

The Public Health Framework

Kane County Board of Health and Health
Advisory Committee Joint Strategic
Planning Retreat
September 27, 2011

David A. Stone, PhD
Associate Vice President for Research
Northern Illinois University
Member, Health Advisory Committee



How Public Health Matters

In the last 100 years, average life expectancy has increased by 30 years:

- Advances in Medicine account for 4.5 of those additional years;
- Advances in public health account for the other 25.5 years of life.*

*Turnock, BJ. Public Health: What it is and How it Works, 3rd Edition. Sudbury, MA: Jones and Bartlett Publishers, 2004.

In the past 100 years, life expectancy up 30 years: 4.5 of those accounted for by advances in diagnosis and treatment of disease (medicine); 25.5 of those accounted for by advances in public health: sanitation, water quality, vaccines, prevention, protection, and promotion of healthy living.

How Public Health Matters

Top 10 Causes of Death in the US (CDC)

- Heart disease
- Cancer
- Stroke
- Chronic lower respiratory diseases
- Accidents
- Alzheimer's disease
- Diabetes
- Influenza and Pneumonia
- Nephritis, nephrotic syndrome, and nephrosis
- Septicemia

FOR ALL OF THESE EXCEPT ALZHEIMER'S, REDUCTIONS IN DEATH RATES ARE COMING FAR MORE FROM PUBLIC HEALTH PREVENTION THAN FROM MEDICAL INTERVENTION

If you are thinking that most of these gains for PH relative to medicine are over, look at the top 10 causes of death, almost all (with the exception of Alzheimer's) continue to be more responsive to PH prevention measures than medical interventions, so for a long time to come any extension in our life expectancy will come from public health and any reduction (which experts are beginning to fear may be happening) will come from a failure to invest in PH.

What is Public Health?

Public Health,
isn't that just
preventive medicine?

My first job at the Harvard Medical School was to teach returning physicians who wanted to become public health researchers, but when I asked them what public health was, all they could describe were variations on preventive medicine. The same seems to be true of the general public. When people are asked to think about issues of public health, they tend to think of health as though we are talking about clinical medicine, they think about their experiences as individual patients, rather than public health. To frame the day's discussion, I want to put some reminders in your heads about the ways in which Medicine and Public Health frame, approach, and think about things differently



Distinguishing Public Health from Medicine

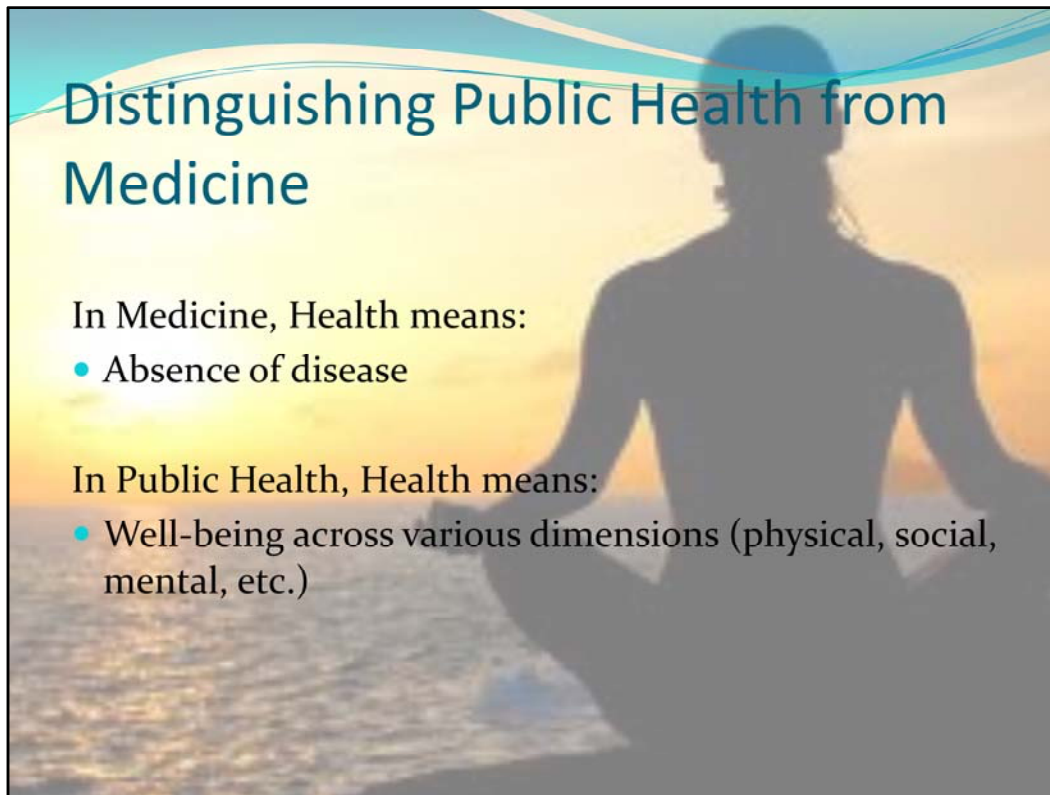
In Medicine, Public means:

