The Rural Health Information Survey, 2006

Selected Findings for the Redwoods Rural Health Center Service Area

By The California Center for Rural Policy at Humboldt State University

Jessica L. Van Arsdale, MD, MPH, Director of Health Research

CCRP

California Center for Rural Policy

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Report compiled 01/04/10

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Background

The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy (CCRP) in the fall of 2006. The purpose of the survey was to assess health disparities, access and utilization of healthcare, and other determinants of health among residents in rural Northern California with the goal of providing useful information for planning and policy development aimed at improving health in the region. This is the largest and most comprehensive study of this type that has ever been conducted in this rural region of Northern California. This report was created for the Redwoods Rural Health Center (RRHC) in order to provide a snapshot of residents within their primary service area.

Methods

Survey Design and Sampling

A four page written survey was designed by CCRP staff. The survey instrument was based on existing surveys (Behavioral Risk Factor Surveillance Survey, California Health Interview Survey, Canadian Community Health Survey and Mendocino Community Health Survey), and new questions were developed as needed to inquire about areas of rural health not previously explored.

A total of 23,606 surveys were mailed to a random sample of adults residing in the four counties of Humboldt, Del Norte, Trinity and Mendocino. The sampling strategy employed the use of a Geographic Information System (GIS) to map the population density with an overlay of the locations of post offices. All of the post offices in low population density areas (<11 people per square mile) were selected (total post offices = 24; total post office boxes = 8,165). Post offices located in higher population density areas (≥11 people per square mile) were randomly selected (total post offices = 19; total post office boxes = 15,441). The survey was mailed to post office box holders at the selected post offices. The rational for the written survey and sampling method was to obtain information from people who may not have phones and who may be geographically isolated.

Measures

This report explores the responses to the following selected questions, limited to respondents from sampled communities within the RRHC service area.

- “Within the past 12 months, were you able to get the healthcare (including mental healthcare) you needed? If No, please explain why.”
- “Within the past 12 months, were you able to get your child(ren) the healthcare (including mental healthcare) they needed? If No, please explain why.”
- “What types of health insurance do you have?”
- “Within the past 12 months, did you visit a hospital emergency room for your own health?”
- “Is transportation a problem in meeting the health needs of you or your family?”
- “In the last 12 months were you or people living in your household ever hungry because you couldn’t afford enough food?”
- “In your home, do you have a phone?”, “In your home, do you have a computer?” and “In your home, do you have Internet access?”

Analysis

Quantitative data was entered and analyzed using SPSS (15.0). To compare proportions, Chi Square was used to test for statistical significance with a P value of <0.05 considered statistically significant. Differences found by Chi Square were explored using post hoc testing with Bonferroni adjustment to account for alpha inflation when multiple comparisons were made.

Results

Response Rates and Demographics

The total number of surveys completed and returned for all four counties was 3,003 (12.7 percent overall response rate). A total of 2,950 surveys provided usable responses for analysis. Of these, 613 were from residents of towns within the RRHC service area. Exhibit 1 provides a breakdown of the location of respondents within the RRHC service area.

Exhibit 1: Sampled Towns in the Redwoods Rural Health Center Service Area

Sampled Town	Zip Code	Number of Respondents	Percent of RRHC sample
Laytonville	95454	153	25.0
Fortuna	95540	101	16.5
Whitethorn	95589	98	16.0
Covelo	95428	63	10.3
Leggett	95585	36	5.9
Carlotta	95528	29	4.7
Alderpoint	95511	27	4.4
Weott	95571	27	4.4
Honeydew	95545	21	3.4
Phillipsville	95559	21	3.4
Bridgeville	955262	15	2.4
Branscomb	95417	12	2.0
Redcrest	95569	10	1.6
	Total	613	100.0

Source: Rural Health Information Survey, 2006, California Center for Rural Policy

The majority of the sampled respondents in the RRHC service area identified themselves as white (87.1%), followed by multiracial (6.1%), Native American (2.8%), other (2.5%), Latino (0.7%), Asian (0.5%) and African American (0.3%). The sample was comprised of more women (66%) than men (34%). The age of respondents ranged from 18 to 88 years with a mean of 53 years (Exhibit 2). The amount of time respondents have resided in the local area ranged from less than a year to 88 years, with a mean of 21 years (Exhibit 3). The majority of the respondents (47.8%) reside in areas of low population density [less than 11 people per square mile (ppsm)], followed by areas with 11 to 50 ppsm (35.7%) and greater than 50 ppsm (16.5%) (Exhibit 4). The majority of respondents were self-employed (31%), employed by a company or business (27.9%), or retired (23.2%) (Exhibit 5). Of the respondents who provided information for determining poverty level (*n*=534), 19.7% were living in poverty [≤99% Federal Poverty Level (FPL)], 30.1% were living between 100-199% FPL, 18.4% were living between 200-299% FPL, and 31.8% were living at or above 300% FPL. Combining the first two levels of poverty, 49.8% of the sample was low income (≤200% FPL).

Exhibit 2: Age of Survey Respondents (*n*=602)

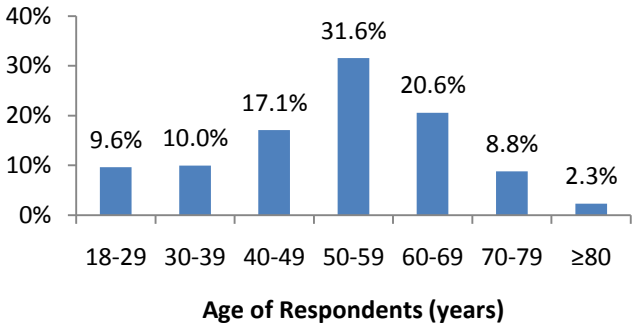


Exhibit 3: Length of Time Respondents Have Lived in the Local Area (*n*=608)

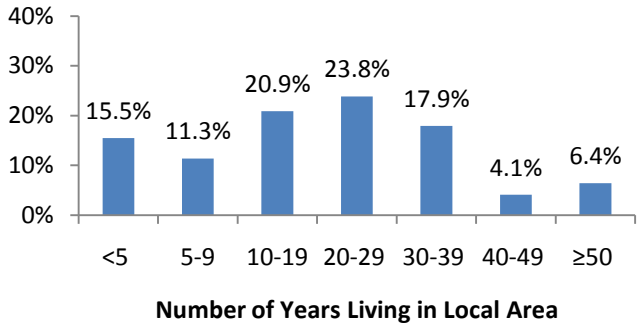


Exhibit 4: Population Density Where Respondents Reside (*n*=613)

