



Hawaii Medicaid Buy-In Actuarial Pricing Analysis

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Prepared for:
The Research Corporation of the University of Hawaii

Prepared by:
Milliman, Inc.

Craig B. Keizur, FSA, MAAA
Principal & Consulting Actuary

1301 Fifth Avenue
Suite 3800
Seattle, WA 98101 USA

Tel +1 206 504 5789
Fax +1 206 682 1295

milliman.com

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INTRODUCTION

As requested, we have completed the pricing of healthcare expenses related to a potential Buy-In Medicaid program for Hawaii's aged, blind, and disabled (ABD) population. This work is being performed on behalf of The Research Corporation of the University of Hawaii (RCUH) Medicaid Infrastructure Grant.

The actuarial cost analysis is just one piece of the puzzle, and as we discussed this analysis will be combined with your team's policy, compliance, strategy and other research efforts as you consider the feasibility of recommending such a benefit program for the state of Hawaii. This report focuses on quantitative measures and does not expound in great detail on the qualitative benefits and costs of the program. However, we would be remiss if we did not acknowledge non-benefit cost implications of a buy-in healthcare program for disabled individuals. While the potential exists for the state of Hawaii to incur an increase in medical expenses for new enrollees who were not ABD beneficiaries, we also agree with the following benefits, as provided by RCUH:

State Fiscal Benefits

- Opportunity for individuals to become employed and contribute tax revenue
- Premium payments by participants
- Reduction in Emergency Room Quest applications
- Reduction in uncovered hospital claims
- Continual coverage that reduces cycling of spending for people in and out of Medicaid
- Provides federal match for some state-only programs, including LASR (a 100% state funded program for people not DD waiver eligible), and some case management services for individuals who are not Medicaid eligible
- Potential to reduce day-habilitation costs for individuals who are employed
- Potential to reduce overall health care costs for individuals who become employed

State Policy Benefits

- Supports state employment policy for all individuals
- Removes policy contradictions between Medicaid and other programs, including Vocational Rehabilitation, Career and Technical Education programs, EBP Supported Employment, Clubhouses, Case Management, DD/MR Employment First and other community-based supports
- Removes employment barriers for individuals on government programs, including Food Stamps, Housing Assistance, and other Medicaid or State Healthcare Programs

Benefits for Individuals with Disabilities

- Reduction in spend downs for working people with people disabilities
- Improved physical and mental health due to continual coverage and access to preventive care
- Opportunity to increase income and self-sufficiency without risking insurance coverage
- Availability of Comprehensive benefits package, including Long-term Care for workers with disabilities
- Decreased chances of hospitalization and incarceration for persons with mental health disabilities

The remainder of this report summarizes the actuarial cost estimates of the program.

SUMMARY RESULTS

Table 1 summarizes the projected per member per month (PMPM) claim cost, rounded to the nearest \$10, split between Dual Eligible and Medicaid-Only members, for calendar year (CY) 2011. The PMPM costs should be considered the mid-point of a range of possible results. We have made many assumptions based on potential program considerations and relied on both Hawaii data and national statistics. The results shown in Table 1 are within the range of what other states are experiencing. Depending on actual plan provisions, and due to random variation, actual results may be higher or lower than our projections. Service category details of the Table 1 results are included as Attachments 2A and 2B.

The term Dual Eligible refers to members who qualify for both Medicare (federally administered) and Medicaid (state administered) services. For Dual Eligibles, or Duals for short, Medicare covers the majority of the healthcare costs, whereas Medicaid covers the Medicare member cost sharing as well as other Medicaid benefits including long-term care. All costs in this report for Dual Eligibles reflect only the Medicaid (state) portion of the expenses, although these members are enrolled simultaneously in Medicare and Medicaid.

Table 1			
The Research Corporation of the University of Hawaii			
Projected CY2011 Hawaii Medicaid Buy-In Healthcare Expenses			
	Dual Eligible	Medicaid- Only	Total
Assumed Member Distribution	80.0%	20.0%	100.0%
Per Member Per Month (PMPM) Claim Cost	\$790	\$1,400	\$910

We caution you if making comparisons of Table 1 costs to the costs summarized in the October 29, 2009 Mathematica report “Analysis of Medical Expenditures and Service Use of Medicaid Buy-In Participants, 2002 – 2005” since those costs include prescription drugs prior to the implementation of Medicare Part D.

The projected costs are based on the available fee-for-service (FFS) data from another state, as well as current Hawaii FFS ABD experience, which reflects current supply and access characteristics of the Hawaii healthcare system.

As shown in Table 1, the PMPM cost for Dual Eligible members is \$790, which is 44% less than the PMPM estimate of \$1,400 for the Medicaid-Only population. This relationship is consistent with national relationships we have reviewed, when the national relationships have accounted for the impact of Medicare Part D payments for Dual Eligible members.

As shown in the attachments, the most significant expense for both population cohorts is the non-medical portion of costs, including intermediate and home based care, case management, and personal care assistance. We made several assumptions in order to estimate these expenses, and may need to consider if additional refinement is needed prior to finalizing these costs estimates. It is important to understand that the eligible population may need significant assistance as their day-to-day activities will now involve employment. This includes new tasks, such as dealing with getting ready for work and what to do with a paycheck. Depending on the population that enrolls, we believe this cost item can vary significantly, but for this report is estimated at the middle of a reasonable range. For some states this cost item is higher and for other states it is lower.