- Aggregate of Individuals – think patients

In Public Health, Public means:

- Populations – whole communities, think waves, not particles

In preventive medicine you weigh the costs and benefits of a given preventive measure for a given patient and you make decisions about what to do and how to do it for the good of that particular patient. When you think about protecting the health of an entire community or population (all children, all persons susceptible to the flu), what you do and how you do it needs to take that whole population into account. For example, a vaccine with a 5% risk of a serious side effect represents a very small risk for any given patient and his or her doctor can assess this risk for this patient in deciding whether to administer it. In public health, a 5% risk across an entire population (that would be 15 million people getting flu shots) is a dramatically different kind of problem that needs to be considered in very different terms. So, as we think about the health of the public, we need to think of that in terms of whole populations or whole communities, not primarily in terms of the individuals that make up that population. Think waves, not particles.



Distinguishing Public Health from Medicine

In Medicine, Health means:

- Absence of disease

In Public Health, Health means:

- Well-being across various dimensions (physical, social, mental, etc.)

So in thinking about the role of public health, we need to think in terms of promoting well being, protecting health across this wide range of dimensions, and developing policies, environments, and systems that serve to prevent morbidity and mortality.

Distinguishing Public Health from Medicine

In Medicine, Prevention means:

- Changing attitudes and beliefs of individuals in order to change their actions

In Public Health, Prevention means:

- Restructuring how people live so the easiest choices are the healthiest choices. Changes in policy, environment, systems.



In medicine, physicians use anticipatory guidance to advise their patients, giving them information in order to change their attitudes and beliefs in the hope that this will lead to changes in behavior (a practice that we know has very limited effectiveness). But because PH works at the level of whole communities and populations, not individuals, prevention means changing the world people live in so that the options people have in living their daily lives are such that the easiest, most convenient, and least expensive options are also the healthiest options. Currently, for example, national policies subsidize the cost of producing junk food and pre-prepared food rather than fresh, wholesome food – and so 25% of our nation is overweight and getting heavier. It will take changes in policies, systems, and environments to change this – no amount of additional information will do it. So as we think about prevention today, try to think in these terms.

Distinguishing Public Health from Medicine

In Medicine, health disparities are caused by:

- Biology, Genetics, Psychology, Behavior
(and they are perceived to be randomly distributed)

In Public Health, disparities are functions of:

- Differences in daily living conditions, inequities in the distribution of wealth, resources, and access. And these inequalities are not randomly distributed, they are systematically driven and respond to policy choices.
- **But as health inequalities in a community go up the health of ALL members of that community goes down**

Health disparities are not randomly distributed, they exist as a function of forces that consistently advantage some people and disadvantage others (in the suburbs, for example, the policies we make about land use, transportation, and zoning favor people with cars over people who would rather combine their shopping with the exercise of walking while they do it). In thinking today about the role of the health department, it is important to keep in mind both how inequalities in health are systematically driven and that in communities with high levels of inequality the health of all residents in that community suffers.



Medical Costs and Public Health Costs

- Americans spend about \$8,000 per person on healthcare, that's about \$22 per day.
- County residents pay about 1 PENNY per day in taxes for county public health services. They pay about \$1 per day in taxes for Federal public health services.
- Every dollar spent on public health returns \$4-\$8 (mostly in cost savings).

When we think about healthcare costs in the US, we tend to think in terms of medical costs. As this slide shows, public health spending is only about 4% of what we spend on medical care. And every dollar spent on public health saves money (4-8 dollars) that would otherwise be spent on medical care. And these figures do not include savings that come in the form of higher productivity, fewer days of work lost, and fewer productive years of work lost, but all of these are outcomes of public health spending.

In Kane county, our rate of spending is the lowest in the region and in the bottom quartile for counties our size.

Public Health

It isn't just preventive medicine.

We need to think about it in its own terms:

Populations

Promotion of Global Well-being

Prevention as policy, systems, and environmental change

Protection of populations (water quality, inspections, vaccination, bioterrorism preparedness, etc.)

Savings not costs: money spent is money saved

As we move into the rest of today's activities, I hope you can keep this public health framework in mind. Populations not individual patients; health promotion not medical intervention; prevention as a systems-level phenomenon, which also protects us all by limiting health disparities and inequities between us; health protection, which monitors water and food quality, responds to outbreaks (like e coli, salmonella), provides vaccinations for population-based communicable disease, handles systems level preparedness for bioterrorism and other such threats (e.g., anthrax); and savings, every dollar we spend on public health returns 4 to 8 dollars that can be used for other things.