Richard K. Thomas

Population Health and the Future of Healthcare

Springer

Population Health and the Future of Healthcare

Richard K. Thomas

Population Health and the Future of Healthcare

Springer

Richard K. Thomas
University of Tennessee Health Science Center
Memphis, TN, USA

ISBN 978-3-030-83886-7 ISBN 978-3-030-83887-4 (eBook)
https://doi.org/10.1007/978-3-030-83887-4

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

There is growing interest in the concept of "population health" among health professionals, policy analysts, and government agencies. This interest is driven by, among other factors, the inescapable conclusion that the US healthcare system has become increasingly ineffective at improving community health. Given the system's obvious deficiencies, it has become clear that a different approach is necessary to reverse the increasingly documented decline in the population's health status while containing the continuously growing cost of care.

Efforts to work within the existing framework have not been successful, and it is increasingly clear that a system that impacts one patient at a time is not going to address the health issues we face as a society. We realize today that fewer and fewer health problems result from the characteristics of individuals, but they reflect the characteristics of the groups of which they are a part and the social contexts in which they find themselves.

Despite the growing emphasis on "population health" and the growing number of advocates for this approach, there is considerable confusion over the nature and significance of the model. There is no widely accepted definition of population health, and the attributes of this approach to community health improvement are poorly understood. Those on the front lines of healthcare delivery often fail to recognize the implications of population health for the delivery of care and for the operation of their organizations. Misunderstandings over the nature of population health are common, and the term is more often than not used inappropriately.

This book is designed to provide a definitive explication of the nature and characteristics of a population health approach to community health improvement. Here, as is always the case, the starting point must be an understanding of the

---

It should be noted that this book has been written in the midst of the coronavirus pandemic and much of what is discussed reflects the circumstances that prevailed prior to the pandemic. It is likely that conditions post-pandemic will be much different and thus require the rethinking of many issues discussed in this work.

concept—what it is and is not—and the ways in which the concept can be applied in today's healthcare environment. As will be seen, this approach can be applied at both the micro and macro levels, although its primary impact is expected to be community- or society-wide. The approach can address many practical issues facing healthcare providers today—from more efficient patient management to reduction of readmissions to better control of capitated plan members to the generation of an IRS-acceptable community health needs assessment. At the organizational level, a population health approach can be applied to every area in which healthcare administrators are likely to be evaluated in the future.

The long-term benefit of this approach, however, is derived from its effectiveness in improving community health. There is a growing body of evidence that the US population is actually getting sicker after a century-long run of improving health status. The changing nature of health problems, the societally generated etiology, and the characteristics of patients themselves render the traditional one-patient-at-a-time approach obsolete. An approach that can impact *populations* not individual patients is increasingly needed.

Adopting a population health approach, it must be conceded, is not an easy task. In effect, this approach sets the healthcare system on its head. Health professionals must forget much of what they know about health and healthcare delivery in order to adopt a perspective that supports a population health approach. This will require a different mindset, a mindset that represents a challenge for health professionals but is a requirement for the adoption of a population health model.

An inconvenient truth is that the US healthcare system as currently constituted cannot contribute to community health improvement. Healthcare organizations must transform themselves into the type of organization that can operate within a population health model. This involves an even more radical conversion that in a sense is more challenging since we are advocating changing the direction of an "ocean liner" in a very short period of time. Organizational transformation is already underway at a number of healthcare organizations. Too often, however, this transformation is limited to trying to adapt existing processes to the new environment. Unfortunately, there can be no "business as usual" in the future.

Healthcare organizations are going to have to recreate themselves to survive in the new environment—an environment that emphasizes outcomes over volume, quality over quantity, prevention over treatment, and keeping people out of treatment. As mandated by the Affordable Care Act, not-for-profit hospitals must be accountable for the health status of the entire community and not just their own patients. These types of mandates can be expected to increase in the future as payers, government regulators, and policy makers realize that the only way to improve community health status is through a population health approach.

Memphis, TN, USA Richard K. Thomas

Contents

Chapter 1
Defining Population Health

Despite the growing interest in "population health" on the part of health professionals, policy analysts and government agencies, there is considerable confusion over the actual definition of the term. Different people use the term in different ways adding to the confusion. This chapter reviews the history of the population health movement, noting early proponents of this model. It then provides a definitive description of the population health concept (what it is and is not) and characterizes it in terms of its attributes.

In this chapter the reader will:

- Gain an understanding of the emerging concept of "population health"
- Be exposed to the evolving definition of "population health" and a more contemporary conceptualization of the model
- Receive a framework for viewing "population health" in a systematic manner
- Understand the different levels (micro and macro) at which the population health model can be applied
- Learn about the attributes that are thought to characterize "population health", and
- Find out what "population health" is *not*

Introduction

There is growing interest in the concept of "population health" among health professionals, policy analysts and government agencies. As an approach that assesses health from a population rather than a patient perspective, it represents an opportunity for developing a better understanding of the health status of populations—whether they are patients or not—and an innovative approach to improving a population's health status.

