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Prévenir les atrocités : vers de nouveaux paradigmes? Preventing atrocities; towards new paradigms?

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Prevention in Public Health and Atrocity: A Comparative Approach to Early Warning for Early Action

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Introduction

When health threats to individuals or populations are imminent, the science that underpins our knowledge of human health clearly recommends early intervention to improve the probability of good outcome. Such action is known as prevention and, in the case of populations, constitutes the principle strategy of public health. The field of public health has developed strategic stages of prevention depending upon evaluation of the nature of the threat. To support this assessment, experts in public health have built systems of early warning linked to stages of early action that might be required.

An understanding of how public health identifies, monitors, and then acts against threats may support a comparison with atrocity prevention. In both instances, a threat may begin with barely discernible indicators and then escalate in somewhat predictable ways to cause considerable and enduring harm.

The focus of public health

Public health as a discipline examines human health and behavior as an interaction with place, people, and disease. Interest in trying to support human life and understand why people die dates back to the ancients but public health as we know it today has a short history. Its modern form, wherein it deploys methods to analyze data and organize information, has evolved from the mid-19th century focus on the endemic communicable diseases (cholera, plague) which affected the increasingly dense populations of the industrializing cities of Britain and northern Europe.

Geographical place—or the relations of populations to place—has been a central parameter of public health analysis. The influence of Hippocrates (wind, water, humors)[2] has profoundly shaped our current medical and public health understanding that where one lives and works has great bearing on one's physical and mental health. Socio-economic status has also evolved as a pivotal independent variable in public health understanding, beginning with recognition that hunger and squalor promote death by disease.[3] In its early phases, public health was principally preoccupied with deaths--the actual numbers and then the mortality rate within a specified population.

In its evolution over the 20th century, public health has embraced the entire field of demography, tracking all parameters of death rates, birth rates, and migration in relationship to the public health of given populations. It has also expanded its gaze to the influence on health of socio-economic conditions, driven first by the extensive work on the social determinants of health.[4] More inclusive recognition of what factors affect the human condition have evolved under social pressure, such that analysis of of gender, culture, race or ethnicity are to some extent beginning to be included in many public health analyses.[5] Fundamental concepts of place in public health have in the last 40-50 years incorporated environmental conditions[6] and, more recently, climate change.[7]

Epidemiology is the core method of public health, using scientific and statistical methods to track and analyze data on disease or health conditions across a specified time and location.[8]
Public health relies on these methods to define and understand the timing, distribution, and potential

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2 On air, water, and places. Hippocrates. Translated by Francis Adams. The internet classics archive. http://classics.mit.edu/Hippocrates/airwatpl.mb.txt

3 Woodham-Smith, C. Florence Nightingale. Atheneum. New York 1983: pp 111-179.

4 Wilkinson R, Marmott M, eds. The social determinants of health. The solid facts. World Health Organization. Geneva, 2003.

5 Berkman L, Kawachi I, eds. Social epidemiology. Oxford University Press. Oxford, 2000.

6 Dignam T, Kaufmann RB, LeStourgeon L, Brown MJ. Control of lead sources in the United States, 1970-2017: Public health progress and current challenges to eliminating lead exposure. J Public Health Manag Pract. 2019Jan-Feb;25(Suppl 1 LEAD POISONING PREVENTION): S13-22. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6522252/

7 Haines A, Kovats RS, Campbell-Lendrum D, Corvalan C. Climate change and human health: Impacts, vulnerability and public health. Public Health 2006;(7):585-596. https://www.sciencedirect.com/science/article/abs/pii/S0033350606000059

8 MacMahon B, Pugh TF, Ipsen J. Epidemiologic methods. Little, Brown and Company. Boston USA, 1960: 3-9.

causal or influential relationships among the following: death rates, birth rates, rates of communicable disease and chronic health conditions (NCDs), environmental conditions, and changes in health status.

Prevention is the main strategy of public health. Beginning with the field's original focus on diseases of crowds (long before the germ theory of disease had been established), public health practitioners realized that to stem these epidemics it was necessary to stop them very early, or even better to create conditions where the epidemic would not recur. Hence the need for what is called primary prevention--to anticipate what is going on that might prove harmful to a population and then intervene early and appropriately to make sure this harmful element does not arise or if it does occur is stopped at once. Other terms in this continuum of prevention strategy are a) secondary prevention (measures to stop the condition from spreading and immunize or otherwise protect those who have not yet fallen ill); and b) mitigation (strategies to keep the condition from spreading and reduce its harmful effects).[9]

Public health systems for early warning

An effective public health system must rely on reporting and analysis of relevant data from a wide variety of actors and sources. The development of these data sets is a most complex historical and social process in every country.[10] This enterprise usually takes years to establish and requires public funding along with commitment from the public to understand what is happening to their collective lives.

