

Del Norte & Adjacent Tribal Lands

**Selected Findings from the
Community Health & Wellness Survey**

Children Age 0-5



by The California Center for Rural Policy, Humboldt State University

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Executive Summary

The Community Health and Wellness Survey was conducted by the California Center for Rural Policy (CCRP) in 2013. The purpose of this survey was to assess community health indicators in the Del Norte and adjacent Tribal Lands region. The eight page written survey contained questions about wellness indicators pertaining to economics, education, health care, neighborhood built environments and social and community context. This report contained findings for individuals that indicate they had a children under the age of 6 living in their household. The findings presented in this report are based on 142 responses from respondents with children under age 6 in their household.

Income

Poverty is based on household income level adjusted from family size and age of family members.

- In 2013, for one person under the age of 65 with one child under the age of 18, an income of \$16,057 was the threshold for poverty.
- In 2013, for two people under the age of 65 with one child under the age of 18, an income of \$18,751 was the threshold for poverty.
- In 2013, for two people under the age of 65 with two children under the age of 18, an income of \$23,624 was the threshold for poverty.

When household earnings were less than the threshold, the household is considered to be in poverty.

- 38.3% of respondents with children under the age of 6 had a household income below the Federal Poverty Limit (FPL) threshold.

Food Security

Food security is a complex condition with various levels of insecurity and multiple risk factors. There was a clear connection between increased risk of food insecurity when household income fell below the FPL.

- 1 in 8 households with young children experience hunger.
- Risk for anxiety about the supply of food was 3.4 times higher in households in poverty.
- 58.3% of households in poverty could not afford to eat balanced meals.
- 63.3% of households in poverty could not afford to buy enough food to meet their family's needs.

Del Norte County has been identified as a food desert by the USDA, qualifying the region for grant funding to support programs to increase accessibility of nutritious foods.

Health

Many factors contribute to quality health care, including access, coordination of care and patient engagement.

- 76.8% of respondents indicated that their child had a personal health care provider who knows their personal health history.
- 91.4% of respondents reported that their child has a source of medical care that was not an emergency room or urgent clinic.
- 3.5% of respondents indicated that their young child did not get the healthcare they needed in the last 12 months.
- 20.2% of respondents indicated that their young child did not receive any preventative care in the past 12 months.
- 10.7% of young children who needed a referral had difficulties getting a referral.
- 66.2% of respondents reported that their child had a usual source for dental care.
- 14.7% of respondents had a young child who had experienced toothache/dental pain/untreated tooth decay in the last 12 months.

Introduction

Background

Health starts where we live, learn, work and play. Health and wellness are affected by factors that are associated with place. Economic conditions in communities can influence health by affecting access to employment opportunities and health insurance. Social conditions in communities can influence health by providing resources for individuals in need, by controlling advertisement of behaviors that pose health risks like drinking and smoking and by creating programs to encourage healthy behaviors like daily physical activity. Physical conditions in communities can influence health by ensuring good quality of the air and water, by providing safe environments, and increasing access to healthy foods. The community in which we live affects our health status and even our longevity.¹⁻⁴

Understanding the important role that place has in wellness, The California Endowment selected 14 communities in California to invest resources.⁵ The criteria for selection included communities that have poor health outcomes but that also have potential for change. The California Endowment selected the 14 sites based partially on their social capital. Social capital is the collective forces of individuals, agencies and networks that can be mobilized to elicit change. Del Norte County and Adjacent Tribal Lands (DNATL) was selected as one of the 14 sites to invest resources because The California Endowment recognized that the community had the “potential to inspire policy change to create a healthy environment for all Californians”.⁵ The California Endowment provided funding through the Building Healthy Communities Initiative to create avenues for change that promote health in those 14 communities.

During the initial stage of the Building Healthy Communities project in DNATL, it became apparent that there were many community health indicators that could be used to measure community health, but baseline data were not available for DNATL. Through a community engagement process, a list of health indicators were identified and it was determined that baseline data was needed. From this list, the Community Health & Wellness Survey (CHWS) was created. The CHWS included measures of social determinants of health including the built environment, neighborhood cohesiveness, education level, income level, employment, food security, and quality health care. The CHWS was designed to provide a baseline measurement of determinants of health that are associated with place. Accurate baseline information about community health and wellness is critical for understanding and improving upon conditions that impact health and wellness.

The survey was developed after engagement with the DNATL community and support for the survey was sought through community agencies. Efforts were made to encourage widespread participation with particular attention to populations that are generally underrepresented in survey research. Meetings with tribal council members provided an opportunity to introduce the survey and address questions and concerns. All tribal councils in the area, including Elk Valley Rancheria, Smith River Rancheria, Resighini Rancheria, Karuk Tribe, Yurok Tribe, and Hoopa Valley Tribe provided endorsement of the survey. The surveys were made available at each tribal office. The Hmong community was engaged through an elected clan representative. The survey was translated to Hmong and was distributed to Hmong families through the clan representative. The survey was also translated to Spanish. The survey was endorsed by many area agencies, including the County of Del Norte, First 5 Del Norte, Del Norte Community Health Center, Del Norte School District, Del Norte Health Care District, Coastal Connections, and United Indian Health Services. Efforts were made to engage the community in developing, distributing and supporting the survey. Community input and endorsement for the survey was sought and underrepresented groups were provided targeted recruitment to take the survey.

The CHWS was developed to provide baseline data regarding community health indicators in DNATL. The survey results can be used to prioritize development of programs to promote improvement in determinants with the poorest outcomes. Administration of the survey in the future will allow change in social determinants to be tracked. The ultimate goal of understanding the social determinants of a community of wellness is to reduce health inequities and to “create social and physical environments that promote good health for all”.⁶

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4. Renalds, A. Smith, T.H., and Hale, P.J. (2010). A systematic review of built environment and health. *Family Community health*, 33(1), 68-78.
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Methods

Survey Design and Sample

In the spring of 2013, a cross-sectional survey of a random sample of adults residing in Del Norte County and Adjacent Tribal Lands was conducted. An eight-page self-administered survey was developed by project administrators at the California Center for Rural Policy at Humboldt State University, in collaboration with the Building Healthy Communities Learning and Evaluation Advisory Committee in Del Norte County. The survey tool was designed to measure social determinants of health with questions about the neighborhood/built environment, social/community context, education, financial well-being, health/health care and services (including concepts of patient centered medical home and food security).

Many of the questions were based on existing surveys (National Survey of Children's Health, Behavioral Risk Factor Surveillance Survey, American Housing Survey, American Community Survey, National Health and Nutrition Examination Survey, National Center for Safe Routes to School, California Health Interview Survey, and Rural Health Information Survey) and new questions were developed as needed to inquire about social determinants of health not previously explored in this rural area of California.

The survey contained a combination of quantitative and qualitative responses. The first section of the survey contained questions specific to the adult completing the survey and their household. The second section contained questions specific to children in the household. Surveys were translated into Spanish and Hmong. Survey methods and questions were approved by the Humboldt State University Institutional Review Board.

Survey booklets with cover letters and questions in English and Spanish were mailed to all households and all post office box holders in Del Norte County and Adjacent Tribal Lands (including Hoopa, Orleans, Somes Bar, and Happy Camp). This was a bulk mailing through the U.S. Postal Service, so surveys were addressed to "residential customer" or "box holder." The cover letter requested someone in the household 18 or older to complete the survey and for only one survey to be completed per household. A self-addressed stamped envelope was included for returning the survey. Two weeks after sending the survey, a reminder post card in English, Spanish, and Hmong was sent. An incentive of a potential to win a \$250 cash prize was offered.

Efforts were made to encourage widespread participation with particular attention to populations that are generally underrepresented in survey research. Meetings with tribal council members provided an opportunity to introduce the survey and address questions and concerns. All tribal councils in the area (Elk Valley Rancheria, Smith River Rancheria, Resighini Rancheria, Karuk Tribe, Yurok Tribe, and Hoopa Valley Tribe) provided endorsement, and their endorsement was stated in the cover letter. Some tribes opted to take extra steps to encourage participation among tribal members. For example, Elk Valley Rancheria sent an advance letter to tribal members encouraging participation. Resighini Rancheria and the Yurok Tribe coordinated personal contact with households to provide any needed assistance with completing the survey. The survey was also endorsed by the County of Del Norte, First 5 Del Norte, Del Norte Community Health Center, Del Norte School District, Del Norte Health Care District, Coastal Connections, and United Indian Health Services.

The Hmong community was engaged through contact with the elected clan representative and his assistant. A meeting was called with the clan leaders and surveys translated into Hmong were hand delivered to the clan leaders for distribution to the clan families. Hmong families could either complete the survey in Hmong or English (received in the mail).

In the weeks prior to mailing the survey, a community media campaign was initiated to raise awareness about the survey and encourage participation. This included radio announcements with local voices, newspaper articles, posters, and announcements via social media networks. The Del Norte County Unified School District also sent a letter home to parents encouraging their participation in the survey.

Survey assistants were available to provide assistance to anyone requesting it. Assistors were available in person or by phone and could provide assistance in English, Spanish, or Hmong.

Analyses

Categorical Variables

Categorical variables have a limited number of possible values. These values do not have an intrinsic order. Gender is an example of a categorical variable. Frequencies (p) were calculated for categorical data. This provides the number of individuals in each category. Confidence intervals for frequency data were calculated and reported when possible. Confidence interval (CI) provides information about the uncertainty associated with the frequency data. The CI provides the probability that the frequency reported in the study includes the true value of the frequency. A 95% CI was reported. This means that the probability of observing a frequency outside this reported range is less than five percent. Wide confidence intervals indicate that the frequency being reported is less accurate when compared to frequency data with narrow CI .

Chi-square test of independence (χ^2) was used to determine whether two categorical variables were related. The assumptions for the Chi-square test (χ^2) were tested. The first assumption was that the variables were categorical, with two or more categories in each of the variables. For example, two categories exist for the categorical variable gender: male and female. Categorical data may have more than two categories, as in survey responses where several response options are offered (e.g. yes, no and maybe). The second assumption for the Chi-square test is that the minimum number of individuals that fall into the cross section of the categorical data must be five or more cases. For example, the number of males that answer “yes” versus “no” for a survey question, must be five or more.

When a comparison was made of two categorical variables, where each variable had only two categories, Yate’s Correction of Continuity was applied to the χ^2 value to correct the overestimation of the Chi-square value.

