

# Benefit/Cost Analysis of Aloha United Way's 211 Program

Final Report

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May 2009



# Table of Contents

<b>Executive Summary</b> .....	<b>1</b>
Research Approach .....	1
Results.....	1
<b>Introduction</b> .....	<b>2</b>
The Task.....	3
<b>Approach and Methodology</b> .....	<b>4</b>
Perspectives.....	4
Valuation Formulas.....	4
Research Data .....	5
Discount Rate.....	5
Site Visits and Other Requests for Assistance .....	6
<b>Benefits</b> .....	<b>7</b>
Key Factors Derived From Call Volume Data .....	7
Input from 211 Participants .....	8
Measurable Benefits.....	9
Value to the Participants .....	10
Value to Taxpayers .....	14
<b>Costs</b> .....	<b>19</b>
Cost Estimates for the 211 Information and Referral Network .....	19
Ten-Year Projection.....	20
<b>Net Value</b> .....	<b>21</b>
Benefit-to-Cost Ratio .....	22
<b>Below the Line Benefits</b> .....	<b>23</b>
<b>Concluding Observations</b> .....	<b>24</b>
Potential Additional Sources of Revenue – Contracts .....	24
Tools for Analysis.....	25
Benefit/Cost Analysis .....	25
Balanced Scorecard.....	25
<b>APPENDIX A: CALLER SURVEY RESULTS</b> .....	<b>26</b>
<b>APPENDIX B: SOURCE OF GROUPING CALL DATA</b> .....	<b>27</b>
<b>APPENDIX C: CONTRACT VALUATIONS</b> .....	<b>28</b>
<b>APPENDIX D: CONTRACT VALUATIONS TEMPLATE</b> .....	<b>30</b>
<b>APPENDIX E: PROJECTED BENEFITS AND COSTS</b> .....	<b>31</b>
<b>APPENDIX F: BALANCED SCORECARD</b> .....	<b>34</b>
<b>APPENDIX G: PARTICIPANT SURVEYS</b> .....	<b>36</b>
<b>Resources</b> .....	<b>44</b>

## Executive Summary

This is a study developed by The Malama Consulting Group (the Consultants) from the Shidler College of Business at the University of Hawaii – Manoa, and supported by Aloha United Way (AUW) to better understand and quantify the net social value of the 211 program, information and referral (211 I&R) for the Hawaii community. To calculate the net social value, the Consultants researched and developed a methodology based on discrete estimates of the benefits, costs and net value created by Aloha United Way’s investments in the 211 information and referral program.

### ***Research Approach***

The Consultants collected fiscal and operational data; conducted site visits and interviews with the program administrators and staff of the local 211 I&R call centers, interviewed 304 individuals, including members of the general public who have used 211 to address health and human service needs and 6 community agencies that rely on 211’s I&R services to support their operations. The information, data, and observations regarding benefits and costs gathered through this research provided the basis for the estimation of the net value of the local 211 I&R network.

The analysis values services provided by 211 to participants (individuals and agencies), taxpayers, and society as a whole. Benefits and costs were projected over a ten-year period and discounted to a present value to account for the time value of money because a dollar today is worth more than a dollar tomorrow. Net value to society is presented as the difference between the benefits accrued and the costs incurred by participants and taxpayers, less taxes and transfers between them.

### ***Results***

Benefits, costs, and net value of the 211 I&R program were estimated based on valuation formulas researched and developed by the Consultants. The total estimated net value of the 211 I&R program is positive. Using the developed formulas, the estimated present value of benefits less net costs to society is \$4,452,759.56. This value includes the total benefits and total costs associated with the 211 service projected over 10 years.

To determine the estimated net present value of benefits, the total value of services was compared against total operating costs. This benefit/cost analysis was conducted in two parts. The first part was to identify and quantify the value of core 211 services. This resulted in the development of several valuation formulas that quantify the benefits provided by the 211 service. The table describes our findings.

<b>Net Value</b>	<b>2008</b>	<b>2009 - 2017</b>
<b>Total Present Value of Benefits Provided</b>	<b>\$711,663.77</b>	<b>\$6,527,172.65</b>
<b>Total Present Value of Net Costs</b>	<b>\$271,167.00</b>	<b>\$2,514,909.10</b>
<b>Present Value of Benefits Less Net Costs</b>	<b>\$440,496.77</b>	<b>\$4,012,263.56</b>

## Introduction

In the State of Hawaii, the 211 I&R program is funded and operated by the Hawaii chapter of the United Way of America – Aloha United Way. The program was designed to simplify and centralize access to contact information in an effort to expand the availability of health, human and related services for individuals and families throughout the state. Within A UW's budget, the 211 program lacks a designated funding source and represents a considerable cost for the organization. As a result of an unstable funding source, issues related to the associated benefits, costs and net value of what the 211 program provides to society were raised. A UW's purpose in contracting with the Consultants was to determine an estimated value of the 211 service to Hawaii (society).

Aloha United Way is a chapter of a national network of United Way of America non-profit organizations. A UW's mission is to improve lives, motivate people to help others, increase resources to meet needs and inspire collective solutions to community problems. A UW was initially formed in Hawaii to create a more efficient way to raise money for charities. Instead of companies donating to several different charities, companies can donate to one organization, A UW, and then the monies are distributed to charitable organizations. Currently in Hawaii, A UW is a centralized resource for over 80 local agencies on Oahu. A UW has recently restructured to focus strategically on several core service categories: (1) Crime and Drugs (2) Early Childhood Development (3) Emergency and Crisis Services (4) Financial Stability and Independence (5) Homelessness, (6) 211 Program, Volunteer Hawaii, and Gifts-in-Kind.

The focus of this project is to assess the net social value of the 211 program. The 211 program is a state-wide, toll-free, TTY (teletypewriter) accessible for the hearing impaired information and referral service. The service is operated by trained I&R specialists who search a database of over 4,000 government and nonprofit services and programs to find answers to specific callers' needs. A UW 211 also uses a national translation service that allows A UW 211 to operate in over 150 languages. Although A UW serves the Oahu population, the 211 program operated by A UW is utilized by the entire State of Hawaii. On the national level, 211 is a priority of United Way of America, with 211 services available through other UW chapters to more than 75% of the US population.

In Hawaii, A UW 211 began as ASK 2000 and was initially provided by the Hawaii Community Services Council with funding provided by the state and A UW campaigns. In the late 1990's, the state decided to terminate funding the operations and the A UW Board took on the program and renamed it Ask A UW, later renamed to A UW 211. In addition to services to the general public, a number of state agencies such as the Office of Elections and Department of Health contract with 211 to provide specific information to voters and to collect and report information about the callers. A UW also works with Volunteers Active in Disasters and the City and County and State disaster preparedness staff. In the past members of the 211 staff have participated in disaster response teams and deployed in support of Hurricane Katrina and the San Diego fires.

## ***The Task***

The Consultants were tasked with assisting Aloha United Way in estimating the benefits, costs and net value created by the 211 I&R program. As the Vice President of Community Building, Norm Baker, stated, “It seems that determining the societal value of 211 should occur before we start considering options to transfer the operation. Additionally, knowing or having a good indicator of the value of 211 to the community would better enable us to pursue funding from state/federal government and perhaps mitigating the funding pressure we are experiencing. Conversely, if we eventually decide to transfer 211, knowing the ‘value’ will certainly enhance our ability to find a suitable home.”

To accomplish this task the Consultants collected qualitative and quantitative data from the local 211 program for the years 2005, 2005, 2007, and 2008. The data used was between the period of February through April 2009 to use as a basis for producing these estimates. Research tasks included requesting and analyzing fiscal and operational data; site visits and interviews with program administrators and staff; and conversations with professionals and individuals across the general public who have used 211 to address health and human service needs as well interviews with social agencies that rely on the service to support their clients. The information, data, and observations regarding benefits and costs gathered through the research provided the basis for developing the benefit/cost estimates of the 211 I&R system.

This report presents the Consultant’s best efforts to provide (1) a methodology and (2) benefit/cost analysis to determine a quantifiable “societal value” of Aloha United Way’s 211 program.

## **Approach and Methodology**

To estimate the value of the 211 program, the Consultants conducted a benefit/cost analysis to quantify the services provided by the 211 service to the extent possible and analyze the associated operational costs. This analysis aims to present those values in a form that allows decision makers to assess whether or not to move forward with a particular action. This section describes the methods used for this analysis.

For this report, the Consultants utilized standard methodologies to estimate benefits and costs based on information provided by:

- Telephone interviews with individuals who have accessed the 211 services
- Personal and telephone interviews with local I&R network agencies and specialists
- Personal interviews with AUW and 211 program administration
- Available administrative and expenditure data reports
- Insights from literature on information and referral services and related areas

The key finding for this benefit/cost analysis is the estimated total net value to society.

## ***Perspectives***

Two primary perspectives for gauging both benefits and costs are relevant for this analysis, as follows:

- Participants, including individuals and families, employers, as well as health and human services providers;
- Taxpayers (or government), primarily state and local public funds and agencies, but including federal, as well.

The first perspective addresses benefits and costs of 211 information and referral for participants, including individuals, families and employers seeking health and human services information, as well as non-profit agencies and personnel who use such information. The taxpayer perspective is concerned with public costs and government. These two perspectives make up society as a whole.

## ***Valuation Formulas***

The Consultants developed a series of formulas to estimate the value of key services provided by 211 from the participants and taxpayer perspectives. Key quantifiable services (benefits) were estimated based on standards and practices documented in the benefit/cost literature, interviews with clients and I&R professionals, and assumptions regarding attribution, magnitude, and frequency developed by the Consultants.

Benefits that are attributable to 211 operations, but which could not be easily quantified, were retained but placed in the “below the line” section for consideration once all of the possible approaches to quantification had been exhausted. Specific valuation formulas were prepared for the others.

## ***Research Data***

An important piece of information used in the analysis involved reviewing the fiscal and service delivery data for the 211 Program. The Consultants requested and analyzed fiscal (revenue flows) and call activity data from the 211 operations. Revenue data from accounting records were used in this analysis. Only direct expenditures associated with the 211 information and referral system were considered for cost estimation purposes.

The following reports used include:

- Annual financial reports indicating annual revenues and expenses incurred operating the 211 services
- Call reports indicating the total call volume, the volume and types of I&R requests, the volume and types of referrals, and the sources of the requests, as available. Note that these call reports did not include online inquiry numbers to the 211 website (where users can search a database) as this study focused on 211 I&R operations (physical structure with scalability) and human interface elements. Thus, we did not use online inquiry numbers in this analysis.
- Telephone reports indicating call volumes, “bogus” calls, average response time, and average time per call, and other data, as available.

The Consultants collected data for the years 2005 – 2008 that included:

- Professional fees and services
- Database management and updates
- Communications and utilities expenditures

## ***Discount Rate***

Benefits and costs associated with the 211 I&R service were analyzed over a ten-year period. In order to evaluate the present value to society, of the benefits provided by 211, a discount rate was applied to enable the data to be evaluated in current dollar terms. Discounting the benefits and costs allows them to be compared appropriately in present value terms. The discount rates used were the yield on US Treasury Bills and Bonds for each year being discounted. The discount rate used in this analysis was derived from information obtained from Bloomberg's government bonds site.

## ***Site Visits and Other Requests for Assistance***

The Consultants visited the 211 operations in the State of Hawaii in January and February 2009. The purpose of these visits was to acquire a clear understanding of the administration and operations of the 211 programs, review their data, identify all sources of expenditures, elicit perceptions of benefits, and collect information to support benefit valuation formulas.

In addition to the fiscal and service delivery data, the Consultants also requested program descriptions, management reports, organization charts, and any other available documentation about the organization and operations of the call center prior to the visit. The Consultants also conducted personal individual interviews with the I&R specialists, 211 Program Coordinator, A UW VP of Community Building, Program Assistant of Community Building, VP of Finance, VP of Volunteer Services agencies and VP of Marketing among others.

To gain insight into the benefits of the 211 I&R services in the community, the Consultants also requested A UW to identify a few key organizations that either referred individuals to the call center or received referrals from the call center that would be willing to provide information about their relationship to 211 services. These included emergency assistance providers, food banks, healthcare providers and other non-profit organizations, as well as state and county human service agencies, workforce centers, and other public entities (Hawaii Foodbank, Salvation Army Family Services Branch, Covering Kids, the Department of Health - Dead Bird, Pandemic Bio-terrorism and Immunization programs, and MedQuest) that may provide better services or avoid unnecessary costs by using the 211 program.

The Consultants also requested A UW to survey callers about their experiences with the 211 program and provide the contact information of callers that used the 211. The callers who were willing to participate in a voluntary and confidential telephone conversation provided the Consultants with information about their experiences with the 211 program.

## **Benefits**

Benefits of the 211 I&R service can be grouped into two major categories (1) those that can be monetized and valued quantifiably and (2) those that are intangible and considered “below the line benefits”. The valuation formulas for the quantifiable benefits were based on established standards and practices documented in the literature of benefits/cost estimation, interviews granted by clients and I & R professionals, and assumptions regarding the attribution, magnitude, and frequency developed by the Consultants. The benefit valuation formulas were constructed around cost effective practices that were encountered during fieldwork and upon the availability of reasonably supportive data.