R. K. Thomas, *Population Health and the Future of Healthcare*,
https://doi.org/10.1007/978-3-030-83887-4_1

While "population health" has become the buzzword *du jour* in healthcare and everyone seems to have adopted this nomenclature, the term is used inconsistently and often, in the authors' opinion, erroneously. Healthcare providers claim they are using a population health approach to more efficiently manage their patients; consultants have rebranded themselves as population health experts to capitalize on this trend; and vendors claim to be able to support their clients' population health needs. Yet, it is clear when one looks beneath the surface that there is widespread misunderstanding of the concept at best and outright misuse of the term at worst. In fact, many who claim to have expertise in population health do not appear to understand the concept.

A number of factors confound the discussion of "population health." These factors contribute to a lack of clarity with regard to the term's definition and to confusion over what is meant by a population health approach to health status improvement. For example, healthcare providers generally use the term as a replacement for "patient health" and have difficulty getting past the notion of improving health one patient at a time (Raths, 2015). Managers of accountable care organizations (ACOs) see population health in terms of the status of their patient panels—especially Medicare patients—while public health officials often view the population in terms of geographically defined or racial and ethnic populations (Tompkins et al., 2013). Even federally qualified health centers that ought to be closer to this issue than most healthcare providers view providing a "medical home" for the medically underserved as their contribution to population health (Hagland, 2013). Each of these conceptualizations violates some aspect of the model, and these contradictions will become clearer as the attributes of the population health model are described below.

Defining Population Health

In formulating the population health concept one must consider the different dimensions of the definition, the levels at which the concept is applied, and the directness of the approach employed. As far back as 20 years ago, some health professionals began using the term "population health". A variety of definitions were put forth and modified over time to reflect evolving perceptions of the concept. In an attempt to clarify our understanding of the model, this chapter begins with the working definition below. A historical review of the evolution of this definition is presented in Box 1.1.

Deprez and Thomas (2017) have attempted to address the confusion surrounding the concept of population health and develop a more useful working definition. They view the definition as having two dimensions: noun and verb. As a noun, population health refers to the status of the population reflecting its health and well-being as measured by several population-based measures thought to be relevant. The emphasis is on broad measures of health, some of which might be considered the sum of individual health status and others as attributes of the group as a whole.

Box 1.1: Historical Definitions of Population Health

As with most new concepts in healthcare, several definitions abound that vary widely in both interpretation and application. The most frequently cited definition is the one formulated in 2003 by Kindig and Stoddard. This definition reads: *population health represents the health outcomes of a group of individuals, including the distribution of such outcomes within the group*. This definition has been much-discussed and many (including Kindig and Stoddard) have expressed concerns over its adequacy in the light of current thought. Interestingly, after considering the pros and cons of this definition, most parties have opted to continue its use (see for example, the Institute of Medicine [Kindig and Isham, 2014]). While this might be considered the default definition due to its widespread citation, in today's environment it seems somewhat imprecise and does not fully capture the essence of the concept as it has evolved.

Kindig (2007) subsequently attempted to expand on this definition by analyzing the meaning of the basic components**.** He defines "'population" as a group of individuals, in contrast to the individuals themselves, organized into many different units of analysis, depending on the research or policy purpose. Whereas many interventions (e.g., much of medical care) focus exclusively on individuals, he argues that population health policy and research concentrate on the aggregate health of population groups like those in geographic units (cities, prisons) or ones delineated based on other characteristics (ethnicity, religion, health plan membership). He rightly notes that the determinants of health have their effect at a group rather than the individual level. Kindig appreciates the modern understanding of health as a state of wellness or well-being. He further considers health in relation to all aspects of life in the environments in which we live (Kindig and Isham, 2014).

Although Kindig and Stoddard are widely cited, other definitions have been posited, some of which predated theirs. Early offerings include that of John Frank (1995), founding director of the Canadian Institute for Population Health, who stated: *Population health is a conceptual framework for thinking about why some people, and some peoples, are healthier than others [with the intent of exploring] the determinants of health at individual and population levels.* Frank makes the point that the major determinants of human health status, particularly in countries at an advanced stage of socioeconomic development, are not medical care inputs and utilization, but cultural, social and economic factors—at both the individual and population levels.

Young (1998) defined population health as: *A conceptual framework for thinking about why some people are healthier than others, as well as the policy development, research agenda, and resource allocation that flow from it*. J.M. Last (2007), the founding editor of the *Dictionary of Epidemiology* offered a simpler version that defined population health as: *the health of the population, measured by health status indicators*.