The χ^2 value was used to determine if there was a statistically significant relationship between the categorical variables. Fischer’s exact test (FET) for significance level was reported. A significance level (p) of .05 was selected for the acceptable error rate for the χ^2 tests. The p value represents the probability that chance could explain the result. A p of less than .05 indicates that there is less than a five percent chance of claiming there is a relationship between variables, when none really exists. This accepted chance of error exists for every comparison made. When multiple comparisons are made, the total risk of error increases. Since this study’s purpose was descriptive in nature, the p was not adjusted for the multiple comparisons performed.

Odds ratio (OR) was reported for frequency data. The OR represents the odds that a particular outcome that occurred in one group, will also occur in another group. For instance, OR for the frequency of food insecurity in households that have incomes who live in poverty when compared to households that have higher incomes were reported. When OR are greater than one, the condition (e.g., poverty) is associated with higher odds of the outcome (e.g., hunger). Ninety-five percent CI were calculated and reported for OR . Odds ratios that had a 95% CI that spans zero were interpreted as lacking evidence for an association of the condition and the outcome.

Demographics

Of the 1741 surveys returned in this study, 141 of the respondents indicated that they had children from 0 to 5 years of age living in their home.

Our survey sampled a wider area than Del Norte County, as it included adjacent Tribal Lands. Since no data exists that exactly overlaps the geographic area sampled, data from Del Norte County was used for comparative analysis. The U.S. Census Bureau data from the 5-year American Community Survey for Del Norte County indicate that there are 1,840 children aged 0 – 4 years living in Del Norte County.¹ Our survey respondents represent less than 10% of the young children living in Del Norte County. The average age of the survey respondents who indicated that there were young children in the home was 38.6 years (*SD* = 1.3 years). The median age was 35 years.

Respondents were asked questions regarding their ethnicity. More than one ethnic category could be selected. The respondents who had young children in their home indicated that their ethnicity was Caucasian more often than any other ethnicity (64.1% Caucasian, 30.3% American Indian, 4.9% Hispanic/Latino/Spanish, and 4.2% Asian). Our findings differ from the U.S. Census Bureau 5-year American Community Survey results for Del Norte County. The U.S. Census Bureau reported the proportion of the population among the ethnic categories to be as follows: Caucasian 82.9%, Native American 10.7%, Hispanic or Latino 18.4%, African American 4.3% and Asian 4.6%.¹ This project sampled both Del Norte County and adjacent Tribal Lands and thus differed from U.S. Census data that evaluated only Del Norte County. Our sample may capture the experience of Native American families with young children in a greater extent than has been previously reported by the The U.S. Census Bureau.

Education Level

The highest level of education attained by the respondent who had at least one young child in the home was determined. The minority of the respondents indicated that they either had not graduated from high school (7.9%) or had attained a High School Certificate (5.8%). A large portion of the respondents had completed a bachelor's degree or higher (27.4%). Many of the respondents indicated that they had completed some college course work (30.3%) or had earned an associate's degree (12.1%).

Exhibit 1: Education Level of Respondents with Young Children

Highest Education Level Attained	Percent (n = 139)
Did Not Complete High School	7.9%
High School Certificate	5.8%
High School Graduate	15.1%
Some College	30.3%
Associate Degree	12.1%
College Degree	27.4%

Source: California Center for Rural Policy. (2016). Community Health and Wellness Survey, Del Norte and Adjacent Tribal Lands – 2013. This data is from the survey question, “What is the highest level of education that you have completed?”

Exhibit 2: Employment Level of Respondents with Young Children

Employment	Percent (n = 136)
Employed	41.2%
Unemployed	16.9%
Homemaker	15.4%
Disabled	8.1%
Retired	6.6%
Student	5.9%

Source: California Center for Rural Policy. (2016). Community Health and Wellness Survey, Del Norte and Adjacent Tribal Lands – 2013. The data is for the survey question, “Which of the following best describes your current employment situation?”

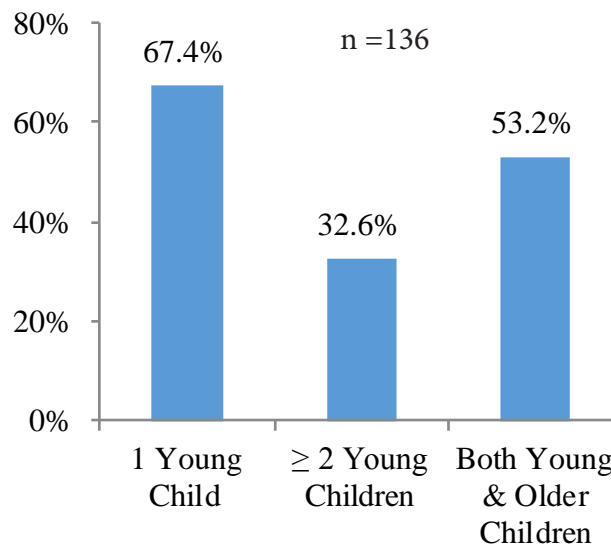
Children in the Home

For those families with at least one young child both the household size and household composition were evaluated. The average household size was 4.6 (*SD* = 1.9) individuals. Over half of the household with young children also had older children in the home.

Employment

The current employment situation of the survey respondents who had young children in the home was evaluated. The majority of the respondents indicated that they were employed by a business (41.2%). As expected, a portion of the respondents indicated that they were homemakers (15.4%). A portion of the respondents indicated that they were unemployed (16.9%). The incidence of unemployment in this survey sample was almost 3 times higher than the reported unemployment rate for Del Norte County for the year 2013.²

Exhibit 3: Household Composition of Children in the Home for Families with Young Children



Source: California Center for Rural Policy. (2016). Community Health and Wellness Survey Del Norte and Adjacent Tribal Lands - 2013.

Income

The mean household income was \$39,343 for families with young children 0 – 5 years old in the household. The range of income reported was from \$0 to \$200,000 per year. The median income was \$28,000. The U.S. Census Bureau indicates that in 2013 the median household income was \$37,909 and the mean household income was \$51,470 for families in Del Norte County.³ Families with young children in the DNATL region appear to have a lower median income when compared to families in Del Norte County.

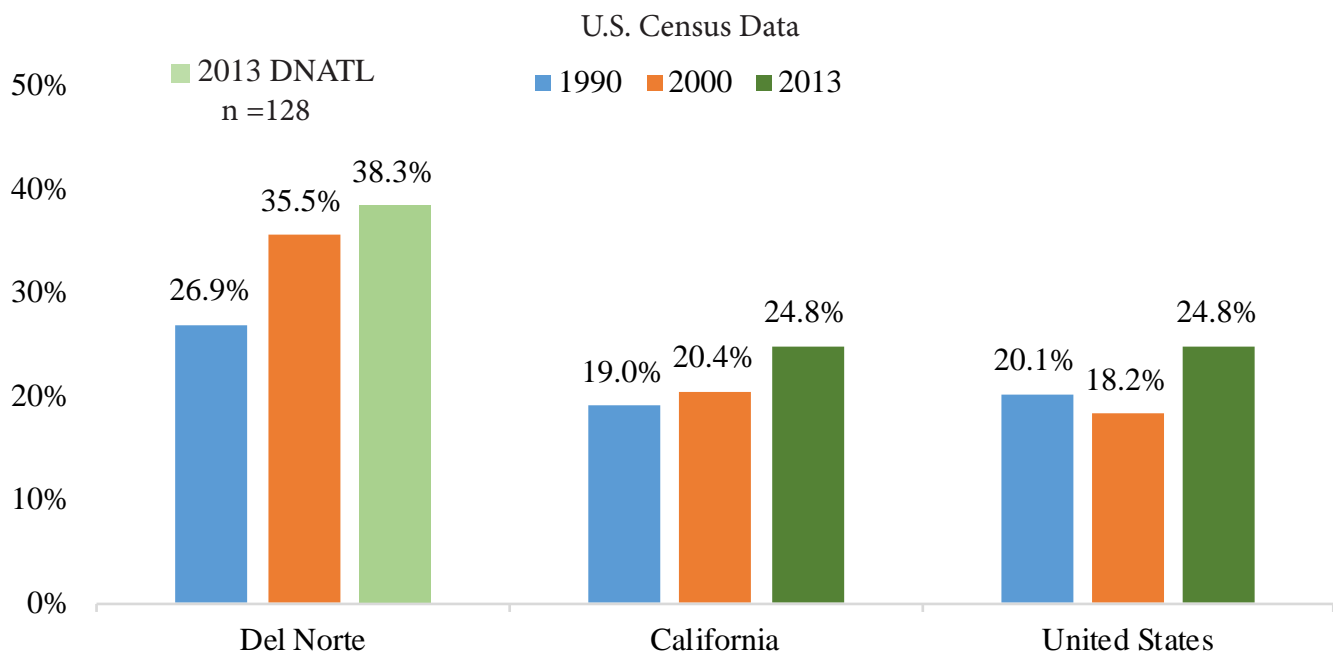
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Poverty in Families with Children under 5

According to the U.S. Census Bureau, in 2013 almost 5 million children in the U.S. who are under the age of 5 years old live in poverty. Five million represents almost 25% of all the children under age 5 in the U.S.¹ The statistics are the same for the state of California, where it is estimated that one in four children under the age of 5 live in poverty.¹ The U.S. Census Bureau does not have poverty estimates for children under the age of 5 for Del Norte County for 2013.