The mission of a national or state public health enterprise is to fulfill two imperatives on behalf of the people within a specified location or jurisdiction. The first is to ensure that measures are in place to protect the lives of people as they carry out their daily activities (such as clean drinking water, restaurant inspections, and seat belts). The second is to track disease and illness in the population, signal a concern when the tracking systems indicate a departure from baseline conditions, and construct and institute appropriate preventive or mitigating actions.

Mandatory reporting of routine data to public health authorities at various levels of authority provides the basic information for meeting the first imperative. Active monitoring of these data and surveillance of key activities provides the information to meet the second. Systems of early warning and early alert are based on the data deriving from these processes.

Determining what it is that must be measured in these systems and setting up reliable key indicators requires forging a political and social consensus that ebbs and flows over years and decades. This process may become politicized through resistance from im-

9 Clark DW, MacMahon D. Preventive medicine. Little, Brown and Company. Boston USA, 1967:4-5.

10 In the United States, the US Bureau of the Census was the first national agency to gather population-based data, in 1850. This decanal activity did not directly count those who entered or left the population in the intervening decades but only those who were present, noted and recorded every ten years. Although there is no provision in the US Constitution for the federal government to maintain more detailed records of the population, it encouraged a vital registries system to be undertaken by states. Accordingly, in the 1930s, daily or weekly records of births and deaths began to be established at the state level. It was systematized by national guidelines issued during the early 1940s, as concern grew about the risk of epidemic disease during wartime. As social issues required more information about both births and deaths, from the 1970s on the US federal government issued more detailed official reporting forms and the various state and local agencies were expected (which they did) to comply with the added administrative burden of collecting more data from a wide array of sources. Hetzel AM. History and organization of the national vital statistics system. Major activities and developments 1950-1995. Includes reprint of "Historical Organization of the Vital Statistics System" to 1950. National Center for Health Statistics. Centers for Disease Control and Prevention. US Department of Health and Human Services, 1997. pp. 1-26. https://www.cdc.gov/Nchs/data/misc/usvss.pdf

plicated parties (polluting industries) or contending moral or religious groups.[11]

Monitoring systems (systematic observation of ongoing events) are built into regular reporting mechanisms of government agencies. Examples of surveillance systems (oriented to targeted monitoring of certain sites, conditions, behaviors) include police reports, mandatory reports from emergency departments regarding certain presenting conditions, traffic deaths by province or state, and reports of disease outbreaks in schools or communities.

Sentinel events are those that spring out as an unusual increase or decrease in the graphs and tables of monitoring data, such as sudden departures from the expected incidence of a condition or a behavior. Such events include sudden high numbers affected by a food-borne illness in a particular locale; or an uptick in number of emergency department visits for "flu" (signaling the start of influenza season or some other respiratory illness); or marked departure from trend lines, such as sudden increase in deaths of young men (the first indicator for the HIV/AIDS epidemic beginning in San Francisco in the early 1980s).[12]

Identification of structural and social risk factors for particular illnesses or diseases become controversial when this information is tracked by location. In many political systems, where geographically separate communities of different ethnicities or race may have very different views of the world, information on these issues may identify responsible parties as well as reveal abiding social vulnerabilities.

What is monitored and acted upon in a public health system directly relates to what the government is interested in promoting and finding out. In well-run democratic systems, the interests of the general public are also addressed. Many monitoring systems in untroubled situations show no change or a decrease in harmful trends. If a society or locality slips into internal or external difficulties, however, the shift in patterns will be evident and should, if the monitoring and surveillance systems are functioning properly, trigger an early warning alert.

Legal and normative supports to public health early warning

Public health interacts with the general public through a process of legal constraints and obligations and a diffusion of individual and group behaviors reinforced though social norms.[13]

Public health law and regulation

Public health governance through law and responsible implementing agencies, such as the local Boards of Health set up in many European and US cities by the end of the 19th century, are fundamental to formulating evidence-based measures that establish coherent and accountable public policy. These activities rely on social acceptance but can when necessary find resort to sanctions and punishments encoded in local, national and international law.[14] In federal systems of government, public health obligations and functions may be closely held at the federal level or delegated to the states or regions. In the US, many crucial aspects of public health regulation have been delegated to the states.[15]

The aim of public health law and regulation is to influence or mandate aspects of public behavior based upon the best scientific understanding of the factors that impinge upon human health. The law is in the background with required childhood vaccinations prior to entering school, rabies vaccinations for sus-

