2021 MICHAEL & SUSAN DELL CENTER LECTURESHIP IN CHILD HEALTH

WHEN IT COMES TO YOUR HEALTH, DOES YOUR ZIP CODE MATTER MORE THAN YOUR GENETIC CODE?

KEYNOTE SPEAKER
ANTHONY B. ITON, MD, JD, MPH
Senior Vice President, Healthy Communities
The California Endowment

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Funding for the Annual Lectureship provided by

Michael & Susan Dell Foundation

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Over 1 million children impacted!
15 Year Anniversary, Michael & Susan Dell Center for Healthy Living
Austin Campus Faculty, 2007
15 Year Anniversary, Michael & Susan Dell Center for Healthy Living
First Lectureship Award Recipient in 2007 – Dr. Mary Story

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15 Year Anniversary, Michael & Susan Dell Center for Healthy Living
2010 Lectureship Award Recipient & Panel – Dr. Kelly Brownell
15 Year Anniversary, Michael & Susan Dell Center for Healthy Living
10 Year Center Anniversary Celebration
15 Year Anniversary, Michael & Susan Dell Center for Healthy Living
10 Year Anniversary Lectureship – US Surgeon General Dr. Vivek Murphy
15 Year Anniversary, Michael & Susan Dell Center for Healthy Living
First Philip R. Nader Legacy of Health Lectureship, 2016 – Dr. Thomas Robinson

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15 Year Anniversary, Michael & Susan Dell Center for Healthy Living

- 114 Reports and Resources
- 40 Community Events
- 66 Webinars
- 200+ Research Grants and Contracts
- 800+ Publications
- 8 Dell Health Undergraduate Scholars
- 12 Dell Health Scholars
- 4 Michael & Susan Dell Center Post-Doctoral Fellows

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15 Year Anniversary, Michael & Susan Dell Center for Healthy Living
April 2020 – March 2021

- **29** Faculty Members
- **44** Staff Members
- **40** Graduate Assistants
- **$5.5 million+** Total Grants Received
- **1 million+** Children Impacted
- **15,201** Email Subscribers
- **115,058** Website Pageviews
- **234,139** Social Media Impressions (Facebook, Twitter, YouTube)

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Anthony B. Iton, MD, JD, MPH
Senior Vice President,
Healthy Communities
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When It Comes to Your Health, Does Your Zip Code Matter More Than Your Genetic Code?

Michael & Susan Dell Center Lectureship in Child Health 2021
April 22, 2021

Tony Iton, M.D., J.D., MPH
The California Endowment
Health is Behavioral

Health is Transactional
(~frequency & quality of medical services)

Health is Genetic

Individual Frames
Health is political

“The struggle over the allocation of limited and precious social goods”

Power matters, individual and community-level
Health ≠ Health care

Where You Live Matters

It Matters A LOT!
Health is an Investment

Countries with strong social compacts appear to have better health
I will say then that I am not, nor ever have been, in favor of bringing about in any way the social and political equality of the white and black races—

that I am not, nor ever have been, in favor of making voters or jurors of negroes, nor of qualifying them to hold office, nor to intermarry with white people; and I will say in addition to this that there is a physical difference between the white and black races which I believe will forever forbid the two races living together on terms of social and political equality. And inasmuch as they cannot so live, while they do remain together there must be the position of superior and inferior, and I as much as any other man am in favor of having the superior position assigned to the white race.
FOUR SCORE AND SEVEN YEARS AGO OUR FATHERS BROUGHT FORTH ON THIS CONTINENT A NEW NATION CONCEIVED IN LIBERTY AND DEDICATED TO THE PROPOSITION THAT ALL MEN ARE CREATED EQUAL.

NOW WE ARE ENGAGED IN A GREAT WAR TESTING WHETHER THAT CEIVED AND SO DEDICATED CAN LONG ENDURE. WE ARE MET ON A GREAT BATTLEFIELD OF THAT WAR. WE HAVE THAT FIELD AS A FINAL RESTING PLACE FOR THOSE WHO HERE GAVE MIGHT LIVE. IT IS ALTOGETHER FITTED TO DO THIS. BUT IN A LARGER SENSE CONSECRATE. WE CAN NOT HALLOWING AND DEAD WHO STRUGGLED HERE. OUR POOR POWER TO ADD OR DETRACT THE WORLD WILL LITTLE NOTE NOR LONG REMEMBER WHAT WE SAY HERE. BUT IT CAN NEVER FORGET WHAT THEY DID HERE. IT IS FOR US THE LIVING RATHER TO BE DEDICATED HERE TO THE UNFINISHED WORK WHICH THEY WHO Fought HERE HAVE THUS FAR SO NOBLY ADVANCED. IT IS RATHER FOR US TO BE HERE DEDICATED TO THE GREAT TASK REMAINING BEFORE US—THAT FROM THESE HONORED DEAD WE TAKE INCREASED DEVOTION TO THAT CAUSE FOR WHICH THEY GAVE THE LAST FULL MEASURE OF DEVOTION—THAT WE HERE HIGHLY RESOLVE THAT THESE DEAD SHALL NOT HAVE DIED IN VAIN—THAT THIS NATION UNDER GOD SHALL HAVE A NEW BIRTH OF FREEDOM AND THAT GOVERNMENT OF THE PEOPLE BY THE PEOPLE FOR THE PEOPLE SHALL NOT PERISH FROM THE EARTH.

