

**Appendix C. ISER Report on Data Quality for MAPP of the SKP**

**SUMMARY AND REVIEW OF DATA COLLECTED BY  
MOBILIZING FOR ACTION THROUGH PLANNING AND PARTNERSHIPS  
FOR THE  
SOUTHERN KENAI PENINSULA**

Prepared by:  
Rosyland Frazier  
Katie Cueva

Prepared for:  
Mobilizing for Action through Planning and Partnership of the  
Southern Kenai Peninsula

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Institute of Social and Economic Research  
University of Alaska Anchorage  
3211 Providence Drive  
Anchorage Alaska 99508

## Table of Contents

Introduction .....	5
Report Organization .....	6
Methodology .....	6
Perceptions of Community Health Survey.....	6
Key Informant Survey.....	6
Rankings of SKP MAPP Community Health Issues .....	7
Criteria for Assessing Data Quality and Quantity .....	7
Data Quality and Quantity Limitations: Economic Costs and Mental/Emotional Health Indicators .....	8
Scientific Approach to Data Collection.....	9
Data Quantity .....	9
Interpretability.....	10
Data Sources .....	10
Organizational Data .....	12
U.S. Census/ American Community Survey Data .....	12
Alaska Cooperative Extension Data.....	13
Kenai Peninsula Borough School District Data .....	13
Alaska Department of Labor Data .....	14
Behavioral Risk Factor Surveillance System.....	14
Overview of Economic and Mental/Emotional Health Status of the Southern Kenai Peninsula from SKP MAPP Collected Data .....	16
Summary.....	16
Economic Status.....	16
Industries in Homer and Miller’s Landing .....	16
Population Above the Poverty Line .....	17
Cost of Living.....	18
Percent Unemployed.....	18
Mental/Emotional Health Status.....	19
Youth Mental/Emotional Health.....	19
Adult Mental/Emotional Health .....	20
Assessment of Individual Indicator Data .....	21
Economic Costs .....	21
Poverty Indicators.....	21

Poverty Indicators: Data Quality .....	22
Poverty Indicators: Data Quantity .....	25
Cost of Living Indicators .....	26
Cost of Living Indicators: Data Quality.....	26
Cost of Living Indicators: Data Quantity.....	27
Health Insurance and Medical Indicators .....	28
Health Insurance and Medical Indicators: Data Quality.....	29
Health Insurance and Medical Indicators: Data Quantity.....	30
Other Indicators .....	30
Unemployment, Tax Revenue, Children, and Tourism Indicators: Data Quality .....	31
Unemployment Indicators .....	32
Tax Revenue Indicators.....	32
School-Based Indicators.....	32
Tourism Indicators .....	32
Assessment of Mental/Emotional Health Indicators .....	33
Mental/Emotional Health Indicators: Data Quality .....	34
Limitations.....	35
Cited Resources.....	36
Appendix. Ranking of SKP MAPP Community Health Issues .....	38

## Figures

Figure 1. Sources of Economic Costs and Mental/Emotional Health Indicators.....	10
Figure 2. Sources of Economic Costs and Mental/Emotional Health Indicators by ISER Themes .....	11
Figure 3. Industries in Homer and Miller’s Landing, 2011 Employment.....	16
Figure 4. Population Above Poverty Line in Alaska, Kenai Peninsula Borough, and Southern Kenai Peninsula, 2007-2011 American Community Survey 5-Year Estimate .....	16
Figure 5. Relative Cost of Living in Homer, Kenai Peninsula Borough, and Anchorage, 2008 .....	17
Figure 6. Percent Unemployed in Alaska, Kenai Peninsula Borough, and Southern Kenai Peninsula 2007-2011 American Community Survey 5-Year Estimate .....	18

Figure 7. Percent of Students Reporting Feeling Sad or Hopeless in the U.S., Alaska, and Southern Kenai Peninsula, 2011 .....	19
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Figure 8. Average Mentally Unhealthy Days in Last Month for Adults in the U.S., Alaska, and Southern Kenai Peninsula, 2004-2011 .....	20
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Tables

Table 1. Major Themes within Economic Costs and Number of Indicators .....	20
Table 2. Evaluation of Data Quality of Poverty Indicators .....	22
Table 3. Evaluation of Data Quality of Cost of Living Indicators .....	25
Table 4. Number of Indicators Related to Health Insurance.....	27
Table 5. Evaluation of Data Quality of Health Insurance and Medical Indicators .....	28
Table 6. Evaluation of Data Quality of Unemployment Indicators .....	30
Table 7. Evaluation of Data Quality of Tax Revenue Indicators.....	30
Table 8. Evaluation of Data Quality of School-Based Indicators.....	30
Table 9. Evaluation of Data Quality of Tourism Indicators.....	30
Table 10. Evaluation of Data Quality of Mental and Emotional Health Indicators .....	33
Table 11. Rankings of Community Health Survey Question Responses by Frequency .....	37

## Introduction

Mobilizing for Action through Planning and Partnerships (MAPP) “is a community-driven strategic planning process for improving community health” that residents of the Southern Kenai Peninsula (SKP) have selected as a guide to assess their region (NACCHO, 2013). While the exact geographic boundaries of the Southern Kenai Peninsula are unclear, SKP MAPP data includes the communities of: Anchor Point, Diamond Ridge, Fox River, Fritz Creek, Happy Valley, Homer City, Kachemak City, Nanwalek, Nikolaevsk, Ninilchik, Port Graham, Seldovia City, and Seldovia Village

SKP communities collected information to create four different assessments during the MAPP process:

**Community Themes and Strengths Assessment** – Qualitative input from community members to identify the issues they feel are important, collected from:

Perceptions of Community Health Survey  
Key Informant Survey

**Community Health Status Assessment** - A collection of secondary quantitative data potentially relevant to community health and quality of life

**Forces of Change Assessment** - The MAPP steering committee identifies forces such as legislation, technology, and other impending changes that may affect the context in which the community and its public health system operate, as well as challenges and opportunities that may accompany those changes.

**Local Public Health Assessment** – The assessment is completed through the use of a nationally recognized tool, the National Public Health Performance Standards Local Assessment Instrument and answers the questions of “What are the components, activities, competencies, and capacities of our local public health system?” and “How are the Essential Services being provided to our community?” (NACCHO, 2013).

All four assessments were completed in 2009, and the Community Themes and Strengths Assessment, Community Health Needs Assessment, and Forces of Change Assessment were repeated in 2013. Shortly before undertaking the 2013 data collection, the SKP MAPP team approached ISER for advice in creating a plan for prioritizing the indicator data that was to be collected. After completing the data collection, SKP MAPP asked ISER for continued advice on data prioritization, as well as assistance interpreting the data. Once the data were prioritized, SKP MAPP asked ISER to assist with summarizing and evaluating data from two areas: Economic Costs and Mental/Emotional Health.

ISER proposed to:

Summarize the Southern Kenai Peninsula community status from Economic Costs and Mental/Emotional Health indicators [data], with comparisons to regional, state, and national scales as possible and;

Evaluate the quantity and quality of collected data within the Community Health Status Assessment depicting Southern Kenai Peninsula Economic Costs and Mental/Emotional Health.

## ***Report Organization***

This report begins with an introduction and a description of the methodology used in this project, followed by the criteria employed to determine data quality and quantity. An overview of the SKP MAPP collected indicators is summarized in Data Quality and Quantity Limitations: Economic Costs and Mental/Emotional Health Indicators. The section on the SKP Economic and Mental/Emotional Health status highlights SKP MAPP indicators that satisfy the data criteria established in the methodology. Comparisons to regional, state, and national data are provided where possible. The final sections of this report are a review of Economic and Mental/Emotional Health indicator data quality and quantity.

## **Methodology**

In February, 2013, SKP MAPP approached ISER for advice in interpreting and prioritizing indicator data collected in 2013 from a Perceptions of Community Health Survey and Key Informant Survey within the Community Themes and Strengths Assessment. This section discusses the SKP MAPP surveys and the methods ISER used to prioritize SKP MAPP data.

### ***Perceptions of Community Health Survey***

The Perceptions of Community Health survey asked respondents a variety of questions, including: “Please indicate, in the order of importance (1 being the most important) your TOP THREE choices of the following factors that MOST NEGATIVELY affect the health of you and your family and the TOP THREE choices which MOST NEGATIVELY affect the health of the community.” Answer choices included:

- Physical Health
- Mental/Emotional Health
- Substance Abuse
- Interpersonal Violence
- Economic Costs
- Environmental Health
- Education
- Other (please specify)

SKP MAPP reported that there were over 1,200 respondents to the Perceptions of Community Health survey, however it is unclear how many respondents answered the specific prompt described above. SKP MAPP identified that, of the top three health factors selected for “you and your family,” respondents answered Economic Costs (72.9%), Physical Health (68.4%), and Mental/Emotional Health (46.9%). For “community,” SKP MAPP respondents selected Substance Abuse (79.3%), Economic Costs (54.4%), and Mental/Emotional Health (51.6%).

### ***Key Informant Survey***

The SKP MAPP Key Informant Survey asked respondents to “Pick at least three of the issues that most impact the population your organization serves.” Answer choices were:

- Economic Issues
- Substance Abuse
- Mental Health Issues
- Family Issues
- Insurance/Health Care Coverage
- Lack of True Collaboration
- Lack of Shared Vision
- Lack of Prevention, Wellness, and Recreation Activities
- Environment
- Education
- Interpersonal Violence
- Access to Care
- Lack of Tolerance for Diversity
- Organizational Health/System

Of the 75 respondents to the SKP survey, 62.1% selected economic issues, 51.7% substance abuse, and 47.1% mental health issues.

### ***Rankings of SKP MAPP Community Health Issues***

To assist with prioritizing the community health issues in the two surveys, ISER staff assigned a numerical value to answer choices in the two listed questions, and three additional questions, based on the frequency of response. For example, if Economic Costs was selected the most frequently for a particular question, it was assigned a rank of 5, while the next most frequently selected response received a rank of 4, down to the 5<sup>th</sup> most selected response, if information was available. These ranks were averaged across each survey and then summed across the two surveys to obtain a Total Rank (see Appendix A. Ranking of SKP Survey Responses). This method resulted in the following ranking of community health issues, listed highest to lowest:

1. Economic Costs
2. Substance Abuse
3. Mental/Emotional Health or Mental Health Issues
4. Transportation

In August 2013, after reviewing the ISER rankings of SKP community health issues, SKP MAPP asked ISER staff to examine SKP MAPP collected quantitative indicators associated with the most highly ranked categories. Determining that another group was already investigating indicators for Substance Abuse, SKP MAPP asked ISER to analyze indicators relevant to Economic Costs and Mental/Emotional Health. These indicators are stored by SKP MAPP on the website: [mapofskp.net](http://mapofskp.net); and is organized into categories within the Community Vision section. As of October 2013, the categories were:

- Affordable transportation system
- Biodiverse, resilient ecosystems
- Cultural, educational, artistic opportunities
- Demographics
- Healthy behavior choices
- Multi-use, intergenerational resources
- Sustainable food, energy, and water systems
- Prevention focused health network
- Sustainable, equitable economy (46 indicators)
- Healthy and safe of individuals and families (110 indicators)

There are 46 indicators within the category Sustainable, equitable economy, and 119 within Healthy and safe of individuals and families. Within Healthy and safe of individuals and family, ISER staff found 10 indicators with a title that included the terms: emotionally disturbed illness; depression; anxiety; sad or hopeless; mentally unhealthy; mentally disturbed; or suicide. These 10 indicators were selected as relevant to Mental/Emotional Health issues. Each indicator relevant to Mental/Emotional Health and within the category Sustainable, equitable economy was evaluated for its adherence to data quality and quantity criteria described in the next section.