The actual call volume, sources of the call (e.g., individual, agency etc), types of services requested, and the types of referrals made were important factors used to identify and estimate the types and quantities of benefits yielded by the 211 information and referral network. The factors were included in the benefit valuation. Benefits were presented from the perspectives of participants and taxpayers.

### ***Key Factors Derived From Call Volume Data***

To estimate benefits, the Consultants projected call volume using historical and forecasted Hawaii population rates using information obtained from the State of Hawai'i Department of Business, Economic Development and Tourism website. In addition to projecting call volume, further analysis into the types of calls was also reviewed. Each category of calls was grouped and included in the valuation formulas.

In addition to analyzing call volume data and factoring that information into the valuations formulas, another key metric that was used in the valuations was the cost per call. To determine cost per call, we took the total operating costs for a particular year and divided that by total call volume. We did not net operating costs with contract revenues. The Consultants felt that the inclusion of contract revenues as part of the calculation would not accurately reflect the true cost per call for the following reasons:

- Inclusion of contract revenues would only apply for certain valuations (relating only to state contracts);
- Revenue fluctuates from year to year will potentially skew benefit valuations;
- Contract revenues do not fairly compensate for all services provided (thus all benefits may not be accurately valued);
- Agencies would not be able to adequately compare 211's cost per call to their own estimate of cost per call.
- The amount of contract revenue would be “buried” in the valuation formulas thereby making critiques of the Consultants revenue projections difficult.

## ***Input from 211 Participants***

The Consultants also conducted interviews about the 211 experiences of 304 individuals and 6 local agencies, which included members of the general public and employees of local human service providers. These individuals and agencies had voluntarily agreed to talk with the Consultants. Individuals and agencies were asked questions related to (1) Did the individual or agency value the service? (2) How much time was saved by using the service? (3) If 211 did not exist who would they call instead?

The responses generally resulted in positive views regarding the service. Benefits commonly attributed to 211 services were also validated in these interviews. When asked how they benefited the most, respondents mentioned they valued the importance of human contact. The Consultants also found that within this sample of callers, a majority felt that the ease of having to remember only one number for access to a wide range of information was a major benefit.

The majority of agencies valued 211 for the its centralized resources, “one-stop-shop” benefit for its clients, and its ability to allow agencies to focus on their missions and core competencies rather than the referral service aspect of operations. In the absence of 211 the majority of the agencies admitted they would face significant challenges continuing to operate. Additional discussion regarding non-core services provided by 211 is discussed in more detail in the “Below-the-Line” section.

## **Measurable Benefits**

The 211 Program is a service that benefits both participants and taxpayers. The time and money saved by participants and agencies can sometimes be overlooked. In this section, the Consultants developed several valuation formulas that attempt to value the benefit gained from the use of 211's services.

<b>ID</b>	<b>Perspective</b>	<b>Valuation Formula</b>
<b>A.</b>	Participants	The value of the time and costs saved by individuals referred to volunteer income tax assistance
<b>B.</b>	Participants	The value of the marginal increase in the value of the dollars recovered by individuals to the community (tax refunds)
<b>C.</b>	Participants	The value of the marginal increase in value of dollars recovered by individuals (EITC)
<b>D.</b>	Participants	The value of the time saved by human service or other professionals and members of the general public who use 211 to address their needs
<b>E.</b>	Participants	The value of 211 as a broker of volunteer opportunities and placements
<b>F.</b>	Participants	The value of time-saved from the avoidance of misdirected phone calls to or redirected phone calls from health and human service agencies
<b>G.</b>	Participants	The value of information regarding eligibility and documentation requirements of health and human services
<b>H.</b>	Taxpayers	The estimated avoided loss of income to the State of Hawaii due to information and referral services provided for tax assistance in the form of tax refunds
<b>I.</b>	Taxpayers	The estimated avoided loss of income to the State of Hawaii due to information and referral services provided for EITC
<b>J.</b>	Taxpayers	The value of after hours access to I&R services
<b>K.</b>	Taxpayers	The value of facilitating access to health insurance to hospitals & to the State of Hawaii
<b>L.</b>	Taxpayers	The value of redirecting inappropriate phone calls from 911 to 211
<b>M.</b>	Taxpayers	The value of public service to state and local government

## Value to the Participants

### *A. The value of the time and costs saved by individuals referred to volunteer income tax assistance:*

2008	
Average time for 211 to screen and make a tax referral (A)	2 Mins
Average time to prepare a tax return (B)	60 mins
Average cost to prepare a tax return (C)	\$118.00
Number of tax referrals (D)	2454
<b>Value of tax assistance (A/B)*C*D</b>	<b>\$9,652.40</b>

AUW 211 provides tax referrals to eligible callers matching them with agencies where individuals can have their taxes prepared free of charge. Since eligible callers are primarily individuals with limited or moderate incomes, they are able to capture tax refunds and credits. It is then reasonable to attribute a value for this facilitation of tax preparation that enables benefits to the participants.

The average time to screen and make a tax referral is 2 minutes based on the input from the four I&R specialists. The average time to prepare a tax return (assuming that the tax return is relatively simple without itemization) is 60 minutes based on the input from AARP and Liberty Tax Service. If it takes 60 minutes to prepare a basic tax return, 211 contributes 2 minutes out of the 60 minutes by referring the individual to the appropriate agency.

The average cost to prepare a tax return is \$118 based on the average of two quotes obtained from Liberty Tax Service of \$160 and H&R block of \$75 for a basic individual tax return. According to the internal annual 2008 EITC & Tax Assistance Calls report, the number of callers referred to agencies and programs for tax assistance in 2008 totaled 2,454.

### *B. The value of the marginal increase in value of dollars recovered by individuals (tax refunds):*

2008	
Average time for 211 to screen and make a tax referral (A)	2 mins
Average time to prepare a tax return (B)	60 mins
Average refund per referral (C)	\$814.39
Number of tax referrals (D)	2454
<b>Value of tax refunds recovered (A/B)*C*D</b>	<b>\$66,617.12</b>

In addition to providing a service to individuals by linking them up with free qualified tax preparers, thus helping individuals save money, eligible callers are primarily individuals with limited or moderate incomes and are able to capture tax refunds. It is then reasonable to attribute a portion of the refund the individual receives to the value 211 provides the individual.

Here we evaluated the average refund per referral, which was based on information provided by AUW on pro-bono taxes completed for the State of Hawaii for the tax year 2007. Total returns filed were 7,565 and total refunds were \$6,160,862. Thus the average refund per referral is \$814.39.

***C. The value of the marginal increase in value of dollars recovered by individuals (EITC):***

<b>2008</b>	
Average time for 211 to screen and make a EITC tax referral (A)	4 Mins
Average time to prepare a tax return (B)	60 Mins
Average refund per referral (C)	\$1,761.00
Number of EITC referrals (D)	200
<b>Value of EITC recovered (A/B)*C*D</b>	<b>\$23,480.00</b>

AUW 211 records information about callers (e.g. marital status, income range) who ask for the Earned Income Tax Credit (EITC), and forwards callers to the appropriate agencies in an effort to increase the number of needy Hawaii residents to claim EITC.

In 2007, Senator Daniel Akaka held a press conference with AUW to stress the importance of EITC for Hawaii’s struggling families, stating that each year thousands of Hawaii residents fail to claim refunds. According to hawaiiitaxhelp.org approximately \$45,101,050 of EITC funds were unclaimed by Hawaii taxpayers in 2005.

According to the Honolulu Advertiser, approximately 88,000 Hawaii Taxpayers applied for EITC and received approximately \$155,000,000, receiving an average credit of \$1,761 in the 2008 tax year.

The Consultants chose a conservative estimate of the number of tax referrals that resulted in EITC credit. An analysis of 211’s 2009 data for EITC indicates that at least 200 callers met the marital status and income levels for EITC. Marital status and income levels for the rest of the 421 callers were not provided to the Consultants.

211’s I&R Specialists estimate that it takes twice as long to make an EITC tax referral (4 minutes vs. 2 minutes) than a regular tax referral because additional information such as income levels and marital status is taken by I&R specialists.

***D. The value of time saved by human services or other professionals and members of the general public who use 211 to address their needs:***

<b>2008</b>	
Total annual call volume (A)	40984
% of participants using 211 who agreed that 211 saved them greater than 5 minutes (B)	75%
Estimated time saved by using 211 (C)	0.30
Estimated hourly pay rate of 211 users (D)	\$14.04
<b>Value of time saved by public (A)*(B)*(C)*(D)</b>	<b>\$129,468.46</b>

AUW 211 saves professionals in the field and members of the general public time. Callers can call 211 for information instead of searching for the appropriate phone number for an agency or type of service.

Out of the 304 callers surveyed, 75% percent noted that its accessibility saved them time, including time at work, ranging from six minutes to more than one day, with only 25% percent saying it saved them 5 minutes or less (including no time saved). The majority of callers surveyed, 54%, said that 211 saved them between 6-30 minutes or an average of 18 minutes or .30 hours (18 minutes/60 minutes). See appendix A for detailed caller survey results.

According to the Bureau of Labor Statistics, the average hourly wage of all occupations in Hawaii (including metropolitan and non-metropolitan areas) is \$19.33. Many 211 callers who are professionals are in social services occupations. In fact some described 211 as a training tool to find out which agencies provide different kinds of services, while some rely on 211 completely to help refer their clients to the right agency for their need. They earn an average hourly wage of \$20.83. The Consultants chose as a basis for this valuation, a modest hourly wage of \$14.04, the average of \$20.83 for a mix of professionals and \$7.25 (minimum wage) for individuals from the general public who use 211.

***E. The value of 211 as a broker of volunteer opportunities and placements:***

<b>2008</b>	
# of Recruitment/Placement <b>(A)</b>	102
Average volunteer hours per year <b>(B)</b>	35.5
Average hourly pay rate per volunteer <b>(C)</b>	\$20.25
<b>Value of volunteer placements (A)*(B)*(C)</b>	<b>\$ 73,325.25</b>

AUW 211 matches interested callers with volunteer opportunities posted by community organizations. In 2008, AUW received 207 calls from community organizations that were actively seeking individuals with the requisite knowledge, skills, and experience. Many agencies that provide volunteer opportunities also offer intensive training in the tasks that are required for the job.

According to the internal annual 2008 volunteer calls report, the number of volunteer recruitment/placement was 102. The average volunteer hours per resident per year in Hawaii is 35.5 according to volunteeringinamerica.gov and the average hourly rate per volunteer for 2008 is estimated to be about \$20.25 per hour according to independentsector.org. The average hourly wage rate is based on wages of non-management, non-agricultural workers. Volunteers include professionals such as accountants and nurses, volunteering their expertise. Both volunteer hours and hourly pay rate were verified by Judith Cantil, AUW VP of Volunteer Services.

***F. The value of time-saved from the avoidance of misdirected phone calls to or redirected phone calls from public and private health and human service agencies:***

<b>2008</b>	
Total number of calls referred to health and human service agencies (A)	22854
Cost per call (B)	\$8.16
<b>Value of public service to health and human service agencies (A)*(B)</b>	<b>\$186,488.64</b>

The 211 program provides a valuable service to health and human service agencies by acting as a quick and reliable resource for finding information. The resources associated with providing the general public with this type of information saves public and private health and human service agencies time and money. Without the 211 service, members of the general public would directly call various health and human service organizations until they find the information they seek. The time and funds saved by the health and human services staff to answer these phone calls and direct individuals to the correct organizations is currently used towards other programs and services.

The Consultants reviewed call volume data to determine the number of calls that were individuals referred to health and human service agencies. Refer to appendix B. Note, the consultants worked with the VP and AVP of Community Building on classifying calls referred to agencies in category groupings: Church, Education (Edu), Government (Gov), Health and Human Services (HHS), Other and Tax. The Consultants estimated the number of calls meeting this criteria to be 22,854. The cost per call is \$8.16 (2008 Total Expenses/2008 Call Volume or 334,542/40,984).

***G. The value of information regarding eligibility and documentation requirements of public health and human services:***

<b>2008</b>	
Total annual call volume for public health & human services (A)	20301
Time it takes 211 I&R specialists to screen (B)	2
Pended case turn around time in minutes (C)	30
Average hourly wage for social workers (D)	\$20.83
<b>Value of providing information regarding screening of public health and human services (A)*(B/C)*(D)</b>	<b>\$28,191.32</b>

In addition to referring individuals to public health and human service agencies, the 211 I&R Specialists also screen each individual to determine their eligibility before referring them. Many times a caller will not know who (what agency) to call, but he or she can describe what service he or she needs. I&R Specialists may even have to ask questions to help caller better articulate their needs in order to refer the caller to the appropriate agency. Sometimes, I&R specialists may spend time figuring out the language of the caller if it is not English. If the language is strong pidgin, then the specialist may spend time deciphering the need of the caller. Further callers may be distressed and need help understanding how to best articulate their needs. This extra step conducted by program staff helps to ensure that the individual is being referred to the right agency that can actually provide the service they need. Repeat trips to the human services office can be eliminated for the client, and providers can avoid

rescheduling. Without this service, public health and human service agencies would need to add this extra time to the existing time it takes to help an individual. Instead of doing this, the service conducted by the 211 program saves public health and human service agencies this extra time, which then is used towards helping more individuals.