IF WE SHALL SUPPOSE THAT AMERICAN SLAVERY IS ONE OF THOSE OFFENSES WHICH IN THE PROVIDENCE OF GOD MUST NEEDS COME BUT WHICH HAVING CONTINUED THROUGH HIS APPOINTED TIME HE NOW WILLS TO REMOVE AND THAT HE GIVES TO BOTH NORTH AND SOUTH THIS WOE DUE TO THOSE BY WHOM THE OFFENSE CAME SHALL WE DISCERN THEREIN ANY DEPARTURE FROM THE DIVINE Attributes WHICH THE BELIEVERS IN A LIVING GOD ALWAYS ASCRIBE TO HIM. FONDLY DO WE HOPE—FERVENTLY DO WE PRAY—THAT THIS MIGHTY SCOURGE OF WAR MAY SPEEDILY PASS AWAY. YET IF GOD WILL THAT IT CONTINUE UNTIL ALL THE WEALTH PILED BY THE BONDSMAN’S TWO HUNDRED AND FIFTY YEARS OF UNREQUITED TOIL SHALL BE SUNK AND UNTIL EVERY DROP OF BLOOD DRAWN WITH THE LASH SHALL BE PAID BY ANOTHER DRAWN WITH THE SWORD AS WAS SAID THREE THOUSAND YEARS AGO SO STILL IT MUST BE SAID “THE JUDGMENTS OF THE LORD ARE TRUE AND RIGHTEOUS ALTOGETHER WITH MALICE TOWARD NONE WITH CHARITY FOR ALL WITH FIRMNESS IN THE RIGHT AS GOD GIVES US TO SEE THE RIGHT LET US STRIVE ON TO FINISH THE WORK WE ARE IN TO BIND UP THE NATION’S WOUNDS TO CARE FOR HIM WHO SHALL HAVE BORNE THE BATTLE AND FOR HIS WIDOW AND HIS ORPHAN TO DO ALL WHICH MAY ACHIEVE AND CHERISH A JUST AND LASTING PEACE AMONG OURSELVES AND WITH ALL NATIONS.
Narrative of Exclusion

- Intentionally *dehumanizes* target. [“They’re bringing drugs. They’re bringing crime. They’re rapists.” OR “Makers vs. Takers”, OR “the 47%”, “Chinese Flu”, OR Welfare Queen, super-predator, crack-baby…….]

- Exaggerates the notion of scarcity. Posits a zero-sum competition for resources between groups.

- Defines America narrowly, and looks to the past with nostalgia and to the future with fear.
Narrative of Inclusion

- Changes the narrator allowing people to tell their own story, speaking to shared humanity.
- Broadens the lens to show mutual dependence and interconnected fates. Highlights abundance.
- Looks to the past with realism and to the future with purpose and hope.
Why Place Matters
Canadian Social Contract

- Universal health insurance - Canada Health Act
- Universal dental care to age 10
- Universal child care benefit
- Paid sick leave and vacation
- State of the art public transportation
- Highly subsidized post secondary education
- High quality community resources - parks, sports leagues, libraries, community centers
215 cases of HIV linked to illegal drugs

Many cases in Scott County are traced to people injecting Opana, a prescription painkiller similar to heroin and sold in pill form.

Opana is a hard pill that is difficult to crush and dissolve for injection drug use. For that reason, users find larger needles are necessary.

