Atlas of Health Indicators in the Redwood Coast Region

By The California Center for Rural Policy
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By The California Center for Rural Policy at Humboldt State University

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Introduction

Maps are increasingly being used to understand connections between human health and physical and social environments.\textsuperscript{1,2,3} A geographic information system (GIS) is a computer system for analyzing and mapping variables.\textsuperscript{2} Mapping health and social indicators can assist with understanding issues faced by local communities, highlighting assets, localizing areas of highest need and targeting resources and policies aimed at ameliorating problems.

This atlas contains a collection of GIS maps produced from research projects conducted by the California Center for Rural Policy (CCRP) at Humboldt State University. All of the GIS maps were produced by the Institute for Spatial Analysis at Humboldt State University.

This atlas contains three sections:

1) GIS maps showing the distribution of poverty in Del Norte, Humboldt, Trinity and Mendocino counties (collectively known as the Redwood Coast Region). These maps were created using U.S. Census, 2000 data. For more information about poverty in the Redwood Coast Region visit http://www.humboldt.edu/~ccrp/

2) GIS maps showing various health indicators in the Redwood Coast Region. These maps were created using data from the Rural Health Information Survey (RHIS), which was conducted by CCRP in the fall of 2006. The purpose of the survey was to assess health disparities, access and utilization of health care, and other determinants of health among residents in Del Norte, Humboldt, Trinity and Mendocino counties. The goal of the survey is to provide useful information for planning and policy development aimed at improving health in the region. A four-page self-administered survey was mailed to a random sample of adults in the four county region. A total of 2,950 surveys provided usable responses for analysis making this the largest survey to ever be conducted in this rural region of California. For more information about the Rural Health Information Survey visit http://www.humboldt.edu/~ccrp/

3) GIS maps showing various health and social indicators for the Latino population in Del Norte, Humboldt and Mendocino Counties. These maps were created using data from the Rural Latino Project, which was conducted by CCRP in 2006. The Rural Latino Project focuses on the health needs, coping strategies and experiences of Latinos in Del Norte, Humboldt, and Mendocino counties. Multiple research methods were employed including: key-informant interviews, content analysis of newspaper articles, field research, and spatial analysis of primary and secondary data. Qualitative, key-informant interviews were conducted with 54 adults in Humboldt County (n = 20), Mendocino County (n = 20), and Del Norte County (n = 14). Key informants were people who work closely with the Latino community, health and social service providers who serve Latinos, and Latino community leaders from the three counties. For more information about the Rural Latino Project visit http://www.humboldt.edu/~ccrp/
Total Population in Poverty, 2000: Redwood Coast Region

Total Population Below Poverty Level
Percent by Census Tract

29 - 44
23 - 28
17 - 22
14 - 16
9 - 13
5 - 8

Data Source: U.S. Census Bureau 2000.

<table>
<thead>
<tr>
<th>Region</th>
<th>Total Population</th>
<th>Total Population Below Poverty Level</th>
<th>% Total Population Below Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of California</td>
<td>33,100,044</td>
<td>4,706,130</td>
<td>14.2</td>
</tr>
<tr>
<td>Redwood Coast Region*</td>
<td>244,236</td>
<td>44,701</td>
<td>18.3</td>
</tr>
<tr>
<td>Trinity County</td>
<td>12,716</td>
<td>2,372</td>
<td>18.7</td>
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<tr>
<td>Mendocino County</td>
<td>84,736</td>
<td>13,505</td>
<td>15.9</td>
</tr>
<tr>
<td>Humboldt County</td>
<td>123,167</td>
<td>24,059</td>
<td>19.5</td>
</tr>
<tr>
<td>Del Norte County</td>
<td>23,626</td>
<td>4,765</td>
<td>20.2</td>
</tr>
</tbody>
</table>

All numbers are estimates from U.S. Census Bureau, Summary File 3.
* The Redwood Coast Region consists of Trinity, Mendocino, Humboldt & Del Norte Counties.
Children Under Age 5 in Poverty, 2000: Redwood Coast Region

Children Under Age Five Below Poverty Level
Percent by Census Tract

- 40 - 54
- 32 - 39
- 24 - 31
- 15 - 23
- 9 - 14
- 0 - 8

Data Source: U.S. Census Bureau 2000.