(continued)

Box 1.1 (continued)

It is worth noting that some of the early thinking on population health occurred outside the United States and, to a certain extent, remained under the radar. The work of the Canadian Institute for Population Health noted above is one example. The work of the Scottish Public Health Observatory (2014) with its emphasis on community well-being is another. Another perspective offered by Health and Welfare Canada (1994) is stated as follows: *Population health strategies address the entire range of individual and collective factors that determine health. Traditional health care focuses on risks and clinical factors related to particular diseases. Population health strategies are designed to affect whole groups of populations of people.*

In subsequent work Kindig (2015) attempted to clarify our thinking in this regard. He reviews the evolution of population health terminology and considers the new contexts in which population health is being discussed. He recognizes the shortcomings of his and other definitions and suggests that multiple definitions may be necessary. This includes a recognition of its application to individual patients on one hand and groups of people on the other. While the traditional population health definition can be reserved for geographic populations, new terms such as *population health management* or *population medicine*, he argues, are useful to describe activities limited to clinical populations and a narrower set of health outcome determinants.

Kindig feels that the second clause of their definition should receive increasing emphasis. Thus, "including the distribution of outcomes within the group" is felt to reflect the importance of addressing intragroup disparities. If the intent is to improve overall health status *and* reduce disparities, this is a critical consideration. In health status measurement, policy formulation, and research, the emphasis is typically on the aggregate health status for the population in question to the neglect of disparity reduction.

The danger in defining *population health* in terms of patient populations is that this draws attention away from the critical role that non-clinical factors play in producing health. Kindig recommends the use of more than one definition in order to address this concern or perhaps the use of some other term that more precisely describes the application of population health within a clinical setting. For this reason, Jacobson and Teutsch (2013) recommended to the National Quality Forum that "current use of the abbreviated phrase *population health* should be abandoned and replaced by the phrase *total population health*." While Kindig appreciates these concerns, he supports the decision of the Institute of Medicine to retain the shorter term population health while recognizing its limitations.

"Global" measures such as self-reported health status are examples of the former. The latter is somewhat more difficult to conceptualize and reflects attributes of the group such as poverty level, household structure, and environmental conditions that reflect the social determinants of health.

> *Population health, n.*, An assessment of the health status of a population that uses aggregate data on non-medical as well as medical factors to measure the totality of health and well-being of that population.

As a verb, population health refers to an approach to improving health status that operates at the population rather than the individual (or patient) level. The approach focuses on social pathology rather than biological pathology and involves the "treatment" of conditions within the environment and policy realms in addition to the provision of clinical services to individual patients. While an underlying assumption is that a population health approach aims to improve health status by focusing on the healthcare needs and resources of *populations* not individuals, it does not rule out specific patient-based medical treatment but views healthcare as only one component of a health improvement initiative.

> *Population health, v.*, An approach to improving community health status that focuses on populations rather individuals and addresses the root causes and structural factors rather than exclusively focusing on treating the symptoms/conditions of individuals.

Figure 1.1 presents a graphical depiction of the population health model based on the definition above. The first set of boxes indicates the factors that contribute to a community's health status. These include the attributes associated with individuals within the community and are arguably the least important of the inputs. Life circumstances refers to the conditions of everyday life that impact a member's community. These include such factors as food insecurity, housing instability and unsafe neighborhoods—factors that impinge on the everyday lives of community members. The third component is the characteristics of the groups in which community members participate. More than any other factor, this input into health status reflects the culture associated with the community and its various population subgroups. The final input—social determinants of health—has received increasing attention

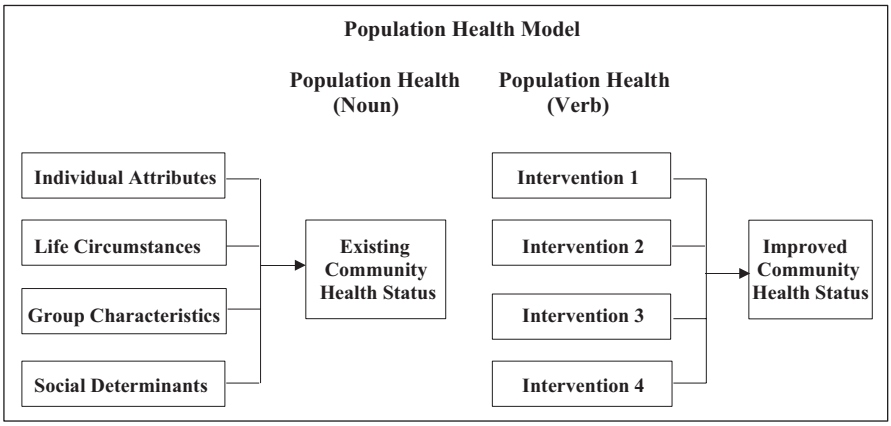

Fig. 1.1 Population Health Model

over time. As will be seen, these social determinants are playing an ever larger role in the determination of community health status. Population health at this point is represented by the health status of the population as measured by relevant community attributes. This reflects the noun aspect of the definition.

The second set of inputs (depicted here as "interventions) relate to the verb dimension of the definition. These interventions reflect efforts to address the factors (depicted in the first panel) that contribute to community health status. Little can be done to alter individual attributes, but interventions directed at life circumstances, group characteristics or cultural patterns, and, importantly, the social determinants of health reflect the dynamic dimension of the definition. In this simplified depiction, the interventions are intended to contribute to improved community health status.

