Social Determinants of Health

Los Angeles County Department of Public Health
Expert Speaker Webinar
April 5, 2012

Jonathan E. Fielding, M.D., M.P.H.
Director of Public Health and Health Officer
Los Angeles County Department of Public Health

Presentation Overview

• Definitions and Importance of Social Determinants in Public Health Practice

• Key Social Determinants
  – Income and Poverty
  – Education and Employment
  – Housing
  – Communication Environment
  – Community/Place
  – Safety

• Conclusions and Implications for DPH

Polling Question #1

How confident are you in your understanding of the Social Determinants of Health?

A) Very Confident
B) Somewhat Confident
C) Not Confident at All
What produces health?

• Individual health
• Family health
• Community health

One Model of Population Health

Definition:
Societal Determinants of Health

“Conditions in the social, physical, and economic environment in which people are born, live, work, and age. They consist of policies, programs, and institutions and other aspects of the social structure, including the government and private sectors, as well as community factors.”
Another Definition:
Social Determinants of Health

“The complex, integrated and overlapping social structures and economic systems that are responsible for most health inequities. Social determinants of health are shaped by the distribution of money, power, and resources throughout local communities, nations, and the world.”


The “New” Frontier of Public Health

• Traditional Public Health practice centered on shaping health behaviors and providing access to care for underserved communities.
• The “new” frontier of Public Health requires that we address environmental influences.
• Failure to transform our practice to address modern problems will represent a failure of Public Health.
“People with quality education, stable employment, safe homes and neighborhoods, and access to preventive services tend to be healthier throughout their lives and live longer.”

“Of all the forms of inequality, injustice in health is the most shocking and the most inhumane.”

- Dr. Martin Luther King at the 2nd National Convention of the Medical Committee for Human Rights. March 25, 1966

Healthy People 2020

- An overarching goal of Healthy People 2020 is to ‘create social and physical environments that promote good health for all.’

- HP 2020 recognizes that social determinants influence population health and limit the ability of many to achieve health equity.
Social Determinants of Health

Interventions
- Policies
- Programs
- Information

Outcomes
- Behavioral outcomes
- Specific risk factors, diseases & conditions
- Injuries
- Well-being & health-related Quality of Life
- Health equity

Some Examples of Social Determinants:

- Availability of resources to meet daily needs
  - Eg. safe housing
- Access to educational, economic and job opportunities
- Access to health care services
- Quality of education and job training
- Social support
- Exposure to crime, violence and social disorder
- Social norms and attitudes
  - Eg. discrimination, racism
- Socioeconomic conditions
  - Eg. concentrated poverty
- Language/Literacy
- Availability of jobs that pay living wage

Science and Social Determinants

- The mechanisms through which these determinants cause ill health are still being explored.
  - Examples: violence; lack of formal educational attainment; low health literacy
- While they are important, there are relatively few evidence-based interventions to address social determinants.
- Intermediate measures (like HS graduation) are relied on heavily to demonstrate a communities’ social health
2011 County Health Rankings: Health Outcomes

- Health outcome rankings are based on mortality and morbidity measures
- LA County ranks 26th out of 56

2011 County Health Rankings: Health Factors

- Health factor rankings include health behavior, clinical care, social and economic factors and physical environment measures
- LA County ranks 38th out of 56

2011 County Health Rankings: Social and Economic Factors

- LA County ranks 42nd out of 56

High school graduation (% of ninth grade cohort that graduates in 4 yrs) is a leading health indicator for HP 2020; the US HP2020 target is 82.4%
Key Social Determinant: Income and Poverty

Polling Question #2

How does Los Angeles County’s poverty rate compare to California as a whole?

