare that precursory prevention will face significant pushback. Entrenched economic, political, and social interests, from various points of view, may object to what is perceived as a threat to constituencies and revenue. Scientists, for their part, may see unwanted competition for scarce resources. Others may advocate for the premature closure of interventions that are likely to have longer timelines than the attention span of many funders, interventionists, and critics.

Precursory prevention does require a departure from traditional approaches to prevention, but the price of inaction is great if we seek further progress in disease prevention and health promotion. These times require attention to the root causes and

implications of social engagement that complement our understanding of social determinants associated with etiology and disease course. For prevention scientists to be heard and their work fairly judged, we need to determine how best to build shared sentiments and overlapping social networks that will allow for the ready and equitable distribution of information and experiences. It is by these means that we may be able to secure the confidence and trust of diverse populations and the individuals and groups therein. Doing less may consign us to Will Rogers' caution that, "even if you're on the right track, you'll get run over if you just sit there."

CREDIT AUTHOR STATEMENT

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