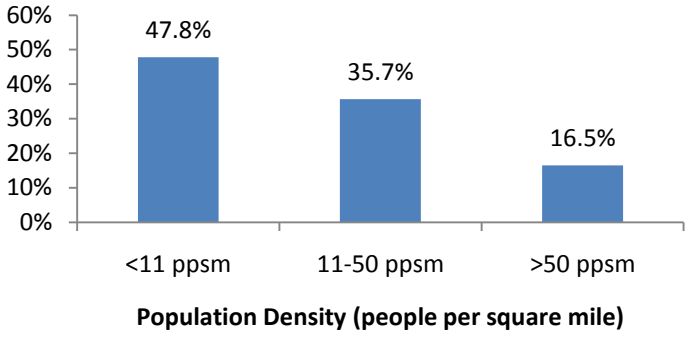
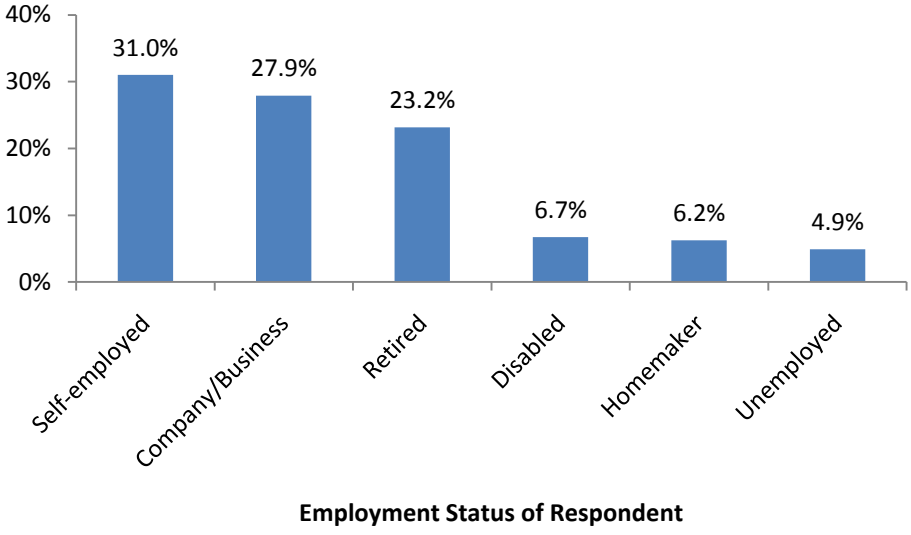


Exhibit 5: Employment Status of Respondents (*n*=609)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy

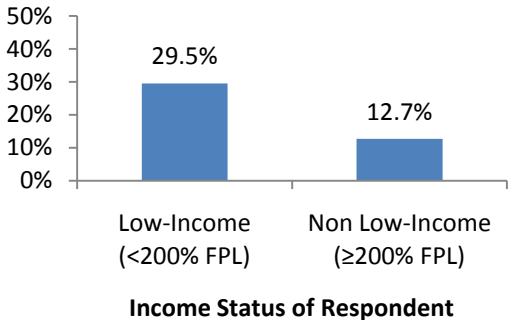
Access to Health Care

Of the sampled respondents in the RRHC service area who needed health care, 22.5% reported they were unable to get the health care they needed in the year prior to the survey.

Of the low-income respondents (<200% FPL*), 29.5% reported they were not able to get needed health care in the year prior to the survey. This is significantly higher than non low-income respondents (≥200% FPL) who reported an inability to get needed health care (12.7%) (Exhibit 6). There is a trend with improved ability to obtain needed health care as the socioeconomic status improves (Exhibit 7).

Geographically, there is a wide variation between sampled communities and reported ability to obtain needed health care (Exhibit 8).

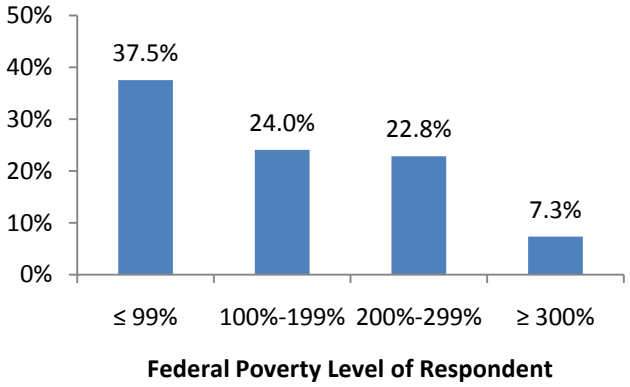
Exhibit 6: Unable to Get Needed Health Care by Income Status of Respondents (*n*=446)



Income Status		Unable to Get Needed Health Care	
	Frequency	Frequency	%
Low-Income (<200% FPL)	217	64	29.5%
Non low-Income (≥200% FPL)	229	29	12.7%

Source: Rural Health Information Survey, 2006, California Center for Rural Policy
This analysis was for the question, "Within the past 12 months were you able to get the health care (including mental health care) you needed?" The analysis was restricted to respondents who answered "yes" or "no" to the question and provided information necessary for determining income status.