A) Lower than California
B) About the Same as California
C) Higher than California

Poverty US, CA, LA County: All Ages

U.S. Census Bureau, Small Area Income and Poverty Estimates Program, November 2011
Data accessed at: http://www.census.gov/did/www/saipe/data/interactive/
### Poverty US, CA, LA County: Under Age 18

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S.</th>
<th>CA</th>
<th>LA County</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>24.5</td>
<td>22</td>
<td>24.6</td>
</tr>
<tr>
<td>2009</td>
<td>24.4</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>2008</td>
<td>24.3</td>
<td>22</td>
<td>23.6</td>
</tr>
<tr>
<td>2007</td>
<td>24.2</td>
<td>22</td>
<td>23.8</td>
</tr>
<tr>
<td>2006</td>
<td>24.1</td>
<td>22</td>
<td>23.9</td>
</tr>
<tr>
<td>2005</td>
<td>24.0</td>
<td>22</td>
<td>24.0</td>
</tr>
</tbody>
</table>


### Median Household Income

- **Los Angeles County:** $54,828
- **California:** $60,392
- **United States:** $51,425

**Year:** 2005-2009

**Source:** U.S. Census Bureau, 2005-2009. 5-Year American Community Survey

### Family Economic Self-Sufficiency Standard

- **How much income is needed for a family to adequately meet its minimal basic needs without public or private assistance?**

- **Self-sufficiency standard is based on the costs families face on a daily basis:**
  - Housing, food, child care, out-of-pocket medical expenses, transportation, and other necessary spending.

Life Expectancy by Median Household Income of Census Tract, Los Angeles County (2005)

<table>
<thead>
<tr>
<th>Median Household Income</th>
<th>Life Expectancy at Birth in Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>$60,000+</td>
<td>82.9</td>
</tr>
<tr>
<td>$45,000-$59,999</td>
<td>80.6</td>
</tr>
<tr>
<td>$35,000-$44,999</td>
<td>79.6</td>
</tr>
<tr>
<td>$25,000-$34,999</td>
<td>79.0</td>
</tr>
<tr>
<td>0-$24,999</td>
<td>77.5</td>
</tr>
</tbody>
</table>

Note: Median income of LA County census tracts are for the year 1999 and are obtained from Census 2000 Summary File 3, United States, prepared by the U.S. Census Bureau, 2002.

Median Household Income, by Race/Ethnicity, LA County

Economic Hardship Index by City/Community, LAC
## Cities/Communities with Lowest and Highest Economic Hardship: People <200% FPL, 2005-09

<table>
<thead>
<tr>
<th>10 Lowest</th>
<th>10 Highest</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lowest Economic Hardship (1 – 117)</strong></td>
<td><strong>Highest Economic Hardship (117 – 10)</strong></td>
</tr>
<tr>
<td>City/Community Name</td>
<td>People &lt;200% FPL (%)</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Hermosa Beach</td>
<td>15%</td>
</tr>
<tr>
<td>Palos Verdes Estates</td>
<td>3.4%</td>
</tr>
<tr>
<td>Malibu</td>
<td>12.4%</td>
</tr>
<tr>
<td>Redondo Beach</td>
<td>14.1%</td>
</tr>
<tr>
<td>Manhattan Beach</td>
<td>8.4%</td>
</tr>
<tr>
<td>San Marino</td>
<td>5.6%</td>
</tr>
<tr>
<td>El Segundo</td>
<td>11.0%</td>
</tr>
<tr>
<td>La Canada Flintridge</td>
<td>7.2%</td>
</tr>
<tr>
<td>Santa Monica</td>
<td>23.1%</td>
</tr>
<tr>
<td>Agoura Hills</td>
<td>5.6%</td>
</tr>
<tr>
<td><strong>Average 10 lowest</strong></td>
<td>10.5%</td>
</tr>
</tbody>
</table>

---

### Economic Hardship & Childhood Obesity

#### Poverty

- Poverty in childhood has long-lasting effects limiting life expectancy and worsening health for life, even if social conditions subsequently improve.

---

**Source:** U.S. Census Bureau, 2005-2009 5-Year American Community Survey, Table C17002.
Percent of Persons Living Below the Federal Poverty Level, by Race/Ethnicity, LAC

- White: 15%
- Non-Hispanic Black: 21%
- Hispanic: 20%
- Asian: 11%
- Pacific Islander: 15%

U.S. Census Bureau, 2005-2009. 5-Year American Community Survey, Table C17002.