11 Heymann J. Health and social policy. In: Social Epidemiology, Berkman and Kawachi, eds, pp 368-382.

12 Pneumocystis pneumonia—Los Angeles. Morbidity and Mortality Weekly Report 1981:30;250-252. As cited in: Piot P and Quinn TC, Response to the AIDS Pandemic: A Global Health Model. In Readings in Global Health: Essential reviews from the New England Journal of Medicine, eds Hunter DJ and Fineberg HV. Oxford University Pr. Oxford 2016:53-67. Luce JM. A strange new disease in San Francisco. A brief history of the city and response to the HIV/AIDS epidemic. Annals of the American Thoracic Society September 17, 2012. Pub Med 23607844. https://www.atsjournals.org/doi/full/10.1513/AnnalsATS.201208-039PS

13 Gostin L. Public health law: Power, duty, restraint. University of California Press, Berkeley, CA: 2000.

14 World Health Organization. Strengthening health security by implementing the International Health Regulations (2005). States Parties to the International Health Regulations (2005). https://www.who.int/ihr/legal_issues/states_parties/en/

15 For instance, in signing the 2005 treaty on International Health Regulations (in 2007), the US mission to the World Health Organization (WHO) in Geneva forwarded a signing letter of reservations, noting that some of the responsibilities required of the country were matters for states to decide, although the federal government would urge adoption across the country. https://www.who.int/ihr/usa.pdf?ua=1

ceptible animals and mandatory reporting requirements in emergency departments for gastro-intestinal illness acquired in the community, dog bites, gunshot wounds, child abuse, domestic abuse, and elder abuse.

With breakdown of regulation and guidance on behavior or protection, one can anticipate population-based spread of infectious/contagious disease but also rising incidence of chronic disease, high-risk behavior, or morbid conditions. These laws, regulations, and policies are invisible to the ordinary person if things are progressing well. But if not, we see outbreaks of food-borne illnesses, epidemic disease, or widespread contamination of water, air or land.

Public health norms

The work of maintaining public health also relies on a normative culture diffused throughout society, beginning at home and reinforced at schools and monitored by officials at all levels. These norms exert strong preventive pressure on society, as can be seen by pervasive enforcement of such activities as insisting on hand-washing; covering one's mouth when coughing or sneezing; or stigmatizing spitting in public. These norms are usually first instilled at home but reinforced in a child's first encounter with group life—the school system.

The public health systems described here are found in varying degrees of reach and enforcement throughout the world. A key big difference among societies, however, is in the capacity of national and local governments to issue effective early warning. Often lacking is the consistency of funding streams and stability of administrative governance to create and sustain the data systems and set up the analytic capacities to monitor and discern negative trends.

Limitations to the public health approach

Preoccupations

The field of public health is constrained by its origin history, in that the topics of concern began with a focus on sanitation and infectious disease and its rules of engagement were formed by a small educated elite. This aspect has been retained, in that its concerns, data-gathering strategies, and responses are driven by political and social priorities which may not be in tune with many segments of an increasingly diverse population. For many reasons (such as funding and political will) surveillance is not sufficiently nuanced to gather information on population subsets and more preventive and early warning attention is given to issues affecting the majority.[16] In the US, influential political and economic actors have restricted regulations on environmental protection reduction and mitigation of toxic hazards.[17]

Public health authorities and analysts at times are reluctant to respond to what they may perceive as short-term, insignificant, or even politically inconvenient trends.[18] Conversely, in the 20th century, the public health community (with a few exceptions)[19] has also been slow to discuss the public health aspects of vast geo-political issues, such as war, nuclear war, migration, or climate change. Only after years of mobilizing are community and scientific challenges based on human rights dimensions of public health practice beginning to affect official understandings of the health impact of major disparities and inequities.[20]

Crisis leadership

A major public health emergency, such as an epidemic, constitutes a scientific and public health concern but also requires engagement with national actors at the level of policy and law. Funds for emergency measures and permissions to enact emergency public health law must be sought from local, state, or federal sources, depending upon jurisdictions. Wise political leaders when confronted with disasters and public health emergencies are counseled to let the

16 Krieger N. Discrimination and health. In: Berkman and Kawachi, eds. Social Epidemiology.

17 Pinko N, Mulvey K, Ekwurzel B, Frumhoff P, Hurd N, Sideris J. The 2018 Climate Accountability Scorecard: Insufficient progress from major fossil fuel companies. Union of Concerned Scientists. https://www-jstor-org.ezp-prod1.hul.harvard.edu/stable/pdf/resrep24129.pdf?ab_segments=0%2Fbasic_search%2Fcontrol

18 Trust for America 's Health. Pain in the nation: The Drug, alcohol and suicide crises and need for a national resilience strategy. 2017. https://www.tfah.org/report-details/pain-in-the-nation/

19 Early exceptions include organizations of physicians and health workers mobilized against nuclear war and those in organizations to promote health and human rights. Examples are US Physicians for Social Responsibility, International Physicians for the Prevention of Nuclear War, and Physicians for Human Rights.

