We Are What We Eat and Breathe, and Build: Preventing Chronic Diseases and Protecting the Environment by Building Healthy Communities

68th OPHA Annual Conference & Meeting
October 8-9, 2012
Corvallis OR

Richard J Jackson
MD MPH
UCLA
Fielding School of Public Health
We Are What We Eat and Breathe, and Build: Preventing Chronic Diseases and Protecting the Environment by Building Healthy Communities

MAKING PLACES: Designing and Building for Health, Well-being, and Sustainability

DESIGNING HEALTHY COMMUNITIES

RICHARD J. JACKSON WITH STACY SINCLAIR
DESIGNING HEALTHY COMMUNITIES

The 2012 PBS 4-Part Series

Dr. Richard Jackson, former head of Environmental Public Health for the Centers for Disease Control, explains the link between health and the way our communities – especially our suburbs – are designed. Obesity, asthma, diabetes and heart disease are aggravated by the auto-centric way we live today. It’s no secret that today’s young people are likely to have shorter lives than their parents due to unhealthy lifestyles. It doesn’t have to be this way. Well-designed communities can improve both physical and mental health.

Special Offer, courtesy of the Fund for the Environment & Urban Life:

Purchase the Complete Designing Healthy Communities Series (4 DVDs, 1 hour each, plus 4 bonus videos) to share with colleagues. Normally $99, the series is available at $20.

For this special offer, visit: www.DesigningHealthyCommunities.org/oram

Limited supply available at discount. $6 s/h added.

http://designinghealthycommunities.org/oram/
Major Message

• We are at a desperately important moment for Health and Environment, and the disciplines need to again work together…
  – a lot more and a lot better.

• Good Solutions Solve Multiple Problems
• The “environment” is rigged against the child…
• And the doctor, and the rest of us.
REALITY SUCKS

LUCKILY THE GM COLLEGE DISCOUNT DOESN'T.

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2012 Chevrolet Sonic
(discount example)

<table>
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2012 GMC Sierra 1500
(discount example)

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CDC: Antidepressant use skyrockets 400% in past 20 years

Use of antidepressant drugs has soared nearly 400% since 1988, making the medication the most frequently used by people ages 18-44, a report from the Centers for Disease Control and Prevention shows.

Eleven percent of Americans ages 12 years and older took antidepressants during the 2005-08 study period, the authors write. They add that though the majority of antidepressants were taken to treat depression, the drugs also can be used for anxiety disorders and other conditions.

The data are from the National Health and Nutrition Examination Surveys, which included information from 12,637 participants about prescription-drug use, antidepressant use, length of use, severity of depressive symptoms and contact with a health professional.

Mental-health professionals not associated with the survey cited several reasons as possible explanations for the spike:

Doctors who prescribe some popular antidepressants should monitor their patients closely for warning signs of suicide, especially when they first start the pills or change a dose.
U.S. “Health” Care Expenditures as Percent of GDP

Keehan et al: Health Affairs
March/April 2008 27: 145-155
“...of the 30 years of increased life expectancy 1890 - 1990... 5 years can be attributed to medical care.”

The rest has come from:

- Infrastructure (including housing)
- Public Health (esp. immunization)

Bunker cited in *Prescription for a Healthy Nation*  Farley and Cohn 2004
These disorders (and our depletion of land, water, air and economic resources) are shaped by how and where we build our homes, farms, workplaces, towns, cities and societies.
We have changed how much we walk or bike

- Percent of children who walk or bike to school:
  - 1974 → 66%
  - 2000 → 13%

(CDC, 2000)
Fitness of California Children

Annual Fitnessgram Results
Conducted in Grades 5, 7, and 9

Measures 6 major fitness areas
(e.g. aerobic capacity, body composition, flexibility)

2011 Results: Who passed all standards?

Grade 5: 25%
Grade 7: 32%
Grade 9: 37%

http://www.cde.ca.gov/nr/ne/yr11/yr11rel95.asp#tab1
Percentage of Trips in Urban Areas Made by Walking and Bicycling: North America and Europe 1995

Pucher J and Dijkstra L. Promoting Safe Walking and Cycling to Improve Public Health: Lessons From The Netherlands and Germany. AJPH, September 2003;93(9):1509-16.
For every age group from 3 through 33—crashes were the No. 1 cause of death
Pedestrian Fatality Rates for Collisions at Different Speeds