The prevalence of young children living in poverty was determined for the respondents to this survey. Of the 141 respondents who indicated that they had children under the age of five in their household, 128 provided adequate data to determine Federal Poverty Limit (FPL). Computation of FPL threshold requires variables including family size, age of family members, and gross income.² Both the complexity of computing the unique FPL threshold for each survey respondent, and the culturally sensitive nature of the information required to compute FPL, contributes to high frequencies of missing FPL data. The American Community Survey reported that 29% of the household income data was missing for the 2009-2013 5-Year study.³ For our study, 90.8% of the families of young children provided adequate data to compute FPL threshold for their family. The results of this survey found that 38.3% of the respondents with children under the age of five had an income level below the FPL threshold. This survey found that poverty in families with young children was higher in DNATL when compared to families with young children in California or the nation. A higher rate of poverty in families with young children in the Del Norte County and Adjacent Tribal Lands was found than has been previously reported for Del Norte County, and may indicate that the poverty rate is on the rise.⁴

Exhibit 4: Poverty in Households with Young Children from 1990 to 2013



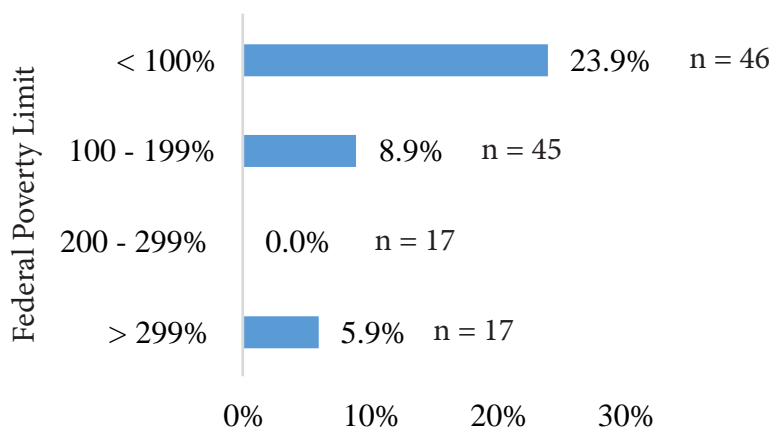
Source: U.S. Census Bureau. (2013). 2009 – 2013 American Community Survey 5-Year Estimates. California Center for Rural Policy. (2016). Community Health and Wellness Survey Del Norte and Adjacent Tribal Lands - 2013.

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Food Security

Hunger in the House

Exhibit 5: Hunger in Households with Young Children by Household Income



Source: California Center for Rural Policy. (2016). Community Health and Wellness Survey Del Norte and Adjacent Tribal Lands – 2013. 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?” Response choices included “often true”, “sometimes true”, “never true”, and “don’t know.”

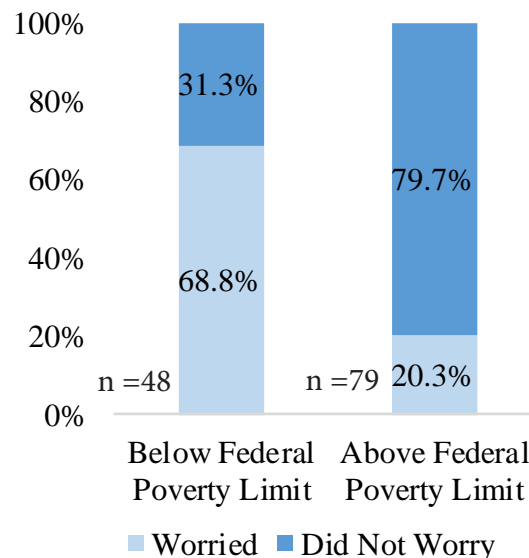
FPL ($\chi^2 = 6.69(1)$, $p = 0.010$). Households with young children who were living in poverty were over four times more likely to experience hunger, defined as very low food security, when compared to wealthier households ($OR = 4.5$, 95% CI [1.5, 14.0]).

Food security was assessed using a number of survey questions. These questions queried respondents about their family’s food situation in the past 12 months. A question included in the survey was used to identify the highest risk level, Very Low Food Security.¹ This question evaluated hunger. A portion of the respondents with young children in their household indicated there were individuals in their household that experienced hunger in the past 12 months ($p = 12.7\%$). There was a higher frequency of presence of hunger in households with young children that had an income level below the FPL when compared to households with income level above the

Anxiety about Supply of Food

One survey question was used to discriminate between individuals with some level of food insecurity from individuals with a high level of food security. This question queried the respondents as to worry about adequate supply of food. Most of the respondents who had young children in the household indicated that they “never worried” that food would run out ($p = 62.9\%$), indicating they had high food security.¹ On the other hand, over one-third of the respondents indicated that they “sometimes worried” or “often worried” about food running out ($p = 37.1\%$). One in three respondents with young children in the house indicated they had some worry about food. There was a higher frequency of worry about food in households with young children that had an income level below the FPL when compared to households with an income level above the FPL ($\chi^2 = 27.6(1)$, $p < .001$). Households with young children who were living in poverty were over almost 8 times more likely to experience worry about food lasting, when compared to wealthier households ($OR = 8.7$, 95% CI [3.8, 19.7]).

Exhibit 6: Worry about Food by Household Income

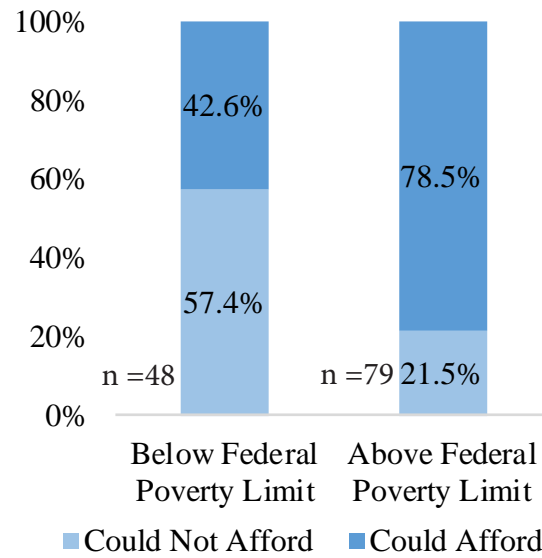


Source: California Center for Rural Policy. (2016). Community Health and Wellness Survey Del Norte and Adjacent Tribal Lands – 2013. This analysis was for the question, “In the past 12 months how often did the following statement describe your family’s food situation: We worried whether or food would run out before we got money to but more?”. The analysis was restricted to respondents who answered “never true” (coded as “NOT TRUE”), “often true” (coded as “TRUE”), and “sometimes true” (coded as “TRUE”).

Quality of Food

Food security was also assessed using a survey question that evaluated the quality of food availability. Over one-half of families with young children indicated that they could not always afford to eat balanced meals ($p = 57.4\%$). A significantly higher portion of the families with young children whose income was at or below the FPL indicated that they were not able to afford to serve a balanced meal “often” or “sometimes” when compared to the families with young children whose income was above the FPL (57.4% versus 21.5%) ($\chi^2 = 15.2(1), p < 0.001$). Families whose income was at or below the FPL were over 5 times more unlikely to be able to serve balanced meals ($OR = 4.9, 95\% CI [2.2, 10.8]$).

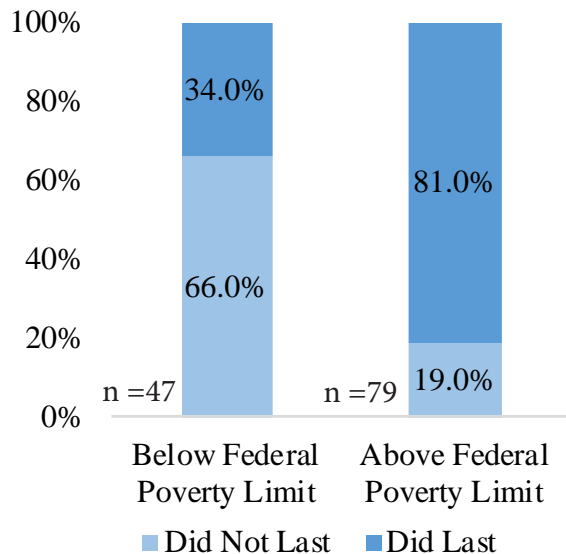
Exhibit 7: Households that Could Not Afford to Eat Balanced Meals



Source: California Center for Rural Policy. (2016). Community Health and Wellness Survey Del Norte and Adjacent Tribal Lands - 2013. This analysis was for the question, “In the past 12 months how often did the following statement describe your family’s food situation: We could not afford to eat balanced meals?”. The analysis was restricted to respondents who answered “never true” (coded as “NOT TRUE”), “often true” (coded as “TRUE”), and “sometimes true” (coded as “TRUE”).

Quantity of Food

Exhibit 7: Prevalence of Households Whose Food did not Last by Household Income



Source: California Center for Rural Policy. (2016). Community Health and Wellness Survey Del Norte and Adjacent Tribal Lands - 2013. This analysis was for the question, “In the past 12 months how often did the following statement describe your family’s food situation: The food that we bought just didn’t last, and we didn’t have enough money to get more food?”. The analysis was restricted to respondents who answered “never true” (coded as “Did Last”), and “often true” (coded as “Did Not Last”), and “sometimes true” (coded as “Did Not Last”).

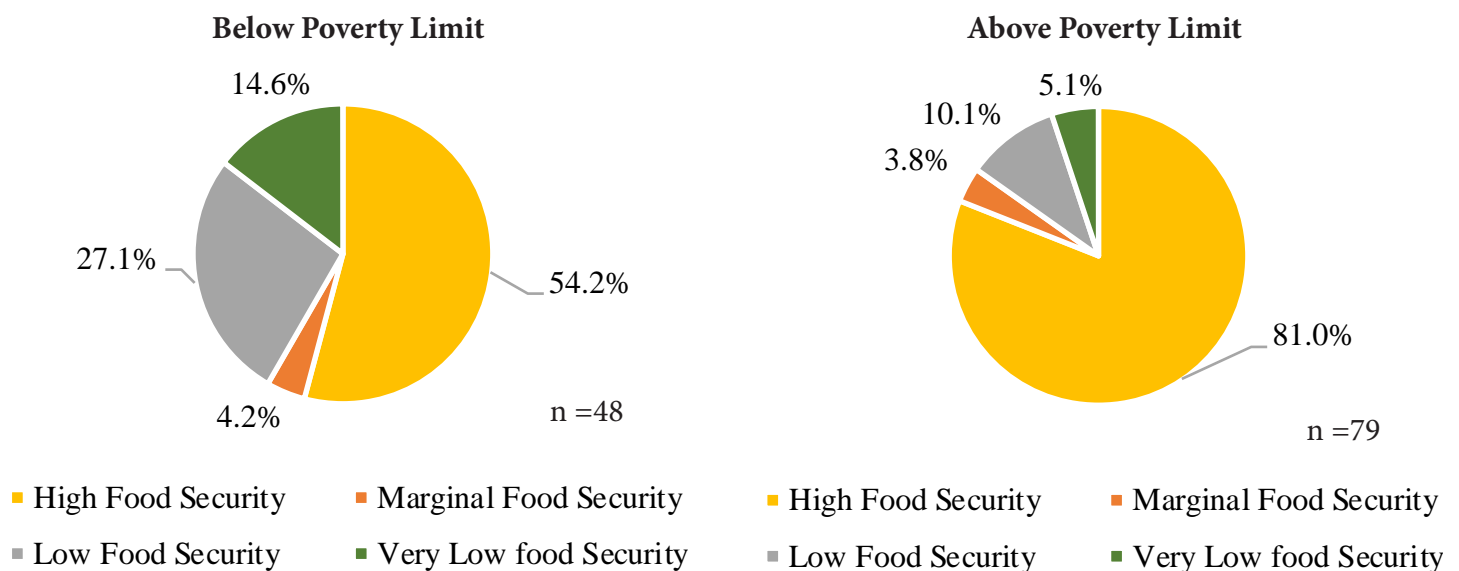
Food security was also assessed by evaluating adequate access to food. Over one-third of the families with young children indicated that food did not last and they did not have enough money to get more ($p = 36.5\%$). This means one in three families with young children experience food shortage in the household. The survey results revealed that food shortage is more common in households with income below the FPL when compared to households with income above the FPL ($\chi^2 = 26.1(1), p < 0.001$). Families with young children whose income placed them below the FPL were over seven times more likely to indicate that the food they bought just did not last ($OR = 7.8, 95\% CI [3.4, 17.6]$).

