Los Angeles County Health Survey
A health assessment tool for the most populous county in the United States

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Office of Health Assessment & Epidemiology
Health Assessment Unit
Presentation Overview

• Background

• Importance of local data collection

• Survey intro:
  – objectives, methodology, content, limitations

• Data examples

• Data dissemination & Use in Public Health Practice

• Challenges & Conclusions
Los Angeles County, CA
Los Angeles County (LAC)

- 9.9 Million residents
- 4,058 square miles (10,510 km²)
  http://quickfacts.census.gov/qfd/states/06/06037.html
- 8 Service Planning Areas
- 26 Health Districts
## Populations of LAC, SPAs and Individual US States by Rank

<table>
<thead>
<tr>
<th>Rank</th>
<th>State/Region</th>
<th>Population</th>
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<td>55</td>
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<td>56</td>
<td>SPA 5 - WEST (0.6 Million)</td>
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<tr>
<td>57</td>
<td>VERMONT</td>
<td>-</td>
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<tr>
<td>58</td>
<td>DISTRICT OF COLUMBIA</td>
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<tr>
<td>59</td>
<td>WYOMING</td>
<td>-</td>
</tr>
<tr>
<td>60</td>
<td>SPA 1 - ANTELOPE VALLEY (0.4 Million)</td>
<td>-</td>
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</tbody>
</table>

Diversity

Los Angeles County Race/Ethnicity, 2010

- Latino: 48.1%
- White: 28.9%
- African American: 14.3%
- Asian/Pacific Islander: 8.5%
- American Indian/Alaskan Native: 0.2%

Importance of Data Collection

&

Survey Information
Importance of Data Collection and Analysis

• Assessment is a core public health function
  – Monitoring population health
  – Mitigate community problems

• Data increasingly used in public health to drive
  – Evidence-based practice
  – Policy decisions
  – Program planning and evaluation

• Community health improvement efforts
  – Help communities understand issues
  – Health education & Outreach
  – Acquire funding through grants
Historically, **Infectious disease** posed the greatest threat to public health and was main surveillance focus.

- **Local jurisdictions lacked data on other important factors leading to morbidity and mortality**
  - Chronic disease prevalence
  - Health behaviors
  - Health related quality of life
  - Access to health care and preventive services
  - Public opinion on health issues

- **LAC Department of Public Health began LACHS in 1997 for more comprehensive health assessment**
Key Objectives of LACHS

• Obtain **reliable estimates** for health indicators

• Identify disparities

• Track health trends

• Compare health of LA County residents with state and national health objectives *(e.g. Healthy People 2020)*
LACHS Methodology

• Population-based **Random digit–dial (RDD) telephone survey**


• **Cellphone component** (New to 2011 cycle)

• **6 Languages**: English, Spanish, Mandarin, Cantonese, Vietnamese, Korean
LACHS Methodology

• Statistical Weighting
  – Generalizability: reflect non-institutionalized LAC population
  – Accounts for differences in the probability of selection of households
  – Aligns the survey results to known geographic and demographic characteristics

• The process in a nutshell
  – Each individual record (based on selection probability)
    • Household weight
    • Population weight
  – then project the data files (using Census info)
    • residential housing units
    • non-institutionalized adults and children
Random selection using a dual overlapping design

- RDD Landline sample frame
- Cross-sectional, RDD cell phone sample frame

Design was considered "overlapping" because households that have both landline and cell phone service have a probability of being selected from both frames

Degree of "overlap" accounted for in the weight calculations

Telephone numbers from each frame were managed independently
LACHS Components

- **Adult (18+ years old):**
  - ~8,000 respondents
  - One adult randomly selected per household
  - **8 Adult subsamples:**
    - Mini-surveys administered to a subset of ~1000 randomly selected adults from the main sample

- **Child:**
  - ~6000 parents/guardians/caregivers of children 0-17 years old
Adult Survey Content