Family Poverty Rates and Education Level, California, 2010

- No High School Graduates: 31.3%
- At least 1 High School Diploma Holder: 19.2%
- At least 1 College Degree Holder: 5.2%


Percent of Adults (18+ years old) that Reported Fair/Poor Health Status, by Federal Poverty Level, LAC, 2007

- 0-99% FPL: 34.3%
- 100-199% FPL: 22.8%
- 200-299% FPL: 14.5%
- 300% or More FPL: 7.7%

2007 Los Angeles County Health Survey.
Effects of Low-Income Environments on Children

- Compared with economically advantaged counterparts, children in low-income environments generally:
  - are exposed to more family turmoil, violence, and instability
  - are read to relatively infrequently, watch more television and have less access to books and computers
  - experience less social support, parental nurturing, emotional support

- Low-income parents are less involved in their children’s school activities.
- The air and water poor children consume are more polluted.
- Their homes are more crowded, noisier and of lower quality.
- Low-income neighborhoods are more dangerous, offer poorer municipal services, and suffer greater physical deterioration.

Adverse Childhood Experiences (ACE) Study¹

- Surveyed over 9,500 adults
- Seven categories of adverse childhood experiences:
  - Psychological, physical or sexual abuse; violence against mother; or living with household members who were substance abusers, mentally ill, suicidal or ever imprisoned.
- Found a strong graded relationship between ACEs and multiple risk factors for several leading causes of death including cancer, chronic lung disease, and liver disease.
- Later ACE study² (n=17,000+ adults) found that ACEs are associated with increased risk of premature death.
  - People with six or more ACEs died nearly 20 years earlier, and had three times greater years life lost per death, than those without ACEs

Potential Actions to Address the Symptom of Poverty and Income

- Utilize the existing earnings supplements for the working poor
  - Eg: State Earned Income Tax Credit is intended to make work pay and reward low-wage work by reducing the tax burden and supplementing wages with a refundable credit
- Provide safety net programs to make income go further
  - Egs: Childcare and housing subsidies, supplemental food assistance programs (CalFresh, WIC, school nutrition), free or subsidized health insurance
- Expand unemployment insurance
  - Benefit eligibility, amount, and duration are determined by each state
Recent Example: AB 6 (Fuentes) Removing Fingerprint Imaging

- Signed by Gov. Brown in October 2011
- Into effect on January 1, 2012
- Amended Welfare and Institutions Code Section 10830 by repealing the requirement that CalFresh applicants be fingerprinted and photo imaged as a condition of benefit issuance.

Potential Solutions to Keep People Out of Poverty

- Educational programs
- Vocational training
- Job training
- Child care supports
- Literacy programs
- English as Second Language (ESL)

Key Social Determinants: Education and Employment
Education

- U.S. lags other developed nations in educational attainment
- Reduces competitiveness and adversely affects our health and standard of living

Percentage of 25-34 year olds with College Education, 2009

Lack of education contributes to future lack of competitiveness

Improved Educational Outcomes

Improved Health Outcomes
Education Matters:
More Formal Education = Longer Life Expectancy

And It Matters to the Next Generation:
Mother’s Education Related to Infant Mortality

Percent of Adults (18+ years old) That Reported Fair/Poor Health Status, by Education, LAC, 2007

Disproportionate Dropouts, U.S.

Polling Question #3

The majority of adults in Los Angeles County have what level of educational attainment?

A) Less than High School
B) High School Diploma
C) Some College or Trade School
D) College or Post Graduate Degree

Education Status of Adults (18+ years old), Los Angeles County, 2007
Percent of Adults with Less than a High School Diploma, by Race/Ethnicity, LA County

Note: African American, Asian, Pacific Islander, and American Indian/Alaska Native categories include persons reporting both Hispanic and non-Hispanic origin, therefore categories are not mutually exclusive.