<table>
<thead>
<tr>
<th>Region</th>
<th>Population Under Age 5</th>
<th>Population Under 5 Below Poverty Level</th>
<th>% Population Under Age 5 Below Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of California</td>
<td>2,398,724</td>
<td>489,256</td>
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<tr>
<td>Redwood Coast Region</td>
<td>13,898</td>
<td>3,876</td>
<td>27.9</td>
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<tr>
<td>Trinity County</td>
<td>510</td>
<td>173</td>
<td>33.9</td>
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<tr>
<td>Mendocino County</td>
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<td>1,212</td>
<td>24.4</td>
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<tr>
<td>Humboldt County</td>
<td>6,956</td>
<td>1,969</td>
<td>28.3</td>
</tr>
<tr>
<td>Del Norte County</td>
<td>1,472</td>
<td>522</td>
<td>35.5</td>
</tr>
</tbody>
</table>

*All numbers are estimates from U.S. Census Bureau, Summary File 3.
**The Redwood Coast Region consists of Trinity, Mendocino, Humboldt & Del Norte Counties.
Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total of 23,606 surveys were mailed to a random sample of post office box holders in the four counties of Del Norte, Humboldt, Trinity and Mendocino. The total number of returned surveys was 3,003 for an overall response rate of 12.7%.

Percent of Respondents Without Adequate Health Care Access, 2006

- 30 - 40
- 25 - 29
- 20 - 24
- 15 - 19
- 10 - 14
- 0 - 9

Low sample size

OSHPD Licensed Health Care Facilities

- General Acute Care Hospital
- Free & Community Clinics

Public Lands

- National Forests, National & State Parks

1 Data derived from RHIS survey question (4): Within the past 12 mo. were you able to get the health care (incl. mental health care) you needed? Percentages are shown for survey respondents of each sampled post office.

2 Post offices with less than 20 survey responses were not included in analysis due to statistical instability.

3 Facilities shown are those classified as either 'General Acute Care Hospital' or 'Free or Community Clinics' in OSHPD's database.


Data Sources: ESRI, OSHPD, U.S. Postal Service; CCRP Rural Health Information Survey 2006

http://www.humboldt.edu/~ccrp
CCRPRural Health Information Survey: Percent of Respondents Without Health Insurance, 2006

Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total of 23,606 surveys were mailed to a random sample of post office box holders in the four counties of Del Norte, Humboldt, Trinity and Mendocino. The total number of returned surveys was 3,003 for an overall response rate of 12.7%.

Total Population
Below Poverty Level
Percent by Census Tract

- 29 - 44
- 23 - 28
- 17 - 22
- 14 - 16
- 9 - 13
- 5 - 8

Data Source: U.S. Census Bureau 2000

Percent of Respondents Without Health Insurance

- □ 30 - 45
- ○ 25 - 29
- ● 20 - 24
- ▲ 15 - 19
- ★ 10 - 14
- ♦ 5 - 9
- ▲ Low Sample Size

1 Data derived from RHIS survey question (6): What types of health insurance do you have? Percentages are shown for survey respondents of each sampled post office.

2 Post offices with less than 20 survey responses were not included in analysis due to statistical instability.


Data Sources: ESRI, U.S. Postal Service, CCRP Rural Health Information Survey 2006 (Revised June 2008)

http://www.humboldt.edu/crpr

[Map showing rural health information distribution]
Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total of 23,606 surveys were mailed to a random sample of post office box holders in the four counties of Del Norte, Humboldt, Trinity and Mendocino. The total number of returned surveys was 3,003 for an overall response rate of 12.7%.

Percent of Respondents With Transportation Impacting Health Needs

- 35 - 45
- 30 - 34
- 25 - 29
- 20 - 24
- 10 - 19
- 6 - 9
- Low sample size²

Public Lands
- National Forests, National & State Parks

¹ Data derived from RHIS survey question (49): Is transportation a problem in meeting the health needs of you or your family? Percentages are shown for survey respondents of each sampled post office.

² Post offices with less than 20 survey responses were not included in analysis due to statistical instability.