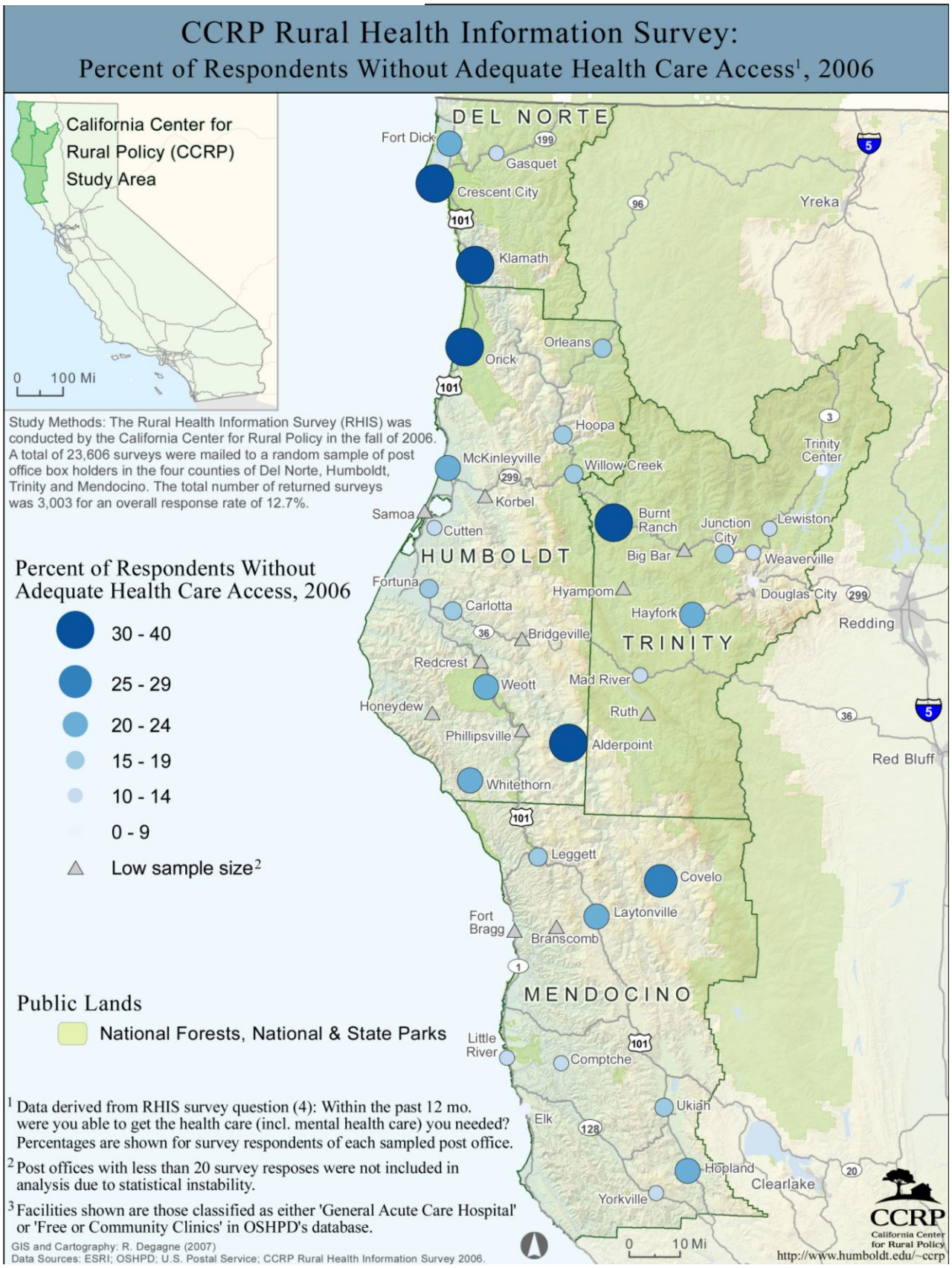
Exhibit 7: Unable to Get Needed Health Care by Federal Poverty Level* of Respondents (*n* = 446)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy
This analysis was for the question, "Within the past 12 months were you able to get the health care (including mental health care) you needed?" The analysis was restricted to respondents who answered "yes" or "no" to the question and provided information necessary for determining poverty level.

* 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

Exhibit 8


CCRP Rural Health Information Survey:
Percent of Respondents Without Adequate Health Care Access[1], 2006
California Center for Rural Policy (CCRP) Study Area
0 100 Mi
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[2]
Public Lands
National Forests, National & State Parks
DEL NORTE
Fort Dick
Gasquet
Crescent City
Klamath
Orick
Orleans
Yreka
HUMBOLDT
Hoopa
McKinleyville
Willow Creek
Korbel
Samoa
Cutten
Burnt Ranch
Junction City
Lewiston
Big Bar
Weaverville
Trinity Center
Fortuna
Carlotta
Hyampom
Douglas City
Hayfork
Redding
Bridgeville
TRINITY
Redcrest
Weott
Mad River
Honeydew
Ruth
Phillipsville
Alderpoint
Red Bluff
Whitethorn
Leggett
Covelo
Laytonville
Fort Bragg
Branscomb
MENDOCINO
Little River
Comptche
Ukiah
Elk
Hopland
Clearlake
Yorkville
0 10 Mi
CCRP
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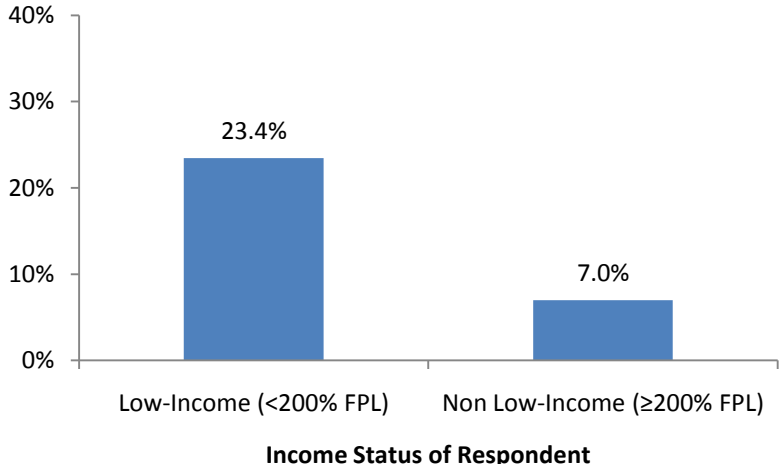
[1] Data derived from RHIS survey question (4): Within the past 12 mo. were you able to get the health care (incl. mental health care) you needed? Percentages are shown for survey respondents of each sampled post office.
[2] Post offices with less than 20 survey resposes were not included in analysis 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.
GIS and Cartography: R. Degagne (2007)
Data Sources: ESRI; OSHPD; U.S. Postal Service; CCRP Rural Health Information Survey 2006.

Access to Health Care for Children

Of the 613 respondents in the RRHC service area, 151 reported having children under the age of 18 in the household. Of these, 119 reported needing health care for their children in the year prior to the survey, of which 15.1% were unable to obtain the needed health care.

Of the low-income respondents (<200% FPL), 23.4% reported they were unable to get their children needed health care. This is significantly higher than non low-income respondents (≥200% FPL) who reported they were unable to get their children needed health care (7.0%) (Exhibit 9).

Exhibit 9: Unable to Get Needed Health Care for Children by Income Status of Respondents (*n*=107)



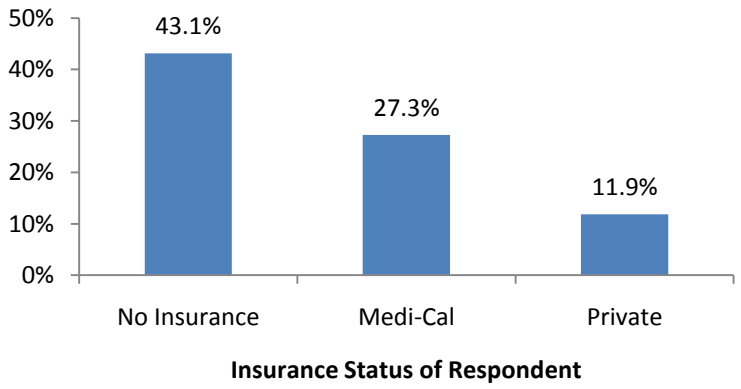
Income Status		Unable to Get Needed Health Care for Children	
	Frequency	Frequency	%
Low-Income (<200% FPL)	64	15	23.4%
Non low-Income (≥200% FPL)	43	3	7.0%

Source: Rural Health Information Survey, 2006, California Center for Rural Policy
This analysis was for the question, "Within the past 12 months were you able to get your child(ren) the health care (including mental health care) they needed?" The analysis was restricted to respondents who answered "yes" or "no" to the question and reported having children under the age of 18 living in the household in addition to providing information necessary for determining income status.

