A Proposed Framework

The Context of Health: What Are We Really Doing To Change It?

Dr. Tony Iton, Public Health Director
Alameda Community Meeting 6-13-07
Death From All Causes

- Cherryland: 1,043
- Oakland: 829
- Fairview: 812
- San Lorenzo: 788
- Hayward: 767
- Livermore: 744
- Newark: 739
- Ashland: 736
- Union City: 725
- Alameda: 725
- San Leandro: 717
- Alameda County: 703
- Castro Valley: 701
- Emeryville: 683
- Dublin: 679
- Albany: 678
- Fremont: 674
- Sunol: 670
- Pleasanton: 647
- Berkeley: 647
- Redmont: 502

Rate per 100,000
Coronary Heart Disease

- Cherryland: 199
- Alameda: 185
- San Lorenzo: 180
- Hayward: 167
- Livermore: 165
- Castro Valley: 163
- Oakland: 159
- Fremont: 154
- Union City: 153
- Newark: 151
- Emeryville: 148
- Ashland: 148
- Alameda County: 147
- Fairview: 147
- San Leandro: 144
- Pleasanton: 137
- Albany: 134
- Berkeley: 128
- Dublin: 117
- Redmont: 91

Rate per 100,000
BARHII Framework
Mortality

Infant mortality

Life expectancy
Leading Causes of Death, Alameda County, 2001-2003 (N=28,790)

- Heart Disease: 26.9%
- Cancer: 23.7%
- Stroke: 8.3%
- Chronic Lower Resp Dis: 4.5%
- Unintentional Injuries: 3.6%
- Influenza & Pneumonia: 3.2%
- Diabetes Mellitus: 3.0%
- Alzheimer's Disease: 2.1%
- Chronic Liver Dis/Cirrhosis: 1.4%
- Homicide: 1.3%

Total Deaths: 67%
Figure 18: Life Expectancy at Birth, Alameda County, 1960-2003
Life Expectancy at Birth

Years

Overall White
Overall Black
without Homicides White
without Homicides Black
without AIDS White
without AIDS Black
without Both White
without Both Black
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Trend Overall</th>
<th>Health Inequity</th>
<th>African American</th>
<th>Asian/API</th>
<th>Latino</th>
<th>White</th>
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<td>All-cause Mortality</td>
<td>↘</td>
<td>↗</td>
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<tr>
<td>Coronary Heart Disease</td>
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<td>Stroke</td>
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<td>Diabetes</td>
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<td>Hospitalization</td>
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<td>All Cancer</td>
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<td>Incidence³</td>
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<tr>
<td>Lung Cancer</td>
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<td>Colorectal Cancer</td>
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<tr>
<td>Female Breast Cancer</td>
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<td>Mortality</td>
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<tr>
<td>Prostate Cancer</td>
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<tr>
<td>Asthma Hospitalization (All Ages)</td>
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<td>⇧</td>
<td>⇧</td>
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<tr>
<td>Asthma Hospitalization (&lt;5 years)</td>
<td>⇧</td>
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</tbody>
</table>
**Goal 1: Increase Quality and Years of Healthy Life**

- The first goal of Healthy People 2010 is to help individuals of all ages increase life expectancy *and* improve their quality of life.

**Goal 2: Eliminate Health Disparities**

- The second goal of Healthy People 2010 is to eliminate health disparities among segments of the population, including differences that occur by gender, race or ethnicity, education or income, disability, geographic location, or sexual orientation.
What Do We Know?

- Big Gap in Life Expectancy
- Driven by Chronic Diseases
Mortality

Access to health care

Disease and Injury

Chronic disease
Infectious disease
Injury (intentional and unintentional)

Access to health care 10-15%

Disease and Injury

Mortality

Genetics 10-15%
Causes of Differences in Health Outcomes By Race

- Genetics* 10-15%
- Access to health care 10-15%

15% + 15% = only 30%

What causes the other 70%???

*genes ≠ race
Is This All About Personal Responsibility???