20 Chapman AR. The social determinants of health, health equity, and human rights. Health and Human Rights 2010;12 (2):17-30.

scientists or other experts guide the fundamentals of the response and interact directly and decisively with the public and the press.[21] When these precepts are not followed, at a time when great clarity is required, misinformation and misdirection may befuddle policy makers, confuse the general public, and potentially introduce further delays in crafting early warning and protecting people from harm.

Prevention of mass atrocity

There are important similarities and differences in the ways that the atrocity prevention community approaches early warning.

Atrocity prevention relies on a long history of experience with this phenomenon and a short history of attempts to intervene against it. Devastating mass atrocities and genocides in the 20th century prompted sustained collective action to establish an international regime of treaties, law, and enforcement in order to prevent and prosecute these actions as among the most criminally violative of international norms of humanity, solidarity, and peace.[22] The focus on prevention is what links atrocity to public health.

Atrocity inflicts harm to individuals and groups as do diseases. Atrocity arises from the behavior of individuals or groups interacting with stresses within society to inflict a wide spectrum of harm on those deemed "the other." These targeted individuals and groups are blamed by the powerful majority (or, in some instances, the minority) for being "responsible" for the experienced stresses. These atrocity behaviors have acquired through time stereotypical features that can be observed and organized into patterns of threat and escalation, key risk factors, and key precipitating events. It is well understood that an atrocity crime such as hate speech, once fully underway, can explode into mass violence against the targets of that speech. Preventing that escalation by intervening early is a core tenet of the atrocity prevention community.

With atrocity prevention, the processes of specifying the nature of the harms and interventions and the systems for monitoring, extending surveillance, and establishing modes of intervention have strong parallels with the tasks of public health prevention. The expertise required to become alert to these patterns and assemble a targeted strategy of intervention makes the prevention process a subject for social scientists, historians, and legal experts and diplomats. The standing to support well founded interventions derives from government and international law.

Differences

Public health concepts derive from the science of human health and the collection and analysis of numerical and empirical data. The field of atrocity prevention cannot yet rely on a science of human hatred, although much is understood about the mechanisms of individual and group fear, threat, aggression, and grievance that feed into the creation and propagation of atrocity.[23] Nor has the field fashioned with sufficient precision the core features of escalation of hate speech and hate action.

The alert and analytic processes of these two fields are similar but not the same. The human pathway to disease is relatively universal, the analytic systems are relatively straightforward, and the preventive actions at strategic and operational levels are similar across nations. Yet it has taken decades for countries across the world to build accountable and robust public health systems for prevention and early warning.

In contrast, atrocities arise in markedly different social, historical, and economic circumstances. Recognizing the early indicators of escalation in hate speech, for instance, requires understanding the particularities of indicators (vocabulary used, mobilization avenues, leadership styles), the underlying social and economic stressors, and previous atrocity patterns within that society. The data gathering process (by which to construct patterns and trends) is not well developed in many countries of the world. Much more work needs to be done to establish a common language and then agree on what early indicators and escalation pathways prove most pivotal in raising immediate and productive alerts and ac-

21 Champion HR. A planning model for disaster response. In Health and medical aspects of disaster preparedness, ed Duffy JC. NATO Committee on the Challenges of Modern Society. Plenum Press. New York: pp 31-37.

22 Robertson G. Crimes Against Humanity: The struggle for global justice. The New Press. New York 1999. Schabas WA. Genocide in international law: The crime of crimes. Cambridge University Press. Cambridge, UK. 2002.

23 Osiel M. Mass Atrocity, collective memory, and the law. Transaction Publishers. London, 1997.

tions. As it is, the task of identifying and then assessing hate speech in a given country or region of the country requires specific expertise and considerable courage, since national leaders and power brokers may themselves be implicated in the propagation of atrocity crimes.