Food Security Status

Food security is seen as occurring on a continuum, from a low level of food security to high level of food security. The United States Department of Agriculture (USDA) has created an algorithm to categorize degrees of food security using a standard set of questions. These questions were included in the survey and the results from the individual questions are described on the previous page. The respondents were classified based on the USDA heuristic device. The USDA categories are as follows: high food security, marginal food security, low food security, and very low food security. Our data revealed a difference in level of food security when percent of FPL was taken into account ($\chi^2 = 11.4(3)$, $p = 0.01$). Others have also found a difference in food security level based on income level.²

Often times the food security categories are collapsed into two groups, including the following: 1.) food secure, encompassing both high food security and marginal food security, and 2.) food insecurity encompassing both low food security and very low food security.² Our data reveals that 25.2% (95% CI [8.3, 21.3]) of the families in the survey with young children live in food insecure homes. Others have found a slightly lower incidence of food insecurity in families with children under the age of 6 years when compared to the findings from this survey ($p = 20.9\%$, z score < 1.96).²

Exhibit 7: Food Security Levels in Households with Young Children by Household Income



Source: California Center for Rural Policy. (2016). Community Health and Wellness Survey Del Norte and Adjacent Tribal Lands - 2013. This analysis was for the questions regarding the family's food situation in the past 12 months.

The United States Department of Agriculture (USDA) developed a schemata that describes categories of food security status of households.¹ Households that do not have problems with accessing adequate food, do not reduce quality or desirability of food, and do not have any worries or anxiety about food are classified as having High Food Security. Households that have worry or anxiety about food, but have adequate resources to buy food and do not reduce the quality of the food they eat are classified as having Marginal Food Security. Households that worry about food and have to alter the quality or desirability of food are classified as having Low Food Security. Households that have hunger or lack the resources to purchase enough food are classified as having Very Low Food Security.

1. United States Department of Agriculture. (2014). Definitions of food security. Economic Research Services. Retrieved from <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx>.
2. Coleman-Jensen, A., Christian, G. & Singh, A. (2014). Household Food Security in the United States in 2013. ERR-173, U.S. Department of Agriculture, Economic Research Service. Retrieved from <http://www.ers.usda.gov/media/1565415/err173.pdf>.

Health Care

Of the survey respondents that indicated that they had young children living in their households, only 60% chose to answer questions about their young child's health care. Of the 141 survey respondents with young children, 84 answered the health questions in proxy for their 0 – 5 year old children. The average age of these children was 3.1 years ($SE = .2$ years).

Meeting Health Care Needs

A single question was used to evaluate if young children's health care needs were being met. The participants answered the question, "Within the past 12 months, was your child able to get the healthcare (including mental healthcare) that they needed?" Most of the respondents indicated that their child was able to get the healthcare that they needed ($p = 91.7\%$, 95% CI [85.2, 98.2]). A small percent of survey responders indicated that their child was not able to get the healthcare that they needed (3.5%), and 4.7% indicated that their young child did not need healthcare in the past 12 months. The frequency of unmet healthcare needs in this study was not statistically different than that seen in National Survey of Children's Health (NSCH) California data ($p = 5.8\%$, 95% CI [3.0, 8.6], z score < 1.96) or in NSCH nationwide data ($p = 5.2\%$, 95% CI [4.6, 5.7], z score < 1.96).¹

Health Encounters

The survey posed questions regarding health encounters. Survey respondents provided information regarding encounters with a primary care medical provider, a specialist, a mental health provider and a dental care provider. Most of the young children had seen a healthcare provider for any reason in the past 12 months ($p = 94\%$, 95% CI [88.3, 99.7]). Although the prevalence of receiving any healthcare encounter in the past year was high in this group of young children, our data revealed that some of the young children in the DNATL region may not be receiving recommended preventive health screening at appropriate intervals.

Health Insurance

Ninety-six percent of the young children had some form of health insurance. The prevalence of health insurance in the DNATL group was not statistically different than previously reported for California (91.6%) or for the nation (95.4%).

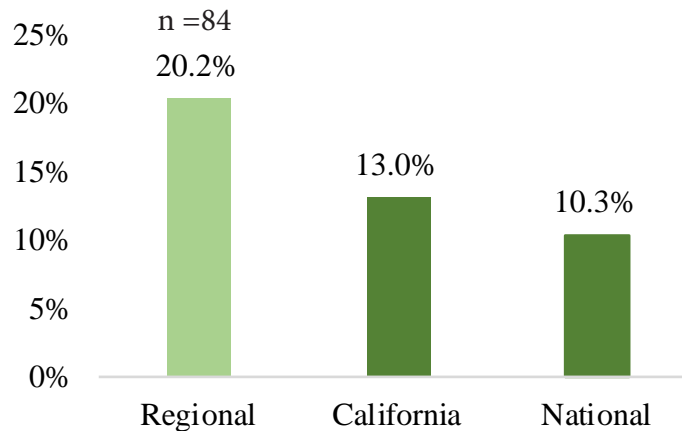
Preventive Screening

Preventive health screening is a vital aspect of health care in children. Screenings provide the opportunity for general health assessment and development surveillance.¹ Frequent screening allows for early detection of abnormalities during sensitive windows when the course of growth or development may be influenced over the life span.^{1,3} Preventive health screenings also provides an opportunity to administer vaccinations that protect children when they are most vulnerable to exposure of potentially life-threatening diseases.⁴

Preventive Health Care

Preventive health care is an important aspect of medical care in a pediatric population. While most of the parents indicated that their child received preventive health services, 20.2% (95% CI (11.0, 29.3)) indicated that their child had not received preventive care in the past 12 months. This value was significantly higher than others have reported for California state and national survey data.⁴ In the 2011/2012 NSCH survey, absence of preventive health care was less frequent in national data ($p = 10.3\%$, 95% CI [9.4%, 11.1%]) and in state of California data ($p = 13.0\%$, 95% CI [9.0, 17.1]) when compared to the DNATL survey sample. The prevalence of no preventive health care in the past 12 months was statistically higher in the DNATL sample when compared to national (z score = 2.8) but was not statistically different from California state data (z score = 1.69).

Exhibit 10: Young Children Not Receiving Preventive Healthcare



Source: National and State data –Data Resource Center for Child and Adolescent Health. (2012). National Survey of Children’s Health - 2011/2012. Regional Data - California Center for Rural Policy. (2016). Community Health and Wellness Survey Del Norte and Adjacent Tribal Lands - 2013. This analysis was for the question, “During the past 12 months, how many times did your child see a doctor, nurse , or other care provider for preventive medical care such as physical exams or well-child checkup?”. A response of “zero” is presented in the graph.

Respondents in the survey indicated their child had no unmet medical needs as often as was seen in national and state data, yet the DNATL sample had a greater frequency of their children not receiving preventive care when compared to national or state data. Further work should be directed to determine why young children in Del Norte County and Adjacent Tribal Lands are not receiving recommended preventive health care services. Exploration of parental health literacy and parental health beliefs regarding preventive health care may shed some light on this issue.

1. CDC (2015). Developmental Monitoring and Screening for Health Professionals. Retrieved from <http://www.cdc.gov/ncbddd/childdevelopment/screening-hcp.html>
2. The Data Resource Center for Children and Adolescent Health. (2012). National Survey of Children’s Health - 2011/2012. Retrieved from <http://childhealthdata.org>
3. USPSTF (2014). The guide to clinical preventive services 2014: recommendations for the U.S. Preventive Services Task Force. US Department of Health and Human Services. Agency for Healthcare research and Quality. AHRQ Pub No. 14-05158.
4. CDC (2015). 2015 Recommended Immunizations for Children from Birth through 6 years Old. Retrieved from <http://www.cdc.gov/vaccines/parents/downloads/parent-ver-sch-0-6yrs.pdf>
5. The Data Resource Center for Child and Adolescent Health. (2012). National Survey of Children’s Health – 2011/2012. Retrieved from <http://www.childhealthdata.org/browse/survey/results?q=2494&r=1&g=448&r2=6>
6. American Academy of Pediatrics. (2014). Recommendations for Preventive Pediatric Health Care. Retrieved from http://www.aap.org/en-us/professional-resources/practice-support/periodicity/periodicity%20schedule_FINAL.pdf

Patient Centered Medical Home

5 Components of Patient Centered Medical Home

Quality of medical care has been linked to a number of variables. These variables have been clustered into a concept known as patient centered medical home (PCMH). The National Survey of Children's Health (NSCH) has created a PCMH measure that is a composite of five components.^{1,2} These components include the following:

1. There is a personal care provider
2. There is a usual source of care
3. Referrals are obtained when needed
4. There is care coordination when needed.
5. Care is family-centered

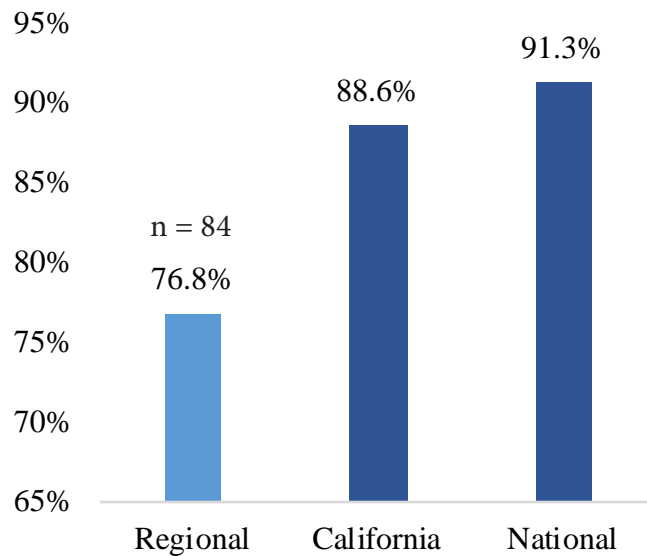
When determining if a medical home is available there are two components that are relevant to all individuals and there are three components that are relevant to only those individuals who have sought particular services. The two components that are evaluated in the entire sample are personal care provider and usual source of care. According to the National Survey of Children's Health (NSCH) measurement of patient centered medical home (PCMH), all individuals should have a health care provider who knows them well and is familiar with their health history, and have a usual source of care that is not a hospital emergency room, urgent care clinic or retail medical clinic.¹ For the other components of PCMH, if an individual does not need services in the past 12 months they are reported as a 'legitimate skip'. If the individual did require services in the past 12 months, then the degree to which the services met the criteria for quality of care are evaluated. For instance, for individuals who did not need a referral, the quality of care for this service is not evaluated. In the NSCH report, this group is reported separately as a legitimate skip for the 'referral' component of PCMH. These individuals are considered as having met the minimum criteria for PCMH for the 'referral' component.