Zegeer et al 2002
Asthma Study in 12 Southern California High Schools

- 3535 children with no history of asthma in 6 high and 6 low air pollution high schools
- **5 years later:** 265 developed asthma.
  - High ozone high schools:
    - asthma rate was 3.3x higher in children playing three or more sports.
  - Low ozone high schools:
    - sports had no effect on asthma rates
“Keeling Curve”

Mauna Loa Monthly Mean Carbon Dioxide
NOAA ESRL GMD Carbon Cycle

1958-1974 Scripps Institution of Oceanography
1974-2006 National Oceanic and Atmospheric Administration

$CO_2$ (ppm)


Mauna Loa Observatory
Increasing Extent of Greenland Seasonal Ice Melt

1992

2002

2005

Greenland Surface
Icemelt
July 12, 2012
Deepest Pink Indicates Surface Has Melted
Obesity Trends* Among U.S. Adults

BRFSS, 1991

(*BMI ≥30, or ~30 lbs. overweight for 5’4” person)
Obesity Trends* Among U.S. Adults

BRFSS, 2010

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
• ...by 2030 obesity rates will rise to 42%
• The US will need to care for ... 32 million more obese people than in 2010.

Forecast:

by 2030 the prevalence of the US population with a BMI over 40 (~100 pounds overweight) will be 11%
Relationship Between BMI and Risk of Type 2 Diabetes

Age-Adjusted Relative Risk

Body Mass index (kg/m²)

Women

Men

Percentage of US Adults with Diagnosed Diabetes - 1994

Map showing the percentage of US adults with diagnosed diabetes, color-coded by range:
- White: Missing data
- Light yellow: < 4.5%
- Orange: 4.5 - 5.9%
- Dark orange: 6.0 - 7.4%
- Red: 7.5 - 8.9%
- Dark red: 9.0%
Percentage of US Adults with Diagnosed Diabetes - 2007

Map showing the percentage of US adults with diagnosed diabetes, categorized into different color bands.
“[over 30 years] the percentage of new-onset type 2 diabetes in adolescence has increased from 3% to ~50% today”.

David B Allen MD
New England Journal of Medicine
April 29, 2012
...These data imply that most youth with type 2 diabetes will require multiple oral agents or insulin therapy within a few years after diagnosis.
• “Fifty years ago, children did not avoid obesity by making healthy choices; they simply lived in an environment that provided fewer calories and included more physical activity for all.”

David B Allen MD
New England Journal of Medicine
April 29, 2012
[We need]… economic incentives to produce and purchase healthy foods and to build safe environments that require physical movement——and not simply the prescription of more and better pills….”

Dr Allen
Institute of Medicine

The purpose of public health is to fulfill society’s interest in assuring the conditions in which people can be healthy.
Perceived Benefits of a Stadium

- Social
  - Promotes a sense of community pride and solidarity
  - Raises the visible profile of a city
  - Increases the quality of life
Perceived Benefits of a Stadium

• Economic
  – Direct revenue to city via ticket taxes
  – Influx of revenue by attracting regional fans to spend money in the city
  – Source of jobs
  – Other stadium utilizations can attract additional revenue
  – Can be used to redevelop brownfields and other abandoned areas within urban centers to revitalize a community
Safeco Field Seattle
Safeco Field, Seattle, WA

• Zoning was changed around the stadium to support stores and restaurants in the neighborhood
• Large parking lots and the adjacent football stadium made the site feel more isolated
• Residential zoning was banned because of fears port activity would annoy residents
• Result: Little to no development, with the surrounding area is marked by “empty buildings, covered windows and ‘For Lease’ signs”
Properties of More Successful Stadiums

• AT&T Park (not publicly funded)
  – Not an empty seat in over 140 baseball games
  – “Only” 4400 parking places.
  – Accessed easily via transit (train, bus, ferry service), minimizing traffic impact
  – Construction was coupled with the large scale Rincon Park-South Beach Redevelopment Project
    • Emphasis on mixed-use development
    • Provisions for low-income housing
    • Commercial properties and waterfront park and recreation areas have developed
    • Reuse of what was considered a “blighted” area, with a high percentage of abandoned buildings and lots
Farmers’ Markets and Urban Agriculture

Certified Farmers’ Markets

Buy Local San Diego Produce

Visiting one of the Farmers’ Markets in San Diego County allows you to experience agriculture. These Farmers’ Markets are certified by the State, ensuring that the produce being sold by the grower is grown in California and meets all California quality standards. These criteria ensure that you receive the freshest produce for the right price.