The remainder of this report discusses the methodologies used to develop the cost estimates shown in Table 1.

BASELINE COSTS - METHODOLOGY AND ASSUMPTIONS

Our analysis of Buy-In benefit costs involved claims and membership data from two states (Hawaii and Washington), subdivided into two populations (Dual Eligible and Medicaid-Only), two actuarial modeling methods (risk adjustment and cost models), for two cohorts (working and not working). We also relied on a large volume of research and reported statistics, received from you as well as internet resources. The following sections discuss both modeling techniques, and then provide the resulting cost projection.

Risk Adjustment Model

We performed an analysis to determine the feasibility of using disease conditions to identify a Buy-In member profile for developing the claim costs. As part of our work with the state of Washington, we had access to their fiscal-year 2007 (claims incurred July 1, 2006 through June 30, 2007) ABD and Buy-In utilization and claims costs, which

represents over 12,000 member months of relevant Buy-In experience (out of 1.6 million member months for the entire ABD population).

In addition, as we have discussed, we had access to Hawaii ABD claims data. This data serves as our baseline data source from which we will estimate Buy-In claim costs.

We processed both the Washington and Hawaii ABD claims data through the Chronic Illness and Disability Payment System (CDPS), a publicly available diagnostic classification system for Medicaid programs. The CDPS model was originally developed by Dr. Richard Kronick, from the University of California – San Diego (UCSD), for a Disabled Medicaid population. The model assigns ICD-9 diagnosis codes to over 20 disease categories, some with up to five subcategories. Each disease category and subcategory is assigned a coefficient which represents an expectation of the future health care cost for each individual relative to the average. The model software is publicly available and requires basic SAS to run (<http://cdps.ucsd.edu/license.html>).

For our analysis, the actual risk coefficient, the predictive modeling measure for expected costs which is an output of the model, was not used. Our use of the model was to understand the chronic disease prevalence between the Washington ADB members who participate in the Buy-In program and those that do not.

Exhibit 1 summarizes the percentage of members that triggered each CDPS category. Since a given member can have multiple disease “hits,” the percentages in the column will not sum to 100%.

In our analysis on the risk scores, one observation that is not easily explainable is the fact that Hawaii members had more conditions flagged for each member, and a lower percentage of members that did not have any conditions flagged. This observation is typically explained by coding patterns and suggests that the robustness of the diagnosis coding on Hawaii members is more complete than on Washington members. Therefore, we caution you in comparing the Hawaii prevalence results to the Washington results since some differences could be due to the coding pattern differences.

From a disease prevalence standpoint, the results were consistent with our intuitive theory that non-working members had a higher incidence of chronic conditions, with the exception of mental health related conditions. The largest difference between working and non-working members occurred in the category “Psychiatric, high” for Dual members. For example, 17% of Employed Dual members had this condition, whereas non-working prevalence was 6%-7%. With the exception of psychiatric conditions, Buy-In participants were not significantly more or less sick than those that do not, or cannot, participate in a Buy-In program.

Actuarial Cost Models

We also developed detailed actuarial cost models from the Washington and Hawaii data. An actuarial cost model is a tool we use to summarize healthcare costs into key metrics. The cost model contains detailed information by type of healthcare service. The model contains separate sections for Inpatient Facility, Outpatient Facility, Professional, and

Other services. The development of the actuarial cost models involves assigning each claim record to a service category based on the claim's type of service (i.e., facility verses office) and coding metric, such as ICD9 procedure and diagnosis codes, CPT procedure codes, Revenue Codes, and NDC codes for pharmacy claims.

The data in the cost model consist of three types of metrics:

- Utilization Per 1,000 – this is a statistical rate of service usage which measures the expected annual count of services incurred by a population of 1,000. Thus, if Office Visits were estimated to incur at a rate of 5,000 visits per 1,000, then we would calculate that a population of 5,000 people would incur 25,000 Office Visits in a year.
- Average Charge Per Service – this is average claim cost per each unit of utilization.
- Per Member Per Month (PMPM) – this is the per capita monthly cost for each member. Mathematically, the PMPM is equal to the Utilization Per 1,000 times the Average Charge Per Service, divided by 12,000 (the 12 is to turn the annual utilization rate to monthly, and the 1,000 is to make the result “per member” rather than “per 1,000 members” which the utilization is based on).

Note that for both the risk adjustment and cost model analysis, we have split the population into Dual and Medicaid-Only cohorts. As discussed previously, Dual Eligible refers to members who qualify for both Medicare (federally administered) and Medicaid (state administered) services. The state's Medicaid healthcare costs for Duals are generally lower since Medicare is primary (i.e., has the primary responsibility for covering the healthcare expenses, subject to the defined Medicare benefit and cost sharing provisions, whereas Medicaid covers the cost sharing and other benefits that Medicaid covers but Medicare does not). However, the lower healthcare costs are offset by higher costs for services not covered by Medicare (e.g., long-term care).

The cost model results showed interesting findings for medical expenses. Table 2 summarizes the Washington claims data and the development of the Buy-In adjustment factor. Note that the costs in Table 2 do not include long-term care, personal care, and case management expenses. The medical costs for Dual Buy-In participants were approximately one-half of the non-working ABD population. The Medicaid Only population Buy-In costs were 96% of the non-working cohort.