## **Criteria for Assessing Data Quality and Quantity**

Data quality is multi-dimensional, and criteria to assess quality generally vary by project (Pipino, 2002). However, several dimensions of data quality have been identified as common themes (Pipino, 2002; Brackstone, 1999; Carson, 2000), including:

- Relevance
- Accuracy
- Timeliness
- Accessibility

- Interpretability
- Comparability
- Completeness
- Credibility/Integrity/Source Reputation

Data quantity can also be considered a dimension of data quality, defined as “the extent to which the volume of data is appropriate for the task at hand” (Pipino, 2002). For the purposes of this report, appropriate data quantity is defined as at least one indicator that meets all of the established data quality criteria, as described below.

To allow for an assessment of the SKP MAPP indicators, the dimensions of data quality identified above have been defined specifically for this report:

- 1. Relevance** - the data is either a census or representative sample of:  
The entire population of the Southern Kenai Peninsula;  
All communities in the Southern Kenai Peninsula examined in the U.S. Census;  
or a clearly defined segment of the Southern Kenai Peninsula population (i.e. all youth under age 18, all women, all Alaska Native individuals, etc.). This data would not be representative of the entire population, but representative of this population sub-set
- 2. Accuracy** - the data is either a census or a representative sample with a margin of error less than 5%.  
For the purposes of this report, estimates from the American Community Survey are assumed to have a margin of error greater than 5% of the estimate at a size less than the Southern Kenai Peninsula region
- 3. Timeliness** - the most recent data point is 2010 or later
- 4. Accessibility** - further research would be required to determine the ease of obtaining data for the SKP region, which is outside the scope of this report (Pipino, 2002).
- 5. Interpretability** - the data source, methods of collection (selection of respondent, response rate, data collection instrument, etc.), and population is clearly identified
- 6. Comparability** - the data source is an organization that collects data in a standard way across multiple geographic locations (i.e. communities, regions, states, etc.).
- 7. Completeness** - either there is no interruption in a continuous data set (i.e. if the years 2004-2012 are included, data is collected at regular intervals with no intervals missing) or data from a single time-point includes relevant comparisons (i.e. between communities of the Southern Kenai Peninsula, or between SKP, Alaska, and the US)
- 8. Credibility** - the data source is, or is part of a local, state, or national governmental organization

## **Data Quality and Quantity Limitations: Economic Costs and Mental/Emotional Health Indicators**

This section offers a brief introduction to the scientific approach to data collection, followed by a review of the limitations and opportunities associated with SKP MAPP data quantity and interpretability, and SKP MAPP data sources.

### ***Scientific Approach to Data Collection***

Reliable and valid data collection and analysis are usually undertaken in adherence to the scientific method. Scientific research adheres to a well-established set of guidelines. A description of this approach shared by the University of Washington includes the following process (Ginorio, AB):

1. Define the question – narrow potential topics down to a specific question,
2. Form a hypothesis – what do you expect to find?
3. Locate resources – what resources are available? There may be a gap in available sources.
4. Plan the data collection methods – how will the question be answered?
5. Collect data – keep track of the process.
6. Organize and analyze the data – what does the data show? Are the results significant?
7. Interpret the data and draw conclusions – how does this answer the initial question? Are there other confounding factors that might impact the results? What are the implications of this research for the community?
8. Communicate the results – tailor the communication plan to your audience.

Following a process such as this could help to refine the scope of data collected by SKP MAPP, and guide data collection around specific aims. For example, if an initial question were “what are the health priorities of individuals in the Southern Kenai Peninsula,” then surveys of a random sample of residents could be collected that asked individuals to identify their health priorities. If a question were posed such as “what are the largest contributors to mortality among the Southern Kenai Peninsula,” then sources such as Alaska Bureau of Vital Statistics and the Alaska Department of Health and Social Services could be consulted for the leading causes of death.

It is unclear from the SKP MAPP indicators and reports what process was followed to drive the data collection. An initial research question isn’t apparent from the data, and consequently, analysis and a conclusion that seeks to answer an initial question cannot be generated. The data is also currently organized into broad themes called SKP Visions, but may benefit from further organization into specific themes (as done in this report) or research questions, cross-referenced to relevant data sources. Narrower themes could avoid duplicating data sources, potentially avoiding data management pitfalls such as inconsistent data (for example, if a particular indicator was updated under one vision, but was missed where the indicator appears under another vision). During the creation of this report, several organizational strategies have been adopted to interpret the data, including organization by source, organization by ISER-generated specific themes, and organization by data quality.

### ***Data Quantity***

While an appropriate amount of data should be collected, the number of data points that will best address a question or trend varies (Pipino, 2002). The data quality dimension of “completeness” can also refer to collecting data for all populations involved, as well as satisfying missing values (Pipino, 2002). For SKP MAPP, collecting an appropriate and complete amount of data could also mean collecting data to create trends over time, to compare one subset of the population to another, or to do both. For example, SKP MAPP collected data could:

Look at one point in time or track trends within the Southern Kenai Peninsula over time

Compare one point in time or trends within the Southern Kenai Peninsula to the state and nation

**Interpretability**

To appropriately understand collected information, data users would need to understand the data collection methodology, the population, and properties of the data (Brackstone, 1999). For example, the properties of SKP MAPP collected data from the America Community Survey could be listed as:

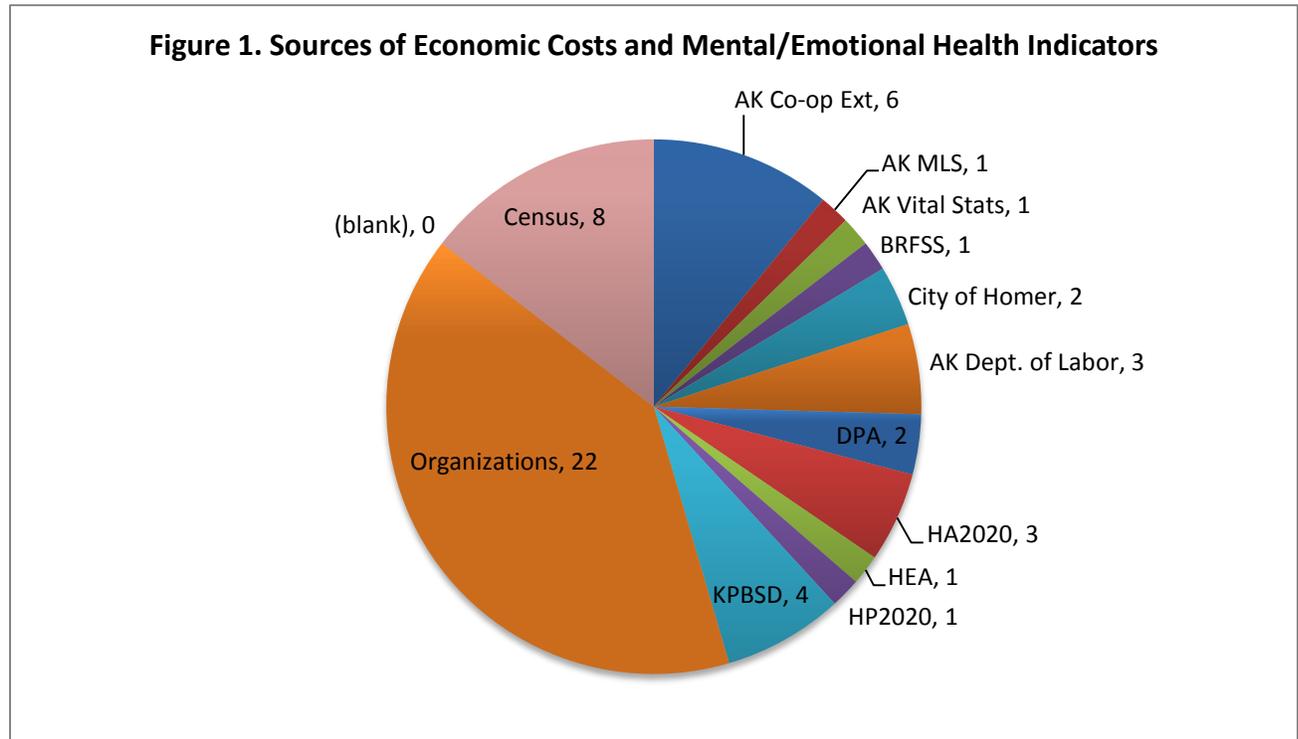
**Source:** American Community Survey 5-Year Estimate, 2007-2011

**Population:** Anchor Point, Diamond Ridge, Fox River, Fritz Creek, Happy Valley, Homer City, Kachemak City, Nanwalek, Nikolaevsk, Ninilchik, Port Graham, Seldovia City, and Seldovia Village

**Methodology:** The total estimated population and the estimated number of individuals living above the poverty line were recorded for each of the communities listed above. The estimated total number of individuals living above poverty line for each community were added together, and divided by the summed estimated population total for all communities. The margin of error was calculated by adding together the number of individuals within the margin of error for each community and dividing by the total number of estimated individuals living in all communities.