For information about how to become Certified by the State to sell your produce at a Farmer’s Market, call the California Department of Agriculture Weights & Measures.

San Marcos Office: 760-752-4700
San Diego Office: 858-694-2778

New Market Coming Soon

Thursday, September 4th will be the inaugural sponsored Valley Center Farmers’ Market at 3:00 p.m. and run until sunset. The location is between the Upper and Lower Elementary School.

If you want to be a part of this market, go online.

SAGE (Sustainable Agriculture Education)

Linking Our Food, Farms & Future

SAGE is a pioneer in connecting rural and urban interests for their mutual benefit.

To preserve regional agriculture, while meeting the equally urgent need for equitable, sustainable urban development, SAGE has developed a holistic approach to establishing multifunctional agriculture at the metropolitan edge, and fostering linkages between rural farmers and urban city dwellers.

SAGE develops projects and participates in collaborations to support sustainable regional food and agriculture.

Urban Edge Agriculture Parks - part working agriculture and part parkland, our successful Sunol Water Tends Agricultural Park is a model of this approach.

New Ruralism Frameworks - Metro Region Ag Planning & Foodshed Assessments - developing frameworks and projects for bridging smart growth and local food systems.

Public & Farmers' Marketers - bringing farmers and the community together.

Public Education – engaging the public in sustainable agriculture.
Likely Results of a Sugar Sweetened Beverage (SSB) Tax

• “A national tax of 1 cent per ounce on sugar-sweetened beverages (SSBs) would decrease consumption by 23% and raise $14.9 billion in the first year alone.”

Atlanta Population Study

More Time in a Car $\rightarrow$ Higher Probability of Obesity

More Walking $\rightarrow$ Less Obesity

Higher Density and Connectivity $\rightarrow$ Lower Obesity
Always good, but especially as we age, what is the best exercise?
Walking 10,000 steps

- 3234 people with “Pre-Diabetes”
- Walked or exercised five times a week for 30 minutes for 6 months
- lost 5% to 7% of their body weight
- reduced their risk of diabetes by 58%
Goal 1: Make physical activity an integral and routine part of life.

Recommendation 1: Communities, transportation officials, community planners, health professionals, and governments should make promotion of physical activity a priority by substantially increasing access to places and opportunities for such activity.
Strategy 1-1: Enhance the physical and built environment. Communities, organizations, community planners, and public health professionals should encourage physical activity by enhancing the physical and built environment, rethinking community design, and ensuring access to places for such activity.

Potential actions include:

• communities, urban planners, architects, developers, and public health professionals developing and implementing sustainable strategies for improving the physical environment of communities that are as large as several square miles or more or as small as a few blocks in size in ways that encourage and support physical activity; and
NYC Active Design Guidelines

- Resilient Bldgs
- Energy Efficient Buildings
- Healthy Bldgs
- Smart zoning and locations

Complete Streets Bring Equity to Community and Transportation

- Complete Streets
  - social equity, aesthetics, walking, improved local sales, community building
The News-Review

The path to healthy living

Environmental health expert Dr. Richard Jackson discusses city planning with disease prevention in mind

CARISA CHAVASKE
The News Review

Regular exercise adds about eight years to a person’s life — more even than quitting smoking does. That’s why a community should design an environment in which people want to walk and bike rather than drive.

That’s the message Dr. Richard Jackson, the host of the Public Broadcasting Service series “Designing Healthy Communities,” gave Wednesday to about 50 people who crowded into a room at the Douglas County Library to hear him speak.

Afterward, Jackson, the chairman of environmental health sciences at the University of California, Los Angeles, toured the city with about a dozen residents. He recommended improvements along Washington Avenue and gave the city high marks for its bicycle trail along the South Umpqua River.

“I think it’s a treasure. I think this should be the diamond which you should build a filigree necklace around,” he said.

Dr. Richard Jackson
Environmental Health Expert

Environmental Health. Jackson has written two books, “Urban Sprawl and Public Health” and “Making Healthy Places,” on the connection between community planning and well being.

Jackson noted that more than a quarter of Oregonians are obese, twice the percentage of that 25 years ago, Jackson said.

The national picture isn’t pretty, either. Two of seven applicants to the military can’t get in because they don’t meet physical fitness standards, and the average life span of the American male ranks 49th compared to other nations. He said seeing more overweight children with medical problems such as high blood sugar and signs of depression.