Insurance and Access to Health Care

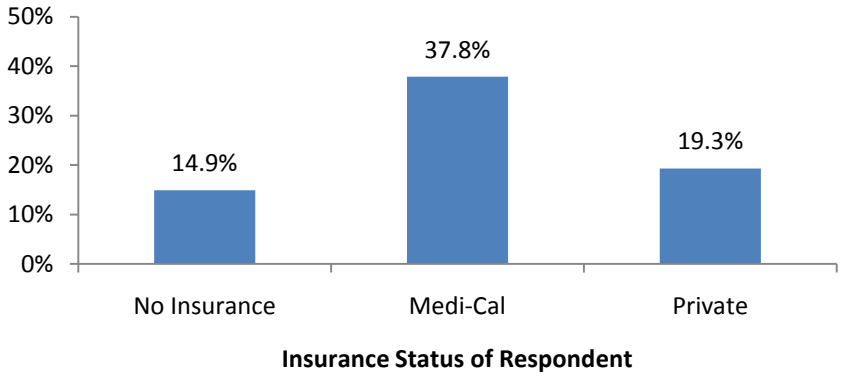
Of the respondents in the RRHC service area, 24.3% reported having no health insurance, while 48.8% reported having private health insurance, 20.9% Medicare, 13.4% Medi-Cal, 5.2% other government insurance, and 7.4% other types of coverage. For the purpose of analysis, comparisons were made between those with no insurance, private insurance or Medi-Cal insurance. Those with no insurance were the most likely to report an inability to obtain needed health care in the year prior to the survey (43.1%), followed by those with Medi-Cal insurance (27.3%) and those with private insurance (11.9%) (all differences are statistically significant) (Exhibit 10). Respondents with Medi-Cal insurance were significantly more likely to report use of the Emergency Department in the year prior to the survey compared to those with private or no insurance (Exhibit 11). Geographically, there is a wide variation between sampled communities and lack of health insurance (Exhibit 12).

Exhibit 10: Not able to Obtain Needed Health Care in the Past Year by Insurance Status (*n*=428)



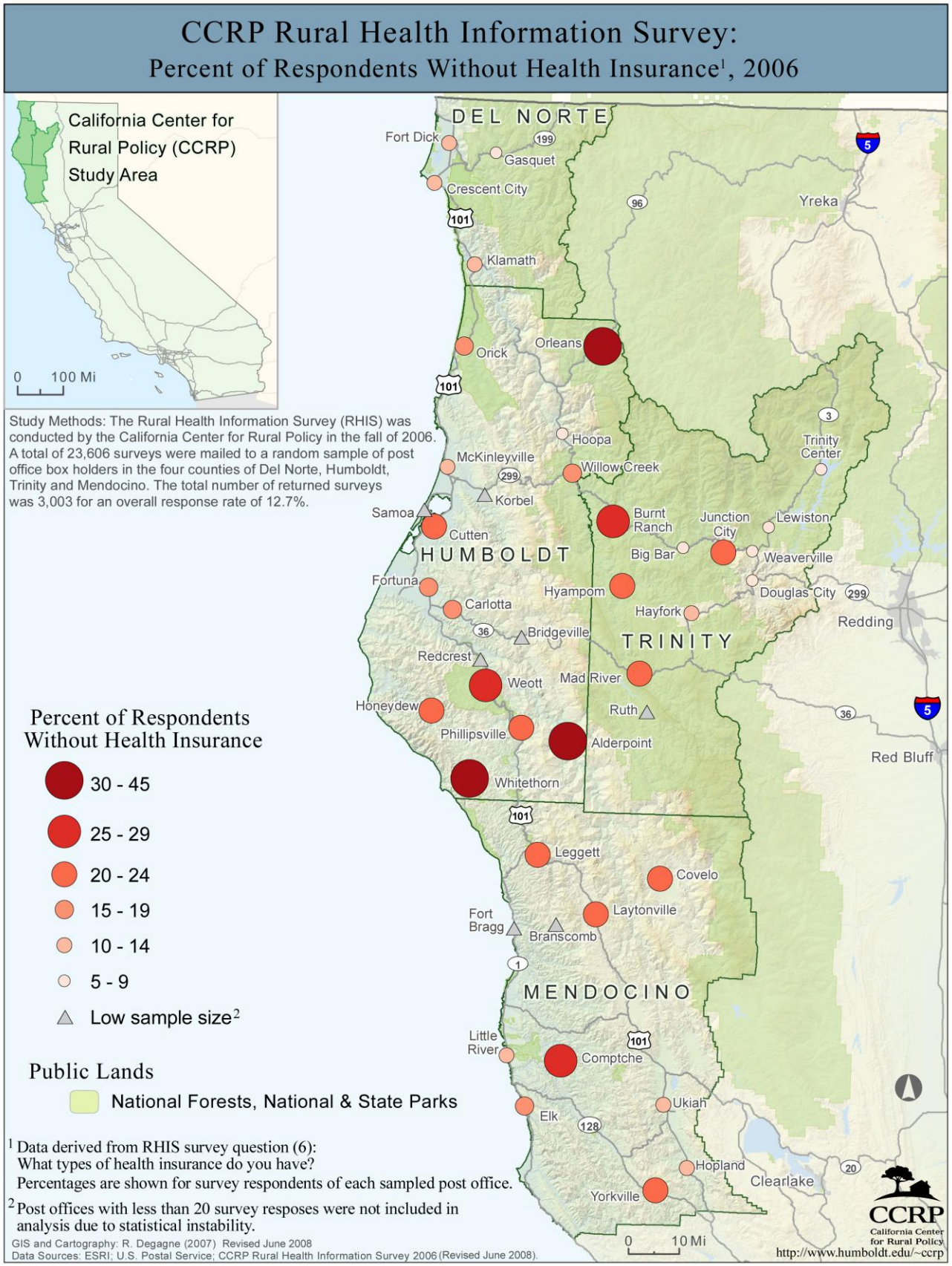
Source: Rural Health Information Survey, 2006, California Center for Rural Policy
This analysis was for the questions: "Within the past 12 months were you able to get the health care (including mental health care) you needed?" and "What types of health insurance do you have?" The analysis was restricted to respondents who reported having either no insurance, private insurance or Medi-Cal insurance.