Data Sources: ESRI, U.S. Postal Service, CCRP Rural Health Information Survey 2006.

http://www.humboldt.edu/~ccrp
Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total of 23,606 surveys were mailed to a random sample of post office box holders in the four counties of Del Norte, Humboldt, Trinity and Mendocino. The total number of returned surveys was 3,003 for an overall response rate of 12.7%.

Respondents' Average (Mean) Travel Time to Health Care, in Minutes

- 70 - 105
- 60 - 69
- 50 - 59
- 40 - 49
- 25 - 39
- 15 - 24
- Low sample size

OSHPD Licensed Health Care Facilities

- General Acute Care Hospital
- Free & Community Clinics

Public Lands

- National Forests, National & State Parks

1 Data derived from RHIS survey question (8): Where do you go for health care? How long does it usually take you to get there from your home?
2 Percentages are shown for survey respondents of each sampled post office.
3 Post offices with less than 20 survey responses were not included in analysis due to statistical instability.
4 Facilities shown are those classified as either 'General Acute Care Hospital' or 'Free or Community Clinics' in OSHPD's database.
CRRP Rural Health Information Survey:
Percent of Respondents With Very Low Food Security\(^1\), 2006

Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total of 23,606 surveys were mailed to a random sample of post office box holders in the four counties of Del Norte, Humboldt, Trinity and Mendocino. The total number of returned surveys was 3,003 for an overall response rate of 12.7%.

Percent of Respondents With Very Low Food Security

- Low sample size\(^2\)
  - 16 - 25
  - 11 - 15
  - 9 - 10
  - 6 - 8
  - 3 - 5
  - 2

Total Population Below Poverty Level
Percent by Census Tract

- 29 - 44
- 23 - 28
- 17 - 22
- 14 - 16
- 9 - 13
- 5 - 8

Data Source: U.S. Census Bureau 2000.

\(^1\) Data derived from RHIS survey question (31): In the last 12 mo, were you or people living in your household ever hungry because you couldn’t afford enough food?

Percentages are shown for survey respondents of each sampled post office.

\(^2\) Post offices with less than 20 survey responses were not included in analysis due to statistical instability.
Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total of 23,606 surveys were mailed to a random sample of post office box holders in the four counties of Del Norte, Humboldt, Trinity and Mendocino. The total number of returned surveys was 3,003 for an overall response rate of 12.7%.

Respondents' Average (Mean) Distance to the Grocery Store, in Miles

- 40 - 60
- 30 - 39
- 20 - 29
- 15 - 19
- 10 - 14
- 5 - 9
- Low sample size

Public Lands
- National Forests, National & State Parks

1 Data derived from RHIS survey question (43): How far do you live from the store where you normally buy food? Percentages are shown for survey respondents of each sampled post office.

2 Post offices with less than 20 survey responses were not included in analysis due to statistical instability.
CCRP Rural Health Information Survey:
Percent of Respondents Without First Aid Training¹, 2006

Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total of 23,606 surveys were mailed to a random sample of post office box holders in the four counties of Del Norte, Humboldt, Trinity and Mendocino. The total number of returned surveys was 3,003 for an overall response rate of 12.7%.

Percent of Respondents Without First Aid Training

- 60 - 65
- 55 - 59
- 50 - 54
- 45 - 49
- 40 - 44
- 25 - 39
- Low sample size²

Public Lands

- National Forests, National & State Parks

¹ Data derived from RHIS survey question (50):
Do you have training in first aid?
Percentages are shown for survey respondents of each sampled post office.

² Post offices with less than 20 survey responses were not included in analysis due to statistical instability.

Data Sources: ESRI, U.S. Postal Service, CCRP Rural Health Information Survey 2006.
CCRPR Rural Health Information Survey:
Percent of Respondents Without CPR Training, 2006

Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total of 23,606 surveys were mailed to a random sample of post office box holders in the four counties of Del Norte, Humboldt, Trinity and Mendocino. The total number of returned surveys was 3,003 for an overall response rate of 12.7%.