**Data Sources**

ISER staff examined a total of 56 SKP MAPP indicators from 13 data sources. The 13 data sources are depicted in Figure 1 below:



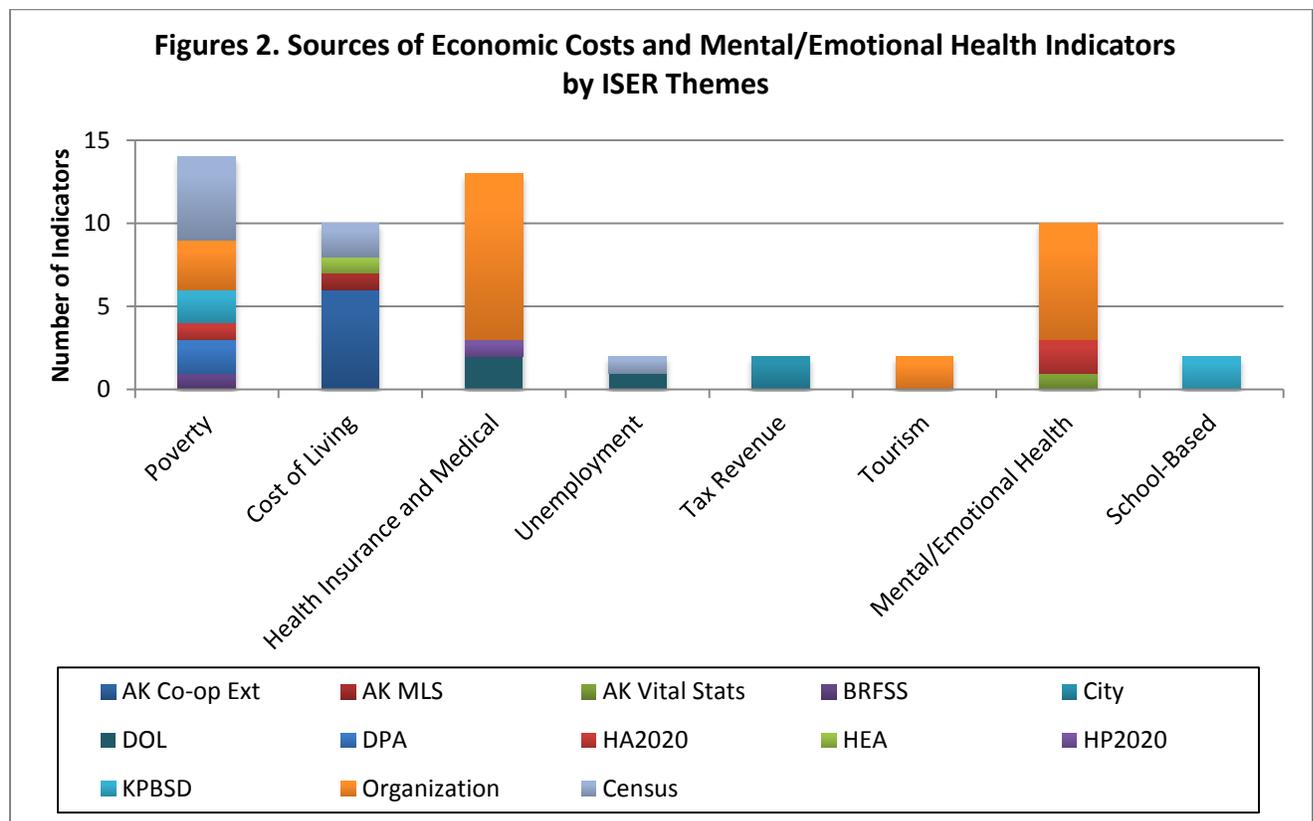
ISER’s assumptions as to the full name of each of the acronyms, based on SKP MAPP comments and datasets, are listed below:

- AK Co-op Ext = Alaska Cooperative Extension

- AK MLS = Alaska Multiple Listing Service
- BRFSS = Behavioral Risk Factor Surveillance System
- DOL = Department of Labor
- DPA = Division of Public Assistance
- HA2020 = Healthy Alaskans 2020
- HP2020 = Healthy People 2020
- HEA = Homer Electric Association

The largest segment of data is drawn from organizations, with a total of 22 of 56 (39.3%) of SKP MAPP indicators from organizational data. These organizations are primarily medical centers, including: South Peninsula Hospital (6 indicators); Seldovia Village Tribe Health Center (6 indicators); Homer Medical Center/Clinic (3 indicators); and South Peninsula Behavioral Health Services (2 indicators)

The remainder of organizational indicators are each from a separate program, including; Alaska Maritime Wildlife Refuge, Homer Chamber of Commerce, Homer Food Pantry, Kachemak Bay Family Planning Clinic, and WIC. Figure 1 displays the data sources of the examined SKP MAPP indicators, while Figure 2 displays the data sources for those same 56 indicators by themes ISER has generated to organize indicators for this report:



While the data sources from three themes- Health Insurance and Medical, Tourism, and Mental/Emotional Health- primarily include indicators from organizations, most themes (5/8) include few, if any, organizational data sources.

- Poverty indicators are from diverse sources, with the largest segment from the Census.

- Cost of Living indicators are primarily derived from the [University of Alaska Fairbanks Cooperative Extension Service] (AK Co-op Ext).
- Unemployment has a single indicator from the Census, and a single indicator from the Department of Labor (DOL)
- Both Tax Revenue indicators are from the City of Homer
- Both Tourism indicators are from organizational data
- The majority of Mental/Emotional Health indicators are from organizational data
- Both School-Based indicators are from the Kenai Peninsula Borough School District (KPBSD)

### Organizational Data

Data from specific organizations or programs could communicate more about the organization or program than the SKP population. For example, data on the number of food pantry customers could be a result of the capacity, accessibility, and outreach efforts of the food pantry, and be less of an indicator of the level of food insecurity in the community. In addition, the group of individuals who receive services at an organization is not necessarily representative of the SKP population.

However, organizational data collected by SKP MAPP could be useful in the following ways:

Describe the response to community-identified priorities, including documenting the kinds of services provided, as well as the demographics of individuals receiving those services. For example, healthcare organization data could be combined to generate a census of healthcare services provided in the Southern Kenai Peninsula, and demographics of individuals receiving those services.

Identify areas where services are not provided to address community needs, or populations potentially underserved by existing organizations.

### U.S. Census/ American Community Survey Data

The US Census is sent to every household in the United States on a ten-year cycle. The most recent census occurred in 2010, and consisted of ten questions. Many indicators collected by SKP MAPP are cited as the 2010 Census. However, these indicators track information not addressed in the ten questions asked on the 2010 Census. While a “long form” was issued to households in past censuses, the 2010 Census included only a short form with the questions listed below (Census.gov):

1. “How many people were living or staying in this house, apartment, or mobile home as of April 1, 2010?”
2. Were there any additional people staying here April 1, 2010 that you did not include in question 1?
3. Is this house, apartment, or mobile home: owned with mortgage, owned without mortgage, rented, occupied without rent?
4. What is your telephone number?
5. Please provide information for each person living here. Start with a person here who owns or rents this house, apartment or mobile home. If the owner or renter lives somewhere else, start with any adult living here. This will be Person 1. What is Person 1’s name?
6. What is Person 1’s sex?
7. What is Person 1’s age and Date of Birth?

8. Is Person 1 of Hispanic Latino or Spanish Origin?
9. What is Person 1's race?
10. Does Person 1 sometimes live or stay somewhere else?" (Census.gov)

The last six questions were then repeated for every person in the household.

SKP MAPP data cited as from the 2010 Census may be from another Census Bureau survey such as the American Community Survey (ACS) or the Current Population Survey (CPS). Given the information collected by SKP MAPP, a probable source is ACS, where a relatively small number of households (about 1 in 38) are invited to answer several questions (Census.gov). ACS data is released every year as 1-year, 3-year and 5-year estimates (Census.gov). However, due to the small number of households invited to participate, data for small communities can have a very large sampling error.

For example, on the 2011 ACS 5-Year Estimate, 9.1% (182 individuals) are estimated to live below the poverty level in Anchor Point, with a margin of error of +/- 4.4% (+/- 92 individuals) (factfinder2.census.gov). This means that the percentage of people living below the poverty line in Anchor Point is estimated to be between 4.7% and 13.5% (between 90 and 274 individuals) (factfinder2.census.gov). In contrast, 9.5% of individuals (65,111 individuals) in Alaska are estimated to live below the poverty line, with a margin of error of +/- .04% (2,635 individuals). While the number of individuals in the margin of error is much larger for Alaska than for Anchor Point, the small size of Anchor Point results in a very large percentage margin of error when compared to Alaska's margin of error percentage. While, in general, the smaller a margin of error is, the more useful the statistic will be, there is no single set standard on how big a margin of error is "too big". It may be useful for MAPP to set criteria (i.e. margin of error no greater than +/- 2.5%) to determine which data will be used.

#### Alaska Cooperative Extension Data

Further research would be required to determine how SKP MAPP indicators cited as from the UAF Alaska Cooperative Extension have been generated.

#### Kenai Peninsula Borough School District Data

The Kenai Peninsula Borough School District data collected by SKP MAPP is from two datasets. The first is actual counts of students enrolled, as well as counts of the number of students receiving free and reduced lunch at each of 17 schools. It's assumed that this data is collected at a single time point; however, that time point is unclear. With the small population of students enrolled at each school, a moving average calculated with a time series can smooth out changes in small populations and highlight trends. The small student population may also make the students on free and reduced lunch easily inferred by community members, and may consequently be making personal information more easily accessible if it continues to be shared online in the current manner where cell sizes are as small as 1 student. While the Kenai Peninsula Borough School District data appears to be an accurate count and representation of the students enrolled in school in each community, it will, by design, exclude individuals not enrolled in school, including school-age youth who are not enrolled.

The second school-based data source appears to be information on the number of student dropouts each year between 2005-2009, from the schools; Niniichik, Nikolaevsk, Homer High, Razdolna, Voznesenka, Kachemak Selo, and Susan B. The definition of a dropout varies over time and geography. SKP MAPP comments for this particular indicator include a definition of a dropout, but it's unclear if this

definition applies to the students in these schools during these years. In general, student dropout information can be limited in several ways due to inconsistency, and over or under counting students.

Dropout rates are computed differently and may not be comparable over time or between schools and regions. The Alaska Department of Education and Early Development uses the event rate calculated as the number of students who stop attending in a year divided by the number of students enrolled in grades 7-12 or grades 9-12, or by another metric. Theoretically if the DEED guidelines are not followed students may also be counted as dropouts more than once if they leave school several times, and could be counted as dropouts if they leave school but attain a GED, transfer to another school without formally requesting student records, or transfer to home schooling. Dropouts may also be undercounted if students stop coming to school, but have not formally been expelled or withdrawn.

Some students age out of school without having dropped out or graduated. Further, dropout rates are usually determined on an annual basis while graduation rates are determined by the percentage of students who graduate within 4-6 years after entering their freshman year of high school, although is calculated annually.

#### *Alaska Department of Labor Data*

The Alaska Department of Labor (DOL) and Workforce Development Research and Analysis Section includes population counts from the decennial decennial Census and estimates from the American Community Survey, as well as their own population estimates. They also provide information on wages, employment, unemployment, industries, occupations, as well as cost of living and housing. The Alaska Department of Labor Alaska Local and Regional Information (ALARI) portal compiles information into one web page ([live.laborstats.alaska.gov/alari/](http://live.laborstats.alaska.gov/alari/)). ALARI information available online includes selecting for data from the Kenai Peninsula Borough, as well as from any one of 37 communities within the Kenai Peninsula Borough. While information does not appear to be available online for an aggregate of these communities, data for communities that comprise the Southern Kenai Peninsula could potentially be requested from the Alaska Department of Labor to allow for easier analysis. As ALARI data is collected at the local level and represents all individuals within each community whose social security number appears in both the PFD and wage files, it could represent an accurate depiction of the workforce of the Southern Kenai Peninsula (ALARI, 2012).

