ACHIEVEMENTS AND CHALLENGES IN POPULATION HEALTH

Presented by President Julio Frenk
at the Biennial Fall Symposium at the
University of Michigan School of Public Health
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It is a pleasure to participate in the celebration of this historical anniversary of the University of Michigan School of Public Health, my *Alma Mater*.

A 75th anniversary is sometimes called 'the diamond jubilee' and considered the pinnacle of celebrations. This is probably due to the fact that diamonds are among the most durable and desirable substances on Earth. So we are here to celebrate not only endurance, but also the strength and wisdom that have made this a cherished and admired school of public health.

I would like to thank David Mendez and Cliff Douglas, co-chairs of the biennial symposium, as well as Dean Martin Philbert, for their invitation. It is an honor to present a keynote address just before my dear friend Ken Warner delivers his. This is like being the "opener" in a rock concert to warm things up before the star band performs.

We could say that we are here today to commemorate not only the 75th anniversary of our school but also the launch of the second century of modern public health education. This place—this University, this School—is particularly suited to honor such a significant milestone.

As many of you know, after intensive and sometimes passionate explorations, discussions, and meetings that took place over the course of several years, the seminal *Welch-Rose Report* was published in 1915. This report established the basis for the creation of a public health educational system that was university-based, research intensive, and independent of both medical schools and state public health services.[1]

One of the most fascinating aspects of this report is that it was immediately and effectively translated into action. It led to the establishment of public health schools and programs at top universities, including Michigan in 1941.[2] The report also steered the spread of this educational model throughout the United

States and the professionalization of public health worldwide. In a sense, the *Welch-Rose Report* generated the foundations of a new, promising, and desperately needed workforce to deal with the health challenges of rapidly changing societies.

In a few decades, public health was recognized as a distinct field that was crucial for economic development and social stability, and major federal and state investments in public health services were made. Public health schools were recruiting an increasing number of health professionals, engineers, demographers, statisticians, and social scientists interested in population health. According to the American Public Health Association, by the end of the 1930s more than four thousand people, including one thousand doctors, had received some public health training in this country.[3]

A few decades later, I myself pursued that path. When I finished my basic medical education in Mexico, I decided to follow not a clinical career, but graduate studies in public health. And I came here, to the University of Michigan in Ann Arbor, attracted by the solid educational tradition of its school of public health and by the luminous scholarship of one of the giants of our field, Avedis Donabedian.

Let me take a moment to honor this extraordinary man, whose name also graces the Distinguished University Professorship held by Ken Warner. Among all the benefits I received from my five years at the University of Michigan, the greatest blessing was my association with Avedis Donabedian.

If I were to summarize the main lesion I learned from Avedis I would say two things: First, he nurtured my ability to think in a rigorous way—whether to design a research protocol or find a creative solution to a complex policy problem—and, second, he inoculated in me the passion for linking ideas to action. Thanks to him, my whole professional life has been guided by the conviction that rigorous thinking is a requirement for effective action.

This is exactly what has characterized the entire career of our honoree today, Ken Warner. Like few others, Ken has had the ability to combine rigorous analysis with impactful policy translation.

Due to the rich legacy of Ken and others, the academic and action field of public health has made significant and enduring contributions to human welfare. We are also here to celebrate those achievements because they are part of the legacy of this extraordinary institution.

The 75 years of the Michigan School of Public Health are not just *any* 75 years. Rather, they coincide with the most intense health transformation in history. World life expectancy summarizes the magnitude of this revolution. At the beginning of the 20th century it had only reached 30 years—not much higher than what it was at the dawn of human civilization. By mid-century, shortly after the School was formally established, life expectancy had grown to 48 years. In 2015 the average estimate for the world had reached 71 years,[3] although with huge regional differences, ranging from 83 years in Japan and Switzerland to scarcely 50 years in Sierra Leone.[4] While we still have an unfinished agenda to reduce disparities between and within countries, the point remains that even the poorest populations have experienced unprecedented health gains since this School was founded.

According to Angus Deaton, winner of the Nobel Prize in Economics in 2015, "the major credit for the decrease in child mortality and the resultant increase in life expectancy must go to the control of disease through public health measures," such as improvements in sanitation and water supply, vaccination,

better nutrition, and the adoption of practices of personal and public hygiene.[5] To this we should now add family planning, water fluoridation, enhanced motor vehicle safety, and, importantly for today's symposium, reduced smoking.[6,7] Everyone associated with the Michigan School of Public Health should feel proud of the crucial role that it has played in all these momentous developments.

However, in health matters we are always victims of our own success. With the gains made against infectious diseases and increases in child survival beyond age 5, populations in both developed and developing countries are living long enough to experience the non-communicable diseases (NCDs) associated with age and the emerging life-styles related to urbanization, such as lack of regular physical activity; consumption of diets rich in highly saturated fats, sugar, and salt; tobacco use; alcohol abuse; and social isolation. Today, NCDs are responsible for 63 percent of all annual deaths worldwide and will be responsible for over 70 per cent of all deaths by 2020, with most of this increase occurring in developing nations.[8]

There are major differences in the way developed and developing countries have reached their present health condition. This is a topic I had to opportunity to study when I was a student here at Ann Arbor. The University of Michigan has had a marvelous individualized approach to education, which offered me the opportunity to study a joint doctoral program in medical care organization and in sociology. Within the latter, I specialized in demography, which gave me a firm foundation to study the health transition.