Percent of Respondents Without CPR Training

- 60 - 70
- 55 - 59
- 50 - 54
- 45 - 49
- 35 - 44
- 25 - 34
- Low sample size

Public Lands
- National Forests, National & State Parks

1 Data derived from RHIS survey question (50):
   Do you have training in CPR?
   Percentages are shown for survey respondents of each sampled post office.
2 Post offices with less than 20 survey responses were not included in analysis due to statistical instability.

Data Sources: ESRI, U.S. Postal Service, CCRP Rural Health Information Survey 2006.

http://www.humboldt.edu/ccrp
Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total of 23,606 surveys were mailed to a random sample of post office box holders in the four counties of Del Norte, Humboldt, Trinity and Mendocino. The total number of returned surveys was 3,003 for an overall response rate of 12.7%.

Percent of Respondents Without In-Home Internet Access, 2006

- 60 - 70
- 50 - 59
- 40 - 49
- 30 - 39
- 20 - 29
- 14 - 20

Public Lands
- National Forests, National & State Parks

1 Data derived from RHIS survey question (37): In your home, do you have Internet access? Percentages are shown for survey respondents of each sampled post office.
2 Post offices with less than 20 survey resposes were not included in analysis due to statistical instability.

Data Sources: ESRI; U.S. Postal Service, CCRP Rural Health Information Survey 2006

http://www.humboldt.edu/~ccrp
Places Frequent for Medical Care* by the Latino Community
of Del Norte, Humboldt & Mendocino Counties, CA

Where Latinos Receive Medical Care

Type of Facility (Pie charts):
Represented as a percentage of total responses, grouped by county.

- Clinics
- Hospitals
- Private Practice

Towns Frequent
Frequency** of Use:

- ▲ 16 - 29
- ▲ 9 - 15
- ▲ 3 - 8
- ▲ 1 - 2

Latino Population, 2000
Percent by Census Tract

- ▲ 22 - 33
- ▲ 14 - 21
- ▲ 10 - 13
- ▲ 7 - 9
- ▲ 4 - 6
- ▲ 2 - 3


*Data generated from CCRP Latino Project, Q16(b): Where do members of the Latino community most often go to obtain medical care?
**Frequency = Number of times a particular location was mentioned.
Note: Informants could name multiple geographic locations. The qualitative analysis sought to identify multiple themes and codes for each question asked. Therefore, the number of codes does not reflect the number of people interviewed, but rather the range of responses provided for each question.

Methods: During 2006-07, 54 key informant interviews were conducted with people ≥ age 18. Participants included individuals who work closely with the Latino community, health providers who serve Latinos, and Latino community leaders throughout the Mendocino (N=20), Del Norte (N=14) and Humboldt County (N= 20) region. Trinity County was not included in this study due to the small percentage of Latinos living in the county (4.0 % of tot. pop.).

Towns frequented for medical care by the Latino community of Del Norte, Humboldt & Mendocino Counties.
(Sampled counties are shown in yellow.)
Places Frequent for Dental Care* by the Latino Community
of Del Norte, Humboldt & Mendocino Counties, CA

Methods: During 2006-07 54 key informant interviews were conducted with people > age 18. Participants included individuals who work closely with the Latino community, health providers who serve Latinos, and Latino community leaders throughout the Mendocino (N=20), Del Norte (N=14) and Humboldt County (N=20) region. Trinity County was not included in this study due to the small percentage of Latinos living in the county (4.0 % of tot. pop.).

Where Latinos Receive Dental Care

Type of Facility (Pie charts):
Represented as a percentage of total responses, grouped by county.
- Clinics
- Hospitals
- Private Practice
- Mexico

Towns Frequent

Frequency** of Use:
- 15 - 21
- 6 - 14
- 3 - 5
- 2

Latino Population, 2000
Percent by Census Tract
- 22 - 33
- 14 - 21
- 10 - 13
- 7 - 9
- 4 - 6
- 2 - 3

* Data generated from CCRP Latino Project, Q16(c): Where do members of the Latino community most often go to obtain dental care?
** Frequency = Number of times a particular location was mentioned.
Note: Informants could name multiple geographic locations. The qualitative analysis sought to identify multiple themes and codes for each question asked. Therefore, the number of codes does not reflect the number of people interviewed, but rather the range of responses provided for each question.
Range of Places Used* by the Latino Community of Del Norte, Humboldt & Mendocino Counties, CA

Places Used* by the Latino Community of Del Norte, Humboldt & Mendocino Counties. (Sampled counties are shown in yellow.)

