December 2, 1942
Changing the Context
- Enrico Fermi and his team achieved the world’s first artificial nuclear chain reaction, in a makeshift lab underneath the University of Chicago’s Stagg Field.
- The work was part of the Manhattan Project.
- It ushered in the nuclear era and changed the context of our world.

Laboratory of Physiological Hygiene at the University of Minnesota in 1940 was located under the university’s Memorial Stadium, Gate 27. Ancel Keys changed the context of our world.

December 2, 1970
Changing the Context
- U.S. Environmental Protection Agency was established during the administration of President Nixon with strong bipartisan support from Congress.
- "The Congress, the Administration and the public all share a profound commitment to the rescue of our natural environment, and the preservation of the Earth as a place both habitable by and hospitable to man."

Enrico Fermi
Died on November 28, 1954
- “Ignorance is never better than knowledge.”
- “Before I came here I was confused about this subject. Having listened to your lecture I am still confused. But on a higher level.”

Edward P. Ehlinger, MD, MSPH
Commissioner of Health
December 2, 2016
Preventing and Addressing Adverse Childhood Experiences
Advancing Health Equity and Optimal Health for All
Changing the Context for Creating Health
Changing the Context
Charles Robert Drysdale
died on December 2, 1907

• British physician and public health scientist.
• Focused on link between population growth and poverty
  and health.
• His son started the first family planning clinic in London in 1921
• Focused on syphilis, prostitution, and tobacco.
• “The use of tobacco is one of the most evident of all the
  retrograde influences of our time. It invades all classes and
  destroys social life.” (1875)

“Public health is what we, as a society, do
collectively to assure the conditions in which
(all) people can be healthy.”
The Future of Public Health
Institute of Medicine, 1988

Public health is about changing the context
(living conditions). This will require us to
change how we do our work.

Current Focus of Medical and Public Health Work
Treatment and Prevention

Medical and Public Health Work

Primary Prevention

Secondary Prevention

Teriary Prevention

College Students Have Not Been a
Public Health Priority

• Well-educated
• Low levels of poverty
• Low number of disadvantaged groups
• Overall healthy
• Low death rate
• Low birth rate
Relationship Between Educational Attainment and Mortality for U.S. Adults


College Students Should Be A Long-term Public Health Priority Group

- They will soon become parents.
- They are society’s future leaders.
- They are trend setters of social norms.
- They are at a stage in life where they are establishing/solidifying lifestyle patterns.
- They are role models for future generations.
College Students Should Be A Long-term Public Health Priority Group

- Numbers are large and increasing
  - There are 4,182 colleges and universities in the United States.
  - ~20 million people are enrolled in college. More than in high schools.
- Over 2/3 of high school graduates enroll in college.
- College is our “last best chance” to influence their development.

Boynton Health Service has helped make college students a national public health priority

Presidents of Minnesota State Board of Health

Ruth Boynton, MD

Current Focus of Medical and Public Health Work

Treatment and Prevention

- Medical and Public Health Work
  - Primary Prevention
  - Secondary Prevention
  - Tertiary Prevention
  - Specialty Care

Expanded Focus of Medical and Public Health Work

Treatment, Prevention, Building Community Resilience

- Medical and Public Health Policy
  - Healthy Public Policy & Public Health
  - Community Primary Prevention
  - Tertiary Prevention
  - Specialty Care
Expand Our Understanding About What Creates Health

**What is health?**

- “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” WHO 1948
- “Health is a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities.” Ottawa Charter for Health 1986
Expand the Understanding of What Creates Health:

ACEs Categories

- Household dysfunction
- Divorce/separation
- Alcoholism/drug use
- Incarceration
- Mental illness
- Domestic violence

- ABUSE
  - Physical
  - Sexual
  - Emotional/Verbal

- NEGLECT
  - Physical
  - Emotional

Adverse Childhood Experiences

Disrupted Neurodevelopment
Social, Emotional, and Cognitive Impairment
Adoption of Health Risk Behaviors
Disease, Disability, and Social Problems
Early Death

Number of ACES by Co-Morbid Outcomes

<table>
<thead>
<tr>
<th>Health Status</th>
<th>Number of ACES</th>
</tr>
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<tbody>
<tr>
<td>FAIR OR POOR</td>
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<tr>
<td>EXCELLENT</td>
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<table>
<thead>
<tr>
<th>Number of ACES</th>
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<tbody>
<tr>
<td>0 1 2 3 4 5</td>
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<thead>
<tr>
<th>Chronic Mental Health</th>
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<tr>
<td>DEPRESSION</td>
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<td></td>
</tr>
<tr>
<td>Number of ACES</td>
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<td>----------------</td>
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<tr>
<td>0 1 2 3 4 5</td>
</tr>
</tbody>
</table>
Health is essential to educational achievement and to the success of our society

- “When health is absent, wisdom cannot reveal itself, art cannot become manifest, strength cannot fight, wealth becomes useless, and intelligence cannot be applied.”
  - Herophilus of Chalcedon, 335–280 BCE
  - Physician to Alexander the Great

The success of all sectors of our society is essential to our health

- “Health is absent when wisdom cannot reveal itself, art cannot become manifest, strength cannot fight, wealth becomes useless, and intelligence cannot be applied.”
  - Ed Ehlinger, 12/10/2015 CE
  - Physician to the State of Minnesota
The mission of Land Grant Universities: focus on practical academic disciplines to address issues created by changing economic conditions and social class.

Implement Health in All Policies Approach with Health Equity as a Goal

A Conceptual Framework for Exploring Inequities in Risk for Child Maltreatment

Indicators: Essentials for Childhood
Strengthen the Capacity of Communities to Create Their Own Healthy Future

“...the community in the fullest sense is the smallest unit of health...to speak of the health of an isolated individual is a contradiction in terms.”

Wendell Berry in Health is Membership

Recommendations

- Increase awareness of ACEs, their impact on health and well-being, and Minnesotans’ capacity to act.
- Don’t forget about college students
- Enhance the capacity of communities to prevent and respond to ACEs.
- Continue to collect Minnesota-specific data on the relationship among ACEs, health outcomes, and resilience.
- Continue the College Health Survey with ACES module
- Use the framework of the Triple Aim of Health Equity to help guide and change your work.

Health is Community

“A proper community...is a commonwealth: a place, a resource, an economy. It answers the needs, practical as well as social and spiritual, of its members - among them the need to need one another.”

Wendell Berry, The Art of the Commonplace: The Agrarian Essays

Advancing Health Equity and Optimal Health for All

Triple Aim of Health Equity

Implement Health in All Policies

Strengthen Community Capacity

Expand Understanding of Health
Public Health and Addressing and Preventing ACEs is about changing the context.
The context is Social Justice

- “The philosophy behind science is to discover truth.
- The philosophy behind medicine is to use that truth for the benefit of your patient.
- The philosophy behind public health is social justice.”
  - William Foege – CDC director 1977-1983

Social cohesion is crucial to addressing all public health problems

“Injustice anywhere is a threat to justice everywhere. We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly.”

MLK, Jr. Letter from Birmingham Jail, April 16, 1963