#### *Behavioral Risk Factor Surveillance System*

The Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System (BRFSS) annually surveys a random sample of individuals in each U.S. state, Washington D.C., and U.S. Territories. Approximately 500 adults age 18 years and older from each of five regions in Alaska are sampled annually. A core set of questions are asked of all respondents, including whether respondents have any kind of health care coverage, their health status, prevalence of chronic diseases, etc. The published reports include information at the regional level (Anchorage Municipality, Matanuska-Susitna Borough, Fairbanks and Vicinity, Gulf Coast, Rural, Southeast), however, more specific data may be available upon request. Given the small sample size, the 95% Confidence Interval may be relatively large at the Southern Kenai Peninsula level, but further research would be needed to determine the 95% confidence intervals. In addition, only households with a land line were eligible to be surveyed through 2010, although BRFSS has planned and tested the inclusion of households with cell phones since 2004. Beginning in 2011, BRFSS implemented the inclusion of cell phone households and changed their statistical weighting methods. This results in 2011 being a baseline year, with previous years not readily comparable to data from 2011 and later (MMWR, 2012).



## **Overview of Economic and Mental/Emotional Health Status of the Southern Kenai Peninsula from SKP MAPP Collected Data**

This section summarizes the economic and mental/emotional health status of the Southern Kenai Peninsula from SKP MAPP collected data supplemented by ISER-collected comparisons. Examined data includes SKP MAPP indicators within the SKP MAPP category of Economic Costs or determined as relevant to Mental/Emotional Health Status by ISER staff from within the SKP MAPP category of Health and Safe Individuals and Families. ISER staff also used documents sent by SKP MAPP to inform the creation of this summary. Additional comparison data has been collected by ISER staff and included where appropriate to contextualize SKP MAPP collected data.

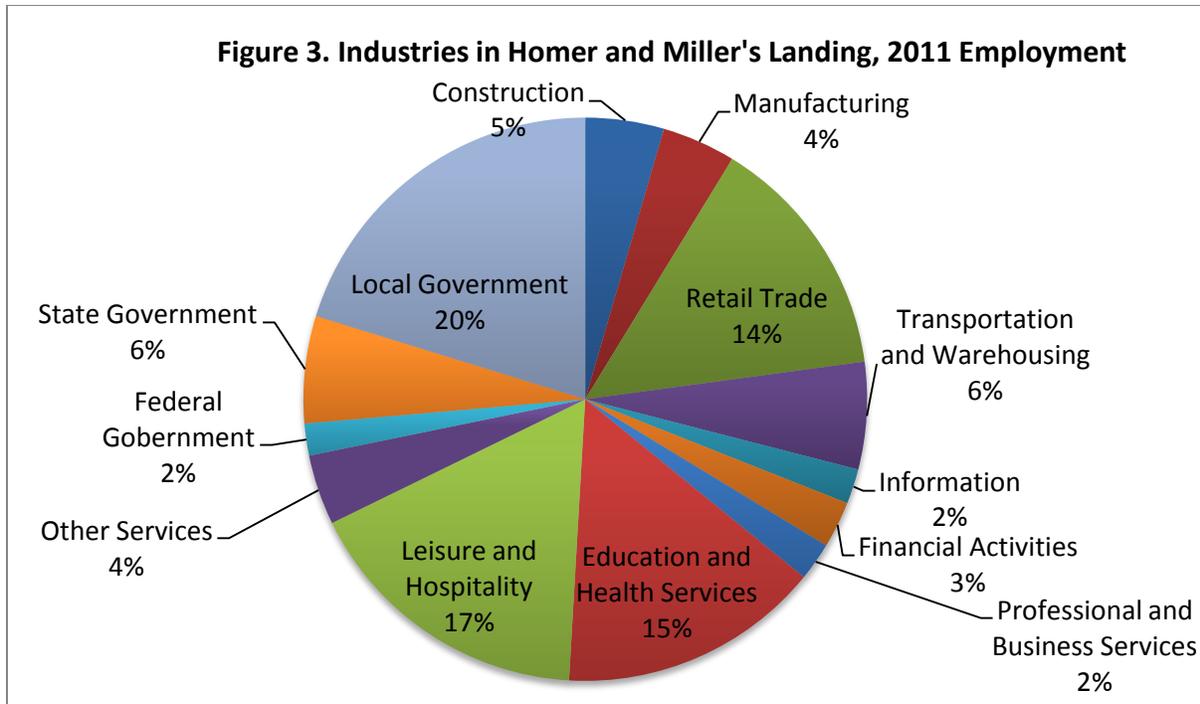
### ***Summary***

The Southern Kenai Peninsula supports an economy where approximately 88% of residents live above the poverty line (2011 American Community Survey 5-Year Estimate, see Figure 4). An estimated 8.4% percent of residents are unemployed, consistent with state and regional rates (2011 American Community Survey 5-Year Estimate, see Figure 6). The Kenai Peninsula Borough is approximately equivalent to Anchorage in terms of cost of living, despite higher costs for transportation, clothing, and food, and lower housing costs (McDowell, 2009, see Figure 5). Both high school student and adult residents of the Southern Kenai Peninsula report approximately the same number of instances of poor mental/emotional health as Alaska and the US (BRFSS, 2011; YRBS 2011, see Figure 7 and Figure 8). Further data would be required to examine geographic, racial, socioeconomic, gender, and age differences within the Southern Kenai Peninsula.

### ***Economic Status***

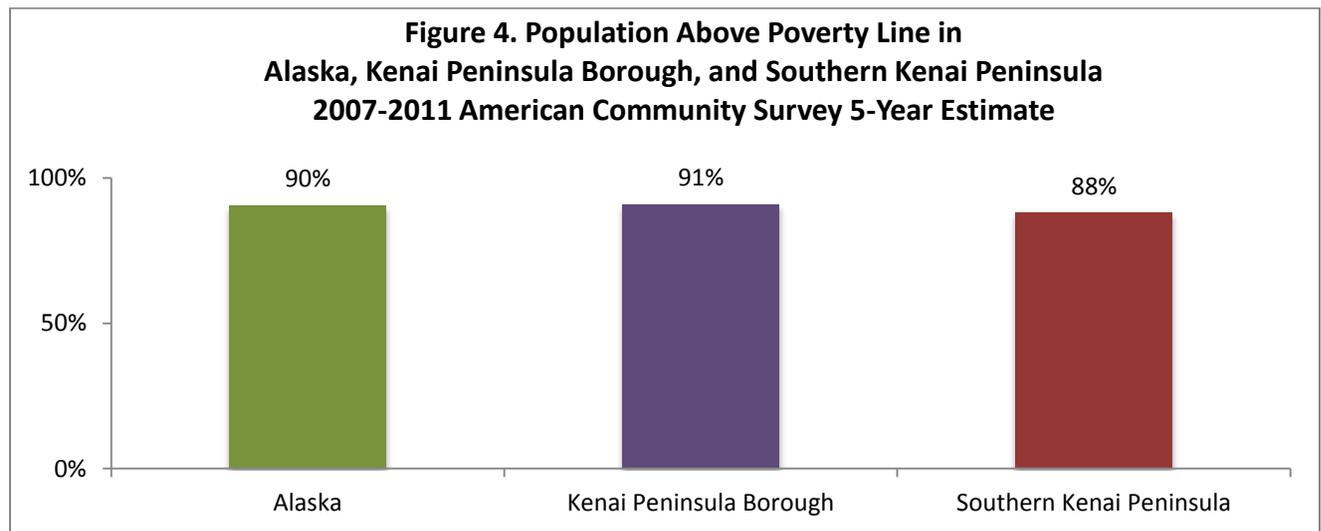
#### ***Industries in Homer and Miller's Landing***

Homer and Miller's Landing support diverse employment opportunities. The largest employer is the local government, followed by the leisure and hospitality industries, education, and health services work. See Figure 3 generated by Alyssa Shanks of the Department of Labor. Further research would be required to determine if a similar chart could be generated for the Southern Kenai Peninsula.



Population Above the Poverty Line

The majority (88%) of Southern Kenai Peninsula residents<sup>1</sup> are estimated to live above the poverty line, similar to the percentage living above the poverty line in Alaska and the Kenai Peninsula Borough. Figure 4 was generated from the 2007-2011 American Community Survey 5-Year Estimate and could serve as a potential method to compare state, regional, and Southern Kenai Peninsula rates.

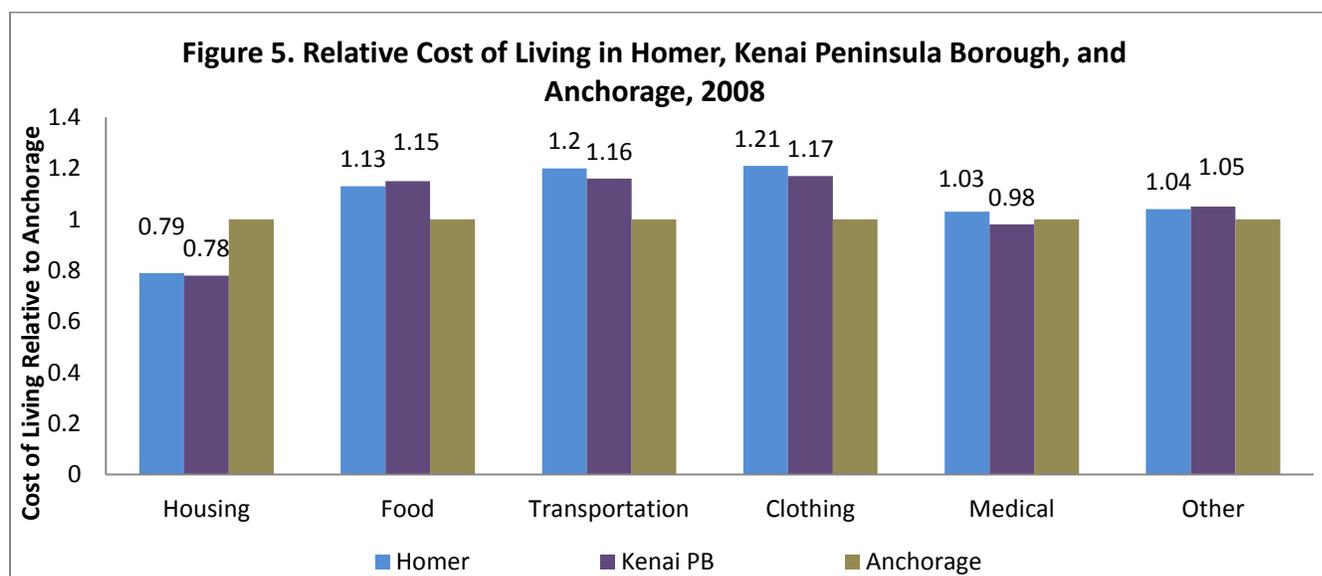


<sup>1</sup> Only data available from the American Community Survey were used to generate this estimate, and it is consequently limited to the following communities: Anchor Point, Diamond Ridge, Fox River, Fritz Creek, Happy Valley, Homer City, Kachemak City, Nanwalek, Nikolaevsk, Ninilchik, Port Graham, Seldovia City, and Seldovia Village

Disparities in poverty status exist between communities in the Southern Kenai Peninsula, as noted by student data. SKP MAPP has collected information about the percentage of students enrolled in schools in the Southern Kenai Peninsula<sup>2</sup> receiving free and reduced price meals. In 2012, this varied from 26% to 100% of the student population in a given school. Approximately 41% of students enrolled in schools in Homer and Seldovia received free and reduced lunch in 2012, while 72% of students enrolled in schools outside of Homer and Seldovia received free and reduced meals.