Education and Health Behavior
• Greater educational attainment has been associated with health promoting behaviors
  – Examples:
  • increasing consumption of fruit and vegetables
  • engaging in regular physical activity
  • refraining from smoking

Cities/Communities with Lowest and Highest Economic Hardship: People <HS Education, 2005-09

<table>
<thead>
<tr>
<th>10 Lowest</th>
<th>10 Highest</th>
</tr>
</thead>
<tbody>
<tr>
<td>City/Community Name</td>
<td>&lt;HS Education (%)</td>
</tr>
<tr>
<td>1 Hermosa Beach</td>
<td>1.4%</td>
</tr>
<tr>
<td>2 Palos Verdes Estates</td>
<td>2.8%</td>
</tr>
<tr>
<td>3 Malibu</td>
<td>5.1%</td>
</tr>
<tr>
<td>4 Redondo Beach</td>
<td>3.8%</td>
</tr>
<tr>
<td>5 Manhattan Beach</td>
<td>2%</td>
</tr>
<tr>
<td>6 San Marino</td>
<td>1.4%</td>
</tr>
<tr>
<td>7 El Segundo</td>
<td>3.8%</td>
</tr>
<tr>
<td>8 La Canada Flintridge</td>
<td>2.7%</td>
</tr>
<tr>
<td>9 Santa Monica</td>
<td>1.4%</td>
</tr>
<tr>
<td>10 Agoura Hills</td>
<td>3.7%</td>
</tr>
<tr>
<td>Average 10 Lowest</td>
<td>2.2%</td>
</tr>
</tbody>
</table>

<HS Education = Percent of persons with less than high school diploma for population 25 years and older
Source: 2005-2009 5-Year American Community Survey, Table B15002 & C15002
One (Literal) Cost of Poor Educational Attainment

**Taxpayer Cost**
- Each high school dropout costs over $292,000 in lower tax revenues, higher cash and in-kind transfer costs, and imposed incarceration costs compared to a high school graduate over his/her lifetime.
- By comparison:
  - High school graduates contribute $287,000
  - Some college contribute $462,000
  - College degree contribute $703,000
  - Masters degree or higher contribute $1.1 million


Another Cost of Poor Educational Attainment

**Low health literacy**
- People with low functional health literacy have:
  - Poorer health status
  - Less treatment adherence
  - Greater number of medication/treatment errors
  - Higher rates of health services utilization
    - 29-69% higher hospitalization rates
  - Higher health care costs
    - $50 - $73 billion more annually

*Report on the Council of Scientific Affairs, Ad Hoc Committee on Health Literacy for the Council on Scientific Affairs, American Medical Association, JAMA, Feb 10, 1999*

Health Literacy
- Poor health literacy is a stronger predictor of a person's health than age, income, employment status, education level, and race
  - Recent studies on health literacy and heart failure patients indicate:
    - Low health literacy is significantly associated with higher all-cause mortality
    - Patients with inadequate health literacy are at increased risk of poor self-care and negative outcomes
      - E.g. Hospital readmission
**Education and Working Conditions**

Workers with less education are:

- more likely to hold lower-paying jobs which may put them at higher risk of injury, fatality
  - More occupational hazards, including environmental and chemical exposures (e.g. pesticide, asbestos)
  - Poor working conditions (e.g. shift work, potentially harmful tools)
- less likely to have health-related benefits including paid sick and personal leave, workplace wellness programs, child and elder care resources, retirement benefits or employer-sponsored health insurance

---

**Potential Actions to Improve Educational Attainment**

- Increase Nurse Family Partnership
- Expand early childhood development programs
  - E.g., Headstart, Smartstart, universal pre-kindergarten
- Comprehensive K-12 school reform to improve achievement
- Career Academies
  - Small learning communities within large high schools in low-income, urban areas that usually focus on a specific field and provide preparatory, technical, and occupational courses to connect coursework to job opportunities.
- Mentorship-model programs to improve high school graduation rates
- Programs to help dropouts attain GED certificates
- Targeted programs to improve college enrollment

---

**Potential Solutions: Employment**

- Offer youth apprenticeship programs
- Community revitalization and economic development
- Adult education programs
- Technical training
- Better public transportation
- Employment incentives
Key Social Determinants: Housing

Housing and Health

• Adequate housing protects individuals from harmful exposures, provides a sense of privacy, security, stability and control and can make important contributions to health.