Micro and Macro Dimensions of Population Health

The application of the population health model can be explored at two different levels— a micro-level view that considers population health as it relates to the delivery of care and a macro level view that considers population health from a societal perspective. At the micro-level one approach might be to identify individuals at high risk and intervene to reduce their risk. At the macro-level the approach might involve reducing the average risk level for the total population. Intervening with individuals at high risk is generally the domain of clinical medicine, although public health authorities coordinate certain clinically implemented programs in order to achieve population health objectives. Some programs such as breast cancer screening and childhood vaccinations involve individual encounters but have population-level

objectives. Ultimately, some initiatives targeting individuals at the micro-level will have macro-level implication while others will not. Because of its emphasis on population-level interventions, Box 1.5 discusses the distinction between population health and public health.

At the micro-level the focus is typically on a group of individuals receiving care within a health system, or whose care is financed through a specific health plan or entity. Examples of a discrete population include employees of an organization, members of a health plan, all those within a practice patient panel, or all those enrolled within a particular ACO. The members of a discrete population can be known with some certainty. At the macro-level r*egional/community populations* are inclusive population segments, defined geographically or demographically. People within a segment of a community population are unified by a common set of needs or issues, such as low-birth weight babies or older adults with complex needs. However, these individuals may receive care from a variety of systems or may be unconnected to care. Micro-level applications of population health principals are considered in more detail in Chap. 8. Box 1.2 discusses various ways of thinking about population health.

Box 1.2: Describing Population Health

In describing population health throughout this document various terms have been utilized. The concept is referred to as a population health "model", a population health "approach", or a population health "perspective". Although it would be helpful if there is one term that applies in all situations when population health is discussed, there is little consensus on population health nomenclature and on more than one occasion Kindig (1997, 2015) has tried to clarify terminology.

From this author's perspective the population health *model* refers to a context for approaching community health improvement. As a context the model attempts to integrate the various component parts of the concept into a systematic framework. A population health *approach* refers to more of a method for improving population health, and, as noted above, to the verb form of population health. Any action taken to improve community health constitute an approach.

A population health *perspective* refers to more of a mindset, a conceptual way of visually the process. In reality, implementing a population health approach requires a different worldview—a worldview that involves not individual patients but groups of consumers, not downstream treatment but upstream prevention, not clinical solutions but serious efforts to address the social determinants of health. With these thoughts in mind, these various terms will continue to be used throughout this document.

Growing numbers of observers are arguing that, in the current environment, we can not improve health status by treating one patient at a time as we have in the past. The pattern of morbidity engendered by the predominance of chronic conditions limits the ability of the healthcare system to reduce the burden of disease. An increasingly complex etiology presents challenges in the diagnosis and treatment of contemporary health problems. The growing impact of the social and physical environments and of lifestyles on the health status of the population further limits the contribution that medical care can make to reducing morbidity. It is being increasingly argued that the social, demographic and psychographic attributes of healthcare consumers play a greater role in determining population health status than does the healthcare system. These attributes of healthcare consumers are even thought to influence clinical outcomes. The population health movement is predicated in part on the conviction that our society cannot improve the health status of the population through "business as usual" but must transition into an approach that considers the social determinants of health problems and "treats" the population rather than the individual patient.

At the macro-level there is growing concern over the failure of the US healthcare system to improve the overall health status of the population. While the ability of the system to provide state-of-the-art care to individual patients is acknowledged, the system's ability to improve community health status is increasingly being questioned. The fact that the World Health Organization ranked the US system as the 37th best in the world suggests that its impact at the societal level is limited (World Health Organization, 2000). It has been estimated that medical care today contributes only 10% to observed differences in health status, and there is some evidence that Americans are actually getting sicker after a century of steady health status improvement.

One development that should be noted that ties back into the macro-level discussion involves a provision of the Patient Protection and Affordable Care Act (ACA) of 2010. Given the concern over the perceived lack of improvement in community health, the ACA mandates that not-for-profit hospitals conduct a community health needs assessment at least every three years. They must submit a report to the Department of Health and Human Services that documents the "community benefits" they are providing. This is an important consideration in that such hospitals' continued tax-exempt status will be contingent upon this documentation as well as the requisite forms required by the Internal Revenue Service. Not-for-profit hospitals must demonstrate an understanding of the health status of the communities they serve and the health problems facing residents of those communities. This is a major shift in emphasis in that their responsibilities are extended beyond their own patients to the needs of the general population. Not only must not-for-profit hospitals be knowledgeable concerning the needs of the community, they must certify that they have plans in place for addressing identified deficiencies in the provision of care to the community.

An aspect of population health that is particularly relevant to providers who confront these challenges relates to the role that non-medical factors play in the onset and progression of illness. As noted above, the population health approach is premised in part on the conviction that the social and physical environments and lifestyles—that is, non-medical aspects of health and illness—must be addressed in order to improve community health. Box 1.3 describes situations where a population health approach may be appropriate.

