GUEST EDITORIAL

Population health: At odds with person-centered healthcare

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Introduction

The last two decades have seen an explosion of interest in population health. Virtually inexistent in the medical literature prior to 1995, the phrase is now attached to a growing number of academic departments around the world. Graduate programs are conferring degrees in population health management [1], healthcare institutions are offering influential positions of "chief population health officer" [2] and several new American medical schools are designing their curricula to train students in the practice of population medicine [3-5].

Aiming for healthy populations is a laudable goal, but the enthusiasm for this new discipline should not obscure the fact that some fundamental questions about the definition and scope of population health remain. Most important for readers of the *European Journal for Person Centered Healthcare* is the relationship of population health to person-centered healthcare. Are those two approaches compatible or at odds with each other?

The lack of a precise definition for population health has been recognized by leaders in the field ever since the term began to enter common usage [6]. Initially, population health was understood to be a discipline concerned with characterizing social determinants of health (SDOH) to inform health policy [6,7]. Later, however, Kindig and Soddart proposed that population health be understood as a *concept of health* and be defined on the basis of global health outcomes, since the SDOH - the independent variables, as it were - must be examined and optimized in relation to their effect on population health, the ultimate dependent variable [6,8]. The emphasis on global outcomes has been incorporated into the so-called "Triple Aim" of population health management proposed by the Institute for Healthcare Improvement and embraced by the Center for Medicare and Medicaid Services [9]. Nevertheless, an ambivalence remains and the idea that population health still lacks a proper articulation continues to preoccupy its adepts [10,11].

A matter of emphasis?

Kindig has argued that the ambivalence is primarily a matter of emphasis [6,8,11]. Accordingly, those focusing on SDOH examine the economic and social context for health that pertains to a geographic population. A definition of population health based on outcomes, on the other hand, allows the population health specialist to focus his or her attention to groups not necessarily united by a geographic or economic context, while still attending to the influence of social parameters on health. Kindig's proposal implies a *modus vivendi* between the original approach that focused on SDOH as the lynchpin concept defining population health and the newer approach that defines population health based on outcomes [6,12]. The ambivalence between the two approaches, however, may be more profound and may reflect an internal tension - or even a contradiction - within the field.

The concept of the SDOH was brought to the fore a few decades ago by the work of Rose and Marmot, subsequent to their study on the incidence of coronary disease among British civil servants [13,14]. On the basis of that study and of other epidemiological observations, Rose elaborated a theory of population health, asserting a distinction between the determinants of individual cases of disease and the determinants of the incident rates of disease in a population [14-16]. Accordingly, the answer to the question "Why does this person have hypertension?" is distinct from the answer to the question "Why is hypertension prevalent in this population?" [15]. It is the latter question that the SDOH address.

The population health movement

Rose's theory, which launched the population health movement [6], has been widely embraced throughout academia and by the largest public health institutions, including the World Health Organization [17]. Appealing

as it may be, the theory confronts the population health advocate with a problem: If the social determinants of incidence rates are distinct from the individual determinants of disease, how is one to study or measure their impact on population health? The appeal to outcomes seems inadequate, since outcomes are simply the tally of individual cases which, according to the theory, are determined by individual causes distinct from the SDOH [18].

The tension between the outcomes approach and the SDOH approach reflects an ambivalence in the phrase "population health" which becomes apparent if one focuses on the meaning of "health." In its primary meaning, health is an attribute of individuals, not of groups. Derived from the Old English *hale*, meaning "whole," the term healthy denotes a sense of integrity that is properly predicable of individual living persons and living organisms [19]. It is only *by analogy*, then, that a population can be said to be healthy. But in what exact analogical sense should a healthy population be understood?

A healthy population

In a classic passage on the use of equivocal terms, Aristotle pointed out that a food is said to be healthy not because it is itself healthy, but because it confers health to the person eating it [20]. Later scholastic philosophers classified this type of analogy as one of *extrinsic attribution*: the term health is applied to the apple not because of an intrinsic similarity between an apple and a person allowing either to be deemed healthy, but because of a relation of cause and effect between the healthy apple (the secondary analogate) and the healthy person (the primary analogate) [21].