• Chronic Disease Prevalence
• Functional Status & Health Related Quality of Life
• Health Behaviors
• Health & Dental Insurance
• Access to Care & Preventive Services
• Built Environment
• Emergency Preparedness
Child Survey Content

- Health Status and Conditions
- Child Health Insurance & Access to Care
- Child Care
- Child Behaviors and Routines
- Parental Behaviors/Perceptions
- Preconception to Postpartum
2011 Cooperation & Response Rates

Cooperation Rate:

• Adult Survey
  – 59% - landline
  – 71% - cell phone
  – 66% - combined

• Child Survey
  – 62% - landline
  – 72% - supplemental landline
  – 59% - cell phone
  – 64% - combined

Response Rate:

• Adult Survey
  – 35% - landline
  – 23% - cell phone
  – 28% - combined

• Child Survey
  – 22% - landline
  – 30% - supplemental landline
  – 14% - cell phone
  – 20% - combined

Limitations

• Self-reported data

• Temporal ambiguity

• Time constraints: only ~30 minutes

• Omits people
  – Without telephones (eg. homeless)
  – Living in some group quarters (mental institutions, jails)

• Low response rates to telephone surveys

Still able to get reliable data from a representative sample
Data Examples
Percent of Employed Adults Who Have Had To Decrease Their Working Hours or Their Employer Decreased Their Working Hours in the Past 2 Years by Education, 2011

- Less than High School: 44%
- High School: 33%
- Some College or Trade School: 27%
- College or Post Graduate Degree: 19%

28% LAC
Percent of Adults Who Have Been Late or Unable to Pay Their Mortgage/Rent in the Past 2 Years by Race Ethnicity, 2011

- Latino: 21%
- White: 11%
- African American: 26%
- Asian/Pacific Islander: 14%

LAC 17%
Percent of Food Insecure (Low and Very Low) Households <300% FPL With and Without Children, 2002-2011

- **Very Low Food Security**
- **Low Food Security**

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<tr>
<th>Year</th>
<th>Households with Children</th>
<th>2002</th>
<th>2005</th>
<th>2011</th>
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<td>13.2%</td>
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<table>
<thead>
<tr>
<th>Year</th>
<th>Households without Children</th>
<th>2002</th>
<th>2005</th>
<th>2011</th>
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<td>28.0%</td>
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<td></td>
<td>12.6%</td>
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</tbody>
</table>

- Food insecurity is a scaled variable based on a series of 5 questions.
Chronic Conditions

Trends in Diabetes and Obesity Among Adults in LA County

Obesity
- 13.6% in 1997
- 16.7% in 1999
- 18.9% in 2002
- 20.9% in 2005
- 22.2% in 2007
- 23.6% in 2011

Increase since 1997!

Diabetes
- 6.6% in 1997
- 7.5% in 1999
- 7.6% in 2002
- 8.6% in 2005
- 9.1% in 2007
- 9.9% in 2011

50% Increase since 1997!

Age Adjusted Percentage according to the 2000 US Standard Population aged 18 years and older
Adult Obesity by Health District 1997

* The estimate is statistically unstable (relative standard error ≥23%).

Los Angeles County Department of Public Health, Office of Health Assessment and Epidemiology.
Source: 1997 Los Angeles County Health Survey.
Adult Obesity by Health District 1999

* The estimate is statistically unstable (relative standard error ≥23%).
Los Angeles County Department of Public Health, Office of Health Assessment and Epidemiology.
Source: 1999 Los Angeles County Health Survey.
Adult Obesity by Health District§ 2002

§ Health District boundaries were adjusted in 2000 following Census 2000 redistricting.
Los Angeles County Department of Public Health, Office of Health Assessment and Epidemiology.
Source: 2002 Los Angeles County Health Survey.
Adult Obesity by Health District 2005
* The estimate is statistically unstable (relative standard error ≥23%).
Los Angeles County Department of Public Health, Office of Health Assessment and Epidemiology.
Source: 2007 Los Angeles County Health Survey.
Adult Obesity by Health District § 2011