The Medical Model Assumes that “Risk Behaviors” are the Missing 70%
Individual health knowledge

Medical Model

Risk Behaviors → Disease and Injury → Mortality

Smoking
Nutrition
Physical activity
Violence

70% ??
Changing People’s Behavior

Can We Really Do This?
Medical Model Interventions

“SERVICES”

- Tend to focus is on individuals
- Tend to be remedial in nature
- Do not address underlying conditions
- Expensive and difficult to sustain
- No sustained impact on health disparities
- Majority of Health, Social Services & Criminal Justice budget spent on these kind of interventions
Annual Medical Expense by Age and Gender

Kaiser Permanente's Center for Health Research-Mark C. Hornbrook, PhD
Visits to physician offices and hospital OPDs

Number of visits per 100 persons

Male
- 75+ years
- 65-74 years
- 55-64 years
- 45-54 years
- 18-44 years
- Under 18

Female
- 75+ years
- 65-74 years
- 55-64 years
- 45-54 years
- 18-44 years
- Under 18

Year
- 1996-97
- 1998-99
- 2000-2001
- 2002-03

“Services Overkill?”

How Government Human Service Agencies Behave
“Services Overkill?”

How Government Human Service Agencies Behave
Service Intensity FY05-06
Alameda County Public Health Department

Includes MCAH, Nursing, Cmty Probation, PM160, PM357

Source: CAFE
Service Intensity FY05-06
Alameda County Public Health Department

Services per 1,000 Pop'n
- 58.1 - 88.8
- 34.5 - 58.0
- 15.1 - 34.4
- 0.3 - 15.0

Note: Dental and Healthcare for the Homeless services not included.

Source: CAPE.
Recipients as of Oct 2006.
Social Services

Source: CAPE, with data from SSA.
Recipients as of Oct 2006.
Recipients as of Oct 2006.

Source: CAPE, with data from SSA.
Recipients as of Oct 2006.
Social Services

Total Recipients/1000 Population

- Dark Brown: 624.3 - 1,105.2
- Brown: 305.3 - 624.2
- Orange: 129.2 - 305.2
- Light Yellow: 2.4 - 129.1

Source: CAPE, with data from SSA
Recipients as of Oct 2006.
Alameda County Parolees, May 2005

Parolees/1000 Population
- 17.1 - 32.5
- 7.0 - 17.0
- 2.8 - 6.9
- 0.1 - 2.7

Source: CAPE, with data from California Department of Corrections
Alameda County Probationers FY05-06

![Map showing the probationer's population density in Alameda County, with regions color-coded to represent different population density ranges: 0.2 - 5.0, 5.1 - 11.9, 12.0 - 22.6, and 22.7 - 48.0. The map includes major cities like Oakland, Alameda, Berkeley, and Fremont. Source: CAPE, with data from the Probation Department.]
Top 30 Tracts Receiving Services - SSA

Source: CAPE, with data from Social Services Agency.
Top 30 Tracts Receiving Services - Parole

Source: CAPE, with data from California Department of Corrections.
Top 30 Tracts Receiving Services - Probation

Source: CAPE, with data from Probation Department.
Community Trajectories

How Much Does Place Matter?
Tract Poverty vs. Life Expectancy

Alameda County

San Francisco County

Contra Costa County
Bay Area Poverty vs. Life Expectancy

BARHII Life Expectancy and Poverty by Tract

Poverty Rate vs. Life Expectancy (Years)
High school grads: 90%
Unemployment: 4%
Poverty: 7%
Home ownership: 64%
Non-White: 49%

High school grads: 81%
Unemployment: 6%
Poverty: 10%
Home ownership: 52%
Non-White: 59%

Life Expectancy by Tract

High school grads: 65%
Unemployment: 12%
Poverty: 25%
Home ownership: 38%
Non-White: 89%
“It shows how the lines of discrimination are drawn. It shows the area pattern of social exclusion; a pattern that follows very closely community graded indices of wealth, status, health, education, and social behavior. It grades fairly evenly from low to high, beginning with the Bay-flats region, and extending to the upper portion, the “hill area”. If one bases status on the social exclusion factors inherent in income, occupation, and education differentials, it shows at a glance the family-status gradations of Oakland.”

Six Pilot Areas Picked For City Housing Survey

Six Oakland pilot areas for a survey of housing conditions were agreed on last night by the Citizens' Committee for the enforcement of building and housing codes.