To determine the average time it takes for a health and human service agency to finish a case, we conducted interviews with representatives from the Hawaii Foodbank, Salvation Army Family Services Branch, Covering Kids, the Department of Health - Dead Bird, Pandemic Bio-terrorism and Immunization programs, and MedQuest. Based on inquires with the interviewees, we observed that data pertaining to the amount of time it takes for an agency to finish a case was not standard or readily available. However, based on the information that we were able to obtain from various other resources (from talking to the applicable representatives from Covering Kids and the 211 I&R service) we determined that 30 minutes was a conservative estimate for pended case turn around time.

According to the Bureau of Labor Statistics, the average hourly wage of professionals in social services occupations is \$20.83 in the State of Hawaii. Note that the number of calls for health insurance, 2553, is subtracted from the total annual call volume for public health and human services of 22,854 because there is a separate valuation formula for the public health service of facilitating the access to health insurance. Refer to appendix B for details of category groupings.

## Value to Taxpayers

### *H. The estimated avoided loss of income to the State of Hawaii due to information and referral services provided for tax refunds:*

<b>2008</b>	
Number of unclaimed tax refunds by Hawaii Taxpayers avoided (A)	2454
Average tax refund (B)	\$814.39
Economic Multiplier (C)	5
General Excise Tax (D)	4.167%
Average time for 211 to screen and make a tax referral (E)	2 Mins
Average time to prepare a tax return (F)	60 Mins
<b>Estimated avoided loss of income to the State of Hawaii - Tax Refund (A)*(B)*(C)*(D)*(E/F)</b>	<b>\$13,879.67</b>

Since most low-income taxpayers use a substantial portion of their refunds to purchase goods and services for themselves and their families, local business are adversely affected and the State of Hawaii loses income in the form of general excise taxes for every unclaimed tax refund dollar. In order to calculate the loss of income to the State of Hawaii, we followed the formula used by hawaiiitaxhelp.org, which uses the economic multiplier of 5 and an excise tax rate of 4.167%.

***I. The estimated avoided loss of income to the State of Hawaii due to information and referral services provided for EITC:***

<b>2008</b>	
Number of unclaimed EITC by Hawaii Taxpayers avoided (A)	200
Average EITC amount (B)	\$1,761.00
Economic Multiplier (C)	5
General Excise Tax (D)	4.167%
Average time for 211 to screen and make a tax referral (E)	4 Mins
Average time to prepare a tax return (F)	60 Mins
<b>Estimated avoided loss of income to the State of Hawaii - EITC (A)*(B)*(C)*(D)*(E/F)</b>	<b>\$4,892.06</b>

Since most low-income taxpayers use a substantial portion of their refunds to purchase goods and services for themselves and their families, local business are adversely affected and the State of Hawaii loses income in the form of general excise taxes for every unclaimed EITC dollar. In order to calculate the loss of income to the State of Hawaii, we followed the formula used by hawaiiitaxhelp.org, which uses the economic multiplier of 5 and an excise tax rate of 4.167%.

The number of callers in 2009 that inquired about EITC, were referred to an agency and had no previous knowledge of EITC is estimated to be about 200. Note: we used 2009 numbers because 2008 numbers are no longer available.

***J. The value of after hours access to I&R services:***

<b>2008</b>	
Volume of after hours calls (A)	10,249
Cost per call for after hours service (B)	\$8.16
<b>Value of after hours access to I&amp;R services (A)*(B)</b>	<b>\$83,631.84</b>

Generally, government organizations that provide general services for the public operate from 8 am – 4 pm Monday through Friday and are rarely open on weekends or holidays. The after hours of 6 a.m. – 8 a.m. in the morning and 4 p.m. – 9 p.m. serves as a valuable resource to members of the general public that may need assistance during this time. Government organizations, in particular agencies, can rest assured that individuals can receive some assistance or report information (e.g. in the case of dead birds) at times when they are not available. Additionally, even though the service may be closed from 9 p.m. – 6 a.m., individuals have the option to leave a message for a call back from the service.

To determine the value of this service, the Consultants obtained hourly call volume data and analyzed the call volume during the 6 a.m. – 8 a.m. and 4 p.m. – 9 p.m. time period. We obtained a listing from Aloha United Way that included a breakdown of the total number of “bogus calls” (calls that were not for use of the Program’s services) for 2008. We took the ratio of the total hours the 211 service was open when government and other agencies were closed (the “after hours period”) to the total operating hours of the 211 service to obtain a

ratio of 7/15. This ratio was applied to the total bogus calls for the 2008 year (24,646) to obtain the number of bogus calls allocated to the after hours period (11,501). This number was subtracted from the total number of calls received during the after hours period (21,750) to obtain an estimate of the volume after hours calls. Volume of after hours calls =  $7/15 * 24,646 = 11,501$ .  $21,750 - 11,501 = 10,249$ .

***K. The value of facilitating access to children’s health insurance for hospitals and the state of Hawaii:***

<b>2008</b>	
The cost to hospitals of uninsured patients (A)	\$143,000,000
Number of uninsured in Hawaii (2007) (B)	103,025
Cost per person (A)/(B)	\$1,388
Number of mailed applications for children's state/local health insurance (C)	642
Estimate of how many mailed applications result in health insurance (D)	50%
Time it takes to screen call and mail application (E)	4
Time it takes to process an application for health insurance (F)	120
<b>Value of facilitating access to health coverage to hospitals for children (A/B)*(C)*(D)*(E/F)</b>	<b>\$14,851.74</b>

It is widely known that there is a cost to the individual of being uninsured. Uninsured individuals go without preventative care, delay or forgo needed medical treatment, and consequently die prematurely. Less widely known are the costs to society. The uninsured turn to emergency rooms for care often when it is too late and when these patients can’t afford their medical bills, the cost of their care is passed onto hospitals (categorized as bad debt & charity), the State of Hawaii in the form of funds given to hospitals to cover bed debts & charity, individuals and employers paying for health insurance in the form of higher insurance premiums. In 2007, bad debt and charity care for the uninsured totaled \$143 million for Hawaii hospitals according to an Ernst & Young study of hospital finances reported in the Honolulu Star-Bulletin on March 24, 2008. Since 2005, the State of Hawaii has provided private and public hospitals with approximately \$100 million in federal and state funds to help them treat patients without insurance according to the Hawaii 24/7 website. In 2008, the State of Hawaii provided at least \$12.7 million to hospital. In the end all of society pays for these funds through taxes.

Nationally, a study reported in Health Affairs reported that government programs finance about 75 percent of uncompensated care and the employed public and employers finance the other 25 percent through higher health insurance premiums. The Kaiser Family Foundation reported that the 100% rise in worker contribution to health coverage from 1999 to 2008 (for family coverage) is largely due to the additional cost of delivering health care to the uninsured. Thus, an important rate for 211 is its role in providing health insurance coverage to Hawaii residents.

The Consultants attempted to value 211’s contribution to the effort of insuring all of the island’s children to hospitals. A separate valuation formula could be done for the State of Hawaii, but it is important to note that the State of Hawaii just helps to cover the loss to hospitals. According to Honolulu Star-Bulletin, the cost to hospitals in Hawaii of uninsured

patients was \$143,000,000 in 2007. According to statehealthfacts.org, the number of uninsured in Hawaii was 103,025 in 2007. Thus, the cost per person to hospitals was \$1,388 (\$143,000,000/103,025) in 2007. This is slightly less than the estimated \$2,121 cost per uninsured child in Arizona (BYU Professor Richard Butler). The number of mailed applications for children’s state/local health insurance was 642 in 2008. 211 operations estimated that it takes 4 minutes to screen a call and mail an application. After researching the issue, the Consultants estimated that it takes 120 minutes to process an application for health insurance, a process that involves entering information into an electronic system before they are seen by underwriters, who then review the provided information. According to the department of human services, Med-Quest will process an application for a pregnant woman within 5 business days and up to 45 to 60 days to process an application for children (this is due to backlog). Interviews with a representative from Med-Quest confirmed that this estimate was fairly close to reality. The Consultants chose a conservative estimate for the percentage of callers that actually resulted in health coverage, 50%, as this number is unknown.

***The value of facilitating access to health coverage for hospitals for all callers:***

<b>2008</b>	
The cost to hospitals of uninsured patients (A)	\$143,000,000
Number of uninsured in Hawaii (2007) (B)	103,025
Cost per person (A/B)	\$1,388
Number of calls for health insurance (C)	2,553
Estimate of how many resulted in health insurance (D)	50%
Time it takes to screen call (E)	2 Mins
Time it takes to process an application for health insurance (F)	120 Mins
<b>Value of facilitation to access to health coverage to hospitals for all callers (A/B)*(C)*(D)*(E/F)</b>	<b>\$29,529.97</b>

The theory behind this valuation formula is the same as above (for children) with the only difference being that this valuation formula takes all call referrals for health insurance into consideration.

***L. The value of redirecting inappropriate phone calls from 911 to 211:***

<b>2008</b>	
911 referred calls (A)	128
Cost per 911 call (B)	\$13.59
<b>Estimated savings from number of calls that will not be directed to 911 again (A)*(B)</b>	<b>\$1,739.52</b>

Many public officials across the country cite 211 for the freeing up calls from 911. “Since 211 began service, the number of inappropriate calls to 911 has gone down at least 25%” – William Lansdowne, Chief of Police, City of San Diego. Thus it is important to look at this valuation. According to the internal “Annual 2008 Heard About Us Through” report, 911 referred 128 callers to AUW in 2008. We assume that these callers will no longer call 911 for a service now that they know they can access through 211. In addition to the 911 referred

calls number of 128, the valuation formula should also include the number of callers who would call 911 if 211 was not in service, but the Consultants were unable to gather this information given the short time frame of the project. The Consultants made attempts to find the 911 cost per call for the State of Hawaii, speaking primarily with the City and County of Honolulu, but such information was not readily available.

Instead, the Consultants looked to other researchers for an appropriate estimation of the 911 cost per call for the State of Hawaii. In Arkansas’s cost/benefit analysis for 211, the 911 cost per call for Arkansas with a population slightly over 2,000,000 (close to the Hawaii’s population) was stated as \$11.21. In the RMS benefit/cost analysis for 211, the consultants choose \$13.59 for the 911 cost per call, stating that they believed it was a conservative estimate.

***M. The value of public service to state and local government:***

<b>2008</b>	
Total number of calls referred to state and local government agencies <b>(A)</b>	7447
Cost per call <b>(B)</b>	\$8.16
<b>Value of public service to state and local government (A)*(B)</b>	<b>\$60,767.52</b>

The 211 program provides a valuable service to the state and local government by acting as a quick and reliable resource for finding information. The resources associated with providing the general public with this type of information saves public and government agencies time and money. Without the 211 service, members of the general public would directly call various organizations until they find the information they seek. 211 can quickly become sources of information regarding events of immediate public concern such as flooding or provider of information such as the new tobacco smoke free laws. 211 may be in a better position because of its existing operations and flexibility than the government to put new information and opportunities in public focus. The time and funds spent by public and government agency staff to answer these phone calls and direct individuals to the correct organizations is currently used towards other programs and services.

The Consultants reviewed 2008 call volume data to determine the number of calls where individuals were referred to state and local government agencies, which is estimated to be 7,447. Please see appendix B for the source of category groupings of call volume. Cost per call was calculated to be \$8.16 (2008 Total Expenses/2008 Call Volume or 334,542/40,984).

## Costs

The Malama Consulting Group prepared estimates of the future costs for operating the 211 I&R system in Hawaii. Future cost estimates are derived from expenditure and call volume data provided by Aloha United Way.

To analyze the total expenditures related to the operations of the 211 Program, the Consultants used expenditure reports obtained from Aloha United Way for 2008. Using 2008 as the base year, costs were categorized as fixed or variable.

The classification of cost as fixed or variable was dependent on whether those costs varied from year to year due to changes in the 211 Program's hours of operation. Costs that varied based on the hours of operation of the 211 service were classified as variable costs. Variable costs were further categorized as variable costs – after hours and variable costs – regular hours. We took 7/15 of total variable costs to determine variable costs – after hours and 8/15 of total variable costs to determine variable costs – regular hours. Costs that did not vary with hours of operation were classified as fixed costs. The Consultants classification of expenses as either variable or fixed was confirmed with AUW staff.

Total cost of operations is comprised of payroll and operating expenses. Payroll expenses include salaries of management and operations personnel as well as health and retirement benefits and payroll taxes. Operating expenses include telephone, rent, supplies, professional fees, supplies, and other ongoing operational costs.

The bulk of the expenditures are attributable to personnel costs, which is about 70% of total expenses. Of the operating expenses, two major types of expenses account for 73% of total operating expense: rental fees and telephone expense.