Box 1.3: What Do These Scenarios Have in Common?
The following scenarios might be thought of as illustrating issues increasingly common among healthcare entities:

- A hospital is penalized for unacceptably high rate of readmissions within 28 days
- A hospital realizes that its outcomes vary widely based on the demographic characteristics of its patients
- A provider loses the panel of patients allocated by a managed care plan due to failure to meet health status benchmarks
- An employee assistance provider loses money due to the high level of over-utilization of some services and under-utilization of others
- A behavioral health organization loses its contract with a state insurance plan due to its inability to effectively communicate with its plan members
- A Medicaid managed care organization loses money due to its inability to manage the utilization of its services by its enrollees
- A hospital is reprimanded by the IRS for failure to take the needs of the service area population into consideration in the preparation of it needs assessment
- A county government is faced with escalating healthcare costs due to excessive preventable admissions and inappropriate use of the emergency room at its public hospital
- An accountable care organization (ACO) fails to quality for "shared savings" under its contract with Medicare

The factor that all of these entities have in common is the need to address the issues affecting a *population*, a need that cannot be addressed using traditional methods. These challenges cannot be met by providing clinical care to individual patients. And they cannot be met unless the entity has a much more in-depth (and more nuanced) understanding of the characteristics of the affected population.

The challenges facing these organizations include cost containment, patient management, community health improvement, appropriate utilization and member retention among others. Despite these disparate challenges all are faced with the need to adopt a population health approach, an approach that allows them to view the challenge in terms of groups of people—whether they be patients, consumers, plan members, employees or others—who can be profiled in terms of their salient characteristics and be served, assessed, and managed using methods that address the groups (and subgroups) in a wholesale manner.

Attributes of Population Health

One way in which to clarify the definition of population health may be to identify the attributes thought to characterize this model. While there is still disagreement as to the exact nature of the population health model, the following attributes are thought to be salient.

1. ***Recognition of the social determinants of health***. An emphasis on understanding the social determinants of health is critical to the population health model, and the importance of social pathology over biological pathology must be recognized. Social factors are powerful determinants of health status (and health services utilization). As the nature of the health problems affecting the US population has changed, the influence of social factors on health status and health behavior has become more obvious. Depending on the source it could be argued that social determinants account for 40–60% of the variation in health status among subgroups of the population. If social factors are considered the root cause of observed health problems, any solution should take these factors into consideration.
2. ***Focus on populations (or subpopulations) rather than individuals***. The focus is on measuring the health status of the total population rather than simply aggregating the clinical results (e.g., reduction of A1C, blood pressure) for individual patients. Since regulators, payers and other evaluators will increasingly reward healthcare providers for their effectiveness in managing groups of patients, consumers or plan members, the attributes characterizing targeted populations will become increasingly important.
3. ***Shift in focus away from patients toward consumers***. Once the healthcare industry was introduced to marketing in the 1980s, it was inevitable that "patients" would come to be seen as "consumers". The trend was already underway with baby boomers who were demanding that they be treated by the healthcare system in the manner that they were used to being treated by other entities. They wanted the benefits of quality care as patients coupled with the efficiency, convenience and value that they had come to expect as consumers in other arenas. This represented a significant conceptual leap for healthcare providers and one that foretold the future direction of the healthcare industry and, inadvertently, the emergence of a population health approach.
4. ***Geography as a predictor of health status and health behavior***. There is increasing recognition of the importance of the spatial dimension in the distribution of health and ill-health. One of the most significant—and some would say disturbing—findings from decades of health services research is that the utilization of health services varies in terms of geography. Where one lives is a powerful determinant of the kind and amount of medical care received. Rates for various procedures may vary by as much as a factor of 10, reflecting local practice patterns, insurance coverage, availability of services and consumer lifestyles. Now, it has been determined that one's ZIP Code of residence is the best predictor of one's health status and, by extension, health behavior (Roeder, 2014). This would

explain the fact that certain communities exhibit persistent health problems over time regardless of who resides in the community.

5. ***Health status defined at the community level***. A community-based (participatory) understanding of what the critical health issues are is a prominent feature of population health. While some argue that community health status represents the sum total of the health status of the individuals within the community, a population health approach would posit the existence of a state of health independent of the health of the individuals who make up the population (The significance of a relevant definition for health status is such that a later chapter is devoted to the topic.)
6. ***The limited role of medical care***. It has become increasingly clear that there is no evidence that more care translates into better health. Indeed, a premise of the population health model is that health services make a limited contribution to the overall health status of the population. As the US population consumes increasing amounts of healthcare resources per capita, our health status is not improving and may, in fact, be declining. It actually appears that the emphasis on medical care may be contributing to adverse effects, with medical errors currently the third leading cause of death.
7. ***Role of the group in health behavior decisions***. As noted above, health status and the decisions made with regard to health behavior are not thought to be the result of individual volition but reflect the impact of the individual's social context, cultural milieu and life circumstances. The population health model recognizes that improvement in personal health status needs to be addressed within the context of the social or community environment in a manner that capitalizes on group influence. Even personal lifestyles (so important in determining health status) might be thought to reflect the influence of the social groups with which individuals are affiliated (See Box 1.4.).
8. ***Traditional metrics used to measure health status may not be appropriate***. The ways in which health status has been historically measured depend on indicators that have relevance for health professionals. Not surprisingly these indicators represent a biomedical bias. Any assessment of health status should reflect the perspectives of the community rather than those imposed externally by health professionals. The problems identified through community input are not likely to correspond with those recognized by the healthcare establishment.
9. ***Community involvement in health status improvement***. On the assumption that the healthcare system—certainly not alone—cannot improve the health of the population, the responsibility falls to the larger community. No one organization can have a significant impact on the health status of the community's population especially in light of the variety of factors that are now known to influence health. Involvement by a wide range of community organizations—supported by but not led by the healthcare system—is necessary to create the collective impact that is necessary to make a difference. This includes involvement by representatives of the education, housing, economic development, criminal justice, and transportation sectors. Involvement on the part of government agencies related to policy making is critical for the generation of the collective impact necessary to improve