The committee was named by Mayor Clifford E. Rishell last month at the request of the City Council to determine the scope of needed housing renovation in the city.

It was agreed that one block would be selected by lot in each of the six pilot areas. Health Department inspectors under the supervision of Health Officer Dr. J. C. Geiger were given three weeks to make the survey.

At the completion of the survey Chairman C. H. McCaslin will call a meeting of the whole committee to discuss the revelations of the survey.

The six areas were selected by a subcommittee headed by Robert As of the Central Labor Council and approved by the whole committee.

A described the areas as "not of good quality; two of them

Doctor Geiger said "bad housing, sick housing, has caused more social problems than anything in this country."

In a discussion of how drastic the recommendations of the committee would be in its efforts to improve rundown housing it was agreed to start with only the most flagrant violations.

Chief Building Inspector Milton P. Kitchel told the group "it is utterly impossible to run down..."
Housing Survey Provides Guide for Urban Renewal

Continued from Page 1

...dilapidated dwellings...oneness...neighborhood character...pedestrian traffic accidents...lowest score indicates most blighted...OAKLAND RESIDENTIAL AREA ANALYSIS...Oakland's first urban renewal area, the Oakland...This map shows the condition of Oakland's housing by census tracts...the highest score indicates most blighted and the lowest score indicates most improved...Ten Indices of Residential Quality:

- Substandard lots
- Rental level
- Population density
- Mixed land uses
- Age of dwellings
- Dilapidated dwellings
- Pedestrian traffic accidents
- Overcrowded dwellings
- Juvenile delinquency
- Income of residents

Legend:
- Highest (88-117)
- 62-80
- 30-57
- 0-29
- Non-residential

Oakland Tribune, Sunday, July 22, 1956
High school grads: 90%
Unemployment: 4%
Poverty: 7%
Home ownership: 64%
Non-White: 49%

High school grads: 81%
Unemployment: 6%
Poverty: 10%
Home ownership: 52%
Non-White: 59%

High school grads: 65%
Unemployment: 12%
Poverty: 25%
Home ownership: 38%
Non-White: 89%

Life Expectancy
>80
74.3 - 80
<74.3
Why Do Some Neighborhoods Look Like This?
Opportunities to Build Resiliency

Adapted From: Search Institute
40 Developmental Assets

By surveying 100,000 6th to 12th-grade youth in 213 U.S. towns and cities, Search Institute identified 40 measures (8 categories) of healthy development that help young people grow up healthy, caring and responsible.

1. Support
2. Empowerment
3. Boundaries & Expectations
4. Constructive Use of Time
5. Commitment To Learning
6. Positive Values
7. Social Competencies
8. Positive Identity

Search Institute
In addition to protecting youth from negative behaviors, having more assets increases the chances that young people will have positive attitudes and behaviors, as this chart shows.
FIGURE 1

High-Risk Behaviors* and Developmental Assets, by Race/Ethnicity

On average, young people with more developmental assets engage in fewer high-risk behaviors (out of 10 that are measured) than youth with fewer assets.

* The 10 high-risk behaviors measured in this survey are problem alcohol use, tobacco use, illicit drug use, sexual intercourse, depression and/or attempted suicide, antisocial behavior, violence, school problems, driving and alcohol, and gambling.

FIGURE 2

Thriving Behaviors* and Developmental Assets, by Race/Ethnicity

On average, young people with more developmental assets engage in fewer high-risk behaviors (out of 10 that are measured) than youth with fewer assets.

* The 8 thriving behaviors measured in this survey are succeeds in school, helps others, values diversity, maintains good health, exhibits leadership, resists danger, delays gratification, and overcomes adversity.
Disease and Injury Risk Behaviors

Mortality

Residential segregation

Neighborhood Conditions

Risk Behaviors

Disease and Injury

Social environment

Physical environment
Disease and Injury Risk Behaviors

Government agencies

Institutional Power

Corporations and businesses

Schools

Neighborhood Conditions

Disease and Injury

Mortality
Alameda Unified District 2006
4th Grade Reading Level

Alameda Unified District 2006
8th Grade Reading Level

Alameda Unified District 2006
11th Grade Reading Level

In the City of Alameda 2006, African American and Latino 7th graders read below the level of White 3rd graders.