### ***Cost Estimates for the 211 Information and Referral Network***

<b>Actual/Projected Costs 211</b>	
	<b>2008</b>
Total Fixed Costs	<b>\$169,353</b>
Total Variable Costs - Regular Hours	<b>\$88,101</b>
Total Variable Costs - After Hours	<b>\$77,088</b>
<b>211 Total Costs</b>	<b>\$334,542</b>

Total cost estimate is based on cost per call and the anticipated call volume. Costs to participants are accrued to the Aloha United Way on the island of Oahu that operates the 211 Program, the entities that contract with them and the donors who support them. The cost to the users of the 211 service only involves the use of a phone. As the cost of this call charge is nominal, we did not estimate this cost. The cost to the taxpayers is within public grants, contracts, and investments, and any other direct services that the public sector provides to the 211 Program. The table above summarizes the costs.

## ***Ten-Year Projection***

Expenses associated with the operation of the 211 service are expected to fluctuate with the change in call volume and changes in the economy. To determine the value of the 211 service over time, operating expenses as well as benefits were projected based on the expected changes. Changes in call volume are associated with the change in the State's population. Changes in the economy are associated with the change in Consumer Price Index. These two factors were included in the projection of costs to estimate operating expenses over time.

Specifically, future fixed costs were projected using the percentage change in the Consumer Price Index. Future variable costs were projected using a combination of the percentage change in the Consumer Price Index and the projected change in the state's population. Appendix E shows the projected costs over the ten-year period. The table below summarizes total net operating costs for 2008 and projected out to 2017.

	<b>Actual</b>	<b>Projected</b>								
	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Total Fixed Costs	169,353	170,447	173,043	176,541	180,640	185,556	190,606	195,794	201,120	206,590
Total Variable Costs - Regular Hours	88,101	85,445	87,814	90,615	93,769	97,399	101,157	105,047	108,980	113,050
Total Variable Costs - After Hours	77,088	74,765	76,837	79,289	82,048	85,225	88,513	91,916	95,358	98,918
Contract Revenues	63,375	64,326	65,484	67,383	69,876	71,605	73,377	75,193	77,054	78,961
<b>2-1-1 Total Net Costs</b>	<b>271,167</b>	<b>266,331</b>	<b>272,210</b>	<b>279,062</b>	<b>286,581</b>	<b>296,575</b>	<b>306,899</b>	<b>317,564</b>	<b>328,404</b>	<b>339,597</b>

## Net Value

This section presents the estimates of the net value of the 211 information and referral service in the State of Hawaii, based on the benefits and costs presented in the previous sections. The measure of net value to society is the difference between the societal benefits and costs and is the factor that provides significant information as to whether the 211 information and referral service is valuable to the community. The estimated net value of the 211 information and referral service to the community is presented in the following section from the perspectives of participants and taxpayers.

Based on the standard benefit-cost methodology employed, Malama Consulting's evaluation of the services provided by 211 and resultant modifications to the standard methodology, and data and input with respect to the methodology provided by 211 staff, the estimated net value of 211 in 2008 is \$440,496.77 and projected future nine year net value of 211 is \$4,012,263.56 (see table below).

211 Services	Value	
	2008	2009-17
Value of tax assistance	\$9,652.40	\$95,385.53
Value of tax refunds recovered (excluding EITC)	\$66,617.12	\$658,329.20
Value of EITC recovered	\$23,480.00	\$231,825.05
Value of time saved by public	\$129,468.46	\$1,280,517.06
Value of volunteer placements	\$73,325.25	\$717,037.83
Value of public service to health and human service agencies	\$186,488.64	\$1,413,901.22
Value of providing information regarding screening of public health and human services	\$28,191.32	\$278,789.83
Estimated avoided loss of income to the State of Hawaii - Tax Refund	\$13,879.67	\$137,162.89
Estimated avoided loss of income to the State of Hawaii - EITC	\$4,892.06	\$48,300.75
Value of after hours access to I&R services	\$83,631.84	\$785,626.76
Value of facilitation to access to health coverage to hospitals for all callers	\$29,529.97	\$292,021.43
Estimated savings from number of calls that will not be directed to 911 again	\$1,739.52	\$17,436.55
Value of public service to state and local government	\$60,767.52	\$570,838.57
<b>211 TOTAL VALUE PROVIDED TO BOTH INDIVIDUALS AND TAXPAYERS</b>	<b>\$711,663.77</b>	<b>\$6,527,172.65</b>
<b>Actual/Projected Costs 211</b>		
	<b>2008</b>	<b>PV 2009-17</b>
Total Fixed Costs	\$ 169,353.00	
Total Variable Costs - Regular Hours	\$ 88,101.00	
Total Variable Costs - After Hours	\$ 77,088.00	
Less Contract Revenues	\$ 63,375.00	
<b>211 Total Costs</b>	<b>\$ 271,167.00</b>	<b>\$2,514,909.10</b>
<b>Net Value</b>	<b>2008</b>	<b>PV 2009-17</b>
<b>Total Present Value of Benefits Provided</b>	<b>\$711,663.77</b>	<b>\$6,527,172.65</b>
<b>Total Present Value of Net Costs</b>	<b>\$271,167.00</b>	<b>\$2,514,909.10</b>
<b>Present Value of Benefits Less Net Costs</b>	<b>\$440,496.77</b>	<b>\$4,012,263.56</b>

## ***Benefit-to-Cost Ratio***

The value of 211 I&R Program is significant. The benefit cost ratio is 2.60 (total present value of benefits for 2008 + PV 2009-17 divided by total present value of net costs for 2008 + PV 2009-17). This indicates that the total social value of the program generated for society is 2.60 times of operational costs.

## Below the Line Benefits

There are other specific benefits that were identified related to special programs and community relationships that we could not value. For instance, the 211 program provides reporting and support functions to a variety of state agencies. In this section, we listed the benefits of the 211 Program that could not be monetized. We looked at these non-quantifiable benefits from the participant (individual/family and service providers) and taxpayer perspectives:

Perspective	Potential Benefit
<b>Individual/Family</b>	Expanded coverage, particularly areas not currently served by 211 program
	Improved coverage by types of services in expanding database
	One-stop call centers: serves a broad range of age/income and customer needs
	Access to information about nearest and most appropriate resources available in adjacent or nearby locales
	15 hours access; extended hours 6 - 8 am and 5 – 9 pm when State offices are closed.
	Multilingual support and hearing-impaired services
	Quality referrals eliminates or reduces unwarranted travel time and expenses
	More effective matching of services with needs by type and location
	Reduced emotional costs of seeking help to overcome hardship; prevents attrition, loss of hope, particularly among challenged subpopulations
	Trained staff to help prioritize needs and match them with availability
	Prompt information about changes in state or local programs
	Ease of 211 number for personal memory and sharing/communication
<b>Service Providers</b>	Additional marketing of services at call centers
	Volunteer recruitment/donations tool
	Shared data collection and management responsibilities/technical support
	Reduced I&R workload
	More effective matching of services with needs by type and location
	Improved monitoring of referrals for services thru call centers
	Planning/fundraising tool for individual providers and system
	Enhanced information for community planning and collaboration
	Training for social workers
	Training for 911 operators
	Provides information for other local help organizations (Action Line)
	Reduced absence from work in pursuit of services; may indirectly support income and workplace productivity
	Enhanced visibility (marketing for 211 program)
<b>Taxpayers</b>	Reduced I&R burden for local/state agency staff
	Improved delivery of core services through redirection of government I&R staff effort to service provision
	Redirection of clients to more appropriate services. More effective matching of services with needs by type and location.
	Improved planning information based on more extensive monitoring of comprehensive demand for services
	Preclusion of public assistance by timely connection with appropriate intervening services
	Broad communication network for public dissemination of information about changes in state/local programs
	Better and more efficient response to human needs, effectively helping to improve the general quality of life
	Increase social capital/civic engagement
	Surge capacity in a disaster situations
	Provides structured opportunities for networking among stakeholders, including citizens, public sector and community-based health and human services
	Reinforces social safety net
	Auditing function for Emergency Food and Shelter Program

## **Concluding Observations**

Estimates of the benefits, costs and net value to participants, taxpayers and society of Aloha United Way's 211 Program are presented in this report. The analysis shows that there are clear measurable benefits to operating an information and referral service in the State of Hawaii. Generally, the estimated positive net values are supported by the data and the experiences of call center administrators, information & referral specialists, local health and human service professions and the general public.

The data collected supports the strong need for a service that provides centralized, timely and accurate information and referral services by personnel that have been dedicated to providing a valuable service in a professional manner. The human and "one stop shop" aspect of the referral service provides the extra dimension of service that customers want. In addition, the 211 program is currently the only public service call center operating in the State of Hawaii that is able to "ramp up" and take on additional surge capacity with minimal cost at the time of a major disaster, outbreak or state crisis.

### ***Potential Additional Sources of Revenue – Contracts***

During our review, the Consultants noted that some services currently being performed by the staff of the 211 Program could potentially be a source of revenue. These services were determined to be important to many of the agencies that make these requests. Our field work suggests that there are many opportunities for the 211 Program to serve as a revenue center to either help fund the Program or go towards other Program needs.

One such opportunity could be serving as a potential data repository that can be used to track a variety of data such as demographic data for users of health and human services. The 211 service already has the existing infrastructure needed to capture raw data that could be useful for organizations to analyze the efficiency and effectiveness of their operations. The potential for the database to become an additional source of revenue is highly likely if the availability of the database were open to third parties.

In addition to serving as a one-stop referral service for the general public, 211 Program staff also provides various services to different government and non-profit agencies. While the 211 Program is paid a fee for these services, closer evaluation of the actual services performed by 211 staff according to what is stipulated in the contract demonstrates that there are much greater benefits that are being gained by those agencies. These benefits have a value far greater than what 211 is being compensated for. Quantifying the value of contract related services could potentially be used as a negotiating tool for potential additional sources of revenue. The Consultants performed a cursory overview of the data that would need to be obtained to value the data and attempted to develop methods to monetize the benefits associated with contract services. Through discussions with various health and human service agencies, the Consultants determined the major benefits that could potentially be monetized. Appendix D is a tool that can be used to value contract services when the needed data is available.

## ***Tools for Analysis***

With the increased complexity in life, many people find themselves in a position of need. Aloha United Way provides valuable services that help people deal with the issues they face. However, unlike for-profit organizations, sometimes it is difficult to gauge the value of a particular service or program. Key performance indicators available to for-profit organizations just aren't developed to assess the how well non-profit organizations manage their services. In this section, we discuss a few methodologies that could be helpful in assessing the social impact of services.

### **Benefit/Cost Analysis**

Throughout this report, a benefit cost analysis was designed and conducted to measure the social return on investment. Various valuation formulas were been used to quantify the value of a particular service. All benefits and costs have been reviewed to determine the overall value of the program. This type of analysis is a useful tool to gauge how effective the Program is operating.

### **Balanced Scorecard**

The work that we undertook in this study, a benefit-cost analysis of AUW's 211 service is a processing of "looking back" at the actual results of the 211 service. The product produced in a benefit-cost analysis is the monetized value of 211 over a period of time (ten years). By necessity it is an analysis that is done after the fact, after services have been provided. Another tool that may be useful to AUW is the Balanced Scorecard. A Balanced Scorecard can be used as a strategic planning tool that can aid an entity in organizing its resources for the purpose of achieving its strategic and tactical goals and objectives. The traditional balance scorecard contained four perspectives: financial, internal, learning & growth, and customer. The traditional scorecard is modified for non-profit organizations by adding a fifth element: Social Impact, to help determine the effectiveness of a particular program. This tool is useful in seeing the relationships between key performance indicators and provides a useful way to organize and manage internal processes in a way that would enhance performance. A useful resource for developing a basic understanding of the elements and use of the Balanced Scorecard is the *"Double Bottom Line Project Report: Assessing Social Impact In Double Bottom Line Ventures"* by Catherine Clark, William Rosenzweig, David Long and Sara Olsen.

## APPENDIX A: CALLER SURVEY RESULTS

1 If 211 wasn't available, where would you go to look for this information?

Category	Total	%
Phonebook	71	23%
Web	23	8%
411	69	23%
Other	141	46%
<b>Total</b>	<b>304</b>	<b>100%</b>

2 How much time do you think you save by calling 211 instead?

Category	Total	%
0-5 minutes	75	25%
6-30 minutes	164	54%
31-60 minutes	32	11%
More than 1 hour	24	8%
More than 1 day	9	3%
<b>Total</b>	<b>304</b>	<b>100%</b>

## APPENDIX B: SOURCE OF GROUPING CALL DATA

Category	Raw grouped data	% of total raw data	Number of unaccounted calls based on weights	Adjusted data	Ajusted for known tax totals	Difference in tax counts	% of total adjusted for tax	Adjustment factor	Adjusted data
Church	5,728	10%	1,476	4,252	4,252		11%	29	4,281
Edu	677	1%	174	503	503		1%	3	506
Gov	9,964	18%	2,567	7,397	7,397		19%	50	7,447
HHS	30,577	55%	7,877	22,700	22,700		59%	154	22,854
Other	4,604	8%	1,186	3,418	3,418		9%	23	3,441
Tax	3,656	7%	942	2,714	2,454	260			2,454
Totals	55,206	100%	14,222	40,984	40,724		100%	260	40,984
Adjusted Call Volume Total	40,984				38,270				
Number of unaccounted calls	14,222								

This table is necessary in order to match the grouping counts with the adjusted call volume from 211 reports.