Exhibit 11: Use of the Emergency Department in Past Year by Insurance Status (*n*=512)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy
This analysis was for the questions: "Within the past 12 months, did you visit a hospital emergency room for your own health?" and, "What types of health insurance do you have?" The analysis was restricted to respondents who reported having either no insurance, private insurance or Medi-Cal insurance.

Exhibit 12

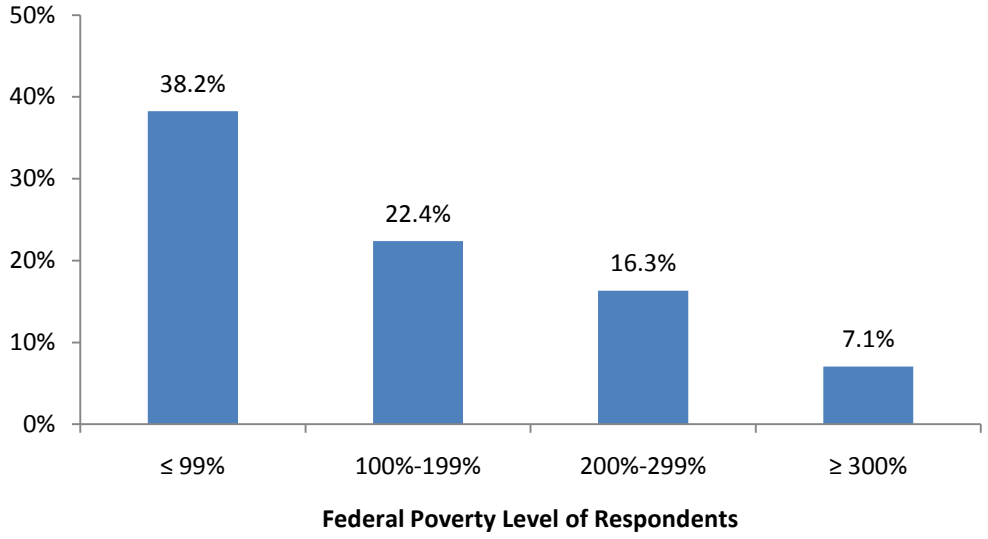

CCRP Rural Health Information Survey:
Percent of Respondents Without Health Insurance[1], 2006
California Center for Rural Policy (CCRP) Study Area
0 100 Mi
Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total of 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%.
DEL NORTE
HUMBOLDT
TRINITY
MENDOCINO
Fort Dick
Gasquet
Crescent City
Klamath
Orick
Orleans
Yreka
Hoopa
McKinleyville
Willow Creek
Korbel
Samoa
Cutten
Burnt Ranch
Junction City
Lewiston
Trinity Center
Big Bar
Weaverville
Douglas City
Fortuna
Carlotta
Hyampom
Hayfork
Bridgeville
Redcrest
Weott
Mad River
Ruth
Honeydew
Phillipsville
Alderpoint
Whitethorn
Redding
Red Bluff
Leggett
Covelo
Laytonville
Fort Bragg
Branscomb
Little River
Comptche
Ukiah
Elk
Hopland
Clearlake
Yorkville
Percent of Respondents Without Health Insurance
30 - 45
25 - 29
20 - 24
15 - 19
10 - 14
5 - 9
Low sample size[2]
Public Lands
National Forests, National & State Parks
[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 resposes were not included in analysis due to statistical instability.
GIS and Cartography: R. Degagne (2007) Revised June 2008
Data Sources: ESRI; U.S. Postal Service; CCRP Rural Health Information Survey 2006 (Revised June 2008).
0 10 Mi
CCRP
California Center for Rural Policy
http://www.humboldt.edu/~ccrp

Transportation and Access to Health Care

Of all the respondents in the RRHC service area, 19.4% reported transportation as a problem in meeting health needs for themselves or their families. Respondents living in poverty were the most likely to report transportation problems (38.2%) and as the socioeconomic status improves transportation problems decrease (Exhibit 13).

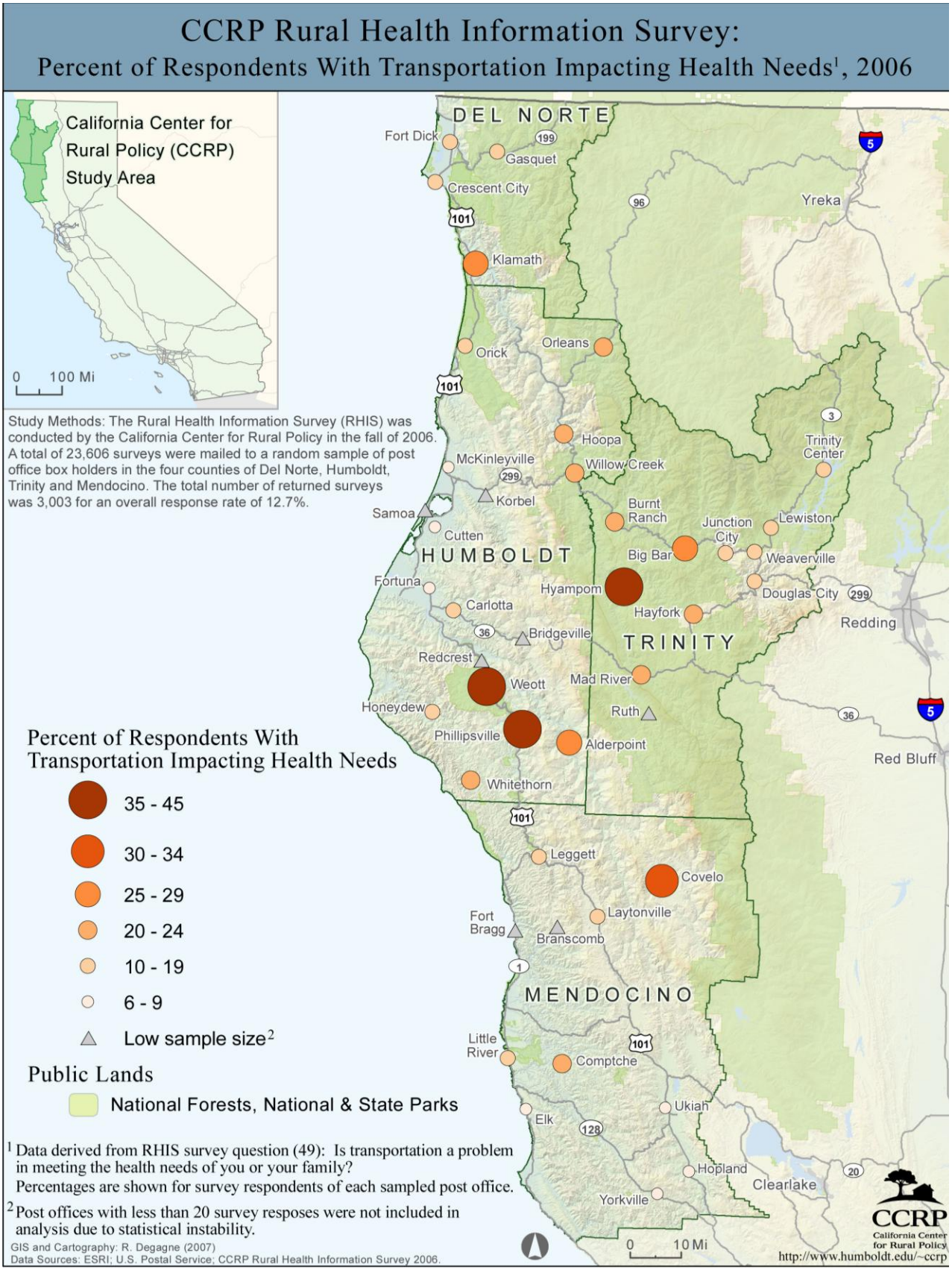
Geographically, there is variability between sampled communities and transportation problems (Exhibit 14).