After discussions with you, we have made an additional adjustment to the factors in Table 2 to reflect the higher assumed proportion of Developmentally Disabled, Mentally Retarded (DDMR) eligibles in Hawaii as compared to Washington. As mentioned earlier, the Exhibit 1 prevalence summary shows some differences between Hawaii and Washington for psychiatric and DDMR conditions; however the impact of coding patterns makes it difficult to draw an explicit conclusions. As an estimate, we further split the Washington data between DDMR and non-DDMR. If we assume a doubling of the DDMR proportion, we observed an additional 2.1% cost reduction for Duals and 0.8% reduction for Medicaid-Only. For the Hawaii projection, we used these relativities to adjust the Hawaii projected ABD healthcare costs

Table 2			
The Research Corporation of the University of Hawaii			
Summary of FY 2007 Washington ABD Experience			
Raw Data Time Period (Incurred)	FY 2007		
Paid Through *	April 2008		
	Dual Eligible	Medicaid Only	Total
A. Total ABD Population	\$117.52	\$846.37	\$551.08
B. Non-Working Population	\$118.34	\$846.45	\$553.43
C. Buy-In (Working) Population	\$58.47	\$814.01	\$216.02
D. Buy-In Relative to Total [D = C / A]	49.8%	96.2%	
E. Adjust for HI Increased DDMR Prevalence	0.979	0.992	
F. Adjusted Buy-In Relativity [F = D x E]	48.7%	95.4%	
* Provision for Incurred But Not Paid claims was not added to the claims, which are used for relative purposes only.			

The Buy-In population for the Duals is likely less costly due to the range of severity and generally sicker population that is not able to work. The Medicaid-Only includes those that have not (or cannot) qualified for Social Security. It is possible that since the Washington plan has a premium requirement that there is some adverse selection occurring, where those that choose the program (and are willing to pay the premium) know that they need the healthcare.

Exhibits 2a and 2b provide the more detailed cost model results. The results shown earlier in Table 1 are from these two exhibits.

The underlying Hawaii ABD claims are based on FFS claims incurred January through December 2008 and paid through June 2009. We applied 36 months of claim trend to project the experience to CY 2011. The claims cost data has been reconciled to the state of Hawaii's financial reports and are consistent with data used by the state's actuaries to develop ABD premium rates.

The cost models developed from the Washington data provided a reasonable estimate of the potential medical costs for a working Hawaii population. However, limitations in the Washington data required us to use alternative pricing estimates for non-medical

costs including long-term care, personal care, and case management. In addition, an adjustment needed to be made to estimate mental health costs since in Washington mental health services are carved-out of the state's primary Medicaid program and we do not have access to those specific service costs.

Based on our observations from the risk adjustment analysis, and from discussions with you, potential users of this program are DDMR individuals. The data suggests that Hawaii has a higher proportion of DDMR participants in their ABD program as compared to Washington, from which we estimated morbidity factors. To account for the higher proportion, we made an additional adjustment to the Hawaii cost model since these members are expected to have a higher incidence of psychiatric care. Using the results of the risk adjustment analysis, we subdivided our actuarial cost models into the following cohorts:

- Psychiatric High
- Psychiatric Medium-Low
- Nursing Home
- Other

We then re-weighted the Hawaii actuarial cost models based on "revised" population weights from the risk adjustment analysis. For example, in Exhibit 1 we can see that participants in the Washington Buy-In program with Psychiatric – High condition flags have approximately 3 times more exposure than non-working. Therefore, we re-composited the non-medical lines using 3 times more weight for this population. Similarly, we excluded the costs for the nursing home only exposure. A final adjustment of 0.80, or a 20% reduction, was applied to the non-medical components to reflect the impact of lower healthcare costs inherent of a population that is healthy enough to work. This selection adjustment based on judgment.

We used the results of the specific line-items in our cost models, including Psychiatric, to adjust our cost model. These adjusted costs are summarized as add-on PMPM amounts in the column labeled "Additional Non-Medical Adjustments." Note that we also adjusted the pharmacy line to account for the expected change in drugs for psychiatric conditions.

It is important to note that our cost estimates for Home and Community Based Services, Case Management, and Personal Care Assistance are based on the current FFS experience and adjusted for demographics, increased psychiatric incidence of this population, and an estimate for favorable selection. These cost estimates can vary depending on your policies.

Note too that the underlying costs are reflective of the current Hawaii fee-for-service environment. We have not made adjustments to correct for underserved needs, reimbursement, or other factors that are unique to a FFS delivery system. One recent change to be aware of is that managed care plans will be able to benefit from the state's favorable pharmacy rebates, based on the recent healthcare reform legislation.

Similarly, through our work with the state, we are aware of access issues on psychiatric services. The state's actuarial team is investigating claim sources and working with the state on how to better service the needs of these high risk patients. With respect to this pricing, however, the psychiatric services may be considered low and have not been adjusted up since our goal was to reflect potential state costs under a FFS delivery system.