Racial demographics of Scott County and Indiana (2013)

- Scott County:
  - White: 97.8%
  - Black: 9.5%
  - Hispanic: 6.4%
  - Asian: 1.9%
  - Amer. Ind.: 0.3%
  - Other: 1.8%

- Indiana:
  - White: 86.3%
  - Black: 1.7%
  - Hispanic: 0.6%
  - Asian: 0.4%
  - Amer. Ind.: 0.8%
  - Other: 1.0%
Does Your Zip Code Matter More Than Your Genetic Code?
Life Expectancy by Poverty Group 2000-2003

Alameda County

Life Expectancy (Years)

Poverty Rate
Bay Area Poverty vs. Life Expectancy

BARHII Life Expectancy and Poverty by Tract

Graph showing the relationship between poverty rate and life expectancy. The graph displays a scatter plot with life expectancy on the y-axis and poverty rate on the x-axis. The data points are distributed across a range of life expectancies from approximately 50 years to over 100 years, with a noticeable trend indicating a negative correlation between poverty rate and life expectancy.
California Poverty vs. Life Expectancy

\[ y = -13.539x + 81.084 \]

\[ R^2 = 0.1183 \]
CA Counties
Canadian Metro Areas

- Calgary: 
  - $R = -0.15, p = 0.02$

- Edmonton: 
  - $R = -0.25, p = 0.00015$

- Montréal: 
  - $R = -0.22, p = 1.5e-11$

- Ottawa – Gatineau (Ontario part / partie de l’Ontario): 
  - $R = -0.18, p = 0.011$

- Ottawa – Gatineau (partie du Québec / Quebec part): 
  - $R = -0.48, p = 3.4e-05$

- Toronto: 
  - $R = -0.019, p = 0.54$

- Vancouver: 
  - $R = -0.0042, p = 0.93$

Census Metropolitan Area (CMA)
Cost of Living in a Poor Neighborhood in San Francisco Bay Area

- Every additional $12,500 in household income buys one year of life expectancy
  - (Benefit appears to plateau at household incomes above $150,000)

- Similar gradients in Baltimore, NYC, Philadelphia, Hennepin County (Minneapolis-St. Paul), Colorado, California, AND Cuyahoga County ($6304/year of life)
How Healthy Are We?

Annual Checkup

The Sorry State of American Health

Despite advances in medicine, Americans are less healthy than we used to be, and the next generation may be even worse off. How to reverse the trend—before it's too late.

PLUS: The Year in Medicine A Z
Spending on health care

Data downloaded from OECD.StatExtracts. Available at stats.oecd.org
Total health care investment in US is less

In OECD, for every $1 spent on health care, about $2 is spent on social services.
In the US, for $1 spent on health care, about 55 cents is spent on social services.
Health ≠ Health Care
In OECD, for every $1 dollar spent on health care, $2 is spent on Social Services:

- Unemployment benefits
- Social assistance
- Housing benefits
- Family benefits
- Lone-parent benefits
- Employment-conditional benefits
- Tax treatment of benefits
- Childcare Policies

In the US, for every $1 dollar spent on health care, **55 cents** is spent on Social Services:

- Prevention
- Pension
- Paid Sick Leave
- Public Education
- Child Care
While health expenditures in the United States have risen significantly more than those in the EU15, life expectancies in these European countries have consistently stayed higher. One difference between the U.S. and the EU15 is found in expenditure on social programmes, with EU15 countries spending significantly more than the United States over the 30 years covered in this study. (EU15 refers to the 15 countries that have been members of the European Union since before its May 2004 enlargement.) NOTE: OECD spending figures include public, mandatory private and voluntary private expenditures. These figures do not include exclusively private spending with no social component. Social spending has been defined as the total of all of these expenditures in all spending categories with the exception of health. Source: OECD SOCK database.
Higher levels of social spending are strongly associated with better health.

The association is particularly strong for public, as opposed to private, social spending.

Spending on old age programmes demonstrated the strongest association with better health outcomes, including in unexpected areas, such as infant mortality and low birth weight.

The association between social spending and better health strengthens over time.

Social factors, such as income inequality and social capital (a measure of how much people trust each other in a population), are associated with health outcomes.

The association between social spending and health outcomes is strongest where income inequality is greatest. In other words, social protection may be more important for health outcomes in more unequal societies.

The associations observed across countries hold across regions of a single country, the United States.
Life Expectancy of White Americans
### US Whites

<table>
<thead>
<tr>
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<th>Life Expectancy</th>
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<tbody>
<tr>
<td><strong>US White</strong></td>
<td>79 years*</td>
</tr>
<tr>
<td>Qatar</td>
<td>79 years</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>79 years</td>
</tr>
<tr>
<td>Nauru</td>
<td>79 years</td>
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</tbody>
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*WHO World Health Statistics 2015, CDC/NCHS 2015*
US Whites Living Shorter Lives Than:

- **80 years**: Belgium, Chile, Denmark, Lebanon, Slovenia
- **81 years**: Austria, Finland, Germany, Greece, Ireland, Malta, Netherlands, Portugal, UK
- **82 years**: Canada, Cyprus, France, Iceland, Israel, S. Korea, Luxembourg, Monaco, New Zealand, Norway, Sweden
- **83 years**: Andorra, Australia, Italy, San Marino, Singapore, Spain, Switzerland
- **84 years**: Japan