community health. (Although the community is ultimately seen as the driver for population health improvement, this attribute is listed last since most of the previous attributes are prerequisites for multi-sector community collaboration.) Box 1.4 highlights the importance of group influences on decision making for healthcare consumers.

Box 1.4: The Myth of Individual Decision-Making

A common refrain whenever the plight of poor people is discussed is the contention that their condition can be attributed to bad choices that they have made in their lives. In order to accept this version of "blaming the victim", a number of assumptions must be made.

Assumption 1: People act of their own volition, identifying options, weighing the relative merits and making a rational decision
Assumption 2: There are in fact options available to members of disadvantaged populations
Assumption 3: People know what the options are and are able to choose among the various possibilities
Assumption 4: Knowing what the options are creates an opportunity for rational decision making

A realistic assessment of these options when it comes to disadvantaged populations raises a number of issues. First, social scientists argue that we seldom make truly independent decisions without any external influence. In reality, decisions are almost always made within a social context. On a macro level it could be argued that there are always cultural constraints that influence decision making. For example, one's religious convictions may prevent them of taking certain jobs. Further, there are perceptions that have been inculcated due to our social context with regard to acceptable and unacceptable behavior. At a micro level, the role of social support as a positive force and peer pressure (as either a positive or negative force) should not be minimized. One reason that people (especially adolescents) continue to eat fast food and drink soft drinks when they know the health consequences is that acceptance by their peers demands it. Ultimately, the decisions that people make reflect the totality of their social experiences and cultural confines, reinforced by social support and peer pressure.

The notion that people can make rational choices among the options assumes that they know what the options are. Just as social context influences decision making, it also determines the options that are available to individuals. But do those in disadvantaged populations know what the options are? How would they? If you have never known anyone who has had a job—much less a well-paying job—how would you know that is an option? If you have never known anyone who has been married how would you know that is an option? If you have never known anyone who went to college, how would you

(continued)

Box 1.4 (continued)

know that was an option? If they have never known anyone who didn't use drugs to cope, how would they know this is an option? If a teenage girl has never known any peer who has not had a child at a young age, how would she know that not having a child is an option?

It could be argued that of course people know there are options when it comes to work, marriage, education and so forth, they are just not taking advantage of them. After all, they can see these options played out on television and in the movies. American society has done a good job of, first, limiting the options for the disadvantaged and, second, preventing them from knowing what the options are. The primary mechanism for carrying this out is the pervasive and persistent residential segregation that characterizes US society. By isolating members of disadvantaged populations in areas of like individuals who themselves do not know what the options are guarantees that the worldview of these populations is limited. With regard to role models on television and in the movies, research has found that members of disadvantaged groups consider these to be fairytales perhaps open to a privileged few in society but certainly not to them.

Finally, if one knows the options, it is argued, it simply becomes a matter of making the right choice and choosing the best option. Again, our society has been very successful at limiting access to options even when they are known by members of disadvantaged groups. No one can argue that it is easy for a disadvantaged person to get a job, obtain an education or find adequate housing. Barriers are placed all along the way, limiting access to the options and insuring the likelihood of failure.

The healthcare arena provides an excellent example of how this works. Research has found that members of disadvantaged groups are actually fairly knowledgeable when it comes to health issues. After all, virtually everyone they know has a health problem of some type. And, quite often, they know what causes the health problem and how it can be addressed. There are few impoverished people who do not realize the importance of a healthy diet, but they are relegated to neighborhoods that are food deserts. They realize that they need to exercise to stay healthy, but they are restricted to areas that have limited exercise options and those that are available may be unaffordable.

If they do become ill, there is a good chance they have no healthcare options in their communities. It has become a maxim in our society that the locations of medical services and the locations of poor people are mutually exclusive. Even if there is a clinic within the community, it may not accept poor patients or there may be other barriers like transportation and hours of operation. Limiting access to health insurance for this population represents an additional barrier to access.

Despite the tendency to blame the victim for bad choices, the fact is that the options available to members of disadvantaged populations are limited and, to the extent options exist, they may not be accessible to this population.