Yet surprisingly the field of atrocity prevention has progressed rapidly in terms of legal architectures and definitions of grounds for intervention.[24] The task of atrocity prevention has two important advantages over public health prevention. Atrocity is generally a group activity; it has generalizable features across nations and through history; and its manifestations can be generalized into patterns of atrocity escalation—all of which facilitate a process of early warning. Consequently, specifying the model of escalation and identifying the risks, indicators, and triggers to be tracked is a comparatively easy analytic task compared to the project of public health prevention—and much headway has been given to this enterprise by the 2014 publication of the UN Framework of Analysis for Atrocity Crimes.[25]

The difficulty remaining is that until local actors are trained in pattern recognition, by the time a given atrocity has risen to the local level of ascertainment, the warning may itself arise too late. For the warning to arrive early, a fine-grained, carefully tuned local apparatus has to be established, linked to state action. To support this early response there would need to be, at local levels throughout the nation, a prior agreement on pattern recognition (what occurrences are probably benign but require surveillance; what events or trends are harmful and should trigger an alert). To progress further on atrocity prevention, the challenge ahead is to build local and national infrastructure (such as the recommended National Focal Points) that can benefit from the positive support provided by international activities of atrocity early warning.

Second, the task of atrocity prevention has great support in international law, the United Nations, and a host of international agencies and civil society organizations. Legal definitions of major atrocities establish their global criminal status even when arising solely within one nation state. The diplomatic and legal pressures exerted by external states parties to these various conventions and treaties against mass atrocity crimes carry potentially great relevance to strategies of early warning and early intervention with regard to offending states parties.

In contrast, public health systems have grown up within the nation state and are distinctly shaped by its priorities and assets. In powerful nation states, local response to early warning signs is now routinized and generally appropriate. Yet when higher levels of authority are required, as with an epidemic or pandemic, then the isolation of national public health systems from dynamic international influence means that what happens internally (and indirectly may have negative consequences for other nation states) is entirely dependent on the whims of national elected leaders. The efforts of international agencies may also in turn be undermined by unilateral state action.

Conclusion

This preliminary inquiry reveals important and constructive parallels between these two complex systems designed to protect people from significant forms of harm. Those at risk in public health emergencies may be members of the general public or those made vulnerable through social determinants. In atrocity prevention, membership in a stigmatized group is always the dominant risk factor. The social factor in both settings is the crucial variable.

Public health and atrocity prevention mobilize different content measures for early warning and early action but sounding public and targeted early alerts is a shared key strategy. The need to understand the parameters of what is at stake are paramount for each enterprise.

With public health prevention and even more so for prevention of atrocity, grassroots commitment is essential to contain early instances of atrocity and to sound the alert to the national and international community. If norms of tolerance and mutual accountability are diffused within communities, then, as with public health prevention, it is possible to mo-

24 Rosenberg SP, Galis G, Zucker A, eds. Reconstructing Atrocity Prevention. Cambridge University Press. New York 2016. Rotberg RI, ed. Mass atrocity crimes: Preventing future outrages. World Peace Foundation. Brookings Institution Press, 2010.

25 UN Framework of Analysis for Atrocity Crimes. United Nations. 2014. https://www.un.org/en/genocideprevention/documents/about-us/Doc.3_Framework%20of%20Analysis%20for%20Atrocity%20Crimes_EN.pdf

bilize help while engaging in mitigating action at the same time.

State-based systems of surveillance, response, and accountability in mass atrocity prevention are not mature but could look at the public health systems for examples of a top-to-bottom approach (government commitment, national law, local capacity, and timeliness of systems for raising alert).

The negative, shameful valence of mass atrocity carries with it a reluctance on the part of the state and even of the international community to acknowledge the problem and take appropriate measures. In public health, populations demand accountability for the system's failure to act or failure to act robustly. A public health emergency is a usually domestic embarrassment, not an international crime. Yet when out of control, as in a pandemic, then the behavior of individual nation states may well come under withering international scrutiny, as has been the case for the several viral pandemics of the 21st century.

Top on the list of recent lessons learned is that the current pandemic, a failure of public health early warning and early action, reveals deep social and economic fissures in all our societies. These fissures have opened and been shown to be death-dealing. The lesson for public health is that an uncontrolled pandemic can begin to resemble a mass atrocity. It signals systems that are inadequate or broken or both and extraordinary measures are required to combat it. As Rudolf Virchow demanded in his 1848 reports on conditions arising from the wars in Central Europe: "Don't crowd diseases point everywhere to deficiencies of society?"[26]

26 Virchow, R. I. The epidemics of 1848. (Read at the annual meeting of the Society for Scientific Medicine, 27 November 1848. Archiv. F. pathol. Anatomie. u. Physiolgie u. f. kiln. Medicin. 1849. Vol. III, No. 1, p. 3). In: Rather LJ. ed. Rudolf Virchow. Collected essays on public health and epidemiology. Vol 1. Science History Publications. USA. Division of Watson Publishing International, Canton, MA. 1985. Excerpted from pp. 115-122.