Total (Gross) Costs

Based on the claim cost estimates from Exhibits 2a and 2b, Table 3 provides a model for developing premium rates based on gross costs. The exhibit provides flexibility to make adjustments to the projected PMPM costs. For this initial draft, we have not made adjustments and have developed the illustrative total gross costs based on the claim cost and administrative expenses only. It's important to clarify that the use of the term premium in this context represents the needed revenue to offer this program and is not the premium that a member would pay.

	Dual Eligible	Medicaid Only	Total
Assumed Buy-In Population			
Claim Cost PMPM	\$786.07	\$1,398.62	\$908.58
Assumed Dual/Non-Dual Distribution	80%	20%	
PMPM Adjustments (Examples)			
Additive			
Other	\$0.00	\$0.00	
Multiplicative			
Age 65+	1.000	1.000	
Adverse Selection	1.000	1.000	
Pent-Up Demand	1.000	1.000	
Benefit Plan Design Adjustment	1.000	1.000	
Income Adjustment	1.000	1.000	
Asset / FPL Adjustment	1.000	1.000	
Other	1.000	1.000	
Other	1.000	1.000	
Total Adjusted Claim Cost PMPM	\$786.07	\$1,398.62	\$908.58
Expense Load (Margin)	5%	5%	
Total Cost PMPM	\$827.45	\$1,472.23	\$956.40

In order to convert the monthly claim cost expense to the gross cost rate, we divide the claims by the medical cost ratio, or MCR, which is defined as is one minus the expense percentage. The MCR represents the percentage of premium that is retained to cover the claim costs. We have assumed an illustrative 5% expense margin, meaning the target MCR is 95%. This amount is considered reasonable for a FFS delivery system, but would be higher for a managed care population. In Table 3, we have estimated the monthly total gross cost to be \$956.40 PMPM. We have assumed an estimated distribution of 80% Dual, 20% Medicaid-Only. The distribution split is a rough estimate and the cost projection would change if the proportion of Duals to Medicaid-Only changed.

The projected gross cost rate shown in Table 3 represents an estimate of the full cost to offer a Buy-In program. Member premiums that are based on a percentage of the cost of the plan would be based on this total gross amount. We have seen a significant variation in what different states require in terms of member premiums. Some states require fixed PMPM premiums, varying by income and asset level, and range from \$35 to \$500 per month. Other states require a percentage of income such as 5% of gross countable income or 0.5% of unearned income. At least one state also requires a one-time enrollment fee (\$100 in North Dakota) which would help cover initial enrollment expenses and could prevent frequent entering and exiting of the program to only get healthcare needs met.

The ultimate decision on premium rates involves many factors in addition to cost savings, since member premium would offset the needed gross costs, and would depend on final decision on eligibility. We would be happy to discuss this issue further as it pertains to the cost analysis.

Note that in Table 3 we have provided a placeholder to adjust for covering eligibles that are age 65 or older (which could be allowed under the BBA federal authority). For this report our pricing is appropriate for eligibles aged 19-64. Based on a review of the October 2009 Mathematica study, 5% of total enrollment was age 65+ in states that allowed 65+ to enroll. After adjusting the claim costs for the reduction of the Medicare Part D benefit (which was effective 2006 but the underlying data in the research was 2005 data), we estimated the impact of including eligibles age 65+ could reduce costs 3.6% for Duals and 0.1% for Medicaid-Only. Although the result is counter intuitive, it suggests that eligibles greater than age 65 that are able to work are generally healthier than disabled that are eligible to work.

ENROLLMENT AND FIVE-YEAR PROJECTIONS

The primary scope of this project was to estimate the potential PMPM costs of a Buy-In program. Given the many tangible (e.g., member premium levels) and intangible factors, such as marketing and outreach for the plan, that can impact enrollment, we will need to rely on your team for input on enrollment assumptions. However, we have provided illustrations of reasonable endpoints of a spectrum of eligibility scenarios,

As we have discussed over the past months, the legislative authority under which the program will operate will be one of the first major decisions moving towards implementation. Both the Balanced Budget Act (BBA) of 1997 and the Ticket to Work and Work Incentives Improvement Act (TTW) have pros and cons in terms of providing cost protections and program flexibility.

The legislative authority will influence the eligibility parameters, which will influence enrollment projections and ultimately influence the total cost of the program. Examples of eligibility criteria include asset and income limits, age limits (i.e., whether you can cover ages 65+), and premium requirements. Two assumptions that would directly impact costs would be the projected participation rates and the initial pent-up demand. The following two sections discuss these assumptions, followed by a brief discussion on our illustrative five-year projection.

Participation Rates

Exhibit 4 shows the participation rates for the various state programs. The table comes from the Mathematica April 2008 report “The Three E’s: Enrollment, Employment, and Earnings in the Medicaid Buy-In Program, 2006.” The purpose of the table is to demonstrate that the regulatory authority and years of plan existence contain significant variance in results. In other words, there are many factors that could influence participation rates, many of which cannot be quantified. A likely influence in participation is how well each state has advertised and reached out to potential beneficiaries and support groups.

For example, the table below summarizes the participation rates for the three states you initially communicated as possible models for eligibility rules. We have

State	Eligibility	2006 Participation
Nebraska	Restrictive	0.2%
Pennsylvania	Average	1.7%
New Hampshire	Liberal	3.7%
All	All	1.2%
All	Of Interest To HI	1.4%

Table 4 summarizes key policy provisions of the above three states, as well as ranges for the different eligibility criteria. Based on discussions with you, we have provided this summary level information to provide stakeholders a visual of potential program parameters. The details of the participation rates are provided as Exhibit 4.