§ Health District boundaries were adjusted in 2010 following Census 2010 redistricting.
Los Angeles County Department of Public Health, Office of Health Assessment and Epidemiology.
Source: 2011 Los Angeles County Health Survey.
Health Behaviors

Sugar Sweetened Beverage Consumption among Children, by Age Group 2007-2011

- Drinks at least one soda or sugar sweetened beverage per day

Age Groups

- 0-5
  - 2007: 29%
  - 2011: 24%

- 6-11
  - 2007: 45%
  - 2011: 40%

- 12-17
  - 2007: 56%
  - 2011: 50%
Uninsured (18-64 yrs) by Race/Ethnicity, 2011

- Latino: 43%
- White: 14%
- African American: 16%
- Asian/Pacific Islander: 18%

LAC = 29%

Percent of Uninsured Non-Elderly Adults (18-64 years old) by Los Angeles County Health Districts, 2011

* The estimate is statistically unstable (relative standard error ≥ 23%) and therefore may not be appropriate to use for planning or policy purposes.

2011 Los Angeles County Health Survey, Office of Health Assessment and Epidemiology, Los Angeles County Department of Public Health.
Cost as a Barrier to Accessing Care Among Adults (18-64 years) by Insurance Status, 2011

- Dental Care: 49% uninsured, 15% insured
- Medical Doctor: 37% uninsured, 10% insured
- Prescription Medication: 28% uninsured, 12% insured
- Mental Health Care: 12% uninsured, 5% insured

* Analyzed by dental insurance status
Data Dissemination & Use in Public Health Practice
Who Uses LACHS Data?

• **LAC Departments:**
  Public Health, Health Services, Mental Health
  – Program planning and evaluation
  – Grant proposals

• **Other government agencies**

• **Health advocates**
  – Community based organizations
  – Non-profit health organizations
  – Healthcare providers, Community clinics

• **Researchers:**
  – Academic, Health, and Health policy professionals
  – Students
Reports

– Cities & Communities Reports

– Key Indicators of Health Reports

– LA Health Briefs

– Health Indicators for Women Reports

www.publichealth.lacounty.gov/ha
### Publications

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<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Year</th>
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<tr>
<td>Effective Birth Control Use among Women at Risk for Unintended Pregnancy in Los Angeles, California</td>
<td>Phares TM, Cui Y, Baldwin S</td>
<td>2012</td>
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<td>Small Area Estimation Reveal High Cigarette Smoking Prevalence in Low Income Cities of Los Angeles County</td>
<td>Cui Y, Baldwin SB, Lightstone AS, Shih M, Yu H, Teutsch S</td>
<td>2011</td>
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<tr>
<td>Human Papillomavirus Vaccine Among Adult Women: Disparities in Awareness and Acceptance</td>
<td>Cui Y, Baldwin SB, Wiley D.J., Fielding J.E.</td>
<td>2010</td>
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<tr>
<td>Is Incarceration a Contributor to Health Disparities? Access to Care of Formerly Incarcerated Adults</td>
<td>Kulkarni SP, Baldwin S, Lightstone AS, Gelberg L, Diamant AL</td>
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### Data Tables

<table>
<thead>
<tr>
<th>Percent of Adults (18+ years old) Who Reported Eating 5 or More Servings of Fruit/Vegetables in the Past Day.</th>
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<tr>
<td><strong>Los Angeles County Health Survey, 2011.</strong></td>
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<td><strong>Ate 5+ Servings of Fruits/Vegetables</strong></td>
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<td><strong>Percent</strong></td>
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- **Standardized data tables**
- **Various health indicators**
- **Information on different domain levels**

http://publichealth.lacounty.gov/ha/hasurveyintro.htm
Data Used in PH Practice

- **Example1**: 
  - LACHS data identified areas with children eligible for public assistance, but were not enrolled
  