- **33 countries** (only 17 in 1990)
“Shorter Lives, Poorer Health”
January 2013 IOM Report on US Health Compared to 17 peer countries
“The panel was struck by the gravity of its findings. For many years, Americans have been dying at younger ages than people in almost all other high-income countries. This disadvantage has been getting worse for three decades, especially among women.”
The US health disadvantage cannot be fully explained by the health disparities that exist among people who are uninsured or poor, as important as these issues are. Several studies are now suggesting that even advantaged Americans—those who are white, insured, college-educated, or upper income—are in worse health than similar individuals in other countries.
Death Rates Rising for...

By GINA KOLATA  NOV. 2, 2015

Death rate for U.S. non-Hispanic whites (USW), U.S. Hispanics and six comparison countries, aged 45-54. (Source: Proceedings of the National Academy of Sciences.)
80% of what influences your life expectancy happens outside of the healthcare system.
When the External Becomes Internal: How we internalize our environment

Allostatic Load

Inadequate Transportation
Long Commutes

Housing

Lack of social capital

Racism

Stress

High Demand-Low Control Jobs

Lack of access to stores, jobs, services

Crime
Stress pathway from Brain to Body

STRESSOR

CRH

Pituitary Gland

ACTH

Adrenal Glands

CORTISOL

AFFECTS MULTIPLE ORGANS & SYSTEMS

CRH affects multiple organs & systems

Stress pathway from Brain to Body:

1. Stressor
2. Hypothalamus
   - CRH
3. Pituitary Gland
   - ACTH
4. Adrenal Glands
   - CORTISOL

In summary, CRH stimulates the pituitary gland to release ACTH, which in turn stimulates the adrenal glands to produce cortisol. This cortisol affects multiple organs and systems.
Stressed vs. Stressed Out

- **Stressed**
  - Increased cardiac output
  - Increased available glucose
  - Enhanced immune functions
  - Growth of neurons in hippocampus & prefrontal cortex

- **Stressed Out**
  - Hypertension & cardiovascular diseases
  - Glucose intolerance & insulin resistance
  - Infection & inflammation
  - Atrophy & death of neurons in hippocampus & prefrontal cortex
A Practitioner’s Framework
A Framework for Health Equity

- Adapted by ACPHD from the Bay Area Regional Health Inequities Initiative, Summer 2008
A Framework for Health Equity

Socio-Ecological

Medical Model

Health Inequities

Health Disparities

- Adapted by ACPHD from the Bay Area Regional Health Inequities Initiative, Summer 2008
A Framework for Health Equity

Socio-Ecological

Medical Model

UPSTREAM

Family & Culture

DOWNSTREAM

INDIVIDUAL HEALTH KNOWLEDGE

GENETICS

Risk Factors & Behaviors

Discriminatory Beliefs (ISMS)
- Race
- Class
- Gender
- Immigrant status
- National origin
- Sexual orientation
- Disability

Institutional Power
- Corporations & other businesses
- Government agencies
- Schools

Social Inequities
- Neighborhood conditions
- Social power
- Racial segregation
- Workplace conditions

Social Factors

Inequities

Disparities

HEALTHCARE ACCESS

Mortality
- Infant mortality
- Life expectancy

Health Status

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A Framework for Health Equity

Socio-Ecological

Medical Model

Upstream

Downstream

Discriminatory Beliefs (ISMS)
- Race
- Class
- Gender
- Immigration status
- National origin
- Sexual orientation
- Disability

Socio-Factors

Institutional Power
- Corporations & other businesses
- Government agencies
- Schools

Social Inequities
- Neighborhood conditions
  - Type of neighborhood
  - Residential segregation
  - Workplace conditions

Risk Factors & Behaviors
- Smoking
- Nutrition
- Physical activity
- Violence
- Chronic Stress

Disease & Injury
- Infectious disease
- Chronic disease
- Injury (intentional & unintentional)

Mortality
- Infant mortality
- Life expectancy

Conditions

Consequences

- Adapted by ACPHD from the Bay Area Regional Health Inequities Initiative, Summer 2008
- Adapted by ACPHD from the Bay Area Regional Health Inequities Initiative, Summer 2008
“The experience of poverty in and of itself is a violent, traumatic experience, and it’s inflicted by policy-makers and our own society.” Dr. Mariana Chilton, Children’s HealthWatch Philadelphia
Questions
Contact Information

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Learn more at www.buildinghealthycommunities.org #ChangeTheOdds

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