1. The Child and Adolescent Health measurement Initiative Oregon Health & Science University. (2012). Measuring Medical Home for Children and Youth. Retrieved from http://www.childhealthdata.org/docs/medical-home/mhmanual_withappendices-updated-12-7-10-pdf.pdf.
2. The Data Resource center for Child and Adolescent Health. (2012). National Survey of Children's Health – 2011/2012. Retrieved from <http://www.childhealthdata.org/browse/survey/results?q=2494&r=1&g=448&r2=6>.

Personal Health Care Provider

Professional medical organizations have supported the concept of medical home as a benchmark for evaluation of quality of care.¹ One of the components of medical home is having a personal health care provider. A personal health care provider (PP) is defined as a nurse practitioner, a physician's assistant, or doctor who knows the child and the child's medical history well.² The results of this survey found that 76.8% (95% CI [67.2, 86.4]) of the respondents indicated that their young child had a care provider who knew their child well and was familiar with their child's health history. The prevalence of having a personal care provider in this study was significantly lower than that seen in the survey data from the state of California ($p = 88.6\%$, 95% CI [84.6, 92.7], z score = 3.65), or from the nation ($p = 91.3\%$, 95% CI [90.6, 92.1] z score = 5.40).¹ Del Norte County is considered to be medically underserved, as the ratio of residents to primary care providers is less than 3,500:1.³ A 2007 study revealed a shortage of both family practice providers and pediatricians existed in Del Norte County.⁴ It is likely that a shortage of primary care providers in the area is contributing to the lower prevalence of having a personal provider in this group of DNATL young children when compared to that seen in California and the nation. Further work is needed to better understand why young children in DNATL have lower than expected frequency of having a PP.

Exhibit 11: Prevalence of Young Children who have a Personal Health Care Provider



Source: National and State data –Data Resource Center for Child and Adolescent Health. (2012). National Survey of Children's Health - 2011/2012. Regional Data - California Center for Rural Policy. (2016). Community Health and Wellness Survey Del Norte and Adjacent Tribal Lands - 2013. This analysis was for the survey question regarding personal health care provider who know their personal health history.

Although there was a difference in prevalence of having a PP between young children from households whose incomes were below vs. above the FPL, the difference was not statistically significant ($p = 72.0\%$, 95% CI [54.3, 90.0] and $p = 78.0\%$, 95% CI [66.6, 89.5], for below and above FPL respectively).

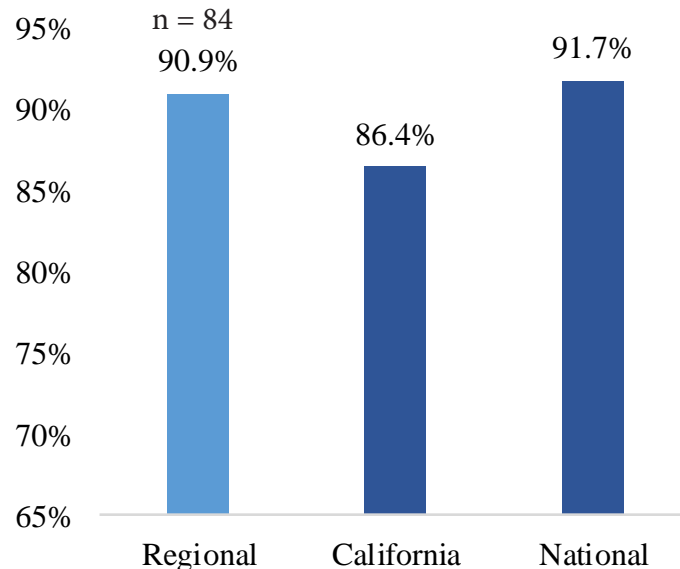
1. The Data Resource center for Child and Adolescent Health. (2012). National Survey of Children's Health – 2011/2012. Retrieved from <http://www.childhealthdata.org/browse/survey/results?q=2494&r=1&g=448&r2=6>.
2. The Child and Adolescent Health Measurement Initiative. (2012). Guide to Topics and Questions Asked. Retrieved from http://www.childhealthdata.org/learn/topics_question/2011-12-nsch.
3. U.S. Department of Health and Human Services, Health Resource and Services Administration. (2014). Shortage Designation: Health Professional Shortage Areas & Medically Underserved Areas/Populations. Retrieved from <http://www.hrsa.gov/shortage/>
4. Love, M., Eschker, E., van Arsdale, J., West, J. Porter, M. and Pollom, M. (2007). Del Norte County Health Care Provider recruiting and Retention Plan. Humboldt State University: California Center for Rural Policy

Usual Source of Care

A usual source of care is seen as a vital component of quality healthcare. A usual source of care is associated with improved preventive health counseling, access to care, on-going care and family centered care.¹⁻⁴ A usual source of care, as defined by the NSCH, is a doctor's office, hospital outpatient department, community clinic, school health center, friend or relative where a child seeks care on an ongoing basis.⁵ Conversely, NSCH indicates that a child does not have a usual source of care if care is sought at a hospital emergency room, or urgent care facility outside of the United States.⁵ For this study, a child was considered not to have a usual source of care if health care was obtained at an urgent care facility or a hospital emergency room. No child sought care outside of the United States. The results of this survey indicate that 90.9% (95% CI [84.0, 100]) of the young children, for which proxy information was provided, had a usual source of care. The prevalence of having a usual source of care in this study was not statistically different than that seen in survey data from the state of California ($p = 86.4\%$, 95% CI [82.1, 90.6], z score < 1.96) or from the nation ($p = 91.7\%$, 95% CI = [91.1, 92.6], z score < 1.96).⁶

The data from this study reveals that young children in Del Norte County were just as likely to have a usual source of care as age matched children in California or the nation, but that the young children in this study were less likely to have a personal provider who knew their medical history well. The family practice clinics that provide medical services in Del Norte including Open Door Community Clinics, Sutter Outpatient Services, Del Norte Community Health Center, and United Indian Health Services, all have had a long standing history of serving community health needs. The lower than expected frequency of having a PP in this sample of young children from Del Norte County and surrounding tribal lands may indicate that the pediatric and family practice clinics in the area have frequent turnover of health care providers, making it difficult for patients to establish a personal care provider relationship.

Exhibit 12: Prevalence of Young Children who have a Usual Source for Medical Care that Meets the Criteria for a Patient Centered Medical Home



Source: National and State data –Data Resource Center for Child and Adolescent Health. (2012). National Survey of Children's Health - 2011/2012. Regional Data - California Center for Rural Policy. (2016). Community Health and Wellness Survey Del Norte and Adjacent Tribal Lands - 2013. This analysis was for the survey question regarding usual source of care. Care provided at urgent clinic and emergency facilities do not meet the criteria for patient centered medical home.

1. DeVoe, J., Tillotson, C., Wallace, L. Lesko, S. & Pandhi, N. (2012). Is health insurance enough? A usual source of care may be more important to ensure a child receives preventive health counseling. *Maternal & Child Health Journal*, 16, 306-315.
2. De Maeseneer, J.M., De Prins, L., Gosse, C., & Heyerick, J. (2003). Provider continuity in family medicine. *Annals Family Medicine*, 1, 144-8.
3. Starfield, B., & Shi, L. (2004). The medical home, access to care, and insurance. *Pediatrics*, 113 (5 suppl), 1493-8.
4. Tsai, J., Shi, L., Yu, W. & Lebrun, L. (2010). Usual source of care and the quality of medical care experiences: A cross-sectional survey of patients from a Taiwanese community. *Medical Care*, 48 (7), 628-634.
5. The Child and Adolescent Health Measurement Initiative Oregon Health & Science University. (2012). Measuring Medical Home for Children and Youth. Retrieved from http://www.childhealthdata.org/docs/medical-home/mhmanual_withappendices-updated-12-7-10-pdf.pdf.
6. The Data Resource center for Child and Adolescent Health. (2012). National Survey of Children's Health – 2011/2012. Retrieved from <http://www.childhealthdata.org/browse/survey/results?q=2494&r=1&g=448&r2=6>.