Understanding this table:

**Malama Consulting did the following:**

1. Obtained a database of number of callers that are referred to all agencies
2. **Category Column:** Grouped the raw call data into six Groups:
  - a. Church
  - b. Education
  - c. Government
  - d. Health and Human Services (HHS)
  - e. Other
  - f. Tax
3. **Raw Group Data Column:** Asked the VP and AVP of Community Building to verify and edit the groupings and the total is 55,206 calls
4. **% of Total Raw Data Column:** Each category was divided by the total. For example, 5,728 was divided by 55,206: 10%
5. **Number of Unaccounted Calls Row:** Subtracted the adjusted call volume total of 40,984 from the total raw data of 55,206 which contains 14,222 dropped calls, etc.
6. The number of unaccounted calls 14,222 is distributed among the six categories by the its % of total raw data. For example, 10% x 5,728 = 1,476. 1,476 is the number of error calls attributed to the Church category.
7. **Adjusted Data Column:** Raw group data column + Adjusted data column. For example, 5,728 + 1,476 = 4,252.
8. **Adjusted for Known Tax Totals Column:** replaces 2,714 tax calls with the adjusted 2,454 EITC and tax referrals call count.
9. **Difference in Tax Counts Column:** 2,714 – 2,454 = 260.
10. **% of Total Adjusted for Tax Column:** each category adjusted for known tax total divided by (total adjusted for known tax totals – tax count). For example, 4,252/38,270. (40,724-2,454 = 28,270).
11. **Adjustment Factor Column:** % of total adjusted for tax multiplied by difference in tax counts (260). For example, 11% x 260 = 29.
12. **Adjusted Data Column:** Adjusted for known tax totals + adjustment factor. For example, 4,252 + 29 = 4,281.

## APPENDIX C: CONTRACT VALUATIONS

Contract/Agency	Groupings	Provided Services
<b>Dead Bird</b>		
	<b>Referring</b>	Refer callers to contact Subscriber directly for further or additional information that is not contained in the scripts prepared by Subscriber; Receive dead bird online reports and refer appropriate birds to pick up agency
	<b>Reporting/Monitoring</b>	Prepare and submit weekly reports on call volume and online reports and responses to calls provided that if AUW211 shall receive reports of 3 or more birds w/in the same zip code in a 24 hr period, AUW 211 shall immediately provide a report to Subscriber; AUW 211 will have an operational answering machine to take after hours, weekend, and holiday calls...These dead bird messages will be checked at least once per day on weekends & holidays.  Reports of bird die offs (> than or = to 4 birds from a single caller) will be reported to the responsible agency...All other bird calls/dead animal calls will be returned to the caller as soon as possible on the next scheduled business day.
	<b>Updating</b>	N/A
	<b>Screening/Responding</b>	Respond to calls and provide information based on directions & scripts prepared by Subscriber
	<b>Training/Setup</b>	Review the script of the Subscriber's message for conformity with AUW 211 practices and procedures
	<b>Branding</b>	AUW 211 website include easily accessible link to DOH and DOH WNV
<b>Flu Shot</b>		
	<b>Referring</b>	As necessary, refer callers to IB for technical info
	<b>Reporting/Monitoring</b>	Every 2 weeks and once a week during flu season (Sept. - June) maintain & update the most current list as provided by IB of adult flu and pneumonia immunization providers and locations of adult immunization clinics; provide the updated listings to IB every Friday by 12 noon or as necessary for flu/pneumonia only; maintain a listing of flu & pneumococcal vaccine availability at each location of flu/pneumonia only; maintain a log of the # of calls received or referred; provide report to IB every 2 weeks or as necessary
	<b>Updating</b>	Contact each provider/location from the list provided by IB to confirm clinic contact info, including phone # and addresses, clinic times, accessibility, fees, & other info as necessary - for flu/pneumonia only;
	<b>Screening/Responding</b>	Confirm current eligibility & cost requirements for each location for flu/pneumonia only
	<b>Training/Setup</b>	N/A
<b>Office of Elections</b>		
	<b>Referring</b>	Refer callers to contact the State directly for further or additional info that is not contained in the scripts prepared by the State
	<b>Reporting/Monitoring</b>	Prepare & submit bi-weekly summary reports on call volume & responses to calls to the state Record info of volunteers interested to work as Precinct Officials on to the State's web-based intake form Receive complaints from callers to be logged and reported to OE on a weekly basis via email. The log shall include the following items: name, address, telephone #, time/date of contact, time/date of incident & summary of complaint
	<b>Updating</b>	N/A
	<b>Screening/Responding</b>	Respond to calls & provide info based on directions & scripts prepared by the State and approved by AUW Respond to calls requesting provisional ballot vote status Verify voter registration status
	<b>Training/Setup</b>	Review the script of State's message for conformity with 211 practices and procedures TTY callers/ interpreters
<b>Bioterrorism</b>		
	<b>Referring</b>	N/A
	<b>Reporting/Monitoring</b>	Provide monthly reports that include data on call volume and other mutually agreed upon items specific to each event
	<b>Updating</b>	Do annual maintenance of existing bio-terrorism related resources in AUW 211 database Add & annually update new bio-terrorism resource listings with info provided by DOH
	<b>Screening/Responding</b>	Respond to calls per agreed-upon directions & script
	<b>Training/Setup</b>	Provide 8 hrs of staff training specific to requirements & bio-terrorism info provided by DOH for each event Set up and update special procedures & protocols, reporting requirements, formats, etc. required for each event

## APPENDIX C: CONTRACT VALUATIONS (continued)

Covering Kids	
<b>Referring</b>	Provide callers with info about Med-Quest application process
	Provide callers with info about obtaining necessary forms and documents for Quest and Medicaid enrollment
	Continue to connect callers who use the old 275-2000 and 877 toll-free telephone # to their referral service
	Provide callers with information about where to get additional assistance if necessary
<b>Reporting/Monitoring</b>	Report to HPCA on self-assessment activities & conclusions, such as how program is doing compared w/ expectations, what worked or did not work, what ideas might improve Information & Referral Services
	Monitor and report on program activities to the HPCA in a format and timeframe agreeable to the HPCA
<b>Updating</b>	N/A
<b>Screening/Responding</b>	Conduct prelim eligibility screening for callers
<b>Training/Setup</b>	N/A
<b>Follow-up</b>	Conduct telephone follow-up of callers
<b>Mail-outs</b>	Mail out Med-Quest application forms & instructions as requested
<b>Evaluation</b>	Participate in HPCA statewide evaluation & share challenges and successes with others

## APPENDIX D: CONTRACT VALUATIONS TEMPLATE

The following table can be used in valuing the different aspects of the various state contracts once the identified information is available from the various agencies. Each contract (as highlighted in yellow) has been broken down and classified into three major categories:

- Reporting/Monitoring
- Screening/Responding
- Referring

Under each category, data regarding how much resources is normally devoted to completing that particular task is entered into the formula to derive the final value of contracting that particular service out to 211.

Contract/Agency	Groupings	Provided Services	Time Savings (valued by call volume)	Time it takes Social Worker (A)	Hourly Rate of Social Worker (B)	Contract Specific Call Volume (C)	Value of Service Provided by 211 (A)x(B)x(C)
<b>Dead Bird</b>				<sum cells in dead bird category below>	<Input here>	<input here>	
	<b>Reporting/Monitoring</b>	Prepare and submit weekly reports on call volume and online reports and responses to calls provided that if AUW211 shall receive reports of 3 or more birds w/in the same zip code in a 24 hr period, AUW 211 shall immediately provide a report to Subscriber; Reports of bird die offs (> than or = to 4 birds from a single caller) will be reported to the responsible agency...All other bird calls/dead animal calls will be returned to the caller as soon as possible on the next scheduled business day.	x	<Input here>			
	<b>Screening/Responding</b>	Respond to calls and provide information based on directions & scripts prepared by Subscriber	x	<Input here>			
<b>Flu Shot</b>				<sum cells in flu shots category below>	<Input here>	<input here>	
	<b>Referring</b>	As necessary, refer callers to IB for technical info	x	<Input here>			
<b>Office of Elections</b>				<sum cells in office elections category below>	<Input here>	<input here>	
	<b>Referring</b>	Refer callers to contact the State directly for further or additional info that is not contained in the scripts prepared by the State	x	<Input here>			
	<b>Screening/Responding</b>	Respond to calls & provide info based on directions & scripts prepared by the State and approved by AUW Respond to calls requesting provisional ballot vote status	x	<Input here>			
<b>Bioterrorism</b>				<sum cells in bioterrorism category below>	<Input here>	<input here>	
	<b>Screening/Responding</b>	Respond to calls per agreed-upon directions & script	x	<Input here>			
<b>Covering Kids</b>				<sum cells in Covering Kids	<Input here>	<input here>	
	<b>Referring</b>	Provide callers with info about Med-Quest application process	x	<Input here>			
		Provide callers with info about obtaining necessary forms and documents for Quest and Medicaid enrollment	x	<Input here>			
		Continue to connect callers who use the old 275-2000 and 877 toll-free telephone # to their referral servic	x	<Input here>			
		Provide callers with information about where to get additional assistance if necessary	x	<Input here>			

## APPENDIX E: PROJECTED BENEFITS AND COSTS

**Malama Consulting Group  
Valuation Worksheet**

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
HI Population Actual & Projected		1,299,885	1,316,382	1,332,880	1,348,438	1,363,996	1,379,554	1,395,112	1,410,670	1,425,014	1,439,358
HI CPI (% Δ) (Actual & Projected)		4.3	1.2	1.5	2	2.3	2.7	2.7	2.7	2.7	2.7
Actual/Projected 2-1-1 Call Volume		40984	41168	41684	42171	42657	43144	43631	44117	44566	45014
Average Treasury Yield Net Inflation			0.47	0.96	1.36	1.36	1.94	1.94	1.94	1.94	2.99
Projected Change in Hawaii GDP (Source: DBEDT -2012)			1.500%	1.800%	2.900%	3.700%	2.475%	2.475%	2.475%	2.475%	2.475%
Discount Factor (Source: Bloomberg)			1.0047	1.01434512	1.028140214	1.042122921	1.062340105	1.082949503	1.103958724	1.125375523	1.159024251
			<b>PV 2009-17</b>								
Average time for 211 to screen and make a tax referral (A)	2 mins		2 mins	2 mins	2 mins	2 mins	2 mins	2 mins	2 mins	2 mins	2 mins
Average time to prepare a tax return (B)	60 mins		60 mins	60 mins	60 mins	60 mins	60 mins	60 mins	60 mins	60 mins	60 mins
Average cost to prepare a tax return (C)	\$118.00		\$119.42	\$121.21	\$123.63	\$126.47	\$129.88	\$133.39	\$136.99	\$140.69	\$144.49
Number of tax referrals (D)	2454		2485	2516	2545	2574	2603	2632	2661	2688	2715
<b>Value of tax assistance (A)(B)(C)(D)</b>		<b>\$9,652.40</b>	<b>\$9,891.96</b>	<b>\$10,165.48</b>	<b>\$10,487.95</b>	<b>\$10,851.13</b>	<b>\$11,269.25</b>	<b>\$11,702.75</b>	<b>\$12,151.01</b>	<b>\$12,605.82</b>	<b>\$13,076.35</b>
			<b>PV 2009-17</b>								
Average time for 211 to screen and make a tax referral (A)	2 mins		2 mins	2 mins	2 mins	2 mins	2 mins	2 mins	2 mins	2 mins	2 mins
Average time to prepare a tax return (B)	60 mins		60 mins	60 mins	60 mins	60 mins	60 mins	60 mins	60 mins	60 mins	60 mins
Average refund per referral (C)	\$814.39		\$824.16	\$836.52	\$853.25	\$872.87	\$896.44	\$920.64	\$945.50	\$971.03	\$997.25
Number of tax referrals (D)	2454		2485	2516	2545	2574	2603	2632	2661	2688	2715
<b>Value of tax refunds recovered (excluding EITC) (A)(B)(C)(D)</b>		<b>\$66,617.12</b>	<b>\$68,267.92</b>	<b>\$70,156.14</b>	<b>\$72,384.04</b>	<b>\$74,892.25</b>	<b>\$77,781.11</b>	<b>\$80,770.82</b>	<b>\$83,865.85</b>	<b>\$87,004.29</b>	<b>\$90,251.13</b>
			<b>PV 2009-17</b>								
Average time for 211 to screen and make a tax referral (A)	4 mins		4 mins	4 mins	4 mins	4 mins	4 mins	4 mins	4 mins	4 mins	4 mins
Average time to prepare a tax return (B)	60 mins		60 mins	60 mins	60 mins	60 mins	60 mins	60 mins	60 mins	60 mins	60 mins
Average refund per referral (C)	\$1,761.00		\$1,782.13	\$1,808.88	\$1,845.04	\$1,887.48	\$1,938.44	\$1,990.78	\$2,044.53	\$2,099.73	\$2,156.42
Number of EITC referrals (D)	200		203	206	208	210	212	214	216	218	220
<b>Value of EITC recovered (A)(B)(C)(D)</b>		<b>\$23,480.00</b>	<b>\$24,118.16</b>	<b>\$24,841.68</b>	<b>\$25,584.55</b>	<b>\$26,424.72</b>	<b>\$27,396.62</b>	<b>\$28,401.79</b>	<b>\$29,441.23</b>	<b>\$30,516.08</b>	<b>\$31,627.49</b>
			<b>PV 2009-17</b>								
Total annual call volume x	40984		41504	42024	42515	43006	43497	43988	44479	44931	45383
% of participants using 211 who agreed that 211 saved them greater than 5 minutes x	75%		75%	75%	75%	75%	75%	75%	75%	75%	75%
Estimated time saved by using 211 x	0.30		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Estimated hourly pay rate of 211 users x	\$14.04		\$14.21	\$14.42	\$14.71	\$15.05	\$15.46	\$15.88	\$16.31	\$16.75	\$17.20
<b>Value of time saved by public</b>		<b>\$129,468.46</b>	<b>\$132,698.66</b>	<b>\$136,346.87</b>	<b>\$140,714.02</b>	<b>\$145,629.07</b>	<b>\$151,304.31</b>	<b>\$157,169.12</b>	<b>\$163,226.81</b>	<b>\$169,333.71</b>	<b>\$175,632.21</b>
			<b>PV 2009-17</b>								
# of Recruitment/Placement (A)	102		103	104	105	106	107	108	109	110	111
Average volunteer hours per year (B)	35.5		35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5
Average hourly pay rate per volunteer (C)	\$ 20.25		\$20.49	\$20.80	\$21.22	\$21.71	\$22.30	\$22.90	\$23.52	\$24.16	\$24.81
<b>Value of volunteer placements (A)(B)(C)</b>		<b>\$ 73,325.25</b>	<b>\$ 74,921.69</b>	<b>\$ 76,793.60</b>	<b>\$ 79,097.55</b>	<b>\$ 81,694.73</b>	<b>\$ 84,706.55</b>	<b>\$ 87,798.60</b>	<b>\$ 91,010.64</b>	<b>\$ 94,344.80</b>	<b>\$ 97,763.81</b>
			<b>PV 2009-17</b>								
Total number of calls referred to health and human service agencies (A)	22854		23144	23434	23708	23982	24256	24530	24804	25056	25308
Cost per call (B)	\$8.16		\$6.47	\$6.53	\$6.62	\$6.72	\$6.87	\$7.03	\$7.20	\$7.37	\$7.54
<b>Value of public service to health and human service agencies (A)(B)</b>		<b>\$186,488.64</b>	<b>\$149,727.09</b>	<b>\$153,031.60</b>	<b>\$156,885.11</b>	<b>\$161,117.41</b>	<b>\$166,737.51</b>	<b>\$172,543.20</b>	<b>\$178,544.72</b>	<b>\$184,636.06</b>	<b>\$190,929.95</b>