Table 4
The Research Corporation of the University of Hawaii
Summary of Range of Policy Plan Provisions

Buy-In Policy Provisions				
Design Element	Typical Range	Restrictive	Average	Liberal
State		Nebraska	Pennsylvania	New Hampshire
2006 ABD Penetration		0.2%	1.7%	3.7%
Legislative Authority	Varies	BBA	Ticket Act Basic and Medical Improvement	Ticket Act Basic
Program Name		Medicaid Insurance for Workers with Disabilities	Medical Assistance for Workers with Disabilities (MAWD)	MEAD (Medicaid for Employed Adults with Disabilities)
Income eligibility	200 - 450% FPL	Two-part income test: (1) sum of spouse's earned income and applicant's unearned income must be less than SSI standard (\$564 in 2004); (2) countable income up to 250% FPL (includes spousal income)	Up to 250% FPL (includes spousal income)	Up to 450% FPL on earned income (includes spousal income)
Individual asset limit	\$4,000 - \$20,000	\$4,000 (includes spousal resources)	\$10,000 (includes spousal resources)	\$22,694 for an individual; \$34,041 for a married couple
Medically needy income limit (monthly)	N/A - \$800	\$392	\$425	\$591
Income standard for poverty-level Medicaid (monthly)	N/A - \$1,100	\$776	\$817	N/A
SSI Benefit (combined federal and state) (monthly)	\$590 - \$965	\$687	\$630.40	\$603
1619(b) income threshold (monthly)	\$1,891 - \$4,126	\$2,567	\$2,204	\$3,229
Premium threshold	100% - 250% FPL, Net countable income of \$1	200% FPL	All participants pay a premium	150% FPL
Premium structure	Percentage (3-10%) or Fixed amount per month (\$10-\$250)	Sliding scale based on income ranging from 2% of income if income is from 200% to 210% of FPL to 10% of income if income is from 240% to 250% of FPL.	5% of countable income. Premiums of less than \$10 are waived.	Six brackets from \$91 to \$245 for individuals. Individuals with gross income (spousal included) that exceeds \$75,000 are required to pay premiums of 7.5% of the adjusted gross income starting March 2006 through February 2007.

Source: Mathematic Report "EEE_FinalReport_Apr2008.pdf"

Pent-Up Demand

Exhibit 5 summarizes the results of a cursory analysis to develop pent-up demand factors. Potential adverse selection from a new program is very subjective and contains considerable variability. Based on data provided by your team, we estimated the potential impact of increased PMPM claim costs in the initial years of a new program. It is possible that this program could introduce new healthcare users. These would include potential (or former) ABD eligible members that are working and have incomes that have disqualified them from prior coverage, but now have access to coverage so they will fulfill their medical needs which they have previously been holding off on.

Based on 2004-2007 claims experience for the Kansas Working Healthy program, we assumed that after four years a member will regress to their mean healthcare expenditure level. We trended the annual PMPM costs back to the first year assuming a 6% annual healthcare trend. The difference between each year's back-trended costs to the ultimate back-trended cost is our rough estimate of the pent-up demand impact. As this venture is introduced, we will need your help in estimating the source of the participants. For illustrative purposes, we assumed that 25% of the initial enrollees would not be current ABD participants, and calculated a weighted average of the pent-up demand factors assuming 25% of the factor, and 75% of 1.00. Based on other data, we understand the average duration of a member in these programs is a little over two years. Therefore, the applied pent-up demand impact is the ratio of the weighted pent-up demand factors for year 1 and 2 over the year 3 factor, which reflects the inherent health status of the baseline population.

Five-Year Projection

Exhibits 3a and 3b summarize an illustrative five-year projection. These draft exhibits were developed for discussion only. Exhibit 3a considers a stable, or mature, population, and assumes the projected claim costs assumed in Table 3. Based on the ranges of participation rates seen in Exhibit 4, we developed three scenarios: Limited (low), Nationwide (average), and Heavy (high) participation scenarios. The projected annual cost is equal to the product of the following:

- The base year PMPM claim cost
- Pent-up demand factor (not applicable for Scenario #1)
- The annual trend factor for years 2-5
- Times 12 to annualize the PMPM
- Current working eligible ABD population (estimated as roughly 40,000)
- Scenario participation percentage

Based on the assumptions in Scenario #1, the Year 1 annual costs range from \$2.3 million in the restricted enrollment scenario to \$23.0 million in the heavy enrollment scenario. These costs do not include any offset for member cost sharing, but do include margin for administration expenses.

Exhibit 3b provides an illustration for a slower ramp up of enrollment, coupled with the impact of pent-up demand. In this exhibit, our Year 1 participation rates range from 0.2% to 1.0%. The Year 1 annual expenses range from \$1.1 million to \$5.3 million.

OTHER CONSIDERATIONS

The following is a list of issues and considerations that we should discuss following your review of our initial draft report.