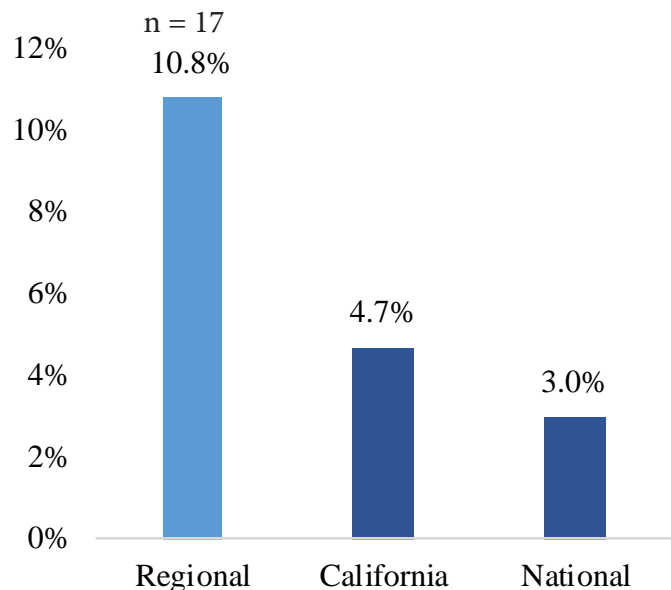
Problem Getting Referrals

When children need care that is outside the scope of a family practitioner's or a pediatrician's training, specialty care is warranted. Specialty care is typically accessed through a referral process. The importance of ongoing appropriate care, in the face of specialty service needs, is seen as a vital component of quality health care. Thus, the PCMH survey includes questions that address the need for a referral, and the difficulty in obtaining a needed referral.¹ In this survey, the majority of the young children did not need a referral in the past 12 months ($p = 75.0\%$, 95% CI [65.2, 84.9]). The incidence of young children who needed a referral in the past 12 months in the DNATL sample was higher than both California state data and or national data ($p = 25.0\%$, 17.3% and 16.7%, for DNATL, California, and nation, respectively).² Although the prevalence of needing a referral in the population was higher in the DNATL sample when compared to statewide data, the difference was not statistically different (z score < 1.96). Of the 17 young children that needed a referral, over half did not have difficulty obtaining the referral ($p = 52.9\%$, 95% CI [40.5 - 65.3]). For this survey, 10.8% (95% CI [3.9 - 17.6]) of the young children needed a referral to specialty services and found that it was "slightly difficult" or "very difficult" to obtain the referral. The respondents to this survey reported having difficulty obtaining a referral more often than has been found previously in national data ($p = 3.0\%$, 95% CI [2.1, 7.2], z score = 3.72), or in California state data ($p = 4.7\%$, 95% CI [2.1, 7.2], z score = 2.31).² Both the DNATL data and the California state data had small sample sizes and caution should be used when interpreting these results.

Although the small sample sizes for this study and the NSCH California study merit caution when extrapolating the findings, the shortage of specialty services in Del Norte County is a reality. A 2007 study revealed that there were no medical specialists (non-surgical specialists) in Del Norte County, and that there was a shortage of psychiatrists and all surgical specialties in Del Norte County.³ The young children in DNATL whose proxy data was evaluated in this study had higher than expected rates of referral to a specialist, and greater difficulty in obtaining a needed referral when compared to national and state data.

Selection bias in the young child proxy data is a concern. When a respondent has more than one child, they may have elected to answer the medical questions for a child that had salient medical needs. This could represent a child that has greater medical need or has experienced difficulty accessing medical care. To evaluate if selection bias was influencing the higher than expected need for specialty care, the subset of data from families that had only one child under the age of six, was evaluated for this component of the PCMH. In this subgroup of proxy data ($n = 32$), 18.8% of the young children needed a referral. The prevalence of need for specialty referrals in this subset of young children was lower but not statistically different than the prevalence for need of a referral

Exhibit 13: Prevalence of Young Children who have had a Problem Obtaining Needed Referral



Source: National and State data –Data Resource Center for Child and Adolescent Health. (2012). National Survey of Children's Health - 2011/2012. Regional Data - California Center for Rural Policy. (2016). Community Health and Wellness Survey Del Norte and Adjacent Tribal Lands - 2013. This analysis was for the question, "Does your child have one or more persons you think of as their personal doctor or nurse?". A response of "yes" is presented in the graph.

in the data set that included families with multiple children ($p = 18.8\%$ versus $p = 24.3\%$, $z < 1.96$). However, the need for specialty services in this subset of young children was still higher than previously reported from national, state and regional survey data.² In this subset of proxy data of families who have only one child, 12.5% (4 of 32) failed to meet the NSCH guideline of having a PCMH. Data from this survey may indicate that there is a higher than expected rate of need for specialty care in young children and a higher than expected prevalence in difficulty in accessing needed specialty care. Further work should be directed toward determining the types of specialty care that young children need most often. In addition, efforts should be extended to determine if there is a greater than expected need in a particular type of specialty service. Solutions should be sought that facilitate the referral process so that needed care for young children can be obtained in Del Norte County and Adjacent Tribal Lands.

1. The Child and Adolescent Health measurement Initiative Oregon Health & Science University. (2012). Measuring Medical Home for Children and Youth. Retrieved from http://www.childhealthdata.org/docs/medical-home/mhmanual_withappendices-updated-12-7-10-pdf.pdf.
2. The Data Resource Center for Child and Adolescent Health. (2012). National Survey of Children's Health – 2011/2012. Retrieved from <http://www.childhealthdata.org/browse/survey>.
3. Love, M., Eschker, E., van Arsdale, J., West, J. Porter, M. and Pollom, M. (2007). Del Norte County Health Care Provider recruiting and Retention Plan. Humboldt State University: California Center for Rural Policy.

Coordinated Health Care

One of the tenets of PCMH is that when a variety of services are needed, the health care should be coordinated. Coordination of care has been shown to reduce health care cost and improve health outcomes.¹ Children that utilize more than one type of health care may need support in coordinating these services. When measuring the component of coordinated care in the PCMH concept, if children have engaged in more than two types of health care services, the need and efficacy for care coordination was evaluated. NSCH indicates that when the following services are combined, care coordination may be indicated: preventive medical care, preventive dental care, mental health services and medical specialist services.² In this study 34 of the 70 young children ($p = 48.6\%$) did not engage in more than one type of health care service, thus would not need care coordination. Of the 36 young children who had engaged in two or more types of health care ($p = 51.4\%$), only 11.4% indicated that they were not 'always' or 'usually' able to get as much help as they wanted in arranging or coordinating their child's care. Failure to receive effective care coordination in this study was equivalent to that seen in national data ($p = 11.1\%$), and California state data ($p = 10.9\%$).³

1. Craig, C., Eby, D., Whittington, J. (2011). Care Coordination Model: Better Care at Lower Cost for People with Multiple Health and Social Needs. IHI Innovation Series white paper. Cambridge, Massachusetts: Institute for Healthcare Improvement.
2. The Child and Adolescent Health measurement Initiative Oregon Health & Science University. (2012). Measuring Medical Home for Children and Youth. Retrieved from http://www.childhealthdata.org/docs/medical-home/mhmanual_withappendices-updated-12-7-10-pdf.pdf.
3. The Data Resource Center for Child and Adolescent Health. (2012). National Survey of Children's Health – 2011/2012. Retrieved from <http://www.childhealthdata.org/browse/survey>.

Family Centered Care

The final component of the concept of PCMH is that of Family Centered Care (FCC). The general principles of FCC include information sharing, honoring difference, creating partnership and collaboratively developing care plans.¹ The concept of FCC has been operationalized using four questions.² The questions query parents if their child's personal health care provider (PP) spends enough time with the family, if the PP listens to

The personal health care provider practice characteristics that embody family centered care include the following:

1. Makes the parent feel like a partner in care
2. Listens carefully to the parents
3. Spends enough time with the parents
4. Provides needed information
5. Sensitive to family's values and customs

the family, if the PP provides adequate information, and if the PP makes the family feel like a partner in their child's health care. For this study, FCC was evaluated only in children who have a PP. Of the young children with a PP in this study ($n = 63$), 87.3% indicated that the PP made them feel like a partner in care, 91.7% indicated the PP listened to them carefully, 91.7% indicated the PP spent enough time with them, and 83.3% felt like the PP provided them with information that they needed. To meet the criteria of FCC for the PCMH set forth by NSCH, responses to all four questions must have been that the parents felt that the PP 'always' or 'usually' met the standard.² Of the 63 young children that had a PP in this study, over three-quarters met the criteria for having FCC ($p = 75.5\%$). The frequency of receiving FCC was higher in this study than previously reported for both nationwide data ($p = 69.2\%$) and California state data ($p = 61.7\%$). The young children in this study were more likely than age-matched national and state peers to have FCC.

1. The Child and Adolescent Health measurement Initiative Oregon Health & Science University. (2012). Measuring Medical Home for Children and Youth. Retrieved from http://www.childhealthdata.org/docs/medical-home/mhmanual_withappendices-updated-12-7-10-pdf.pdf.
2. The Data Resource Center for Child and Adolescent Health. (2012). National Survey of Children's Health – 2011/2012. Retrieved from <http://www.childhealthdata.org/browse/survey>.

Patient Centered Medical Home

To meet the criteria of having a patient centered medical home (PCMH) the proxy information for the young children must have revealed that the child has a personal care provider and have a usual source of care. Further, if care was sought in the past year, then that care should have had to meet the criteria for family centeredness. In addition, if a referral or care coordination was needed, it should have not been difficult to obtain these services. Of the 79 cases with completed data, 57% (95% CI [45.5, 68.5]) had met the requirements of having a PCMH. The prevalence of having met all criteria of PCMH was not significantly different from that seen previously in California state data ($p = 60.2\%$, CI [52.3%, 68.1%], z score < 1.96) or different from that seen previously in national data ($p = 64.0\%$, CI [62.5%, 65.5%], z score < 1.96) (2007 NSCH).¹ Although the criteria of PCMH was met as often in the DNATL families with young children as was seen on state and national surveys, examination of each of the five components of PCMH should direct future efforts towards promoting quality care in DNATL. Findings from this survey suggest that facilitating the referral process and promoting the development of PP relationships would improve healthcare in DNATL.

1. The Data Resource Center for Child and Adolescent Health. (2012). National Survey of Children's Health – 2007. Retrieved from <http://www.childhealthdata.org/browse/survey/results?q=264&r=1&r2=6&g=65>

Dental Health

Tooth decay is the one of the most common chronic health conditions in children.³ Frequent preventive dental health visits are essential to help prevent advanced tooth decay in children. Preventive dental health visits allow dentists to employ interventions, like providing fluoride treatments and dental sealants, to help prevent dental caries. Regular dental check-ups also allow for early detection and treatment of tooth decay and prevent loss of teeth.