**Legend**

- Projected with both change in CPI & change in population
- Projected with Change in Population
- Projected with Change in CPI

## APPENDIX E: PROJECTED BENEFITS AND COSTS (CONTINUED)

	2008	PV 2009-17	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total annual call volume for public health & human services (A)	20301		20559	20817	21060	21303	21546	21789	22032	22256	22480
Time it takes to screen (B)	2 Mins		2 Mins	2 Mins	2 Mins	2 Mins	2 Mins	2 Mins	2 Mins	2 Mins	2 Mins
Pended case turn around time in minutes (C)	30 Mins		30 Mins	30 Mins	30 Mins	30 Mins	30 Mins	30 Mins	30 Mins	30 Mins	30 Mins
PH/HS wages and benefits rate (D)	\$20.83		\$21.08	\$21.40	\$21.83	\$22.33	\$22.93	\$23.55	\$24.19	\$24.84	\$25.51
<b>Value of providing information regarding screening of public health and human services (A)*(B)*(C)*(D)</b>	<b>\$28,191.32</b>	<b>\$278,789.83</b>	<b>\$28,892.25</b>	<b>\$29,698.92</b>	<b>\$30,649.32</b>	<b>\$31,713.07</b>	<b>\$32,936.65</b>	<b>\$34,208.73</b>	<b>\$35,530.27</b>	<b>\$36,855.94</b>	<b>\$38,230.99</b>
Number of unclaimed tax refunds by Hawaii Taxpayers avoided (A)	2454		2485	2516	2545	2574	2603	2632	2661	2688	2715
Average tax refund (B)	\$814.39		\$824.16	\$836.52	\$853.25	\$872.87	\$896.44	\$920.64	\$945.50	\$971.03	\$997.25
Economic Multiplier (C)	5		5	5	5	5	5	5	5	5	5
General Excise Tax (D)	4.167%		4.167%	4.167%	4.167%	4.167%	4.167%	4.167%	4.167%	4.167%	4.167%
Average time for 211 to screen and make a tax referral (E)	2 Mins		2 Mins	2 Mins	2 Mins	2 Mins	2 Mins	2 Mins	2 Mins	2 Mins	2 Mins
Average time to prepare a tax return (F)	60 Mins		60 Mins	60 Mins	60 Mins	60 Mins	60 Mins	60 Mins	60 Mins	60 Mins	60 Mins
<b>Estimated avoided loss of income to the State of Hawaii - Tax Refund (A)*(B)*(C)*(D)*(E)*(F)</b>	<b>\$13,879.67</b>	<b>\$137,162.89</b>	<b>\$14,223.62</b>	<b>\$14,617.03</b>	<b>\$15,081.22</b>	<b>\$15,603.80</b>	<b>\$16,205.69</b>	<b>\$16,828.60</b>	<b>\$17,473.45</b>	<b>\$18,127.34</b>	<b>\$18,803.82</b>
Number of unclaimed EITC by Hawaii Taxpayers avoided (A)	200		203	206	208	210	212	214	216	218	220
Average EITC amount (B)	\$1,761.00		\$1,782.13	\$1,808.86	\$1,845.04	\$1,887.48	\$1,938.44	\$1,990.78	\$2,044.53	\$2,099.73	\$2,156.42
Economic Multiplier (C)	5		5	5	5	5	5	5	5	5	5
General Excise Tax (D)	4.167%		4.167%	4.167%	4.167%	4.167%	4.167%	4.167%	4.167%	4.167%	4.167%
Average time for 211 to screen and make a tax referral (E)	4 Mins		4 Mins	4 Mins	4 Mins	4 Mins	4 Mins	4 Mins	4 Mins	4 Mins	4 Mins
Average time to prepare a tax return (F)	60 Mins		60 Mins	60 Mins	60 Mins	60 Mins	60 Mins	60 Mins	60 Mins	60 Mins	60 Mins
<b>Estimated avoided loss of income to the State of Hawaii - EITC (A)*(B)*(C)*(D)*(E)*(F)</b>	<b>\$4,892.06</b>	<b>\$48,300.75</b>	<b>\$5,025.02</b>	<b>\$5,175.76</b>	<b>\$5,330.54</b>	<b>\$5,505.59</b>	<b>\$5,708.09</b>	<b>\$5,917.51</b>	<b>\$6,134.08</b>	<b>\$6,358.02</b>	<b>\$6,589.59</b>
Volume of after hours calls (A)	10249		10379	10509	10632	10755	10878	11001	11124	11237	11350
Cost per call for after hours service (B)	\$8.16		\$8.03	\$8.10	\$8.22	\$8.36	\$8.53	\$8.72	\$8.90	\$9.10	\$9.30
<b>Value of after hours access to I&amp;R services (A)*(B)</b>	<b>\$83,631.84</b>	<b>\$785,626.76</b>	<b>\$83,363.02</b>	<b>\$85,136.41</b>	<b>\$87,344.46</b>	<b>\$89,872.59</b>	<b>\$92,830.10</b>	<b>\$95,881.74</b>	<b>\$99,032.77</b>	<b>\$102,233.35</b>	<b>\$105,536.80</b>
The cost to hospitals of uninsured patients (A)	\$143,000,000		\$146,552,609	\$150,615,169	\$155,420,664	\$160,829,815	\$167,056,206	\$173,501,577	\$180,173,214	\$186,919,396	\$193,896,526
Number of uninsured in Hawaii (2007) (B)	103,025		104333	105641	106874	108107	109340	110573	111806	112943	114080
Cost per person (A/B)	\$1,388		\$1,405	\$1,426	\$1,454	\$1,488	\$1,528	\$1,569	\$1,611	\$1,655	\$1,700
Number of calls for health insurance (C)	2,553		2585	2617	2648	2679	2710	2741	2772	2800	2828
Estimate of how many resulted in health insurance (D)	50%		50%	50%	50%	50%	50%	50%	50%	50%	50%
Time it takes to screen call (E)	2 Mins		2 Mins	2 Mins	2 Mins	2 Mins	2 Mins	2 Mins	2 Mins	2 Mins	2 Mins
Time it takes to process an application for health insurance (F)	120 Mins		120 Mins	120 Mins	120 Mins	120 Mins	120 Mins	120 Mins	120 Mins	120 Mins	120 Mins
<b>Value of facilitation to access to health coverage to hospitals for all callers (A)*(B)*(C)*(D)*(E)*(F)</b>	<b>\$29,529.97</b>	<b>\$292,021.43</b>	<b>\$30,258.76</b>	<b>\$31,092.72</b>	<b>\$32,090.28</b>	<b>\$33,212.70</b>	<b>\$34,504.17</b>	<b>\$35,841.17</b>	<b>\$37,225.20</b>	<b>\$38,616.40</b>	<b>\$40,055.59</b>
911 referred calls (A)	128		130	132	134	136	138	140	142	143	144
Cost per 911 call (B)	\$13.59		\$13.75	\$13.96	\$14.24	\$14.57	\$14.96	\$15.36	\$15.77	\$16.20	\$16.64
<b>Estimated savings from number of calls that will not be directed to 911 again (A)*(B)</b>	<b>\$1,739.52</b>	<b>\$17,436.55</b>	<b>\$1,787.50</b>	<b>\$1,842.72</b>	<b>\$1,908.16</b>	<b>\$1,981.52</b>	<b>\$2,064.48</b>	<b>\$2,150.40</b>	<b>\$2,239.34</b>	<b>\$2,316.60</b>	<b>\$2,396.16</b>

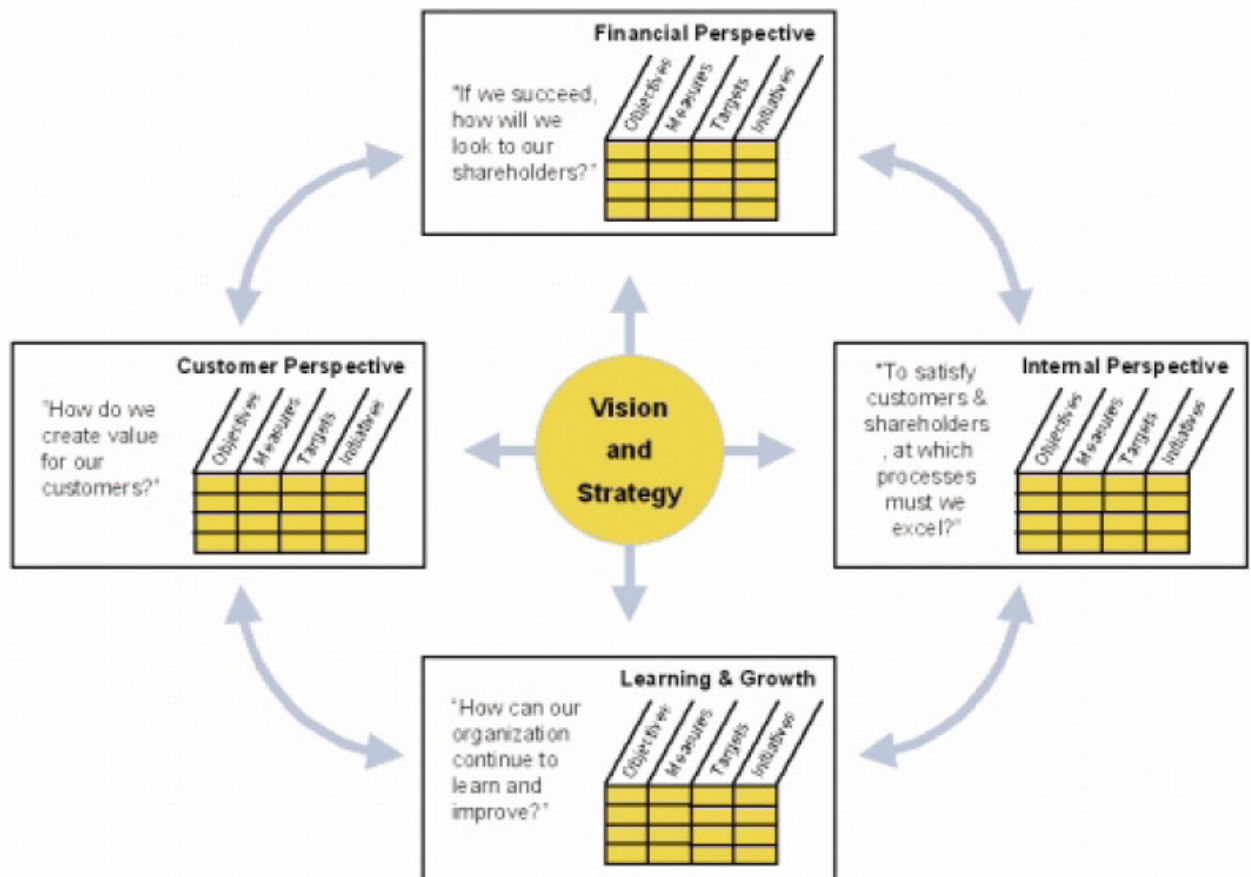
## APPENDIX E: PROJECTED BENEFITS AND COSTS (CONTINUED)