Housing and Health

• Inadequate or poor quality housing contributes to health problems (i.e. infectious and chronic diseases), injuries and poor childhood development.1
• Substandard and deteriorating housing contribute to a variety of ailments, ranging from respiratory disease and neurological disorders to psychological and behavioral dysfunction.2

Polling Question #4

What percentage of households in Los Angeles County spend more than 30% of income on housing?

A) About 15%
B) About 25%
C) About 50%
D) About 75%

Nearly half (49.4%) of all households in Los Angeles County are classified as “housing-cost burdened,” meaning more than 30% of income is devoted to housing.
Housing Trade-offs

- Lack of affordable housing affects families' ability to meet essential expenses
  - Eg. food, heating, medical treatment, transportation
- People make trade-offs to obtain affordable housing, including living far from work which requires them to spend more time and money commuting.

- Families that lack affordable housing are more likely to move frequently
- Housing instability has negative impacts on children
  - Disruption in school instruction
  - Increased absenteeism
  - Disruption of peer networks
  - Interference in development of close relationships

Adults Living in Unaffordable Housing are:

- more likely to describe themselves as being in fair or poor health than similar individuals in affordable housing
- more likely to report failing to fill a prescription or adhering to healthcare treatment due to cost


Potential Solutions: Housing

• Offer housing subsidies to low-income families
• Replace or redevelop existing public housing with more health-promoting design
• Provide support for high utilities costs through federal Low Income Home Energy Assistance Program and any similar state program assisting households with unaffordable heating, cooling and electricity bills
• Strengthen enforcement of fair housing laws, including the Federal Fair Housing Act prohibiting racial discrimination
• Develop public-private initiatives to expand affordable housing options
  – Explore private initiatives, such as Habitat for Humanity, to create more affordable, healthy housing

Conclusions

• All Americans should have the opportunity to make choices conducive to a long, healthy life, regardless of income, education or ethnic background.

• Social determinants are critical for all people – no one is immune – but they are absolutely vital to our efforts to reduce disparities.

What Can Public Health Do?

• Educate ourselves and stakeholders about the powerful effects of social determinants on health
• Support and monitor this “new” frontier with data and research
• Pull together information, highlight local data and provide recommended action strategies for policy makers and stakeholders
• Collaborate with governmental and non-government organizations that bear responsibility for these determinants
• Join the issues of health and productivity with economic vitality and competitiveness
What Can Public Health Do?

- Ensure that all public health programs and services embody this social determinants framework
  - Focus activities and interventions in socially disadvantaged areas
- Recognize and address local, state and national policies that impact social determinants
  - Create or join partnerships with the public and private sector, community organizations and advocates
- Engage other sectors (i.e. business, transportation, energy)

Possible Activities:
- Initiate Health Impact Assessments
- Design a Health in All Policies Initiative
- Report on Social Determinants in LA
  - Issue briefs on key determinants and indicators
- Launch a social environment webpage
- Train and mobilize Nurse Liaisons to engage CBOs about social determinants

What Can Public Health Do?

- Partnerships will be critical
- Possible partners and determinant targets:
  - LAC CEO: Earned Income Tax Credit
  - DPSS: SNAP, WIC, General Relief
  - United Way: Housing Issues
  - PTA: K-12 Educational Issues
Implications for Public Health

• If Public Health does not address social determinants, we will not be able to solve larger health problems like tobacco, obesity, infant health, mental health, substance use, violence and injuries.

• It’s imperative for us to plan our activities and interventions with social determinants in mind.
  - Socially disadvantaged groups present as vulnerable populations
  - We need to get a hold on socially instituted inequities that drive health and quality of life

• Policies are most important.

Implications for Public Health

• Public Health has a role in evaluating efforts to decrease disparities

• Public Health should add to the evidence with data on what works

• These social factors are understandable and relatable to the public – we need to connect the dots to health outcomes

Public Awareness of Social Determinant Issues