What Population Health is Not

While establishing a universally accepted definition of population health is a challenge, a more immediate concern for those attempting to apply the concept in the field is specifying what population health is *not*. As with many new concepts, early proponents attempted to set the parameters of the field on their own terms. This problem appears to be particularly acute when it comes to population health since many different entities representing widely varying perspectives have gotten into the act.

There has been a tendency in the early stages of the development of the concept to conflate population health with other existing activities. This is not surprising since the proponents of these perspectives are operating from their own comfort zones. The confusion this causes can be addressed by attempting to specify the following processes that do not constitute population health:

- Population health is not "public health". Of all of the alternative iterations of population health, public health probably comes closest to the mark. It is argued that the population health movement, if not growing out of public health, was clearly inspired by the community focus of public health initiatives. It also could be argued that if any healthcare domain should have taken the lead in population health it should have been public health. Ultimately, the population health approach, while incorporating some aspects of public health, is much broader, taking into consideration a number of dimensions relative to community health that are beyond the purview of public health. In addition, the population health model can be applied by healthcare organizations in the management of their patients, an option not available within the public health context. (Box 1.5 explains why public health cannot be equated with population health.)
- Population health is not "disease management". Those who are in the trenches of providing healthcare are tempted to equate population health with disease management. Efforts toward monitoring and tracking the characteristics of patients are primarily at the individual level. In the best case, a disease management approach would identify all of those thought to be at risk for a disease and view them as a group for analytical purposes without addressing the factors that influence their health status. In the end, the disqualifying attributes of this approach are its focus on a particular disease (rather than overall health status) and on individual patients.
- Population health is not "patient management". An effort has been made by healthcare providers to broaden the approach to care management by focusing on the patient rather than patient's disease. The objective here is to manage the entire patient—not only the constellation of diseases but the non-medical factors that are under consideration—in an effort to provide more efficient care and improved outcomes. While this represents an improvement over traditional approaches that sought to reduce health problems to the lowest possible level without consideration of external factors, those in the patient management mode continue to focus on the individual patient.

Box 1.5: Why Population Health Is Not Public Health

As population health is a relatively new concept, uncertainties remain over details of how, precisely, it differs from public health. Both are concerned with patterns of health and illness in groups of people rather than in individuals; both monitor health trends, examine their determinants, propose interventions at the population level to protect and promote health, and discuss options for delivering these interventions. The distinction is subtle, but population health is seen as broader, as offering a unifying paradigm that links disciplines from the biological to the sociological. It provides a rational basis for allocating health resources that balances health protection and promotion against illness prevention and treatment.

Public health differs from clinical medicine in its application to populations rather than to individuals, and the population health model advances the application of public health beyond the basics functions of public health such as immunizations and disease control, environmental monitoring, vector control, family planning and nutrition to emphasize the significance of the root causes of health problems in US society—poverty, housing insecurity, lack of job opportunities, poor educational levels and so forth.

Despite the potential for public health to contribute to the population health movement, the distinction between public health and population health is becoming clearer over time. While many activities that fall under the heading of public health may overlap with those that are considered reflective of a population health approach, the focus of public health in general remains too narrow to fit within the parameters of population health. As noted above, most core functions of public health are not particularly supportive of a population health approach.

Even when support for a more broad-based effort is espoused, public health authorities face significant challenges in getting beyond institutional constraints. Public health, in fact, retains something of the one bug/one drug/one shot mentality that served it so well during the twentieth century. While monitoring and surveillance are important functions, they are essentially downstream activities. They determine when the horse has already left the barn or, best case, when the horse is leaving the barn. Even when addressing broader issues (e.g., environmental toxins) the response is typically more reactive than proactive.

Public health initiatives that attempt to impact the behavior of people tend to emphasize the steps that individuals can take themselves to improve their personal health status. While there is no overt attempt to blame the victim, social marketing (e.g., smoking cessation) and health education (e.g., healthy diet) are premised on the notion that members of the targeted population are involved in inappropriate behavior. In order to improve their health they must change their behavior. While these efforts represent a sort of mass marketing, their success depends on the changes in the behavior of individual actors. (To

(continued)

Box 1.5 (continued)

be fair, the nationwide initiative to reduce smoking involved a variety of other components and, in that regard, came much closer to a population health approach.)

When public health tackles a health issue, its interventions are focused on maintaining health or preventing disease. For example, the public health approach to childhood obesity might advocate education for parents and children, subsidized healthy school lunch programs, bans on soft drinks in school vending machines, tougher regulations on marketing of junk food to children, etc. A population health approach would tackle childhood obesity in a broader context. A population health approach might, for example, consider the food system itself: How do agricultural subsidies affect the price of food? Can planning policies address the problem of urban food deserts? The population health approach views issues from a broader perspective and tends to include additional considerations, such as economics, environmental sustainability, social justice, etc.

The embrace of the population health model requires a conceptual shift. The view of a population as an aggregate of individuals focuses on health *in* the population. By contrast, when the population is seen in emergent terms, as an interacting whole, the focus is on the health *of* the population. In this view, a healthy community or population is one that works as a group to promote its welfare and address challenges. A healthy population supports and promotes the health of people within it, thereby contributing to individual health; examples include social equity legislation and the development of healthy public policies that characterize a society sensitive to the root causes of ill-health. (Additional discussion of the role of public health is provided in Chap. 4.)