The root cause of these problems is a lifestyle revolving around the car, he said.

“I’m asserting that what we’ve done is taken environmental disease and turned it into medical disease,” Jackson said. “The environment is rigged against this child and in many ways it’s rigged against the doctor.”

He said the American dream has come to mean living in the suburbs, but long commutes mean more stressors, he said. “If you want to devise a way in America for people to be depressed, isolate them in a steel box.”

Following his speech, Jackson headed out of the library for a walk, giving his impressions of Roseburg’s design along the way.

While he thought Southeast Jackson Street was beautiful, Jackson found some areas less lovely upon turning down Washington Avenue.

At the intersection of an abandoned Rate-Aid building and former Safeway parking lot, Downtown Roseburg Association Director Jeff Bright showed him an illustration.
Health: Pedestrian routes near schools crucial for cities

Continued from page 1

of what the area might look like if the city built a plaza.

Although he recommended adding trees to the plan, Jackson thought the plaza would be an improvement. “This is the heart of the city,” he said.

He also suggested “dressing” the Overpark garage across the street by opening the ground floor up to small retail shops.

Walking farther down Washington Avenue, he commented favorably on the new Umpqua Business Center, which opened last week.

“This is a lovely building. They’ve done a nice job,” he said.

He said he particularly liked the parking was in back and not visible from the street and contrasted that with nearby parking lots facing Washington Avenue.

The streetfront parking lots convey the message that “the most important thing in our life is our cars,” he said.

Jackson said the bike lane along Washington Avenue is too narrow for riders. The problem of continuing a lane across the Washington Avenue bridge toward Roseburg High School could be solved by constructing bike lanes on the outer edge of the bridge, separating cyclists from motorists.

He said it’s important to create safe walking and biking routes for the Roseburg Community Development Director Brian Davis said he was intrigued by Jackson’s presentation. He said the event drew community planners, transportation planners, health care providers and community gardening organizers.

“I was thrilled, to say the least,” said Dick Dolgonas, spokesperson for the bicycle and pedestrian coalition.

Roseburg Community Development Director Brian Davis said he was intrigued by Jackson’s presentation. He said the city plans to create better transportation connections in future development, but making changes in already developed areas may be hard.

“I guess the struggle we would have is where the central part of the city that was built years ago and didn’t have those standards,” he said.

Kristina Johansson, owner of Wide Variety Recycling and 2nd Usage in Sutherlin, said she loved Jackson’s presentation and said she would like to see some of the types of improvements he suggested happen in Sutherlin.

John McDonald, a transportation planner for the Oregon Department of Transportation, said ODOT is already moving in the direction of creating more walking and biking paths. 
The Manhattan Waterfront Greenway

32-mile long walking and bicycling path around the island of Manhattan. The majority of the Manhattan Waterfront Greenway is physically separated from auto traffic.
Charlotte, NC, Light Rail Opened
November, 2007
• Significant increase in meeting the weekly Recommended Physical Activity
• … through walking (OR1.09)
• …and through vigorous exercise (OR1.11)
• The use of Light Rail Transit to commute to work was associated with an average reduction of 1.18 BMI points ($p < 0.05$) and 81% reduced odds of becoming obese over time.

• For a person who is 5’5” --equivalent to a relative weight loss of 6.45 lbs.
Now Coveted: A Walkable, Convenient Place

By CHRISTOPHER B. LEINBERGER
Published: May 25, 2012

WALKING isn’t just good for you. It has become an indicator of your socioeconomic status.

Until the 1990s, exclusive suburban homes that were accessible only by car cost more, per square foot, than other kinds of American housing. Now, however, these suburbs have become overbuilt, and housing values have fallen. Today, the most valuable real estate lies in walkable urban locations. Many of these now pricey places were slums just 30 years ago.
• Segway Personal Transporter
  • $5000 and up
  • “burn” about ~200 kcal/hr

• Cost of Police Mountain Bike
  • ~ $700-1000
  • ~ 650/kcal/hr
The Chenoggye freeway ran through the center of Seoul ~1970-2005
• Cheonggyecheon -- 8.4 km long downtown Seoul, South Korea.

• The $900 million project initially attracted much public criticism.
A Big Shift in Public Health’s Awareness of Built Environment as a Core Determinant of Health
2011 APHA Annual Meeting

“land use” 102 matches

You may search for particular presentations by typing key words, an author's name, or the title in the box below.

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