Exhibit 13: Respondents Reporting Transportation as a Problem Meeting Health Needs by Federal Poverty Level (*n*=532)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy
This analysis was for the question, "Is transportation a problem in meeting the health needs of you or your family?" Analysis was restricted to respondents who answered the question and provided information necessary for determining poverty level.

Exhibit 14


CCRP Rural Health Information Survey:
Percent of Respondents With Transportation Impacting Health Needs[1], 2006
California Center for Rural Policy (CCRP) Study Area
0 100 Mi
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%.
DEL NORTE
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Klamath
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McKinleyville
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Korbel
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Bridgeville
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Honeydew
Phillipsville
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Hoopa
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Big Bar
Hyampom
Hayfork
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Ruth
Alderpoint
Trinity Center
Junction City
Lewiston
Weaverville
Douglas City
Redding
Red Bluff
Leggett
Covelo
Laytonville
Fort Bragg
Branscomb
MENDOCINO
Little River
Comptche
Ukiah
Elk
Hopland
Clearlake
Yorkville
Percent of Respondents With Transportation Impacting Health Needs
35 - 45
30 - 34
25 - 29
20 - 24
10 - 19
6 - 9
Low sample size[2]
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 resposes were not included in analysis due to statistical instability.
GIS and Cartography: R. Degagne (2007)
Data Sources: ESRI; U.S. Postal Service; CCRP Rural Health Information Survey 2006.
0 10 Mi
CCRP
California Center for Rural Policy
http://www.humboldt.edu/~ccrp

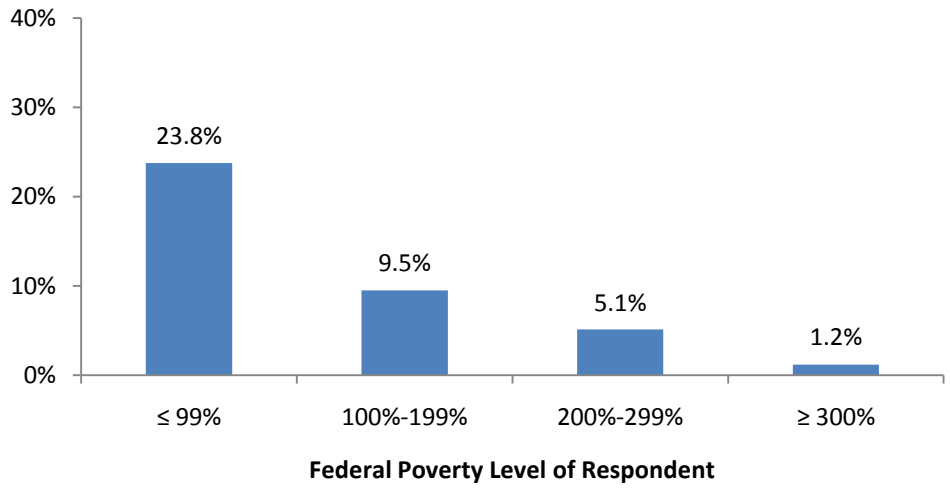
Very Low Food Security

Of all respondents in the RRHC service area, 8.9% reported episodes of hunger in the prior year due to not being able to afford enough food (a measure of very low food security).

Respondents living in poverty were the most likely to experience hunger due to not being able to afford enough food (23.8%) and this improves as the socioeconomic status improves (Exhibit 15).