Dental Health Utilization

The dental health utilization of young children was assessed by posing the question, “During the past 12 months, did your child see a dentist for any kind of dental care, including check-ups, dental cleanings, x-rays or filling cavities?” This is the most basic measure of dental care utilization. Dental exams with a dentist are recommended to begin at the time of first eruption of teeth and no later than 12 months.¹ For the 66 young children who were 1 – 5 years old, only 59% (95% CI [46.4, 71.6]) of parents indicated the child had seen a dentist in the past 12 months. Data regarding dental health utilization in children has shown that utilization rates vary with age.² Data from the Medical Expenditure Panel Survey (MEPS) revealed that 7.6% of children aged 0-2 years and 43.7% of children aged 3 – 5 years had seen a dental health provider in the past 12 months.² Data from this survey indicated a substantially higher frequency of receiving any dental care for children aged 0 to 2 years ($p = 38.2%$, 95% CI [20.4, 56.0]) and a slightly higher frequency of receiving any dental care for children aged 3 to 5 years ($p = 65.2%$, 95% CI [50.3, 80.1]) when compared to the MEPS data. Over half of the young children in this study had seen a dental health provider in the past year. This measure of dental care utilization, however, does not capture information regarding compliance with preventive health recommendations or regarding unmet dental needs.

1. Vujicic, M., & Nasseh, K. & Wall, T. (2013) HPI ADA http://www.ada.org/~media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_0213_2.ashx
2. Soni, A. Children's Dental Care: Advice and Visits, Ages 2 – 17, 2011. Statistical Brief #432 Agency of Healthcare Research and Quality, Rockville, MD. Retrieved from http://meps.ahrq.gov/mepsweb/data_files/publications/st432/stat432.pdf
3. Griffin, S., Barker, L., Wei, L., Chien-Hsun, L., Albuquerque, M., & Gooch, B. (2014). Use of dental care and effective preventive services in preventing tooth decay among U.S. children and adolescents – Medical Expenditure Panel Survey, United States 2003 – 3009 and National Health and Nutrition Examination Survey, United States 2005 – 2010. *Morbidity and Mortality Weekly Report*, 63 (2), 54-60. Retrieved from <http://www.cdc.gov/mmwr/preview/mmwrhtml/su6302a9.htm>.

Preventive Dental Health

The American Academy of Pediatric Dentistry recommends that children older than 6 months see a dentist for preventive dental care every 6 months.¹ Our data indicates that 53.8% (95% CI [42.4, 65.4]) of children over the age of 6 months ($n = 80$) had at least one preventive dental care visit in the past 12 months. A higher frequency of having one preventive dental visit in the past 12 months for children aged 1 to 5 years has been reported in California data ($p = 58.5%$, 95% CI [50.0, 67.1], z score = 2.18).² However, the frequency of young children receiving preventive care in this DNATL data was not found to be different from previously reported national data ($p = 53.5%$, 95% CI [51.9, 55.2], z score < 1.96).² Adherence with recommended preventive dental health practices was assessed by asking the parents how many times in the past 12 months their child was seen for preventive dental care. Only 40.3% of the parents indicated that their child who was greater than 12 months of age had preventive dental care visits two or more times in the past 12 months (95% CI [27.7, 52.9]). Less than half of the young children in the DNATL survey are receiving recommended preventive dental health visits.

1. American Academy of Pediatric Dentistry. (2013). *Clinical Guidelines*. 36, (6), 118-125. Retrieved from http://www.aapd.org/media/Policies_Guidelines/G_Periodicity.pdf
2. The Data Resource Center for Child and Adolescent Health. (2012). *National Survey of Children's Health – 2007*. Retrieved from <http://www.childhealthdata.org/browse/survey/results?q=126&r=1&g=63&r2=6&a=1825>

Usual Place for Dental Care

Efficacy of dental care is seen as occurring within a dental home. Unlike the construct of medical home, the construct of dental home has not been operationalized. There are no generally accepted or frequently utilized surveys to assess the components of dental home. The construct of dental home has parallels with the construct of medical home. For instance, a usual place of care is seen as a vital components of both the constructs of dental home and medical home. For this study, usual source of care of dental care was assessed by asking the question, “Is there a particular dentist or dental clinic that your child usually goes to if your child needs dental care or dental advice?” The majority of the respondents indicated that their child had a usual source for dental care ($p = 66.2\%$, 95% CI [55.0, 77.4]).

Tooth Decay

Tooth decay, when left untreated, can cause tooth pain and dental infections. The presence of oral health problems associated with untreated dental decay in children was evaluated using a single question that asked parents if their child had a toothache, decayed teeth or unfilled cavities in the past 12 months. The Centers for Disease Control (CDC) reported that 23.4% of children between the ages of 2 and 5 have untreated dental caries.¹ The National Survey of Children’s Health (NSCH) found that the prevalence of one or more oral health problems in 1 to 5 year old children was 11% (95% CI [10.1, 12.0]) nationwide and 14.9% (95% CI [9.95, 19.8]) state wide.¹ In our study, 14.7% (95% CI [5.4, 24.0]) of the subgroup of 1 to 5 years had experienced a toothache, dental pain, or had untreated tooth decay in the previous 12 month period. Our findings agree with the self-reported proxy data from the NSCH 2011/2012 data.² Although the CDC data revealed a higher prevalence of untreated dental caries in young children when compared to NSCH and this survey, the difference is likely related to the different methodology employed in these studies. The CDC utilized dental exams by professionals to detect untreated dental decay, whereas this study and NSCH relied on parental perception regarding untreated dental decay. Parents may not be aware of untreated dental decay and thus the self-reported data may underestimate the prevalence of oral health problems. The parents of the DNATL young children in this study may be unaware that their children have unmet dental needs, and the children may not have frequent enough encounters with dental health professionals for early detection and treatment of these potential unmet dental needs.



1. National Center for Health Statistics. (2010). Health, United States, 2009: With Special Feature on Medical Technology. Hyattsville, MD.
2. The Child and Adolescent Health measurement Initiative Oregon Health & Science University. (2012). Measuring Medical Home for Children and Youth. Retrieved from <http://www.childhealthdata.org/browse/survey/results?q=2587&r=1&g=450>

Appendix



Del Norte & Adjacent Tribal Lands Community Health & Wellness Survey



Dele vuelta a la hoja para espanol

Thank you for completing this important survey to help us understand and improve health and healthcare in your community. Participation in this survey is voluntary, anonymous, and confidential. Please have an adult (18 or older) in your household complete the survey and return it in the postage paid envelope by **May 30, 2013**. **Only complete one survey per household.** Answer the following questions about yourself. If you have children, please also complete the child section.

- 1) Within the past 12 months, were you able to get the healthcare (including mental healthcare) you needed?
 Healthcare not needed Yes No → If No, please explain why _____

- 2) What types of health insurance do you have? *Please check all that apply.*
 None Other government plans such as: Healthy Families,
 Private insurance Family Planning Access Care and Treatment (PACT),
 Medicare County Medical Service Program (CMSP).
 Medi-Cal Other (please explain) _____

- 3) A personal doctor or nurse is a health professional who knows you well and is familiar with your health history. This can be a general doctor, a specialist doctor, a nurse practitioner, or a physician's assistant. Do you have one or more persons you think of as your personal doctor or nurse?
 Yes No Don't Know

- 4) Is there a place that you USUALLY go to when you are sick or you need advice about your health?
 No Don't Know
 Yes → **If Yes, What kind of place do you go to most often? Please check one.**
 Doctor's Office/Health Center/Clinic/Indian Clinic Mexico/Other Locations out Of United States
 Hospital Outpatient Department Oregon
 Hospital Emergency Room or Urgent Care Some Other Place _____
 Retail Store Clinic or "Minute Clinic" Do Not Go to One Place Most Often
 School (Nurse, Athletic Trainer, Etc.) Don't Know
 Friend/Relative

- 5) During the past 12 months did you see a doctor, nurse, or other health care professional for any kind of medical care, including sick care, well-check-ups, physical exams, and hospitalizations?
 Yes No Don't Know
↓
If No or Don't Know skip to question #12

- 6) During the past 12 months, when you phoned to get an appointment for care you needed **right away**, how often did you get an appointment as soon as you thought you needed?
 Always Usually Sometimes Never Don't Know Does Not Apply

- 7) During the past 12 months, when you phoned to get an appointment for a **check-up or routine care**, how often did you get an appointment as soon as you thought you needed?
 Always Usually Sometimes Never Don't Know Does Not Apply

- 8) During the past 12 months, how often did your doctors or other health care providers help you feel like a partner in your care?
 Always Usually Sometimes Never Don't Know

- 9) During the past 12 months, how often did your doctors or other health care providers listen carefully to you?
 Always Usually Sometimes Never Don't Know
- 10) During the past 12 months, how often did your doctors or other health care providers spend enough time with you?
 Always Usually Sometimes Never Don't Know
- 11) Information about your health or health care can include things such as the causes of any health problems, how to care for yourself now, and what changes to expect in the future. During the past 12 months, how often did you get the specific information you needed from your doctors or other health care providers?
 Always Usually Sometimes Never Don't Know
- 12) When you are seen by doctors or other health care providers (including mental health), how often are they sensitive to your family's values and customs?
 Always Usually Sometimes Never Don't Know Does Not Apply
- 13) During the past 12 months, did you need a referral to see any doctors or receive any services?
 No Don't Know
 Yes → **If Yes**, How difficult was it to get the referral? *Please check one.*
 Not difficult Slightly difficult Very difficult Don't Know
- 14) Mental health professionals include psychiatrists, psychologists, psychiatric nurses, clinical social workers, and therapists/counselors. During the past 12 months, have you received any treatment or counseling from a mental health professional?
 Yes No Don't Know
- 15) Overall, how satisfied are you with the mental health services in your community?
 Very Satisfied Somewhat Satisfied Somewhat Dissatisfied Very Dissatisfied
 Don't Know
- 16) Specialists are doctors like surgeons, heart doctors, allergy doctors, skin doctors, and others who specialize in one area of health care. During the past 12 months, did you see a specialist (other than a mental health professional)?
 Yes No Don't Know
- 17) Does anyone help you arrange or coordinate your care among the different doctors or services that you use?
 Yes No Don't Know Does Not Apply
- 18) During the past 12 months, how often did you get as much help as you wanted with arranging or coordinating your care?
 Always Usually Sometimes Never Don't Know Does Not Apply
- 19) Overall, how satisfied are you with the communication among your doctors and other health care providers?
 Very Satisfied Somewhat Satisfied Somewhat Dissatisfied Very Dissatisfied
 Don't Know No Communication Needed or Wanted
- 20) Do you regularly go outside your county for health services?
 Yes No
- 21) During the past 12 months, did you see a dentist for any kind of dental care, including check-ups, dental cleanings, x-rays, or filling cavities?
 Yes No
- 22) Is there a particular dentist or dental clinic that you usually go to if you need dental care or dental advice?
 Yes No Do Not Go to One Place Most Often
- 23) To the best of your knowledge when did you last have your teeth cleaned at a dentist's office?
 Within the past year 1-2 years ago 2-5 years 5 or more years ago
 Don't Know Never

24) What county do you live in? Del Norte Humboldt Siskiyou Other _____

25) What town or community/village do you live in? _____

26) What zip code do you live in? _____

27) What type of building/structure do you live in? **Please check one.**

- House Duplex Building with 3 or more units
 Mobile home/trailer Other _____

28) Do you own or rent your home? **Please check one.**

- Owned or being bought by someone in household Rent Other arrangement

29) In your home, do you currently have Internet access?