Cost of Living

The cost of living in the Kenai Peninsula Borough and Homer were approximately equal to the cost of living in Anchorage in 2008 (McDowell, 2009). This source was shared with ISER by SKP MAPP, which used a telephone survey of over 2,600 households in Alaska, including 26 in Homer, which may not be a large enough sample to be representative. However, the McDowell Group’s methods may serve as a possible way to determine and interpret the relative cost of living of the Southern Kenai Peninsula. Further research would be required to determine if comparable data is available for the Southern Kenai Peninsula region.



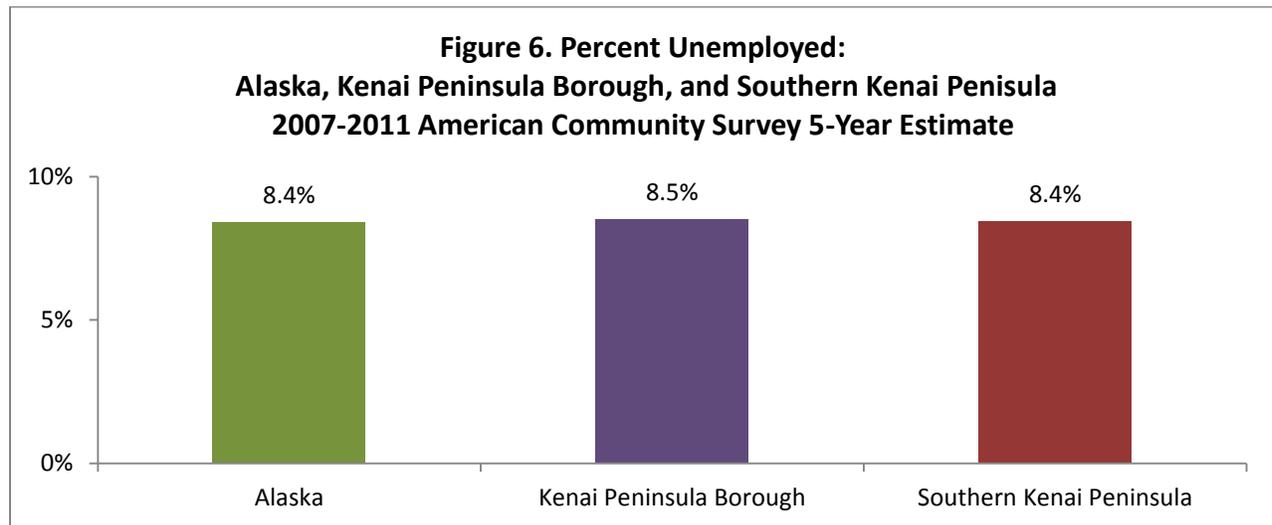
In Figure 5, 1.0 is the Anchorage cost of living, and is the height of each olive green bar. Homer and the Kenai Peninsula were found to have lower costs than Anchorage for housing. However, Homer and the Kenai Peninsula were found to have higher costs for transportation, food, and clothing. All three regions had similar costs for medical and other expenses. Further research would be needed to see if these 2008 comparisons are similar to 2013 rates, and to determine the relative cost of living in the Southern Kenai Peninsula.

Percent Unemployed

Comparisons of the percent unemployed for Alaska, the Kenai Peninsula Borough, and the Southern Kenai Peninsula show consistency between regions. This percentage was generated from the 2007-2011

<sup>2</sup> Data available for the following schools: Ninilchik, SB English, Homer High, Homer Middle, Chapman, Paul Banks, Nanwalek, Nikolaevsk, Port Graham, McNeil Canyon, Razdolna, West Homer Elementary, Voznesenka, Kachemak Selo, Homer Flex, Fireweed Academy K-2 and Fireweed Academy 3-6

American Community Survey 5-Year Average<sup>3</sup>, and could be used as a potential method to compare state, regional, and Southern Kenai Peninsula percentages.



While there may be significant variation among the communities of the Southern Kenai Peninsula, further research would be needed to determine the percent unemployed rates for each community in the Southern Kenai Peninsula and trends over time.

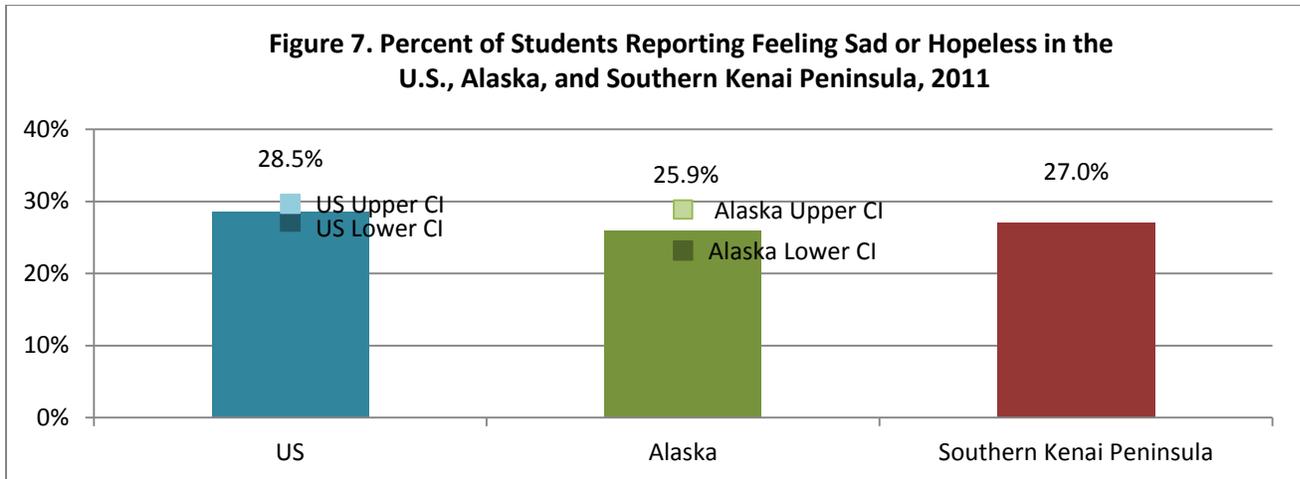
### ***Mental/Emotional Health Status***

#### ***Youth Mental/Emotional Health***

High school students who took part in the Youth Risk Behavioral Survey (YRBS) responded to the question: “During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?” The percentage of youth who responded “yes” was approximately 28.5% nationally (with a confidence interval of 27.2%-29.7%), approximately 25.9% in Alaska (confidence interval 23.2% to 28.9%), and estimated at 27.0% for the Southern Kenai Peninsula (Centers for Disease Control; SKP MAPP). The state and national rates were extracted by ISER staff from the CDC website, and their confidence intervals are indicated by squares above and below the top of each column. If a confidence interval for one region or population overlaps with another, they are considered not statistically significantly different from one another. It’s unclear what the confidence intervals are for the SKP MAPP collected Southern Kenai Peninsula rate, however, the 2011 percentage is within the confidence interval for the state percentage, and close to the national rate. Further research would be needed to determine trends over time.

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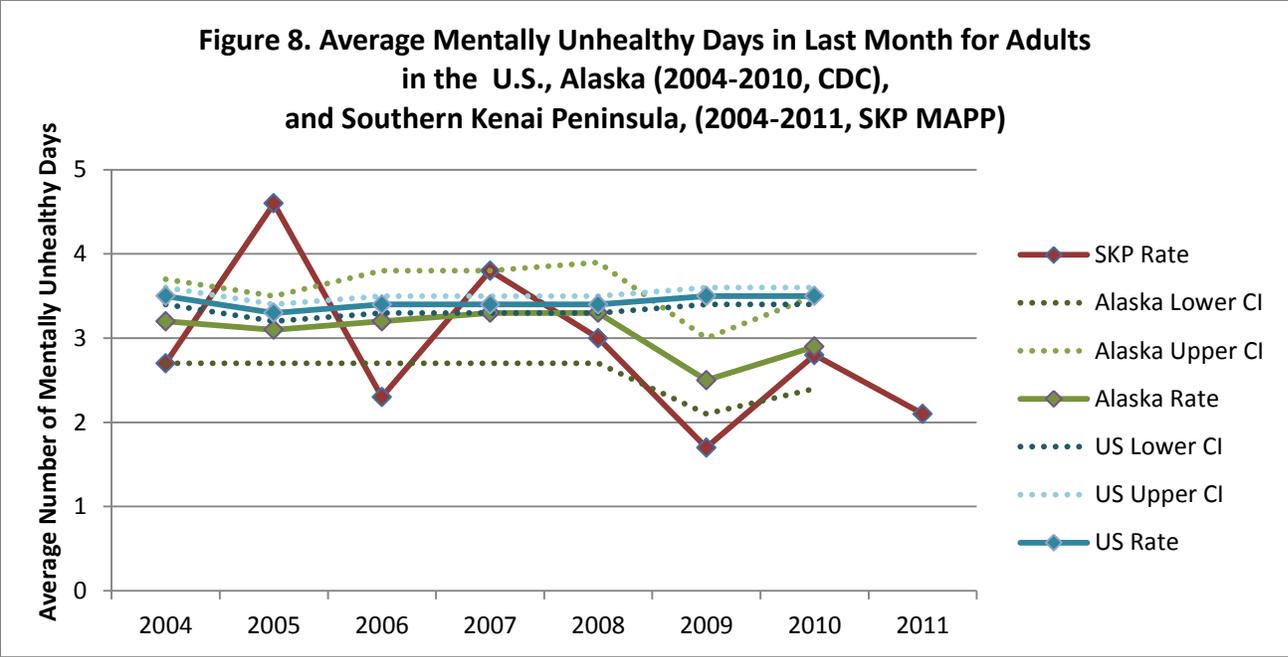
<sup>3</sup> Only data available from the American Community Survey were used to generate this estimate, and it is consequently limited to the following communities: Anchor Point, Diamond Ridge, Fox River, Fritz Creek, Happy Valley, Homer City, Kachemak City, Nanwalek, Nikolaevsk, Ninilchik, Port Graham, Seldovia City, and Seldovia Village



The Youth Risk Behavioral Survey (YRBS) is taken only by students enrolled and attending school. However, youth not enrolled in school are more likely to engage in health-risk behaviors (CDC, 1994). In addition, local parental permission procedures apply to YRBS, resulting in inconsistent data, however, a CDC study found that parental permission procedures did not impact estimates (Eaton, 2004).