Highest Achieving Low-Income Students Attend Postsecondary at Same Rate as Bottom Achieving High Income Students

<table>
<thead>
<tr>
<th>Achievement Level (in quartiles)</th>
<th>Low-Income</th>
<th>High-Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>First (Low)</td>
<td>36%</td>
<td>77%</td>
</tr>
<tr>
<td>Second</td>
<td>50%</td>
<td>85%</td>
</tr>
<tr>
<td>Third</td>
<td>63%</td>
<td>90%</td>
</tr>
<tr>
<td>Fourth (High)</td>
<td>78%</td>
<td>97%</td>
</tr>
</tbody>
</table>

Source: NELS: 88, Second (1992) and Third Follow up (1994); in, USDOE, NCES, NCES Condition of Education 1997 p. 64
A review of the scientific literature shows associations between education and health across a broad range of illnesses, including coronary heart disease, many specific cancers, Alzheimer's disease, some mental illnesses, diabetes, and alcoholism.” - NIH

RFA OB-03-001-PATHWAYS LINKING EDUCATION TO HEALTH
Median Net Worth of Households by Race and Ethnicity in 1996 and 2002
(2003 dollars)

Source: Pew Hispanic Center tabulations of SIPP data from the 1996 and 2001 panels.
Figure 22

Despite Progress, Minority Homeownership Rates Still Lag

Homeownership Rates (percent)

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>2004</th>
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<tbody>
<tr>
<td>Whites</td>
<td>70.0</td>
<td>75.0</td>
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<tr>
<td>All Minorities</td>
<td>65.0</td>
<td>70.0</td>
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<tr>
<td>Asians/Others</td>
<td>50.0</td>
<td>55.0</td>
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<tr>
<td>Blacks</td>
<td>45.0</td>
<td>50.0</td>
</tr>
<tr>
<td>Hispanics</td>
<td>40.0</td>
<td>45.0</td>
</tr>
</tbody>
</table>

Notes: Whites, blacks and Asians/others are non-Hispanic. Hispanic householders may be of any race. Asians/others include Pacific Islanders, Aleuts and Native Americans.

Source: Table A-7.

Michael A. Stegman, MacRae Professor of Public Policy, Planning, and Business Center for Community Capitalism University of North Carolina at Chapel Hill
Exhibit 3-1
Trends in Homeownership Rates by Race and Ethnicity 1940-2000

Notes: White and Black rates for 1970 through 2000 exclude Hispanics. "Asian" rate for 1950 is proxied by non-White, non-Negro urban households, which comprise a large majority of the Asian population. (The comparable rate for 1940 was 15.4 percent compared to the 16.3 percent actual rate.)

Figure 1.10: Income Inequality, Alameda County, 1980-2000

The graph illustrates the cumulative share of income against the cumulative share of people for the years 1980, 1990, and Census 2000. The income equally shared line shows the ideal scenario where income is distributed equally among the population. The graphs for 1980 and 1990 are positioned below the income equally shared line, indicating higher levels of income inequality compared to the ideal scenario. The Census 2000 relationship line is positioned between the 1980 and 1990 lines, suggesting a gradual decrease in income inequality over the period from 1980 to 2000.
Results of the statistical comparison of weather and deaths over 12 years show that blacks and those with a high school education or less are most likely to die on extremely hot days. – Harvard School of Public Health study of almost 8 million deaths in 50 cities from 1989 to 2000.
Chicago also suffers from an everyday "emergency in slow motion" that its leaders refuse to acknowledge. The heat wave was a particle accelerator for the city: It sped up and made visible the hazardous social conditions that are always present but difficult to perceive. Yes, the weather was extreme. But the deep sources of the tragedy were the everyday disasters that the city tolerates, takes for granted, or has officially forgotten.  