When these factors are considered *in toto* it can be argued that public health simply has not grasped the vision of population health. Under other circumstances public health professionals should be expected to be champions for the model and take the lead in its implementation. Public health would be the natural "home" for population health but through an unfortunate confluence of forces our nation's public health establishment is likely to be a spectator vis-à-vis the emerging population health movement.

- Population health is not "case management". The rationale for the case management model comes closer to the population health model than most approaches. Case management involves theoretically at least the consideration of all factors—medical and non-medical—that might affect the health and well-being of the "case". While the consideration of non-medical factors is certainly laudable, the fact that issues are being addressed one case at a time leads us back to the original rationale for the development of a population health model.

- Population health is not "population health management". Some observers (e.g., Young, 2016) have suggested that a "perversion" of the concept of population health has occurred with the emergence of population health management. They feel like the term has been co-opted by those involved in healthcare delivery. This situation is exacerbated by consultants and vendors who tout their population health approaches for managing patient care, controlling utilization or maximizing revenue. While the application of the population health approach to the delivery of care *is* addressed in this text, it is with the caveat that this is not in keeping with the original spirit of the population health approach.

There is one other aspect of population health that bears consideration. Kindig and Stoddard (2003) identify an enterprise they refer to as "population health research." There is no consensus as to the definition of population health research but those involved in in this endeavor represent an interdisciplinary perspective with researchers focusing on the health status and behavior of groups within society. These populations can be defined variously (e.g., workers at a workplace, residents of a neighborhood, people sharing a common race or social status, or the population of a nation). This research seeks to characterize, explain and/or influence the level and distributions of health within and across populations. Researchers in the field view health as the product of multiple determinants that include biologic, genetic, behavioral, social, and environmental components and their interactions with each other. As Kindig and Stoddard noted, the field addresses health outcomes, health determinants, and policies and interventions that link the two in efforts to improve population health and ameliorate health disparities. Research findings to date are included throughout this text and references are provided to on-going sources of new information on the field of population health.

Summary

Despite the growing interest in "population health" on the part of health professionals, policy analysts and government agencies, there is considerable confusion over the actual definition of the term. Different people use the term in different ways adding to the confusion. Several definitions of population health have been offered, with the most frequently cited definition formulated in 2003 by Kindig and Stoddart. This definition reads: *population health represents the health outcomes of a group of individuals, including the distribution of such outcomes within the group*. While the usefulness of this definition is debated, its emphasis on populations and their differential health outcomes represents the essence of the population health approach. Population health policy and research, it is argued, should concentrate on the aggregate health of population groups like those in geographic units (cities, prisons) or ones delineated based on other characteristics (ethnicity, religion, health plan membership). Other definitions have been offered that explicate the connection between social determinants and the health of populations. An effort to clarify the definition involves a dual conceptualization with both a noun and verb component.

In formulating the population health concept, one must consider the different dimensions of the definition, the levels at which the concept is applied, and the directness of the approach employed. Deprez and Thomas attempted to bring some clarity to the issue by making a distinction between population health as a noun and as a verb. As a noun, population health refers to the status of the population reflecting its health and well-being as measured by several population-based measures. As a verb, population health refers to an approach to improving health status that operates at the population rather than the individual (or patient) level. The approach focuses on social pathology rather than biological pathology and involves the "treatment" of conditions within the environment and policy realms in addition to the provision of clinical services to individual patients.

The application of the population health model can be explored at two different levels— a micro-level view that considers population health as it relates to the delivery of care and a macro level view that considers population health from a societal perspective. Micro-level assessments and interventions typically involve patients within a clinical setting or individual consumers involved in prevention or self-treatment activities. In this case, population health principles are adapted to interventions designed for defined populations and not the total community. Micro-level interventions target health determinants in an attempt to improve overall health, rather than to prevent specific diseases by reducing poverty or environmental threats, for example.

The primary emphasis of population health is at the macro-level and focuses on societal factors that affect groups of people rather than individuals. The growing impact of the social and physical environments and of lifestyles on the health status of the population reflects the role that social, demographic and psychographic attributes are playing in the distribution of health and illness. There has been a tendency in the early stages of the development of the concept to conflate population health with other activities that should not be confused with population health.

Although there is no formal agreement as to the attributes of the population health model, the population health approach is thought to involve: the recognition of the social determinants of health problems; a focus on populations (or subpopulations) rather than individuals; a shift in focus away from patients to consumers; the recognition of geography as a strong predictor of health services use; the measurement of health status at the community level; and recognition of the limited role that medical care in play. Importantly the collective impact engendered at the community level through multi-sector collaboration for community improvement is a hallmark of this approach.

Key Points

- Population health is increasingly being recognized as a useful approach to community health improvement.
- As an emerging concept, there is substantial confusion over what population health is and is not.