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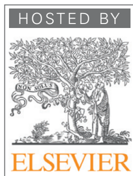

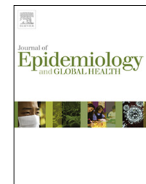

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Are we facing a noncommunicable disease pandemic?

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Abstract The global boom in premature mortality and morbidity from noncommunicable diseases (NCDs) shares many similarities with pandemics of infectious diseases, yet public health professionals have resisted the adoption of this label. It is increasingly apparent that NCDs are actually communicable conditions, and although the vectors of disease are nontraditional, the pandemic label is apt. Arguing for a change in terminology extends beyond pedantry as the move carries serious implications for the public health community and the general public. Additional resources are unlocked once a disease reaches pandemic proportions and, as a long-neglected and underfunded group of conditions, NCDs desperately require a renewed sense of focus and political attention. This paper provides objections, definitions, and advantages to approaching the leading cause of global death through an alternative lens. A novel framework for managing NCDs is presented with reference to the traditional influenza pandemic response.
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1. Noncommunicable diseases

Noncommunicable diseases (NCDs) are a group of conditions that include cardiovascular disease, chronic respiratory diseases, cancers, diabetes, and mental illness. Six of the top 10 leading causes of death in 2012 were NCDs, including the top three (ischemic heart disease, stroke, and chronic obstructive pulmonary disease). The latter two have unseated lung infections and diarrheal diseases from the top 10 since 1990. Over the same period the number of deaths from NCDs has increased from 27 million to 38 million, currently representing 70% of all global mortality [1]. Once confined to a clutch of high-income countries, NCDs are now the leading cause of death in developed and developing countries alike.

The rapid rise of morbidity and mortality from NCDs has not been accompanied by the usual scramble to raise resources and quash spread across international borders. A high-level political meeting on NCDs in 2011 was years in the making and had a limited impact on the level of financial support for prevention and control activities. According to Global Burden of Disease data, NCDs cause 28 times more deaths than human immunodeficiency virus, but receive 17 times less funding [1]. The comparison with Ebola, Zika, severe acute respiratory syndrome, and H1N1 is even more damning.

2. Definitions

With classical infectious diseases, such as influenza, the disease is always present in the population but at a relatively low level. Nonzero baseline prevalence is termed the ''endemic'' level-the expected amount of the disease in a given population in a given geographical area. Persistent and high levels of disease occurrence are referred to as ''hyperendemic''. The term ''epidemic'' applies to a situation where the level of disease in a community rises above expected levels, especially if there is a sudden increase. The term ''pandemic'' is used when an epidemic crosses continents and affects a large number of people [2].

The main objection to appropriating the term pandemic is that NCDs are noninfectious-critics contend that it would be oxymoronic to suggest otherwise. Although NCDs do not act as classical infectious diseases, their name is an unhelpful misnomer that belies significant environmental and person-to-person transmission underlying their global dissemination. It could also be argued that the wavelength of the outbreak has been too protracted to represent a classical epidemic, and that the high global prevalence is in keeping with ''expected'' levels when we consider Omran's [3] epidemiological transition, i.e., NCDs may be hyperendemic, but they are not pandemic. We will examine each objection in turn.

3. NCDs as infectious diseases

The dominant NCD narrative has been that these conditions are caused solely by individual lifestyle choices, famously ''gluttony and sloth'' [4]. In recent years, it has become apparent that social, political, and economic trends (including national economic performance, urbanization, population aging, globalization, and the increasing marketing, affordability, and availability of unhealthy products) are the most significant drivers of the NCD boom, rather than a sudden uptick in human laziness [5]. These external drivers operate by increasing exposure to various ''vectors of disease'' including ultraprocessed food and drink, alcohol, tobacco products, and wider social and environmental changes that limit physical activity [6]. These vectors are embedded within complex commercial, political, and social systems.

Research from a range of fields supports the position that NCDs are not entirely self-inflicted: many NCDs can be passed from person to person either through viral transmission, as with liver and cervical cancer [7,8], or through social networks, the built environment, social and economic conditions, and intergenerational transmission [9–13]. Even though NCDs do not meet the criteria for classical infectious diseases, recognition of the significant overlap has led to trusted public health agencies (such as the US Centers for Disease Control and Prevention) and sources used by the general population (such as Wikipedia, the public's web-based arbitrator of reality) to concede that we are experiencing ''epidemics'' of obesity and diabetes [14–16].

4. Temporal profile

The second objection is that the NCD boom is representative of major societal shifts rather than a temporally delineated disease outbreak, more akin to irrevocably rising sea levels than an isolated

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