-Eric Klineberg, author of Heat Wave
High school grad: 90%
Unemployment: 4%
Poverty: 7%
Home ownership: 64%
Non-White: 49%

High school grad: 81%
Unemployment: 6%
Poverty: 10%
Home ownership: 52%
Non-White: 59%

High school grad: 65%
Unemployment: 12%
Poverty: 25%
Home ownership: 38%
Non-White: 89%

Life Expectancy

>80

74.3 - 80

Schools
Jobs
Crime
Segregation
Housing
Toxins
A Proposed Model

Understanding Health In Context
Bay Area Regional Health Inequities Initiative

Socio-Ecological

Medical Model

UPSTREAM
SOCIAL FACTORS

SOCIAL INEQUALITIES
Class
Race/ethnicity
Gender
Immigration Status

INSTITUTIONAL POWER
Corporations & other businesses
Gov’t agencies
Schools

NEIGHBORHOOD CONDITIONS
Environment
Social
Physical
Residential Segregation

INDIVIDUAL HEALTH KNOWLEDGE

RISK BEHAVIORS
Smoking
Nutrition
Physical activity
Violence

GENETICS

DISEASE & INJURY
Infectious disease
Chronic disease
Injury (intentional & unintentional)

DOWNSTREAM
HEALTH STATUS

MORTALITY
Infant mortality
Life expectancy

HEALTH CARE ACCESS

-Bay Area Regional Health Inequities Initiative
Disease
Behavior
Community
Death

Diseased Societal Decision Processes

Biased Behaviors (Isms)

Medical Model (individuals)

Behavior
Disease
Death

Socio-Ecological (society)

Policy Advocacy
Comm. Capacity Building
Health Education
Clinics
Emergency Rooms

Policy Advocacy
Comm. Capacity Building
Health Education
Clinics
Emergency Rooms
Healthy People 2010 recognizes that communities, States, and national organizations will need to take a multidisciplinary approach to achieving health equity—an approach that involves improving health, education, housing, labor, justice, transportation, agriculture, and the environment.
The health department *shall* offer at least the following basic services to the health jurisdiction which it serves: … i) Services directed to the social factors affecting health, and which may include community planning, counseling, consultation, education, and special studies.
Breast Cancer Incidence

- Greater Bay Area Cancer Registry conducted a very straightforward analysis looking at actual vs. expected rates of breast cancer in several census tracts in Alameda at the request of a concerned resident who noted a high number of breast cancers in her neighbors.
- The preliminary results do note a higher than expected rate of invasive breast cancer in one census tract in the City of Alameda on Bay Farm Island.
Breast Cancer Incidence

- Study is preliminary.
- Previous similar statistical analyses have indicated higher levels of invasive breast cancer among wealthy women in Marin County and elsewhere in the US including Long Island.
- More intensive studies have not demonstrated any environmental explanations for these higher than expected rates.
- There is good evidence that certain demographic factors might explain most if not all of these findings.
Breast Cancer Risk Factors

- Genetics, age, gender.
- Not having children.
- HRT.
- Breast feeding.
- Obesity & hi-fat diets
- Others (not much definitive evidence of environmental pollution as a cause).
Breast Cancer Mortality Rate

<table>
<thead>
<tr>
<th>Location</th>
<th>Rate per 100,000</th>
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</thead>
<tbody>
<tr>
<td>Berkeley</td>
<td>41</td>
</tr>
<tr>
<td>Albany</td>
<td>39</td>
</tr>
<tr>
<td>San Lorenzo</td>
<td>39</td>
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<td>San Leandro</td>
<td>38</td>
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<tr>
<td>Pleasanton</td>
<td>31</td>
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<td>Livermore</td>
<td>29</td>
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<tr>
<td>Alameda</td>
<td>26</td>
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<td>Castro Valley</td>
<td>26</td>
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<tr>
<td>Hayward</td>
<td>24</td>
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<td>Alameda County</td>
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<td>Oakland</td>
<td>22</td>
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<tr>
<td>Fremont</td>
<td>21</td>
</tr>
<tr>
<td>Union City</td>
<td>16</td>
</tr>
</tbody>
</table>

Rate per 100,000
Age-Adjusted Mortality Rate in Bayfarm, Alameda City, and Alameda County, 2000-2004

- Breast Cancer
- Prostate Cancer
- Colon Cancer
- Lung Cancer

Rates per 100,000 population.