Places Used* by Latinos, by Type:
Locations are shown by type of goods and services obtained, generalized to community-level. Map depicts presence, not frequency.
- Medical Care
- Dental Care
- Food
- Recreation/Entertainment
- Spiritual/Religious

Latino Population, 2000
Percent by Census Tract
- 22 - 33
- 14 - 21
- 10 - 13
- 7 - 9
- 4 - 6
- 2 - 3

* Data generated from CCRP Latino Survey, Q16: Where do members of the Latino community most often obtain goods and services?

Data Tabulation: Informants could provide multiple answers to a particular question. The qualitative analysis sought to identify multiple themes and codes for each question asked. Therefore, the number of codes does not reflect the number of people interviewed, but rather the range of responses provided for each question.
Places Frequent for Recreation & Entertainment* by the Latino Community of Del Norte, Humboldt & Mendocino Counties, CA

Methods: During 2006-07 54 key informant interviews were conducted with people > age 18. Participants included individuals who work closely with the Latino community, health providers who serve Latinos, and Latino community leaders throughout the Mendocino (N=20), Del Norte (N=14) and Humboldt County (N= 20) region. Trinity County was not included in this study due to the small percentage of Latinos living in the county (4.0 % of tot. pop.).

Where Latinos Go for Recreation & Entertainment

Type of Facility (Pie charts):
Represented as a percentage of total responses, grouped by county.

- Community Centers, Halls
- Nature - Rivers & Beaches
- Parks
- Soccer
- Movies
- Mall
- Other

Towns Frequent

Frequency** of Use:

- 15 - 22
- 8 - 14
- 3 - 7
- 1 - 2

Latino Population, 2000
Percent by Census Tract

* Data generated from CCRP Latino Project, Q16(k): Where do members of the Latino community most often go for recreation and entertainment?
** Frequent = Number of times a particular location was mentioned.
Note: Informants could name multiple geographic locations. The qualitative analysis sought to identify multiple themes and codes for each question asked. Therefore, the number of codes does not reflect the number of people interviewed, but rather the range of responses provided for each question.
Places Frequent for Spiritual and Religious Activities* by the Latino Community of Del Norte, Humboldt & Mendocino Counties, CA

Methods: During 2005-07 54 key informant interviews were conducted with people > age 18. Participants included individuals who work closely with the Latino community, health providers who serve Latinos, and Latino community leaders throughout the Mendocino (N=20), Del Norte (N=14) and Humboldt County (N= 20) region. Trinity County was not included in this study due to the small percentage of Latinos living in the county (4.0% of tot. pop.).

Where Latinos Go for Spiritual & Religious Activities

Type of Facility (Pie charts):
Represented as a percentage of total responses, grouped by county

- Catholic
- Jehovah Witness
- Baptist
- Other Christian (Total N < 3)

Towns Frequent
Frequency** of Use:
- 15 - 33
- 10 - 14
- 2 - 9
- 1

Latino Population, 2000
Percent by Census Tract
- 22 - 33
- 14 - 21
- 10 - 13
- 7 - 9
- 4 - 6
- 2 - 3

Data Source: CCRP Latino Project, 2006-7 † U.S. Census Bureau SF1, 2000.
* Data generated from CCRP Latino Project, Q15(a): Where do members of the Latino community most often go for spiritual and religious activities?
** Frequency = Number of times a particular location was mentioned.
Note: Informants could name multiple geographic locations. The qualitative analysis sought to identify multiple themes and codes for each question asked. Therefore, the number of codes does not reflect the number of people interviewed, but rather the range of responses provided for each question.

GIS & Cartography: R. Daggaro, 2007
References and Notes:


4) The Federal Poverty Level (FPL) varies by household size. For a family of four (two adults, two children) the 2006 Federal Poverty Level (100% FPL) was $20,444, 200% FPL was $40,888 and 300% FPL was $61,332.