- We have not made any explicit adjustment to the claim cost or projected enrollment to account for specific plan provisions. It may be difficult to quantify the impact of these policies and plan decisions, and we will need to discuss and reach agreement if any adjustment should be made. The provisions include, but are not limited to:
 - Income and asset limit, including both earned and unearned income
 - Varying premium levels and structure
 - Coordination w/CMS
- Our pricing assumed that all healthcare services will be facilitated by the state and will not be under a managed care program. If the state decides to allow its managed care plan partners to share in the risk of this population, the projected claims costs should be adjusted to account for potential managed care savings and other necessary adjustments.
- The projected costs assume that the medical cost sharing (e.g., copays) will be the same benefit plan design as the current Medicaid programs. The models will need to be adjusted if copays are introduced; however, most states have little to no cost sharing at the point of service and have the majority of the member cost sharing as the member premium.
- The projected claim cost levels assume a population with a modest level of member premiums. As we have discussed, the higher the member premiums, the larger the chance of unfavorable selection since those that are willing to pay the higher premiums have a higher chance of having higher claim costs.

We have not performed a significant amount of scenario testing on the claim costs and have provided claim cost models showing the best estimate (mean) point. The variance of costs that this program could introduce is large, in terms of varying claim costs for a given member and volume of enrollees. Policy and plan provisions can be introduced to moderate the variance, including enrollment caps, eligibility provisions to limit enrollment, and benefit limits or maximums (if allowed). We have set up our models to be flexible to adjust for various factors to test the impact on costs, and we would be happy to discuss alternative pricing scenarios with you.

CAVEATS AND DATA RELIANCE

The information presented in this letter and exhibits are prepared for the internal use of The Research Corporation of the University of Hawaii. Unless otherwise specified, no portion may be provided to any other party without Milliman's prior written consent. This analysis is subject to the terms and conditions of the Consulting Services Agreement between the University of Hawaii and Milliman signed on December 2, 2009.

In preparing this analysis, we relied upon data provided by the State of Hawaii and RCUH without audit, although we performed general reasonableness checks where possible. This analysis was prepared specifically for RCUH to estimate the potential cost impact of introducing a Medicaid Buy-In program and should not be used for other purposes.

The enclosed analysis reflects projections, not predictions. Actual experience will vary from our models for many reasons, including differences in population health status, in reimbursement levels, and in the delivery of health care services, as well as other non-random and random factors. It is important that actual experience be monitored and that adjustments are made, as appropriate.

Milliman makes no representations or warranties regarding the contents of this report to third parties. Likewise, third parties are instructed that they are to place no reliance upon this report prepared for RCUH by Milliman that would result in the creation of any duty or liability under any theory of law by Milliman or its employees to third parties. Other parties receiving this report must rely upon their own experts in drawing conclusions about the completeness of the relied upon data and relative morbidity of the covered populations.

EXHIBIT 1 - HAWAII ABD CDPS PREVALENCE REPORT

Exhibit 1
The Research Corporation of the University of Hawaii
CDPS Diagnosis-Based Risk Adjuster - Disease Condition Prevalence Summaries