*Adult Mental/Emotional Health*

Adults who participated in the Behavioral Risk Factor Surveillance System (BRFSS) responded to the question “Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?” Public data is available for 2004-2010 from the Centers for Disease Control website (CDC, BRFSS, Health-Related Quality of Life). SKP specific data is shared on the SKP MAPP website from 2004-2011. Consequently, Figure 8 shows averages from 2004-2010 for Alaska and the US, and averages from 2004-2011 for the Southern Kenai Peninsula. Due to decreasing sample sizes, confidence intervals increase between the US rate and the Alaska rate, and the confidence interval for the SKP rate could be much larger. The average number of unhealthy days in the last month reported by residents of the Southern Kenai Peninsula appears to vary widely from year to year, however this may be a result of the small sampling size, and further research would be needed to determine the confidence intervals for the SKP rates, which would indicate whether the SKP rates were statistically significantly different from either the Alaska or US rates.



**Assessment of Individual Indicator Data**

The following sections review and evaluate each of the indicators based on the data quality and quantity criteria described in the Methodology section. A section on Economic Costs is organized by the seven ISER identified themes, followed by a section on indicators relevant to Mental/Emotional Health.

**Economic Costs**

There were 46 indicators categorized by SKP MAPP as “Sustainable, equitable economy.” These are organized in to seven major themes, listed below in Table 1 by the theme and number of indicators in each theme. Indicators within each theme are reviewed for quality and quantity in the sections below.

**Table 1. Major Themes within Economic Costs and Number of Indicators**

Theme	Number of Indicators
Poverty	15
Cost of Living	10
Unemployment	2
Health Insurance	13
Tax Revenue	2
Tourism	2
School-Based	2

**Poverty Indicators**

There are fifteen indicators collected by SKP MAPP that appear to center around poverty. While there are two indicators that directly address the percentage of residents in the Southern Kenai Peninsula living above and below the poverty line, several indicators measure the percent of poverty in specific segments of the population of the Southern Kenai Peninsula and Homer. A segment, or sub-set, of the

population is a clearly defined demographic. SKP MAPP data on population sub-sets include data on enrolled students, elders over the age of 65, families with single mothers, and children. Several indicators also appear to be indirect assessments of poverty in the Southern Kenai Peninsula, with data collected from local organizations.

The Southern Kenai Peninsula specific percentage of individuals living above the poverty line could be the most direct indicator for poverty in the region, potentially with the most easily accessible and credible information on poverty coming from the American Community Survey. The American Community Survey (ACS) may also be a credible beginning to conduct an in-depth exploration of what population sub-sets in the Southern Kenai Peninsula are disproportionately impacted by poverty (by age, gender, geography, race/ethnicity, educational attainment, etc.). While American Community Survey data could be compared between national, state, and regional trends, local data may be more accurate than ACS data for individual communities within the Southern Kenai Peninsula.

***Poverty Indicators: Data Quality***

The following table (Table 2) is an evaluation of the data quality of each of the poverty related indicators collected by SKP MAPP. An “X” represents that the indicator satisfied the definition outlined in the methodology for that data quality criteria. The title of each indicator is generated by SKP MAPP, and is defined in the summary below the table when a definition is available from comments by SKP MAPP, or where an assumption has been made by ISER staff.

**Table 2. Evaluation of Data Quality of Poverty Indicators**

Indicator	Data Quality Criteria							
	Relevance	Accuracy	Timeliness	Interpretability	Comparability	Completeness	Credibility	Other
HA2020: % of Southern Kenai Peninsula residents living above the federal poverty level	X	X	X		X		X	
% of Southern Kenai Peninsula residents living in poverty (Census)	X	X	X		X		X	
% of Southern Kenai Peninsula families in poverty (Census)	X	X	X		X		X	
% of Southern Kenai Peninsula population that is 65+ yrs old in poverty (Census)	X	X	X		X		X	
% of Southern Kenai Peninsula female households with no husband present w/children under 18 yrs. (Census)	X	X	X		X		X	
% of Southern Kenai Peninsula female households w/no husband present w/children under 18 yrs. in poverty (Census)	X	X	X		X		X	
% of Southern Kenai Peninsula students who qualify for free and reduced lunch (KPBSD)	X	X	X	X	X	X	X	Small cell sizes may make personal information more easily accessible
Southern Kenai Peninsula WIC enrollment		Unclear	X	X	X	X	X	
% of users who are under 100% of federal poverty level (Kachemak Bay Family Planning Clinic)		Unclear	X	X		X		
# of individuals served by Homer Food Pantry		Unclear	X	X		X		
Homer temporary assistance average monthly caseloads (DPA)		Unclear	X		X		X	
Homer food stamp average monthly caseloads (DPA)		Unclear	X		X		X	
% of Southern Kenai Peninsula patients who could not afford doctor visit (BRFSS)	X	Unclear	X		X	X	X	
Southern Kenai Peninsula homeless student count (KPBSD)		X	X		X	X	X	
Children in Poverty								No data included for this indicator

While many poverty indicators cite the census as their data source, this SKP MAPP collected data is not addressed in the ten questions of the 2010 Census (see Overview of Economic Costs and Mental/Emotional Health Indicators for more information). However, this data may be from another US Census survey called the American Community Survey (ACS). Data from the American Community Survey is reported in one-year, three-year, and five-year estimates, and it is unclear which, if any, of these estimates were used to calculate the poverty indicators.

The indicator “HA2020: % of Southern Kenai Peninsula residents living above the federal poverty level” may be the most direct measurement of individuals living above the poverty line. However, while the data source is cited by SKP MAPP as Healthy Alaskans 2020, the source for Health Alaskans 2020 data is recorded as the US Census Current Population Annual Social and Economic Supplement. This data is published as rates for Alaska, Alaska Natives, and the US (available online at: <http://hss.state.ak.us/ha2020/assets/25indicators-data.pdf#page=34> ). Consequently, it is unclear what the SKP MAPP data source was for this indicator. In calculating a summary statistic on poverty, ISER staff attained information from the 2007-2011 American Community Survey 5-Year Estimate.

The indicators on female households with no husband present, households living in poverty, and elders in poverty may be an exploration into population sub-sets potentially disproportionately living in poverty. However, this data may have large sampling errors if it is from the American Community Survey for small communities. If drawn from the American Community Survey for the Kenai Peninsula Borough, it may be more accurate, and additional populations may be readily examined within the same American Community Survey table.

The most accurate indicator for the small communities located in the Southern Kenai Peninsula may be the census of enrolled students in the Southern Kenai Peninsula, collected as “% of Southern Kenai Peninsula students who qualify for free and reduced lunch (KPBSD).” This indicator offers a downloadable excel file of the number of students enrolled at each of the specified schools in 2012, and the number of students in each school receiving free and reduced lunch. This data may be sensitive information due to the small number of students in each cell, with cell sizes as small as one student, and caution should be taken in offering this information. Consider addressing this issue by aggregating the free and reduced lunch columns, offering only percentages of students on free and reduced lunch, or offering an aggregate of all schools in the Southern Kenai Peninsula. Due to the small number of students in each school, averages could also be taken over time, such as moving averages, to create a more stable reference point for each community and assist with concerns about personal information. However, while this data only reflects information on students enrolled in public schools, the specificity and accuracy of this data is useful, and could be expanded to multiple years, or compared to state and regional trends. The exact date of this data, or the time period from which it was collected, is unclear, and would need to be clarified.

The following poverty indicators include multiple years and are useful as trend data. However, while the source and population are clear, they are from organization specific populations. The clients of these organizations may represent a sample not representative of the general population of the Southern Kenai Peninsula, which may consequently be not indicative of population level trends. Several indicators also include data points labeled as the year “2013,” while the year 2013 has not yet finished. Consequently, the calculation of time-points would also need to be explained. Some of these sources also present the number of clients, which would need to be divided by the eligible population of the Southern Kenai Peninsula to calculate a rate. They included: Southern Kenai Peninsula WIC enrollment;

percent of users who are under 100% of federal poverty level (Kachemak Bay Family Planning Clinic); and the number of individuals served by Homer Food Pantry.

The following two indicators are measures of state assistance: Homer temporary assistance average monthly caseloads (DPA); and Homer food stamp average monthly caseloads (DPA). These both have data for the years 2007, 2008, 2009, and 2012, but a data gap exists for 2010 and 2011. While these could be indirect indicators of poverty, they are only reported for Homer and not the rest of the Southern Kenai Peninsula.

The following indicator- percent of Southern Kenai Peninsula patients who could not afford doctor visit (BRFSS)- is an indirect measure of poverty that may be confounded by access to care, health insurance coverage, and cost of medical care. While the source is listed as the Behavioral Risk Factor Surveillance System (BRFSS), the notes point to a Community Health Status Assessment of the Gulf Coast region published in April 2009 (available online at: [http://dhss.alaska.gov/dph/Chronic/Documents/HealthPromotion/assets/CHSAR\\_DataBook\\_GulfCoast.pdf](http://dhss.alaska.gov/dph/Chronic/Documents/HealthPromotion/assets/CHSAR_DataBook_GulfCoast.pdf) ). As the data is from years 2005-2011, this April 2009 report is unlikely as a source. The source, population, and methodology are unclear.

The population is unclear for the indicator - Southern Kenai Peninsula homeless student count (KPBSD). While the title states that the data is for the Southern Kenai Peninsula, the description cites the source as the Kenai Peninsula School District and there are no comments about which schools have been included or excluded from the data. The data is presented in numbers, but could be altered to be a percentage of total enrollment for a more interpretable and comparable rates.

One additional indicator: "Children in Poverty," does not include any data, but instead has a note posted online that the SKP MAPP team would like to collect the data in the future.

### ***Poverty Indicators: Data Quantity***

Only one indicator, percent of Southern Kenai Peninsula students who qualify for free and reduced lunch (KPBSD), meets all the established data quality criteria. No currently collected indicators meet both all the established data quality criteria and are representative. The SKP MAPP indicator of the percent of individuals over the poverty line has been combined with Alaska and U.S. comparisons from the American Community Survey 2007-2011 5-Year Estimate and is included in the summary of Economic and Mental/Emotional Health Status (see Figure 4). Additional SKP MAPP data collection could focus on addressing the gaps in data quality that exist for indicators that most directly and accurately assess the levels of poverty in the Southern Kenai Peninsula.