	2008	PV 2009-17	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total number of calls referred to state and local government agencies (A)	7447		7542	7637	7726	7815	7904	7993	8082	8164	8246
Cost per call (B)	\$8.16		\$8.03	\$8.10	\$8.22	\$8.36	\$8.53	\$8.72	\$8.90	\$9.10	\$9.30
<b>Value of public service to state and local government (A)(B)</b>	<b>\$60,767.52</b>	<b>\$570,838.57</b>	<b>\$60,576.54</b>	<b>\$61,869.52</b>	<b>\$63,470.97</b>	<b>\$65,304.91</b>	<b>\$67,450.74</b>	<b>\$69,664.83</b>	<b>\$71,951.00</b>	<b>\$74,275.44</b>	<b>\$76,674.57</b>
<b>2-1-1 TOTAL VALUE PROVIDED TO BOTH INDIVIDUALS AND TAXPAYERS</b>	<b>\$711,663.77</b>	<b>\$6,527,172.65</b>	<b>\$683,752.19</b>	<b>\$700,768.45</b>	<b>\$721,028.16</b>	<b>\$743,803.48</b>	<b>\$770,895.29</b>	<b>\$798,879.26</b>	<b>\$827,826.38</b>	<b>\$857,223.85</b>	<b>\$887,568.45</b>
Actual/Projected Costs 2-1-1											
	2008	PV 2009-17	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Fixed Costs	169,353		170,447	173,043	176,541	180,640	185,556	190,606	195,794	201,120	206,590
Total Variable Costs - Regular Hours	88,101		85,445	87,814	90,615	93,769	97,399	101,157	105,047	108,980	113,050
Total Variable Costs - After Hours	77,088		74,765	76,837	79,289	82,048	85,225	88,513	91,916	95,358	98,918
Contract Revenues	63,375		64,326	65,484	67,383	69,876	71,605	73,377	75,193	77,054	78,961
<b>2-1-1 Total Net Costs</b>	<b>271,167</b>	<b>\$2,514,909.10</b>	<b>266,331</b>	<b>272,210</b>	<b>279,062</b>	<b>286,581</b>	<b>296,575</b>	<b>306,899</b>	<b>317,564</b>	<b>328,404</b>	<b>339,597</b>
<b>Total Present Value of Benefits Provided</b>	<b>\$711,663.77</b>	<b>\$6,527,172.65</b>									
<b>Total Present Value of Net Costs</b>	<b>\$ (271,167.00)</b>	<b>\$(2,514,909.10)</b>									
<b>Present Value of Benefits Less Net Costs</b>	<b>\$ 440,496.77</b>	<b>\$ 4,012,263.56</b>									
<b>Combined Present Value 2008-2017</b>	<b>\$ 4,452,760.33</b>										

# APPENDIX F: BALANCED SCORECARD

## FOUR PERSPECTIVES OF THE TRADITIONAL BALANCED SCORECARD

The traditional Balanced Scorecard translates strategy into action for organizations focused on primarily financial outcomes. It contains four perspectives:



*“Double Bottom Line Project Report: Assessing Social Impact In Double Bottom Line Ventures”  
by Catherine Clark, William Rosenzweig, David Long and Sara Olsen*

## APPENDIX F: BALANCED SCORECARD (continued)

BALANCED SCORECARD BLANK REPORTING TEMPLATE  
(ABRIDGED FOR SAMPLE PURPOSES)

Aspect	Objectives	Measures	Q1 Actual	Q1 Goal	Annual Goal	Program Officer	Program Manager (filled out by New Profit)	Comments
Social Impact		1.						
		2.						
		3.						
Financial		4.						
		5.						
Customer		6.						
		7.						
		8.						
Internal Operations		9.						
		10.						
		11.						
		12.						
Organizational Capacity/ Growth		13.						
		14.						
		15.						
		16.						
		17.						

*“Double Bottom Line Project Report: Assessing Social Impact In Double Bottom Line Ventures”  
by Catherine Clark, William Rosenzweig, David Long and Sara Olsen*

## **APPENDIX G: PARTICIPANT SURVEYS**

Below are some of the questions that were asked in the surveys.

### **FIELD INTERVIEWS 2-1-1 Information & Referral Network Aloha United Way Benefit/Cost Analysis**

#### **INTRODUCTION**

Thank you for hosting our visits. Our research team includes: Robert Roberts, Ann Takenaka, Celine Ng and Jessica Souke. We represent Malama Consulting Group, an MBA capstone team from Shidler College of Business at University of Hawaii Manoa. We are collecting data as part of an effort to develop a benefit/cost analysis of the 211-accessed information and referral services for Aloha United Way. The project is supported by Aloha United Way. We will produce discrete benefit/cost estimates for the Aloha United Way site. We hope that the final report in May 2009, will serve as a tool that helps to communicate the net social value of your I&R efforts for the Hawaiian community that you serve. Our purpose over the next few months is to acquire a clear understanding of your organization and operations, identify all sources of expenditures, collect any information that may contribute to benefit valuation formulas, and gain insights that will help us better understand cost variations for 211 I&R systems in our analysis.

#### **FOR ALL BEING INTERVIEWED**

Could you give us your job title and a brief description of your duties and responsibilities for the 211 I&R network?

#### **IMPLEMENTATION (DIRECTORS)**

We'd like to start with a short exploration of 211 implementation, such as dates, 211 designation procedures/authorizing state legislation or executive orders, public utility commission and state government roles, and start-up costs.

1. How long has your 211 call center been in operation?
2. Is there authorizing state legislation (proposed or enacted) or an executive order supporting 211 implementation?
3. What role does your public utility commission play in your 211 service?
4. What role does your state government play? What role could it play?
5. Were additional resources (grant, donation) made available to introduce 211 and, if so, where did it come from?
6. What is the status of a statewide 211 I&R system? When did it start, what were the major changes over the years and where is it headed in terms of design features and implementation schedules?

#### **Accessibility**

7. How is I&R accessed at the call center?

211:  
1-800:  
7-digit:

8. Can you monitor the volume of calls that come in on different numbers, and if so, what are the approximate shares?
9. What days of the week and hours is 211 available?  
(If service is available 24/7)  
Are evening or weekend calls diverted to this I&R center? Under what arrangement? (e.g. funding, MOU)
10. How is your I&R number answered during hours of operation? Does this change during the evenings, weekends, or because of other factors?
11. What is the status of 211 cell phone access within your area? Are there special challenges?

### **Service Array**

In this section we would like to research general and specialized services and dedicated or general phone lines.

12. Do you provide both general/core I&R and specialized services?
13. If yes, do you have dedicated lines for specialized calls or do they share the same lines? Please explain.
14. Are there separate funding streams for the general and specialized services? Please explain.

### **Staffing Arrangements**

15. Can you tell us the total number of FTE staff at the call center?
16. How many FTE staff answer 211 calls?
17. Does IRS handle general or specialized calls or both? Explain.
18. To what extent and how are volunteers used to help at the call center? Do volunteers answer I&R calls?
19. (If appropriate.) Do volunteers handle general or specialized calls or both, or provide other services (e.g., follow-up)?
20. (If appropriate.) Can you estimate approximately how many annual VOLUNTEER staff hours are devoted to providing I&R services or the percent of calls handled by volunteers?
21. What minimum education/experience/certification is required of your I&R staff?
22. Are there new hire training requirements? (time, content):
23. What is the policy regarding I&R Certification for IRS?
24. Who pays for AIRS training and certification?
25. What is the average hourly or weekly wage range for your I&R specialists?
26. What are the key factors influencing wage differentials?
27. Is there an expected average workload of calls per hour or day for IRS? If so, what is it and how is this monitored?

### **MANAGEMENT FUNCTIONS**

28. Do you have a performance management or evaluation system in place? Please explain.
29. What quality controls and service standards are in place?
30. Do you have a target call volume and if so, what is it and how is that determined?
31. Do you estimate cost per call and if so, what is it and how is that determined?
32. In your opinion, is there an optimal size in terms of geographic/spatial coverage for an I&R center, and if so what would that be? Or would population size or call volume be more relevant factors for determining how large an area a call center should serve?

33. Do you provide technical assistance and guidance to other I&R sites, and if so, how is this funded?
34. Do you manage any subcontracts or grants for 211 services?
35. What is the status of the call center regarding AIRS certification?

### **CATCHMENT GEOGRAPHY**

We'd like to research your service area, population and settlement patterns and other regional characteristics that may be associated with the types of I&R services sought at the call center.

36. How many counties are in your service area?  
Or How comprehensive is the statewide network?

#counties \_\_\_\_\_  
% population \_\_\_\_\_  
% total territory \_\_\_\_\_

37. What is the current approximate population of the service area?
38. Are there notable variations in population concentration (rural/urban), race/ethnicity, or income access across your service catchment that present special challenges or opportunities? Please explain.
39. Has call volume changed significantly over time? If so, how and possibly why? To what extent has 211 access influenced call volume of the types of calls received?
40. Do you have any plans for expanding the service area?

### **FUNDING AND RELATIONSHIPS**

41. Are there other organizations or entities that are primary partners in the operations of the 211 call center?  
If yes, which are they, and what do they contribute? (Acquire documentation.)
42. (If appropriate.) What share of the operating budget comes from specialized services or contracts?
43. Does the call center receive an annual funding allocation, assistance with the development of your technical networks, or in-kind or other assistance from these? Explain. (Acquire documentation.)
44. Are you linked to disaster/hazards response networks and, if so, how? Explain. (Acquire documentation.)
45. What is the call center's relation to 911 emergency response? Has there been cross training? Have inappropriate 911 calls been diverted to 211 or appropriate calls forwarded to 911 from the call center? (Acquire documentation.)
46. Are you linked to other call centers in a state or regional network? Can you briefly describe that network? Do you share resources? Explain. (Acquire documentation.)
47. Are I&R data used as a community planning tool to help identify human needs and service gaps? Explain.
48. Do you make other uses of your information request and referral data? Explain.

### **MARKETING**

49. Is there or has there been a marketing strategy for 211 services? Explain method, motivation/strategy, target populations (including hard to reach, i.e., non-English speaking, homeless, abused, etc.), effectiveness, and costs. (Acquire documentation.)
50. If so, how was this funded (211 funds, donation, in-kind, etc.)?
51. Did marketing efforts influence the mix of clients, call volume or types of requests received?

## **CHALLENGES/OPPORTUNITIES**

52. In your opinion, what have been the most significant changes, if any, in the operation of call centers since the introduction of 211 access?
53. What are the greatest challenges presented to you as a call center administrator?
54. What might be done to reduce or overcome these challenges? How does or can 211 help you to do so?
55. What costs associated with operating a 211 call center, in your opinion, are possibly too high or could be reduced? Explain.
56. What expenditures have you had to defer (e.g., computer upgrades, training, wage & salary increases) or reduce (staff, benefits, etc.)
57. In your opinion, what are the most outstanding benefits that 211 I&R brings to the community?
58. What do you think will be different about this 211 I&R call center in 5-10 years?
59. Is there anything you would like to see implemented/changed about the current operations or 211?

## **FINANCIAL OFFICER**

We would like to research 211 I&R funding, including the sources and totals of funds and expenditures. We would like to distinguish between marginal 211 expenditures apart from complete call center expenditures, both as start-up and ongoing costs to the extent possible. We would also like to review the accuracy, comprehensiveness, and completeness of budget/expenditure reports provided by the site.

1. What is the approximate annual cost to fund the call center and the comprehensive I&R services you provide?
2. Does this fluctuate much annually and if so, how might you explain the changes?
3. Can you specify the marginal costs of operating 211 access separate from all other I&R call center expenditures? If so, what expenses would this include? What is the approximate annual cost?
4. Can you determine the cost of developing and implementing 211, i.e., start-up costs apart from operational costs? (workstations, computer, desks, chairs, file cabinets, phones, phone system, staff training etc.) Explain.
5. Does your fiscal reporting system report the ongoing costs per year for the following expense categories?

Telephone:

Annual connection charge:

Certification training:

Staff training, exclusive of certification:

Rent:

Utilities:

Copying, postage, supplies:

Travel:

Consultants:

Insurance:

Marketing:

Website development & updating:

Labor costs:

6. Does a parent organization or partner (e.g. – United Way) cover any costs such as rent, utilities, liability insurance through cash or in-kind assistance?
7. What metrics are used to drive the budget?
8. What are the call center's funding sources?