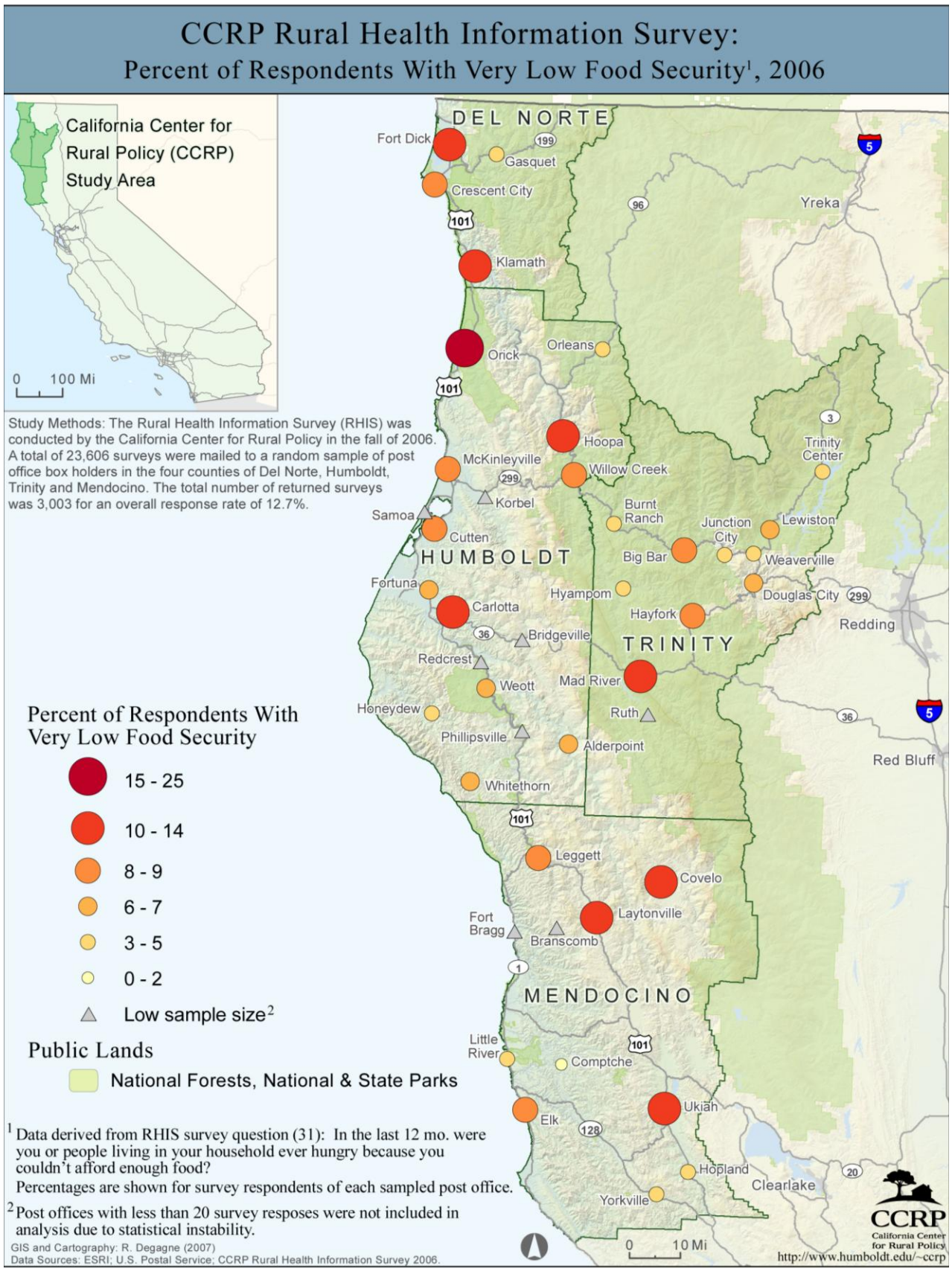
Geographically, there is variability between sampled communities with respect to very low food security (Exhibit 16).

Exhibit 15: Very Low Food Security by Federal Poverty Level of Respondents (*n* =526)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy
This analysis was for the question, "In the last 12 months were you or people living in your household ever hungry because you couldn't afford enough food?"The analysis was restricted to respondents who answered "yes" or "no" to the question in addition to providing information necessary for determining income/poverty status.

Exhibit 16

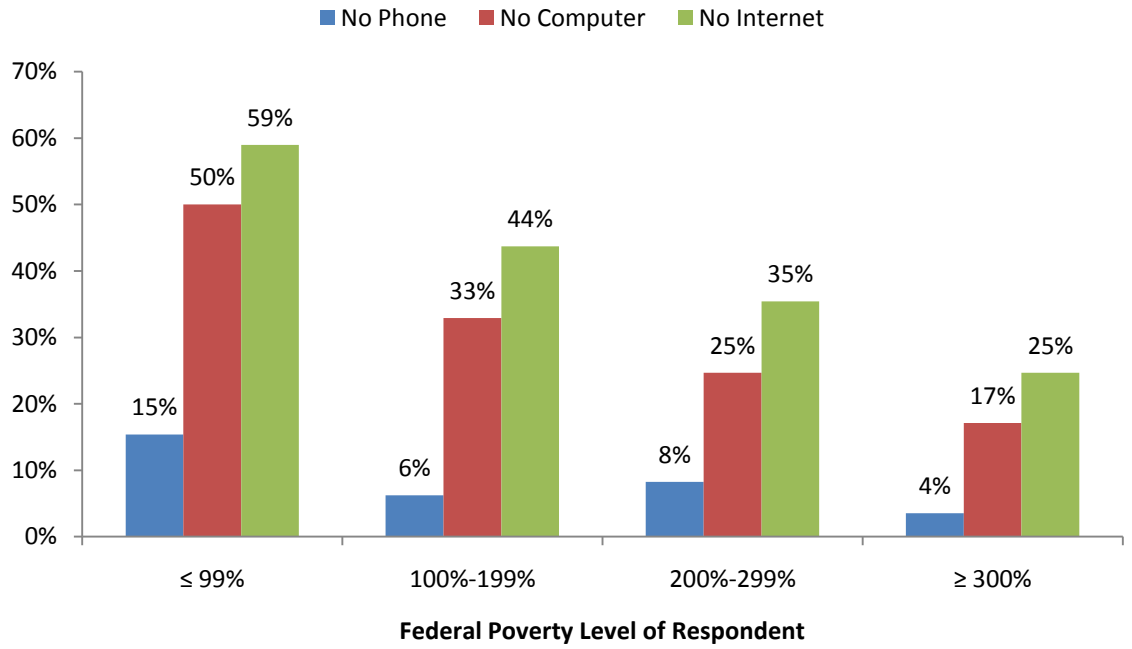

CCRP Rural Health Information Survey:
Percent of Respondents With Very Low Food Security[1], 2006
California Center for Rural Policy (CCRP) Study Area
0 100 Mi
Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total 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%.
DEL NORTE
Fort Dick
Gasquet
Crescent City
Klamath
Orick
Orleans
Yreka
HUMBOLDT
Samoa
Cutten
McKinleyville
Korbel
Hoopa
Willow Creek
Burnt Ranch
Big Bar
Junction City
Lewiston
Weaverville
Trinity Center
Douglas City
Redding
Fortuna
Carlotta
Bridgeville
Redcrest
Weott
Honeydew
Phillipsville
Hyampom
Hayfork
TRINITY
Mad River
Ruth
Alderpoint
Whitethorn
Red Bluff
Leggett
Covelo
Laytonville
Fort Bragg
Branscomb
MENDOCINO
Little River
Comptche
Ukiah
Elk
Hopland
Clearlake
Yorkville
Percent of Respondents With Very Low Food Security
15 - 25
10 - 14
8 - 9
6 - 7
3 - 5
0 - 2
Low sample size[2]
Public Lands
National Forests, National & State Parks
[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 resposes were not included in analysis due to statistical instability.
GIS and Cartography: R. Degagne (2007)
Data Sources: ESRI; U.S. Postal Service; CCRP Rural Health Information Survey 2006.
0 10 Mi
CCRP
California Center for Rural Policy
http://www.humboldt.edu/~ccrp

Phones, Computers and Internet

Of all respondents in the RRHC service area, 8.2% reported no phone in their home, 29.6% reported no computer in their home, and 39.1% reported no Internet access in their home. Respondents living in poverty were the least likely to have phones, computers or Internet access in their homes (Exhibit 17).