  - DHS developed a needs based formula for funding allocation for outreach and enrollment by SPA

  - ~65,000 children got enrolled and insured

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**Child (0-17 years) Insurance Types, Los Angeles County 1997-2011**

- **Public**: 52.6%, 56.0%, 55.4%, 48.5%, 47.7%, 48.5%, 46.4%
- **Private**: 26.3%, 28.0%, 34.5%, 43.2%, 45.4%, 45.4%, 46.4%
- **None**: 19.4%, 15.8%, 10.1%, 8.3%, 7.0%, 5.0%, 5.0%

Source: Los Angeles County Health Survey 1997-2011
Example 2:

- Identified higher rates of food insecurity among households with children

  - DPH and LA Collaborative for Healthy Active Children worked together to
    
    » Develop **policy recommendations** and actions
    
    » Eliminate the “reduced price” school lunch category in favor of a **free lunch program** for all low income students
    
    » Develop a **Healthy Breakfast Campaign** which includes
      
      » Media campaign to promote healthy breakfast eating
      » Teacher classroom tool kit about healthy breakfast
      » Assistance for school districts to reduce child hunger and improve nutrition in schools
Example 3:

- Choose Health LA

- LACHS Data was included in a CDC Community Transformation Grant application resulting in 5 year funding for programs aimed at

  » Reducing youth access to tobacco products and exposure to secondhand smoke

  » Improving nutrition and opportunities for physical activity

  » Increasing access to high quality, clinical preventive services.

Contact Choose Health LA at ChooseHealthLA@ph.lacounty.gov
Example 3: ChooseHealthLA Media Campaigns

- **Sugar Loaded Drinks**
  - Reducing Sugar Sweetened Beverage Consumption

- **Choose Less Weigh Less**
  - Making the public more aware of portion control

Contact Choose Health LA at ChooseHealthLA@ph.lacounty.gov
Example 3: ChooseHealthLA

• Choose Health LA Restaurants Program

- Expand healthy food options for people who dine out
  - Gives restaurants an incentive to offer
    - healthier food choices
    - smaller portion size
    - healthier children’s meals

Contact Choose Health LA at ChooseHealthLA@ph.lacounty.gov
Challenges

• Increasingly expensive - $$$$$$$$$$

• Soft money funding!
  – Funding partners cannot guarantee funding due uncertainty of their own funding sources and timing of grant cycles

• Survey content limited due to time

• Response rates
  – Declining nationwide and are lowest in urban areas like LAC
  – Cell-phone only population
Conclusion

• LACHS fulfills core functions of public health

  – **Assessment**
    • Measuring population health

  – **Policy Development**
    • Establish strategic plans, policies, programs and guidelines

  – **Assurance**
    • Program evaluation and feedback
    • Increase access to care
Acknowledgements

• Margaret Shih, MD, PhD
• Amy S. Lightstone, MPH, MA
• Gigi Mathew, DrPH
• Yan Cui, MD, PhD
• Yajun Du, MS
• Office of Health Assessment & Epidemiology Staff
Health Assessment Unit

Office of Health Assessment & Epidemiology
313 N. Figueroa Street, Room 127
Los Angeles, CA 90012
jeblake@ph.lacounty.gov
213-240-7785
www.publichealth.lacounty.gov/ha
* The estimate is statistically unstable (relative standard error ≥23%).
§ Health District boundaries were adjusted in 2010 following Census 2010 redistricting.
Sugar Sweetened Beverage Consumption∞ Among Adults & Children, 2011

By Gender

- Male: 45.1% Adults, 41.4% Children
- Female: 26.5% Adults, 35.1% Children

By Race/Ethnicity

- Latino: 48% Adults, 42% Children
- White: 26% Adults, 26% Children
- African American: 36% Adults, 49% Children
- Asian/Pacific Islander: 21% Adults, 28% Children

∞Drinks at least one soda or sugar sweetened beverage per day