Currently developed countries witnessed a straightforward epidemiologic transition during the 20th century. The health profile in these countries changed from a pattern dominated by common infections to one where chronic NCDs, such as heart disease, diabetes, and cancer, predominate. In contrast, developing nations have experienced a different transition model, which we have characterized as "protracted and polarized."[9] In this model, common infections are still important causes of death, but they now coexist with the emerging NCDs, creating what has been called the double burden of ill-health. In a strict sense, we should speak of a triple burden of disease, since we should also add those emerging threats directly related to globalization, including the spread of pandemics, the health consequences of climate change, and the international transfer of risks, notably the dissemination of harmful habits like tobacco use. These are probably the most important challenges for population health in this century.

Tobacco consumption, in fact, is the single largest preventable cause of death in the world today. It kills 5.4 million people a year, and if we leave it unrestrained it will produce over 8 million deaths a year by 2030.[10]

As mentioned above, its production and consumption is related to globalization, so the strategies to address it also need to have a global character. Because tobacco companies operate on a worldwide stage, effective national policies must be coupled with instruments for international collective action, like the Framework Convention on Tobacco Control. This was the first international public health treaty approved by the World Health Assembly and represents a momentous achievement in global health governance. According to Lawrence Gostin, this convention can claim at least three innovations:[11]

- First, it creates legally binding obligations to develop systematic, multi-sectoral tobacco control policies.
- Second, it promotes international cooperation in an age when tobacco markets are emphatically global.

- Third, it has spurred bottom-up social mobilization.

The Framework Convention was designed during the WHO administration of Gro Harlem Brundtland, when I had the privilege of serving in her Cabinet as Executive Director in charge of Evidence and Information for Policy. I can proudly testify that this initiative was strongly influenced by the academic and policy work of Ken Warner. I also feel proud that, during my tenure as Minister of Health, Mexico was the first country in the region of the Americas to ratify this treaty.

Similar instruments should be used to control the spread of other health threats. The International Health Regulations, the main set of rules governing global health security, represent another powerful mechanism that should be periodically revised and improved. The H1N1 pandemic tested the effectiveness of these regulations. They showed improvements in global governance, but also important fault lines, especially poor national adoption of certain evidence-based recommendations made by WHO regarding the counterproductive effects of trade sanctions and travel restrictions. The recent Ebola outbreaks also tested these regulations and exhibited the failure of global governance arrangements to build the health system capacity established by them, which require countries "to develop capabilities to detect, assess, report, and respond to global health emergencies." [12]

Another example of a global response to transnational challenges is the United Nations Framework Convention on Climate Change, which has near-universal membership. As you know, this convention set an overall structure for intergovernmental efforts to tackle the threat posed by climate change.[13]

Underlying all these global challenges rests what could be called the "sovereignty paradox."[14] In a world of sovereign nations-states, health matters remains a national responsibility. However, the control of the increasing transfers of health risks across international borders exceeds the capacity of any one nation-state, no matter how powerful it might be.

In order to face this paradox, we need to build robust global institutions for pooling risks, resources, and responsibilities among global stakeholders, including sovereign states and non-state actors.

This is our only hope if we are to deal with another painful paradox of our days: Precisely when technology has brought human beings closer to each other than ever before, we are witnessing the reappearance of intolerance and isolationism in its ugly guises of xenophobia, racism, and aggression.

Public health has a crucial role to play in resolving these paradoxes. At its deepest level, health defines the core common experience of all human beings. In birth and death, in sickness and recovery, we all find our common humanity. For this reason, I believe that public health should champion a philosophy of 'rooted globalism:' an approach that blends the global with the local and recognizes health as one of the fundamental human rights. These rights are, by definition, inherent to every person and form the basis of a global citizenship that is, at the same time, connected to the needs and aspirations of local communities. The anti-tobacco movement championed by Ken Warner and many of you attending our symposium today exemplifies the enormous potential of this approach.

Despite the amazing accomplishments of public health, we must still contend with complex challenges: promoting healthy environments and lifestyles, preventing disease, delivering high quality care to everyone who needs it, protecting families from the financial consequences of ill health, and, underlying all of

the above, closing the unacceptable gaps that so unequally allocate opportunities along gender, racial, ethnic, and socioeconomic lines.

Yet, I remain fundamentally optimistic about our capacity to address the major issues of our times through the power of knowledge. As we enter the second century of public health education, I am convinced that knowledge will continue to be the key asset to sharpen our understanding of problems and create novel solutions.
In this spirit, I would like to conclude by quoting the wise words of Avedis Donabedian when he received the 1986 Health Services Research Prize:

> "In all my work I have tried to embody the passionate conviction that the world of ideas and the world of action are not separate, as some would have us think, but inseparable parts of each other. Ideas, in particular, are the truly potent forces that shape the tangible world." [15]

Inspired by the work of admired colleagues like Ken Warner, I too have tried to follow this conviction. Ken's legacy illustrates the reason why our school has had such an impact on so many lives, including my own. That reason is a simple reality: knowledge represents the most powerful force for enlightened social transformation. For 75 years the University of Michigan SPH has enriched the entire circle of knowledge: from its creation through research and its re-creation through education to its translation into evidence as the basis for purposeful and accountable action.

I thank you for the opportunity to share this very special moment with all of you, as we celebrate the enduring legacy of Ken Warner and the brilliant future of the University of Michigan School of Public Health.

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