### **Cost of Living Indicators**

Ten indicators collected by SKP MAPP and organized in the “Sustainable, equitable economy” section appeared to be cost of living indicators (see Table 3). Eight of these indicators directly assess costs of living such as food, gasoline, electricity, heating oil, propane, and housing. Two indicators look at household income, with one indicator tracking the mean and one tracking the median. SKP MAPP shared a Department of Labor (DOL) presentation with ISER that included an aggregated cost of living for Homer broken into housing, food, transportation, clothing, medical, and other costs. This graph has been incorporated into the Economic and Mental/Emotional Health Summary as an example of cost of living data available from DOL (see Figure 5).

### **Cost of Living Indicators: Data Quality**

**Table 3. Evaluation of Data Quality of Cost of Living Indicators**

Indicator	Data Quality Criteria							
	Relevance	Accuracy	Timeliness	Interpretability	Comparability	Completeness	Credibility	Other
Average weekly food costs for a family of 4 (AK Coop Ext)		Unclear	X		Unclear	X		
Average annual Homer gasoline price (per gallon) (AK Coop Ext)		Unclear	X		Unclear	X		
Average monthly residential electricity costs (630 Kwh) (HEA)		Unclear	X			X		
Homer average monthly electricity costs (1000 KW) (AK Co-op Ext.)		Unclear	X					
Average annual Homer heating oil price (per gallon) (Ak Coop Ext)		Unclear	X		Unclear	X		
Average annual Homer propane price (per gallon) (AK Coop Ext)		Unclear	X		Unclear	X		
Homer annual median home sales price (AK Multiple Listing System)		Unclear	X			X		
Homer average weekly food costs for family of 4 (Ak Co-op Ext.)		Unclear	X		Unclear			
Average Southern Kenai Peninsula median household income (Census)	X	X	X		X	X	X	
Average Southern Kenai Peninsula mean household income (Census)	X	X	X		X	X	X	

Table 3 is an evaluation of the data quality of each of the cost of living related indicators collected by SKP MAPP. An “X” represents that the indicator satisfied the definition outlined in the methodology for that data quality criteria. The title of each indicator is generated by SKP MAPP, and is defined in the summary below the table when a definition is available from comments by SKP MAPP, or where an assumption has been made by ISER staff.

Several of the indicators for cost of living are cited as from the University of Alaska Fairbanks Cooperative Extension program. However, further information would be needed to determine the accuracy, methodology, and for cost of food, the population for this data. A closer analysis of the publically available data on food costs from the UAF Cooperative Extension Service (available online at: <http://www.uaf.edu/ces/hhfd/fcs/>) indicates that in 2012, Kenai-Soldotna appeared to be the only sample collected within the Kenai Peninsula. It is unclear how the statewide and Homer specific rates were generated for SKP MAPP. Homer specific energy costs are assumed to be applicable only to the city of Homer, and the methodology is unclear. In addition, a single graph showing the average Homer prices of heating oil, gasoline, and propane automatically downloads from the SKP MAPP website when the title is clicked for any of those three separate indicators, although it is unclear why this graph downloads. The average cost of electricity in Homer from the Cooperative Extension is also has a data gap, with data for years 2007-2009 and 2012.

The information on income in the Southern Kenai Peninsula are the only data collected by SKP MAPP related to cost of living that refer to the entire Southern Kenai Peninsula population. However, it is unclear where this data is from, or the methodology used to generate it. A spreadsheet with “population sub areas, veterans, median household income,” and “% of individuals below poverty level” for each of fourteen communities is automatically downloaded when clicking on either link. However, it is unclear from this data how the percentages listed on the SKP MAPP website were generated. In addition, questions on household income are not asked on the 2010 census, although it is possible that this data came from the American Community Survey. These two income indicators may be an effort to begin examining the percentage of Southern Kenai Peninsula residents who earn enough to satisfy their cost of living. However, further research would be required to determine the most accurate method to calculate community-level aggregated relative cost of living information.

While the average monthly electric costs of Homer residents from the Homer Electric Association may be an average of a complete census of Homer electric costs, this figure would only be applicable to Homer and not the rest of the Southern Kenai Peninsula.

The AK Multiple Listing System is cited as the source of the Homer median house cost, however, the link listed is to the Homer News. It is unclear from this article, or from the data comments on the SKP MAPP website, how these percentages were generated, and their accuracy. Further research would also be required to identify whether information on housing costs is available for the entire Southern Kenai Peninsula.

### ***Cost of Living Indicators: Data Quantity***

No Cost of Living indicators meet all of the established data criteria. However, two indicators meet all criteria except Interpretability, which could be remedied by clearly explaining their source, population, and methodology. However, these two indicators track household income. While household income could be compared to costs of living to determine the percentage of households earning a living wage, these indicators do not assess costs of living. The Department of Labor generated cost of living aggregate may satisfy the most data criteria if a Southern Kenai Peninsula specific cost of living comparison could be generated similar to the graph created for Homer rates.

### ***Health Insurance and Medical Indicators***

Thirteen indicators collected by SKP MAPP relate to health insurance coverage, including Medicare and Medicaid are in Table 4.

**Table 4. Number of Indicators Related to Health Insurance**

<b>Indicators Related to Health Insurance</b>	<b>Number</b>
Medicare	3
Medicaid	4
[Health]Insurance	3
Private [Health] Insurance	1
Tax Revenue patients receiving sliding fee discounts [for health-related services]	2

While the two indicators referring to patients receiving sliding-fee discounts could also be categorized as cost of living indicators or as measures of poverty, they have been included in this section due to their source of the Seldovia Village Tribe Health Center and their reference to medical costs.

A central question of these indicators appears to be the percentage of residents of the Southern Kenai Peninsula who have health insurance. Three indicators directly address this question, but two are for health organization specific populations, and one is a graph of one data point from each of two different sources.

Most of the indicators (10/12) are from specific hospitals or clinics, including South Peninsula Hospital, Seldovia Village Tribe Health Center, and Homer Medical Center. The population visiting these health organizations may not be representative of either the population of individuals in the Southern Kenai Peninsula seeking care, or of the entire population of the Southern Kenai Peninsula (both those who seek care and those who do not).

**Health Insurance and Medical Indicators: Data Quality**

**Table 5. Evaluation of Data Quality of Health Insurance and Medical Indicators**

Indicator	Data Quality Criteria							
	Relevance	Accuracy	Timeliness	Interpretability	Comparability	Completeness	Credibility	Other
Alaska seniors with Medicare coverage (AK Dept. of Labor)		Unclear	X		X	X	X	
Alaska seniors without Medicare coverage (AK Dept. of Labor)		Unclear			X	X	X	
Medicaid write-offs (Homer Medical Center)		Unclear				X		
Medicare write-offs (Homer Medical Center)		Unclear				X		
% of patients at 100% poverty or less receiving sliding fee discount (Seldovia Village Tribe Health Center)		Unclear	X			X		
% of patients at 101% or more poverty level receiving sliding fee discount (Seldovia Village Tribe Health Center)		Unclear	X			X		
# of patients with Medicaid (South Peninsula Hospital)		Unclear	X			X		
% of inpatients with Medicaid (South Peninsula Hospital)		Unclear	X			X		
% of patients with Medicaid (Seldovia Village Tribe Health Center)		Unclear	X			X		
% of patients with no insurance (Seldovia Village Tribe Health Center)		Unclear	X			X		
% of patients with no insurance (South Peninsula Hospital)		Unclear	X			X		
HP2020: % of patients with medical insurance (AHS-1.1)			X					The two data points are from different sources
% of patients with private insurance (South Peninsula Hospital)		Unclear	X			X		

Table 5 is an evaluation of the data quality of each of the poverty related indicators collected by SKP MAPP. An “X” represents that the indicator satisfied the definition outlined in the methodology for that data quality criteria. The title of each indicator is generated by SKP MAPP, and is defined in the summary below the table when a definition is available from comments by SKP MAPP, or where an assumption has been made by ISER staff.

The accuracy for almost all of the indicators related to Health Insurance and Medicine is unclear. While health organization specific numbers and percentages may be a census of all patients seeking care at that organization within a given time period, this would need to be clarified, in addition to the parameters of that population, and the methodology of data collection.

Data from the Alaska Department of Labor is from a statewide agency that could potentially generate data for multiple regions in Alaska. Further research would be required to determine if data could be generated for the Southern Kenai Peninsula region, or if a data gap exists.

Two indicators, both from the Homer Medical Center cite data from 2007, 2008, 2009. The number of seniors without Medicare from the Department of Labor includes only data for the years 2004 and 2005. All three of these indicators consequently do not meet the timeliness criteria of the most recent data point being from 2010 or later.

One indicator appears to be a combination of two different sources: HP2020: % of patients with medical insurance (AHS-1.1). Two data-points are graphed for this indicator, one in 2008 and one in 2010, with a line showing the trend between them. Comments on the SKP MAPP website assert that the first rate is drawn from the SKP MAPP Community Perceptions Survey, while it is unclear where the second rate is from. The title refers to HP2020 and AHS-1.1, which may be a reference to the Healthy People 2020 Access to Health Services (AHS) objective 1.1; to “Increase the proportion of persons with medical insurance” (Healthypeople.gov). However, it is unclear how or if an Alaska or Southern Kenai Peninsula rate was generated. As the two rates showed for this indicator are presumed to be from different sources with different methodologies, and are for potentially different populations, their rates are not comparable.

### ***Health Insurance and Medical Indicators: Data Quantity***

No Health Insurance and Medical indicators meet all of the established criteria or are specifically for the Southern Kenai Peninsula. Further research would be required to determine if this is a data gap, or if additional data sources exist that could answer questions about the percentage of the Southern Kenai Peninsula population with and without health insurance coverage.

### ***Other Indicators***

Four additional categories of indicators collected by SKP MAPP emerged during an examination of the remaining data in Economic Costs: unemployment, tax revenue, school-based, and tourism. Each of these categories had two indicators.