Washington State Aged, Blind and Disabled Medicaid Population

Hawaii Aged, Blind and Disabled Medicaid Population

	Washington State Aged, Blind and Disabled Medicaid Population				Washington State Aged, Blind and Disabled Medicaid Population				Population: 15-44 Year Olds		Population: 45-64 Year Olds		Hawaii Aged, Blind and Disabled Medicaid Population			Hawaii Aged, Blind and Disabled Medicaid Population		
	Population: 15-44 Year Olds		Population: 45-64 Year Olds		Population: 15-44 Year Olds		Population: 45-64 Year Olds		Year Olds	Year Olds	Population: 15-44 Year Olds		Population: 45-64 Year Olds					
	Working Duals	Non-Working Duals	Working Duals	Non-Working Duals	Working Non-Duals	Non-Working Non-Duals	Working Non-Duals	Non-Working Non-Duals	All	All	All Duals	All NonDuals	All	All Duals	All NonDuals	All		
Substance abuse, not well def	0.5%	0.6%	0.5%	0.5%	0.7%	7.8%	3.8%	8.5%	4.6%	4.3%	3.4%	4.0%	3.8%	3.0%	4.7%	4.0%		
Cancer, very high	0.0%	0.1%	0.3%	0.3%	1.3%	0.4%	2.3%	1.9%	0.3%	1.1%	0.4%	0.5%	0.4%	0.7%	1.6%	1.2%		
Cancer, high	0.0%	0.3%	0.5%	0.7%	1.3%	0.9%	3.8%	1.9%	0.6%	1.3%	0.7%	1.1%	1.0%	1.1%	1.9%	1.6%		
Cancer, medium	0.0%	0.2%	0.2%	0.3%	0.0%	0.4%	1.4%	0.8%	0.3%	0.6%	0.4%	0.4%	0.4%	0.7%	0.9%	0.8%		
Cancer, low	0.3%	0.2%	0.6%	0.9%	0.7%	0.4%	4.2%	2.0%	0.3%	1.4%	0.4%	0.7%	0.6%	2.7%	2.3%	2.5%		
Cancer, benign	0.9%	0.5%	1.4%	0.8%	1.3%	1.8%	3.8%	4.0%	1.3%	2.3%	2.3%	1.8%	2.0%	4.4%	4.2%	4.3%		
Cancer, not well def	0.3%	0.3%	0.2%	0.4%	0.0%	0.9%	1.4%	1.6%	0.6%	1.0%	1.6%	1.1%	1.3%	1.6%	2.3%	2.0%		
DD, medium	0.0%	0.2%	0.0%	0.3%	0.0%	0.4%	0.0%	0.0%	0.3%	0.2%	4.2%	3.8%	4.0%	3.5%	0.8%	2.0%		
DD, low	0.0%	0.7%	0.2%	0.6%	0.7%	1.9%	0.0%	0.1%	1.4%	0.4%	8.3%	8.5%	8.4%	4.2%	0.9%	2.3%		
Genital, extra low	0.3%	0.4%	0.3%	0.4%	0.0%	2.2%	2.3%	2.4%	1.4%	1.4%	1.8%	2.6%	2.3%	2.7%	3.1%	3.0%		
Genital, super low	1.9%	2.5%	1.8%	1.8%	5.9%	10.7%	3.8%	8.2%	7.0%	4.8%	9.1%	10.4%	9.9%	8.8%	9.5%	9.2%		
Metabolic, high	0.5%	0.2%	0.3%	0.1%	0.0%	0.8%	0.5%	0.9%	0.5%	0.5%	1.1%	1.2%	1.2%	0.8%	0.8%	0.8%		
Metabolic, medium	0.2%	0.5%	0.0%	0.6%	0.7%	1.5%	3.8%	3.0%	1.1%	1.8%	1.8%	1.1%	1.4%	2.7%	2.6%	2.6%		
Metabolic, very low	0.7%	0.4%	0.3%	0.5%	0.0%	2.9%	0.5%	3.6%	1.8%	2.0%	2.8%	3.1%	3.0%	4.1%	4.9%	4.5%		
Metabolic, super low	2.6%	1.9%	3.2%	2.7%	5.9%	8.5%	23.0%	20.9%	5.6%	11.5%	15.3%	11.8%	13.1%	24.4%	26.4%	25.6%		
Metabolic, not well def	0.7%	1.0%	0.3%	1.8%	4.6%	4.9%	4.7%	6.3%	3.2%	4.0%	5.3%	6.0%	5.7%	5.7%	6.3%	6.0%		
Pregnancy, complete	0.2%	0.8%	0.0%	0.0%	0.0%	2.1%	0.0%	0.1%	1.5%	0.0%	1.2%	2.2%	1.9%	0.0%	0.1%	0.1%		
Pregnancy, incomplete	0.3%	0.3%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.7%	0.0%	0.6%	0.6%	0.6%	0.0%	0.0%	0.0%		
Extremely low birthweight	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Very low birthweight	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Serious perinatal problem	0.0%	0.2%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.4%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%		
Other perinatal problems	0.0%	0.2%	0.0%	0.0%	0.0%	0.7%	0.0%	0.1%	0.5%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%		
Normal, single birth	0.2%	0.2%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Eye, low	0.2%	0.1%	0.0%	0.2%	1.3%	0.3%	0.5%	0.7%	0.2%	0.4%	1.1%	0.8%	0.9%	1.1%	1.1%	1.1%		
Eye, very low	1.4%	0.8%	5.5%	3.3%	0.0%	0.9%	4.7%	5.5%	0.9%	4.3%	2.7%	2.2%	2.4%	11.5%	10.1%	10.7%		
Eye, super low	12.8%	9.3%	17.7%	10.1%	10.5%	15.8%	15.0%	18.7%	12.9%	14.3%	15.0%	14.3%	14.6%	14.7%	18.4%	16.8%		
Eye, not well def	0.5%	0.3%	0.2%	0.4%	0.0%	0.5%	0.5%	0.9%	0.4%	0.7%	1.1%	0.5%	0.7%	0.9%	0.8%	0.8%		
Ear, super low	2.1%	2.1%	4.3%	1.5%	5.2%	8.6%	4.7%	6.6%	5.7%	4.0%	9.0%	9.7%	9.5%	8.6%	8.9%	8.8%		
Ear, not well def	0.2%	0.1%	0.0%	0.1%	0.0%	0.6%	0.0%	0.4%	0.4%	0.2%	0.5%	0.4%	0.4%	0.3%	0.5%	0.4%		
Cerebrovascular, low	0.5%	0.5%	0.5%	1.3%	0.0%	1.1%	0.0%	3.2%	0.8%	2.2%	2.2%	1.9%	2.0%	4.8%	4.7%	4.8%		
Cerebrovascular, super low	0.0%	0.1%	0.0%	0.3%	0.7%	0.4%	1.4%	1.2%	0.3%	0.7%	0.7%	0.4%	0.5%	1.5%	1.3%	1.4%		
Cerebrovascular, not well def	0.2%	0.2%	0.3%	0.3%	1.3%	1.0%	0.5%	1.4%	0.6%	0.8%	0.7%	0.6%	0.7%	1.1%	1.2%	1.2%		
AIDS, high	2.2%	1.3%	2.2%	0.9%	0.7%	1.1%	0.5%	0.9%	1.2%	0.9%	2.0%	1.1%	1.4%	1.7%	1.0%	1.3%		
Infectious, high	0.0%	0.1%	0.3%	0.3%	1.3%	0.4%	2.3%	1.9%	0.3%	1.1%	0.4%	0.5%	0.4%	0.7%	1.6%	1.2%		
HIV, medium	0.0%	0.3%	0.5%	0.7%	1.3%	0.9%	3.8%	1.9%	0.6%	1.3%	0.7%	1.1%	1.0%	1.1%	1.9%	1.6%		
Infectious, medium	0.0%	0.2%	0.2%	0.3%	0.0%	0.4%	1.4%	0.8%	0.3%	0.6%	0.4%	0.4%	0.4%	0.7%	0.9%	0.8%		
Infectious, low	0.3%	0.2%	0.6%	0.9%	0.7%	0.4%	4.2%	2.0%	0.3%	1.4%	0.4%	0.7%	0.6%	2.7%	2.3%	2.5%		
Infectious, super low	0.9%	0.5%	1.4%	0.8%	1.3%	1.8%	3.8%	4.0%	1.3%	2.3%	2.3%	1.8%	2.0%	4.4%	4.2%	4.3%		
Hematological, extra high	0.3%	0.3%	0.2%	0.4%	0.0%	0.9%	1.4%	1.6%	0.6%	1.0%	1.6%	1.1%	1.3%	1.6%	2.3%	2.0%		
Hematological, very high	0.0%	0.2%	0.0%	0.3%	0.0%	0.4%	0.0%	0.0%	0.3%	0.2%	4.2%	3.8%	4.0%	3.5%	0.8%	2.0%		
Hematological, medium	0.0%	0.7%	0.2%	0.6%	0.7%	1.9%	0.0%	0.1%	1.4%	0.4%	8.3%	8.5%	8.4%	4.2%	0.9%	2.3%		
Hematological, low	0.3%	0.4%	0.3%	0.4%	0.0%	2.2%	2.3%	2.4%	1.4%	1.4%	1.8%	2.6%	2.3%	2.7%	3.1%	3.0%		
Hematological, super low	1.9%	2.5%	1.8%	1.8%	5.9%	10.7%	3.8%	8.2%	7.0%	4.8%	9.1%	10.4%	9.9%	8.8%	9.5%	9.2%		
Hematological, not well def	0.5%	0.2%	0.3%	0.1%	0.0%	0.5%	0.9%	0.9%	0.5%	0.5%	1.1%	1.2%	1.2%	0.8%	0.8%	0.8%		
Excluded code	0.7%	0.4%	0.3%	0.5%	0.0%	2.9%	0.5%	3.6%	1.8%	2.0%	2.8%	3.1%	3.0%	4.1%	4.9%	4.5%		
Excluded E code	2.6%	1.9%	3.2%	2.7%	5.9%	8.5%	23.0%	20.9%	5.6%	11.5%	15.3%	11.8%	13.1%	24.4%	26.4%	25.6%		
V code, not well def	0.7%	1.0%	0.3%	1.8%	4.6%	4.9%	4.7%	6.3%	3.2%	4.0%	5.3%	6.0%	5.7%	5.7%	6.3%	6.0%		