Grants (public and private)  
Private contributions  
General operating funds of organization  
Fees generated by I&R services  
In-kind  
Other

9. Do you or someone else at the call center estimate the value of donations or in-kind and volunteer assistance to the I&R operations? Explain.
10. Have you outsourced or considered outsourcing non-core services (e.g. – payroll)?
11. Do you estimate/calculate cost per call and if so, what is it and how is that determined?
12. Is there an optimal call volume cost per call associated with financial efficiency (you need to break even)?
13. In your opinion, is there an optimal size in terms of geographic/spatial coverage for an I&R center, and if so what would that be? Or would population size or call volume be more relevant factors for determining how large an area a call center should serve?
14. In your opinion, what have been the most significant expenditure effects in the operation of call centers since the introduction of 211 access?
15. What are the greatest challenges presented to you as a fiscal administrator of a 211 call center? What might be done to reduce or overcome these challenges?
16. What costs associated with operating 211 call center, in your opinion, are possibly too high and could be reduced or eliminated? Explain.
17. What expenditures have you had to defer (e.g., computer upgrades, training, wage & salary increases) or reduce (staff, benefits, etc.)?
18. In your opinion, what are the most outstanding benefits that 211 I&R brings to the community?
19. What do you think will be different about this 211 I&R call center in 5-10 years?

### **DATABASE MANAGER**

We would like to research the databases related to the I&R services. We understand there may be several databases in the I&R center. We would like to research about the development and maintenance of the organizational and resources database that you use for the I&R, the call database that tracked the types of calls and actions taken, and the telephone database that measures events like wait time, average call length, abandonment rate, etc. We'd like to know about the features, availability, use and your responsibility related to these databases.

1. Are you responsible for these databases? Explain your roles and responsibilities briefly.
2. What is the hardware and software configuration for these systems?
3. How did you create your database or organizations/resources? Did you start with a pre-existing list/database used by a previous I&R center or volunteer center?
4. How often do you validate and update resource information? How is this done?
5. Do you feel that the database of organizations/resources is meeting the needs of the staff and clients?
6. Is the organizational database available on the Web? Who maintains the Website and how is it paid for?

If so, do you feel this is helpful in meeting the needs of I&R seekers?

How would you improve or change this?

7. Can you briefly describe the elements in your call database?
8. When and how does a call get entered in your call database?
9. How do you deal with “phantom” calls?
10. Does your total call volume include all calls or only those for which information and referral are recorded?

11. Do you feel this call data is meeting the needs of the management, staff and other for whom this data may be useful? How would you improve or change this?
12. (If appropriate). Can you briefly describe the elements in your telephone database?
13. Do you feel this telephone data is meeting the needs of the management, staff and others for whom this data may be useful?
14. Does the call center receive an annual funding allocation, assistance with the development of your technical networks, or in-kind or other assistance from other sources for the operation and maintenance of the databases? Explain (Acquire documentation.)
15. Have there been changes in resources allocated to data management staffing and equipment needs associated with 211 accesses and the expansion of I&R?
16. Do you have printed resource directories that you make available? Are they useful? Do they enhance or drain revenues?
17. Are you linked to other call centers in a state or regional network? Can you briefly describe that network(s)? Do you share resources? Explain. (Acquire documentation.)
18. Are calls rerouted for overflow or after hours to another center? Are the volume and types of calls rerouted captured in a database? Please explain.
19. Are I&R data used as a community planning tool to help identify human needs or service gaps? Explain.
20. Do you make other uses of your information request and referral data? Explain.
21. In your opinion, what have been the most significant changes, if any, regarding database management in the operation of call centers since the introduction of 211 access?
22. What are the greatest challenges presented to you as a database manager?
23. What might be done to reduce or overcome these challenges?
24. What costs associated with database management, in your opinion, are possibly too high and could be reduced? Explain.
25. What expenditures have you had to defer (e.g., computer upgrades, training, wage & salary increases) or reduce (staff, benefits, etc.)?
26. In your opinion, what are the most outstanding benefits that 211 I&R brings to the community?
27. What do you think will be different about this 211 I&R call center database management in 5-10 years?

## **COMMUNICATIONS TECHNOLOGY SPECIALIST**

We'd like to research and review the 211 I&R telecommunications set-up (network/operating system, phone trunks, TI lines, fiber vs. copper, etc.) with you.

1. Can you briefly describe the telecommunications background of the 211 system? What happens when an individual dials 211?
2. How is this different than a toll free (1-800) number?
3. Are you linked to other call centers in a state or regional network? Can you briefly describe that network? Do you share resources? Explain. (Acquire documentation.)
4. Are calls rerouted for overflow or after hours to another center? How? Is there an additional charge for this? If so, how much and who pays?
5. How many I&R phone lines do you have?
6. In this telecommunications network, does the call center incur the following costs? Explain.

Service agreement fees:  
 Per call:  
 Per minute:  
 Monthly/annual charges:

7. What are the strengths of the present system? Its limits? What would you recommend as an alternative or an improvement? Explain.
8. What is the status of the website? Review website functionality and visitation/use rates. Who maintains the website and how it paid for?
9. In your opinion, what have been the most significant changes, if any, in the telecommunication structure and pricing in call centers since the introduction of 211 access?
10. What are the greatest challenges presented to you as a telecommunications specialist?  
What might be done to reduce or overcome these challenges?
11. What costs associated with telecommunications, in your opinion, are possibly too high or could be reduced? Explain.
12. What expenditures have you had to defer (e.g., computer upgrades, training, wage & salary increases) or reduce (staff, benefits, etc.)?
13. In your opinion, what are the most outstanding benefits that 211 I&R brings to the community?
14. What do you think will be different about the telecommunications configuration serving this 211 I&R call center in 5-10 years?

## **I&R SPECIALISTS**

We'd like to research your experiences with taking I&R calls or providing specialized services. We are particularly interested in finding out how 211 I&R may benefit those who use the network.

1. How many calls do you receive throughout a "typical" day?
2. What is the average call length in minutes? Is there much variation? What accounts for this?
3. Do you feel that certain populations use I&R services more than others? Explain.
4. Has 211 influenced the types of calls or callers? Has it changed the accessibility for any certain populations or groups?
5. Do you receive calls from the same persons for different information?
6. What are the most common types of call/requests for information and/or services?
7. How accurate is the information and referral database? How do you determine this?
8. Do you ever send print materials (application forms, informational brochures, etc.) to callers? Are there available through your website?  
Is this information in your organization/resources database available online?  
If yes, is ALL the information available or just portions of it?
9. Do you find that most callers have easy access to your website?
10. In what ways as an I&R specialist do you think that you are most helpful to callers?
11. What are some of the ways that these individuals and families have told you that they benefited from 211 I&R?
12. How many calls in a typical day are from other agencies seeking to help their clients?  
Which agencies?  
What kind of assistance are they seeking for their clients?
13. Do you provide information regarding application procedures or eligibility requirements for programs administered by other agencies? Explain.
14. Do you pre-screen clients and/or give them eligibility requirements for specific human services?  
If yes, how often in a typical day?
15. Can you schedule appointments for callers at agencies? Explain.
16. Do you get many calls from people seeking employment assistance? How many in a typical day? What do you do?
17. Do you receive class from people seeking to donate time or resources? How many in a typical day?

18. Have you ever taken calls at the time of a crisis or disaster? If so, could you tell us about the role of 211 during this time?
19. Do you ever get calls from employers trying to find assistance for one of their employees? Explain.
20. What percentage of calls do you follow up? \_\_\_\_\_%

Is follow-up selection typically made:

- a. by a random sample of total # of calls?
- b. by type of call?

21. How do you serve special populations (hearing-impaired, blind, non-English speaking) callers? Has the number of calls from these changed since 211 was introduced?
22. Do you have bi/multilingual staff?
23. Do these receive pay differentials?
24. Do you record information about each I&R call you receive? What is it?
25. How do you handle “phantom” calls?
26. In your opinion, what have been the most significant changes, if any, in the operation of call centers since the introduction of 211 accesses?
27. What are the greatest challenges presented to you as an IRS?
28. What might be done to reduce or overcome these challenges?
29. In your opinion, what are the most outstanding benefits that 211 I&R brings to the community?
30. What do you think will be different about this 211 I&R call center in 5-10 years?

## **CONCLUSION**

Thank you to all for being so generous with your time and insights. Your input is very helpful to our process. We will share our draft analysis with you soon, and may have a few follow-up questions. Mahalo!

## Resources

Arkansas 211 (2009). *Arkansas 211 System Cost/Benefit Analysis*.

Clark, Catherine, William Rosenzweig, David Long, and Sara Olsen (2004). *Double Bottom Line Project Report: Assessing Social Impact in Double Bottom Line Ventures*.

PSCComm, LCC (2001). *Benefits and Costs of a 2-1-1 System for Maryland*.

Public Policy Associated, Incorporated (2006). *Michigan 2-1-1: Prospects and Possibilities*.

Ray Marshall Center for the Study of Human Resources (2004). *National Benefit/Cost Analysis of Three Digit-Accessed Telephone and Referral Services*.

## Web Resources

AARP Public Policy Institute.

[http://assets.aarp.org/rgcenter/health/d18971\\_healthfacts\\_hi.pdf](http://assets.aarp.org/rgcenter/health/d18971_healthfacts_hi.pdf)

Bloomberg. <http://www.bloomberg.com/?b=0&Intro=intro3>

Bureau of Labor Statistics. [http://www.bls.gov/oes/2007/may/oes\\_hi.htm#b21-0000](http://www.bls.gov/oes/2007/may/oes_hi.htm#b21-0000)

BYU News. <http://byunews.byu.edu/archive07-May-Butler1.aspx>

Department of Business, Economic Development and Tourism. <http://hawaii.gov/dbedt/>

eHealthInsurance. <http://www.ehealthinsurance.com/ehi/state-health-insurance/Hawaii.html>

Hawaii247.org. <http://www.hawaii247.org/tag/lt-gov-james-duke-aiona/>

Hawaii Covering Kids. [http://www.coveringkids.com/news/Section\\_37.asp](http://www.coveringkids.com/news/Section_37.asp)

Hawaii Covering Kids. [http://www.coveringkids.com/news/Section\\_258.asp](http://www.coveringkids.com/news/Section_258.asp)

HawaiiTaxHelp.org. <http://www.hawaiitaxhelp.org/about.php>

Healthfacts.org. <http://www.statehealthfactsonline.org/profileind.jsp?ind=125&cat=3&rgn=13>

Healthtrends.org. [http://www.healthtrends.org/healthmarket\\_uninsured.aspx](http://www.healthtrends.org/healthmarket_uninsured.aspx)

Independent Sector (2009)

[http://www.independentsector.org/programs/research/volunteer\\_time.html](http://www.independentsector.org/programs/research/volunteer_time.html)

Kaiser Family Foundation: State Health Facts Online.

<http://www.statehealthfactsonline.org/profileind.jsp?ind=125&cat=3&rgn=13>

Pediatrics: Official Journal of the American Academy of Pediatrics.

<http://pediatrics.aappublications.org/cgi/content/abstract/119/5/e1026>

Senator Daniel Akaka.

[http://akaka.senate.gov/public/index.cfm?FuseAction=NewsArticles.Home&month=3&year=2008&release\\_id=2099](http://akaka.senate.gov/public/index.cfm?FuseAction=NewsArticles.Home&month=3&year=2008&release_id=2099)

Starbulletin.

[http://www.starbulletin.com/news/20090312\\_Cash\\_infusions\\_boost\\_Hawaii\\_hospitals.html](http://www.starbulletin.com/news/20090312_Cash_infusions_boost_Hawaii_hospitals.html)

<http://archives.starbulletin.com/2008/03/24/news/story04.html>

The Cost of Lack of Health Insurance: A white paper of the American College of Physicians. [http://www.acponline.org/advocacy/where\\_we\\_stand/access/cost.pdf](http://www.acponline.org/advocacy/where_we_stand/access/cost.pdf)

Vault Salaries and Compensation.

[http://vault.salary.com/salarywizard/layoutscripts/swzl\\_compresult.asp?jobcode=HC07000040&jobaltername=Social+Worker+\(MSW\)&jobtitle=Social+Worker+\(MSW\)&narrowdesc=Non-Profit+and+Social+Services&narrowcode=CS02&zipcode=&metrocode=250&statecode=HI&state=Hawaii&pagenumber=1&searchpage=keywordtitleselect&searchtype=1&geo=Honolulu%2C+HI](http://vault.salary.com/salarywizard/layoutscripts/swzl_compresult.asp?jobcode=HC07000040&jobaltername=Social+Worker+(MSW)&jobtitle=Social+Worker+(MSW)&narrowdesc=Non-Profit+and+Social+Services&narrowcode=CS02&zipcode=&metrocode=250&statecode=HI&state=Hawaii&pagenumber=1&searchpage=keywordtitleselect&searchtype=1&geo=Honolulu%2C+HI)