*Unemployment, Tax Revenue, Children, and Tourism Indicators: Data Quality*

**Table 6. Evaluation of Data Quality of Unemployment Indicators**

Indicator	Data Quality Criteria							
	Relevance	Accuracy	Timeliness	Interpretability	Comparability	Completeness	Credibility	Other
Alaska annual unemployment rate (AK Dept. of Labor)		Unclear	X	X	X	X	X	Yearly data from 2004-2012 in chart, but only 2010, 2011, and 2012 data graphed
% of Southern Kenai Peninsula population that is unemployed (Census)	X	X	X		X		X	

**Table 7. Evaluation of Data Quality of Tax Revenue Indicators**

Indicator	Data Quality Criteria							
	Relevance	Accuracy	Timeliness	Interpretability	Comparability	Completeness	Credibility	Other
Homer tax revenues: property tax (City of Homer)		Unclear	X		X	X	X	
Homer tax revenues: sales tax (City of Homer)		Unclear	X		X	X	X	

**Table 8. Evaluation of Data Quality of School-Based Indicators**

Indicator	Data Quality Criteria							
	Relevance	Accuracy	Timeliness	Interpretability	Comparability	Completeness	Credibility	Other
Student Dropouts (KPBSD)	X	X			X	X	X	Data in actual values, not %
Southern Kenai Peninsula School Enrollment (KPBSD)	X	X	X		X	X	X	Data in actual values, not %

**Table 9. Evaluation of Data Quality of Tourism Indicators**

Indicator	Data Quality Criteria							
	Relevance	Accuracy	Timeliness	Interpretability	Comparability	Completeness	Credibility	Other
# of Islands and Ocean Visitor Center visitors (AK Maritime Wildlife Refuge)		X	X			X		
Homer Chamber of Commerce walk-in visitors		X	X					

Tables 6 through 9 are an evaluation of the data quality of each of the unemployment, tax revenue, school-based, and tourism related indicators collected by SKP MAPP. An “X” represents that the indicator satisfied the definition outlined in the methodology for each data quality criteria. The title of each indicator is generated by SKP MAPP, and is defined in the summary below the table when a definition is available from comments by SKP MAPP, or where an assumption has been made by ISER staff.

### Unemployment Indicators

This theme is comprised of two indicators – a statewide unemployment rate from the Alaska Department of Labor and a Southern Kenai Peninsula regional unemployment rate cited as from the US Census. This theme appears to address the question of what percentage of individuals in the Southern Kenai Peninsula are unemployed, and how does that rate compare to a statewide rate. While the US Census does not ask about employment status, this data may be available from the American Community Survey or the Current Population Survey. A comparison of the percentage of working age individuals unemployed in the state of Alaska with those unemployed in the Southern Kenai Peninsula could be a valuable indicator. However, for these numbers to be compared, they would need to be generated in the same way. Either the Alaska Department of Labor or the American Community Survey may be able to generate these comparisons, but their methodology and accuracy is likely different. While neither indicator satisfies all data criteria, further research may be done to satisfy these standards.

### Tax Revenue Indicators

Information on property tax and sales tax revenues for the city of Homer are collected in this theme. This data appears to address the tax revenue of the Southern Kenai Peninsula. However, the collected data is Homer specific, and the methodology and accuracy of the data is unclear. Neither data source is relevant to the specific population of the Southern Kenai Peninsula or satisfies all specified data criteria.

### School-Based Indicators

Actual numbers of student drop-outs and enrolled students for selected schools within the Kenai Peninsula Borough School District are tracked in this theme. It is unclear what central idea or question this theme addresses, although this may be the beginnings of a collection of indicators addressing the welfare of children in the Southern Kenai Peninsula, and could be organized with the indicator for “% of Southern Kenai Peninsula students who qualify for free and reduced lunch (KPBSD)” and the potential future indicator of Children in poverty.

The comments posted on the SKP MAPP website for the number of dropouts indicator lists seven schools that provide an education through 12<sup>th</sup> grade. However, the comments also refer to the percent of dropouts, which is not calculated on the website, and it is consequently unclear if the comments refer specifically to the SKP MAPP collected data. Neither indicator satisfies all data quality criteria, however, further research to identify the data source, methodology of data collection, and population may allow for increased interpretability.

### Tourism Indicators

Two indicators collected by SKP MAPP appear to refer to the impact of tourism in the Southern Kenai Peninsula. However, both indicators are Homer specific, tracking the number of walk-in visitors to the Homer Chamber of Commerce, and the number of Islands and Ocean Visitor Center visitors. A data gap from 2009-2010 also exists for the recorded number of visitors to the Homer Chamber of Commerce. Neither indicator satisfies all data quality criteria, or is relevant to the entire population of the Southern Kenai Peninsula.

## **Assessment of Mental/Emotional Health Indicators**

Of the 10 indicators ISER found relevant to Mental/Emotional health in the SKP MAPP category “Healthy & safe individuals & families” (see Methodology for more information), the following types of information emerged: Mental/emotional health problem diagnoses (6 indicators); Services provided for mental/emotional health problems (1 indicator); Self-reports of being mentally unhealthy (2 indicators); and Adult suicide rate (1 indicator).

The sources of the data vary, with information collected from:

Health organizations, including South Peninsula Behavioral Health Services, Seldovia Village Tribe Health Center, Homer Medical Clinic, and South Peninsula Hospital (7 indicators)

National surveys, including the Behavioral Risk Factor Surveillance System and the Youth Risk Behavior Survey (2 indicators)

Alaska Vital Statistics (1 indicator)

The main question that appears to be addressed by the collected indicators relevant to mental/emotional health could be; How mentally/emotionally unhealthy is the population of the Southern Kenai Peninsula? Viewing this through a strengths-based lens, this issue could be posed as; How mentally/emotionally healthy is the population of the Southern Kenai Peninsula?

**Mental/Emotional Health Indicators: Data Quality**

A review of the data quality and quantity of SKP MAPP indicators relevant to mental/emotional health is summarized below:

**Table 10. Evaluation of Data Quality of Mental and Emotional Health Indicators**

Indicator	Data Quality Criteria							
	Relevance	Accuracy	Timeliness	Interpretability	Comparability	Completeness	Credibility	Other
# of mental health emergency services provided (SPBHS)		Unclear	X			X		
% of patients diagnosed with depression (Homer Medical Clinic)		Unclear	X					
# of patients diagnosed with depression & mood disorders (Seldovia Village Tribe Health Center)		Unclear	X			X		
% of patients diagnosed with depression & mood disorders (South Peninsula Hospital)		Unclear	X			X		
% of patients diagnosed with anxiety (South Peninsula Hospital)		Unclear	X			X		
% of patients diagnosed with anxiety (Seldovia Village Tribe Health Center)		Unclear	X			X		
HA2020: % of adolescents who felt so sad or hopeless every day for 2 weeks or more in a row that they stopped doing some usual activities during the past 12 months	X	Unclear	X		X		X	
HA2020: Mean # of days Southern Kenai Peninsula adults report being mentally unhealthy (BRFSS)	X	Unclear	X		X	X	X	
# of adults with severely mentally disturbed illness (SPBHS)		Unclear	X			X		
HA2020: State annual suicide mortality rate (AK Vital Statistics)		Unclear	X		X	X	X	

Table 10 above is an evaluation of the data quality of each of the indicators relevant to Mental/Emotional Health collected by SKP MAPP. An “X” represents that the indicator satisfied the definition outlined in the methodology for each data quality criteria. The title of each indicator is generated by SKP MAPP, and is defined in the summary below the table when a definition is available from comments by SKP MAPP, or where an assumption has been made by ISER staff.

Data collected from the Behavioral Risk Factor Surveillance System (BRFSS) and the Youth Risk Behavior Survey (YRBS) are the only mental/emotional health indicators identified as specific to the Southern Kenai Peninsula population. Due to the standardization of the BRFSS and YRBS surveys, these rates could be compared to regional, state, or national rates. However, it's unclear how accurate this data is for the Southern Kenai Peninsula region, as the confidence intervals or margin of error are not identified.

The total number of youth who responded to the Alaska High School Youth Risk Behavior Survey in 2011 prompt on whether they had felt sad or hopeless was 1,297, with a confidence interval between 23.2% and 28.9%, which would result in a margin of error of 2.9% (Centers for Disease Control and Prevention, Youth Online). Further research would be needed to determine the size of the margin of error for the Southern Kenai Peninsula population alone, and whether it would be too large to compare the data meaningfully to state and national rates. Both the BRFSS indicator of the number of mentally unhealthy days, and the YRBS indicator of the number of days students felt sad or hopeless are included in the summary of community health status at the beginning of this report, where the SKP MAPP rates are compared to state and national rates compiled by ISER staff.

Indicators from individual health organizations are not be representative of the Southern Kenai Peninsula population, or comparable between organizations. It is also unclear what the accuracy of the data is for each organization, as well as the methodology of data collection.

Two data indicators are not marked as complete due to a lack of trend or comparison data. They are the percent of patients diagnosed with depression from the Homer Medical Clinic, and the percent of adolescents who felt so sad or hopeless every day for 2 weeks or more in a row that they stopped doing some usual activities during the past 12 months from HA2020. Both of these indicators show data from only one time-point, and do not include comparison data to community, regional, or state rates.

Alaska Vital Statistics data appears to be representative of the state of Alaska and not the Southern Kenai Peninsula population. However, a rate could potentially be generated for the Southern Kenai Peninsula population, which would then be comparable to state and regional rates. However, it is unclear how accurate this information would be for the Southern Kenai Peninsula, or if it could be generated.

## **Limitations**

This report examines secondary data collected by SKP MAPP for use in their community health assessment. Some additional data has been collected by ISER staff to generate comparison rates, which have been included in the initial summary at the beginning of this report. However, additional research would be needed to determine the reliability and validity of the data by source and if appropriate indicators for the Southern Kenai Peninsula are available for all identified themes within the Economic Costs and Mental/Emotional Health categories, or if gaps exist where data is not currently available.

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## Appendix. Ranking of SKP MAPP Community Health Issues

**Table 11. Rankings of Community Health Survey Question Responses by Frequency**

Question Responses	CHS: Q8. Family		CHS: Q8. Community		CHS: Q9		CHS: Q10		CHS: Q11		KI:Q3		Total Rank (all questions equal)	CHS Sum of Ranks	CHS Top 5	KI Top 5	Total Rank with CHS and KI weighted equally
	Rank	%	Rank	%	Rank	%	Rank	# of Comments	Rank	%	Rank	%					
Economic Costs	5	72.9%	4	54.4%					5	46.5%	5	62.1%	19	14	5	5	10
Substance Abuse			5	79.4%			1	36			4	51.7%	10	6	2	4	6
Mental/ Emotional Health	3	46.9%	3	51.6%							3	47.1%	9	6	2	3	5
Transportation					4	50.0%	5	109	2	20.4%			11	11	4		4
Teen Activities/ Resources					5	53.5%	4	106					9	9	3		3
Family Issues											2	36.8%	2	0		2	2
Insurance/Health Care Coverage											1	31.0%	1	0		1	1
Schedule Conflicts									4	41.5%			4	4			0
Physical Health	4	68.4%											4	4			0
Recreational Activities							3	40					3	3			0
Not Enough Time									3	35.7%			3	3			0
Shopping					3	35.3%							3	3			0
Not Enough Time									3	35.7%			3	3			0
Economic Opportunities/Jobs							2	37					2	2			0
Lack of Anonymity									1	14.00%			1	1			0