A straightforward application of this principle of analogy to the concept of a healthy population would posit a cause and effect relationship going from the primary analogate to the secondary analogate: a population is healthy (or sick) in so far as it is made up of healthy (or sick) individuals. Considered in this sense, a study of population health seems compatible with an outcomes approach, where the tallied number of healthy or sick individuals gives an indication of the health of the population.

Rose's theory of the SDOH, on the other hand, posits a different analogical understanding of the phrase "population health." For Rose, the health of a population must be considered on its own terms, as it were, and not by virtue of the apparent health of its individual members. It is the population itself which can be healthy or sick - a patient, so to speak [15,18,22]. Through this *analogy of proportionality* [21], the population is viewed as an ontological entity similar to a person and to which "health" might be properly attributed, with the SDOH being the proper cause of population health. Which of these two analogical meanings of population health is the proper one and how do they relate to the health of individual persons?

Population health and personal health

By sundering the meaning of population health from that of individual health, Rose's concept of the SDOH as the basis of population health is particularly problematic for person-centered healthcare. Under such an account, population health is an autonomous discipline to which person-centered healthcare has little to contribute. Yet population health reserves to itself the right to shape health policy and, thereby, directly affect individual patients and healthcare professionals [12,15,22].

Moreover, the notion that a population can be deemed healthy or not on its own terms, independent of the health of its individual members, raises a fundamental question: By what criteria? A population cannot be deemed healthy according to traditional criteria - be they biological, medical, spiritual, or personal - since those apply strictly to individuals. To aim for a healthy population in the abstract is properly a political endeavor taking the form of a healthcare program [18,22].

The political dimension of population health was explicitly recognized by Rose who asserted that "Medicine and politics cannot and should not be kept apart" [15]. Such an admixture of politics and medicine is foreign to, if not incompatible with, the care of persons. That is not to say that a given political agenda may not be more conducive to the health of persons than another, of course. But it is only to the extent that it allows individual persons to live healthier lives that a political system can be said to promote a healthy population and not the other way around. Unfortunately, the theory of population health advanced by Rose obscures, rather than clarifies, this point.

If a population health approach centered on the SDOH is problematic for person-centered care, what can be said of a discipline that defines population health on the basis of global health outcomes? Such a discipline claims that by studying and tallying outcomes and, at the same time, by identifying the social and population factors that modify those outcomes, population health will benefit the individuals whose aggregate outcomes are being optimized [6]. The problem with this approach is two-fold.

It is liable to the thorny problems of ecological fallacy that invariably beset any program where outcomes and properties inferred from the whole are applied to the part, especially given that, out of necessity or convenience, ecological studies remain a principal tool of population health research [23]. More important, the idea that outcomes can adequately capture the notion of personal health falls short. As mentioned above, health denotes wholeness, or integrity. However important an outcome may seem to be, it is only in the context of the person that its true health significance can be gauged: an injury or illness may be devastating in the short term, but the long term may tell a different story; patients may adjust to an injury or illness by modifying their life pursuits and a poor health outcome can provide an opportunity for a person to change a life course for the better. Likewise, a profound disability such as blindness may objectively be considered a very negative health outcome, yet undoubtedly many

blind persons consider themselves to be perfectly healthy. Also, even a terminal disease such as cancer, may paradoxically provide impetus for the healing of strained relationships, an outcome that is hardly measurable, yet undoubtedly mitigates the impact that the objective outcome of population health aims to optimize.

Outcomes *per se* cannot be the whole story about health. Rather, health is ultimately dependent on the interplay between an illness and the dynamic capacity of a person to adapt and respond to the condition of being ill. The ten-thousand-foot view of population statistics can hardly do justice to individual health realities on the ground. Given that population health relies on depersonalized and decontextualized outcomes to inform its policy proposals, it seems like a leap of faith to expect such outcome information to foster the promotion of personal health.

Conclusion

To conclude, the population health movement is an ambitious attempt to determine and improve the health of large groups of individuals "top down," by identifying and modifying socioeconomic contexts and global health outcomes. The framework of population health, however, necessarily diminishes or subverts the traditional concept of health, rooted in the integrity of the person. Practitioners of person-centered healthcare should be wary of the population health agenda and strive to continue to provide care and improve the health of populations "bottom up", one individual person at a time.

Conflicts of Interest

The author declares no conflicts of interest.

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