- No Yes → **If Yes, what type(s) of Internet access? Please check all that apply.**
- Cable modem from Charter Communications Satellite
 DSL from Frontier, AT&T or Verizon Cellular broadband
 Tsunami or other wireless company Don't Know
 Dial-up Other _____

30) In your home, do you currently have phone access?

- No Yes → **If Yes, what type(s) of phone access? Please check all that apply.**
- Land line from Frontier, AT&T or Verizon VoIP
 Charter Communications Don't Know
 Cellular Other _____

31) What is your primary mode of transportation? **Please check one.**

- Walk Bicycle Public Transportation Car/Truck Other _____

32) Approximately how long does it usually take to get to the following places from your home?

- The store where you usually buy food? _____ (specify minutes or hours)
 The place you usually go for healthcare (if applicable)? _____ (specify minutes or hours)
 The place you usually go for dental care (if applicable)? _____ (specify minutes or hours)

33) How many automobiles, vans, and trucks are kept at home for use by members of your household?

- None 1 2 3 4 5 or more

34) Is transportation a problem in meeting the health needs of you or your family?

- No Yes → If Yes, please explain why _____

35) Please indicate how much you agree with the following statements:

	Mostly True	Mostly False	Don't Know
a) My neighbors and I talk about community problems and how to solve them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) The sidewalks, trails, and crosswalks in my neighborhood/community are in good condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) During bad weather, there are public indoor facilities my neighbors and I can use close by.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) There are clean parks, playgrounds or green spaces that I feel safe going to in my neighborhood/community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) There are places in my neighborhood/community where I can get fresh fruits and vegetables year-round.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

36) **In your home** do you currently have:

	Yes	No	Don't Know
a) A computer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Hot and cold running water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) A flush toilet?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) A bathtub or shower?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) A sink with a faucet?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) A stove or range?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) A refrigerator?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) A washing machine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) A clothes dryer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) A source of electricity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) A working electrical outlet or wall plug in every room?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Exposed wiring?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m) Holes in the floor?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n) Open cracks or holes in the inside walls or ceilings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o) Holes or open cracks or crumbling in the foundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p) Water leaks (from inside or outside)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q) Broken windows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
r) Mold on an area greater than the size of a dollar bill?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

37) In the last 12 months were you or people living in your household ever hungry because you couldn't afford enough food?
 Yes No Don't Know

38) Please indicate how often the following statements describe your/your family's food situation.

In the last 12 months:	Often True	Sometimes True	Never True	Don't Know
a) We worried whether our food would run out before we got money to buy more.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) The food that we bought just didn't last, and we didn't have enough money to get more food.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) We couldn't afford to eat balanced meals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

39) In the last 12 months, which of the following resources did members of your household use to purchase or obtain food?

Please check all that apply

- Cash from employment or savings
- Cash or benefits from SSI/SSDI
- WIC coupons
- Cash or benefits from TANF or CalWORKS
- CalFresh (formerly called food stamps)
- Local Food Bank
- Other _____

40) Please indicate how often the following statements describe your situation this past year.

In the last 12 months:	Always	Usually	Sometimes	Never	Does Not Apply
a) How often did you feel lonely or isolated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) How often did you get the social and emotional support you needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) How often did you feel safe from violence (physical, verbal or sexual) in your home ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) How often did you feel your family was safe from violence (physical, verbal or sexual) in your home ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) How often did you feel safe from violence (physical, verbal or sexual) in your neighborhood/community ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) How often did you feel your family was safe from violence (physical, verbal or sexual) in your neighborhood/community ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) How often were you worried or stressed about having enough money to pay your rent/mortgage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) How often were you worried or stressed about having enough money to buy nutritious meals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

41) In the last 12 months how often did you participate in cultural activities (such as festivals, ceremonies, music, dance)?
 None 1-4 times 5-11 times 12 or more times Don't know

42) In the past 12 months, how often did you do any unpaid volunteer work or community service?
 None 1-4 times 5-11 times 12 or more times Don't know

43) In what year were you born? _____

44) What is your gender? Male Female Other _____

45) Are you of Hispanic, Latino, or Spanish origin? Yes No

46) What is your race? **Please check all that apply.**
 White Black/African American Asian → describe _____
 American Indian → print name of enrolled tribe _____
 Other _____

47) Which of the following best describes your current employment situation? **Please check one.**

<input type="checkbox"/> Employed by an organization/company/business	<input type="checkbox"/> Unemployed, looking for work	<input type="checkbox"/> Disabled
<input type="checkbox"/> Self-employed	<input type="checkbox"/> Unemployed, not looking for work	<input type="checkbox"/> Homemaker
<input type="checkbox"/> Retired	<input type="checkbox"/> Student	<input type="checkbox"/> Other _____

C6) During the past 12 months did your child see a doctor, nurse, or other health care professional for any kind of medical care, including sick-child care, well-child check-ups, physical exams, and hospitalizations?

Yes No Don't Know

If No or Don't Know skip to question #C12

C7) During the past 12 months, how many times did your child see a doctor, nurse, or other health care provider for preventive medical care such as a physical exam or well-child checkup? _____times Don't Know

C8) During the past 12 months, how often did your child's doctors or other health care providers help you feel like a partner in his/her care?

Always Usually Sometimes Never Don't Know

C9) During the past 12 months, how often did your child's doctors or other health care providers listen carefully to you?

Always Usually Sometimes Never Don't Know

C10) During the past 12 months, how often did your child's doctors or other health care providers spend enough time with him/her?

Always Usually Sometimes Never Don't Know

C11) Information about a child's health or health care can include things such as the causes of any health problems, how to care for a child now, and what changes to expect in the future. During the past 12 months, how often did you get the specific information you needed from your child's doctors or other health care providers?

Always Usually Sometimes Never Don't Know

C12) When your child is seen by doctors or other health care providers (including mental health), how often are they sensitive to your family's values and customs?

Always Usually Sometimes Never Don't Know Does Not Apply

C13) During the past 12 months, did your child need a referral to see any doctors or receive any services?

No Don't Know

Yes → **If Yes, How difficult was it to get the referral? *Please check one.***

Not difficult Slightly difficult Very difficult Don't Know

C14) Mental health professionals include psychiatrists, psychologists, psychiatric nurses, clinical social workers, and therapists/counselors. During the past 12 months, has your child received any treatment or counseling from a mental health professional?

Yes No Don't Know

C15) Specialists are doctors like surgeons, heart doctors, allergy doctors, skin doctors, and others who specialize in one area of health care. During the past 12 months, did your child see a specialist (other than a mental health professional)?

Yes No Don't Know

C16) Does anyone help you arrange or coordinate your child's care among the different doctors or services that he/she uses?

Yes No Don't Know Does Not Apply

C17) During the past 12 months, how often did you get as much help as you wanted with arranging or coordinating your child's care?

Always Usually Sometimes Never Don't Know Does Not Apply

C18) Overall, how satisfied are you with the communication among your child's doctors and other health care providers?
 Very Satisfied Somewhat Satisfied Somewhat Dissatisfied Very Dissatisfied
 Don't Know No Communication needed or wanted

C19) Do your child's doctors or other health care providers need to communicate with his/her child care providers/early intervention program, school, or special education program?

No Don't Know

Yes → **If Yes**, Overall, how satisfied are you with that communication? *Please check one.*

Very Satisfied Somewhat Satisfied Somewhat Dissatisfied Very Dissatisfied
 Don't Know No Communication needed or wanted

C20) During the past 12 months, did your child have a toothache, decayed teeth, or unfilled cavities?

Yes No Don't Know

C21) Is there a particular dentist or dental clinic that your child USUALLY goes to if he/she needs dental care or dental advice?

Yes No Does Not Go To One Place Most Often

C22) During the past 12 months, did your child see a dentist for any kind of dental care, including check-ups, dental cleanings, x-rays, or filling cavities?

Yes No Don't Know

C23) During the past 12 months, how many times did your child see a dentist for *preventive* dental care, such as check-ups and dental cleanings? _____ times Don't Know

C24) Has your child received dental care through the Mobile Dental Van at their school?

Yes No Does not apply (child not in school) Don't Know

C25) Does your child attend school?

Yes → **If Yes, what school?** _____ No → **If No, you are finished with the survey.**

C26) On most days, how does your child **arrive** at school?

Walk Family vehicle (only children in your family)
 Bike or Skate Carpool (children from other families)
 School Bus Other _____

C27) On most days, how does your child **leave** from school?

Walk Family vehicle (only children in your family)
 Bike or Skate Carpool (children from other families)
 School Bus Other _____

C28) How far does your child live from school?

Less than ¼ mile 1 mile up to 2 miles
 ¼ mile up to ½ mile More than 2 miles → about how many miles? _____
 ½ mile up to 1 mile Don't know

C29) How long does it normally take your child to get to school?

Less than 5 minutes 11-20 minutes
 5-10 minutes More than 20 minutes → about how many minutes? _____
 Don't know

***End of survey. Thank you for your time.
Please return the survey in the enclosed postage paid envelope with your raffle entry.***



Join us online...

Please join us in an on-line discussion about children’s health in Del Norte and Adjacent Tribal Lands. Contribute to the living document by commenting on the research findings, sharing innovative programs and discussing policy implications. To read comments and post your own, please visit our website, www.humboldt.edu/ccrp.

Join us in the community...

The California Center for Rural Policy will continue to share research results with the community through briefs, reports and meetings. We plan to engage the community in dialogue about potential solutions and policy recommendations to address identified problem areas. We hope you will join us as we work together to improve health in our region. If you would like to receive information from CCRP please contact us to get on our mailing list: (707) 826-3400 or ccrp@humboldt.edu

Join us in collaboration...

CCRCP welcomes opportunities to collaborate with community partners for more in-depth research on this topic.

The California Center for Rural Policy at Humboldt State University is a research center committed to informing policy, building community, and promoting the health and well-being of rural people and environments.

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