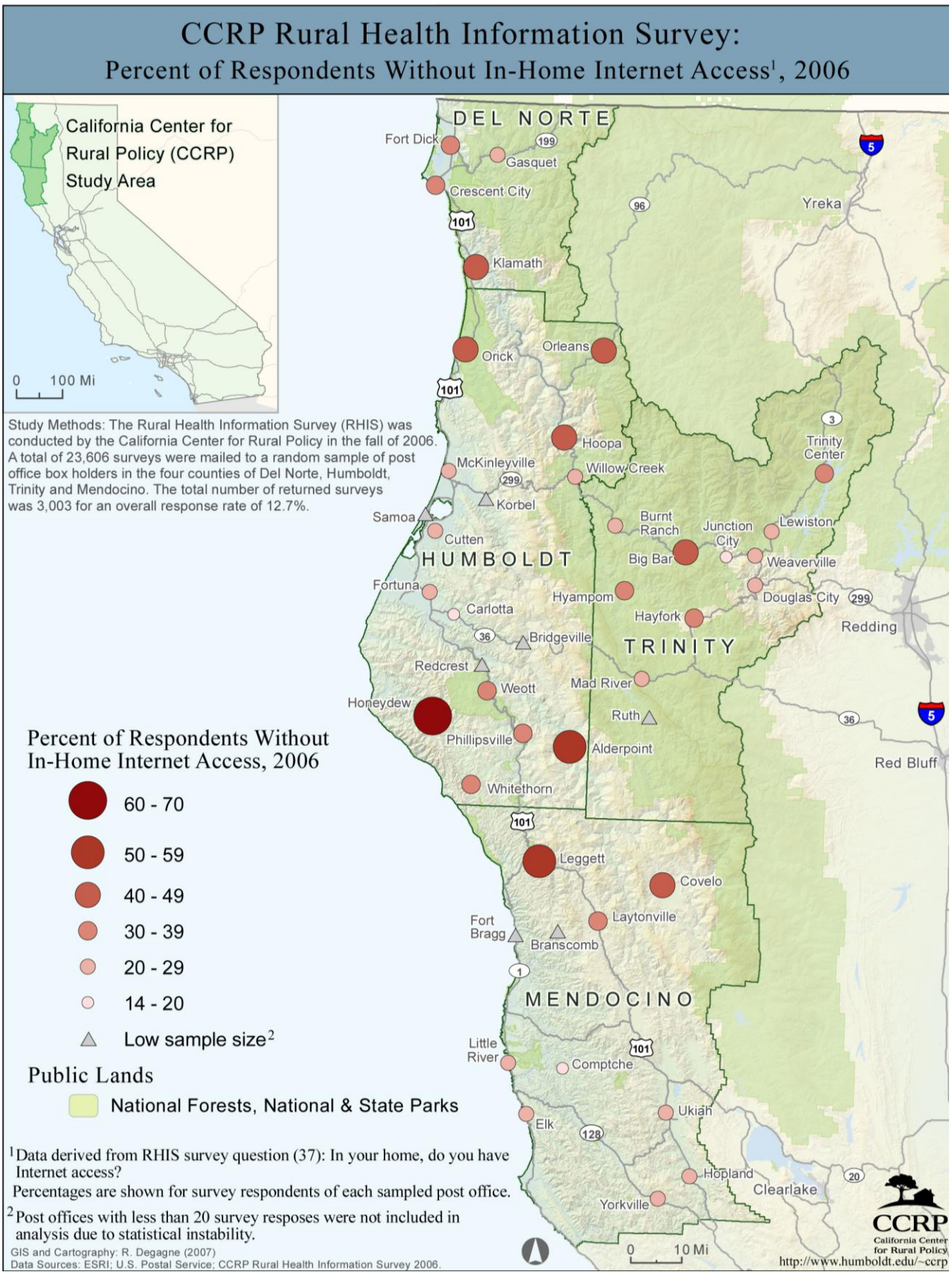
Geographically, there was considerable variability between sampled communities and in-home Internet access (Exhibit 18).

Exhibit 17: Phones, Computers and Internet Access in the Home by Federal Poverty Level of Respondents (*n*=531)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy
This analysis was for the questions: "In your home, do you have a phone?", "In your home, do you have a computer?" and "In your home, do you have Internet access?" The analysis was restricted to respondents who provided information necessary for determining poverty level.

Exhibit 18


CCRP Rural Health Information Survey:
Percent of Respondents Without In-Home Internet Access[1], 2006
California Center for Rural Policy (CCRP) Study Area
0 100 Mi
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%.
DEL NORTE
Fort Dick
Gasquet
Crescent City
Klamath
Orick
Orleans
Yreka
HUMBOLDT
Hoopa
McKinleyville
Willow Creek
Korbel
Samoa
Cutten
Fortuna
Carlotta
Bridgeville
Redcrest
Weott
Honeydew
Phillipsville
Alderpoint
Whitethorn
Leggett
Covelo
Laytonville
Fort Bragg
Branscomb
TRINITY
Trinity Center
Burnt Ranch
Junction City
Lewiston
Big Bar
Weaverville
Hyampom
Douglas City
Hayfork
Redding
Mad River
Ruth
Red Bluff
MENDOCINO
Little River
Comptche
Ukiah
Elk
Hopland
Clearlake
Yorkville
Percent of Respondents Without In-Home Internet Access, 2006
60 - 70
50 - 59
40 - 49
30 - 39
20 - 29
14 - 20
Low sample size[2]
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.
GIS and Cartography: R. Degagne (2007)
Data Sources: ESRI; U.S. Postal Service; CCRP Rural Health Information Survey 2006.
0 10 Mi
CCRP
California Center for Rural Policy
http://www.humboldt.edu/~ccrp

Limitations

This study provides information about the respondents of the survey and does not necessarily describe the population in general. However, this is the largest study ever conducted in this rural region of California. Not all communities served by the RRHC were sampled, as the communities with population density ≥ 11 people per square mile were randomly sampled, so unfortunately, towns such as Garberville and Redway did not get randomly selected. However, this sample does provide a snapshot of residents within the RRHC service area who are living in remote areas.

Please visit the CCRP website for additional reports, briefs and maps.

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