EXHIBIT 2A – HAWAII WORKING COST MODEL – DUAL ELIGIBLE

Attachment 2A
The Research Corporation of the University of Hawaii
Projected CY2011 Incurred Costs (Based on FFS Data Incurred 1/2008 - 12/2008, Paid Thru 6/2009 with IBNP Completion) - Buy-In Population
Dual Eligible

Cost Model Line	Benefit	Annual Utilization Per 1,000	Average Cost Service	Paid PMPM	Additional Non-Medical Adjustments ⁽²⁾	Final Paid PMPM
Hospital Inpatient ⁽¹⁾						
I00	Inpatient	457.4 Days	\$179.91	\$6.86		\$6.86
I02	Capital / Rate Reconsideration	432.9 Days	122.98	4.44		4.44
	Subtotal	457.4 Days	\$277.27	\$11.30	\$0.00	\$11.30
Hospital Outpatient ⁽¹⁾						
O00	Outpatient	248.6 Cases	\$99.11	\$2.05		\$2.05
OC2	FQHC	300.0 Cases	79.90	2.00		2.00
O41	Dialysis	121.5 Cases	599.67	6.07		6.07
	Subtotal	670.1 Cases	\$164.43	\$10.12	\$0.00	\$10.12
Long Term Care ⁽²⁾						
L02	Hospital	611.0 Days	\$220.80	\$11.24		\$11.24
Professional/Other (1)						
P11	Surgery	1,296.2 Encounters	\$47.73	\$5.16		\$5.16
P13	Inpatient Anesthesia	213.5 Encounters	48.61	0.86		0.86
P21	Maternity	21.1 Encounters	47.04	0.08		0.08
P31	Hosp Visits	3,351.8 Encounters	17.51	4.89		4.89
P32	Office/Home Visits	6,434.1 Encounters	20.52	11.00		11.00
P33	Urgent Care Visits	12.0 Encounters	29.85	0.03		0.03
P34	Office Administered Drugs	739.1 Encounters	42.19	2.60		2.60
P35	Allergy Testing	3.8 Encounters	77.61	0.02		0.02
P36	Allergy Immunotherapy	12.4 Encounters	16.75	0.02		0.02
P37	Misc Medical	1,410.6 Encounters	26.07	3.06		3.06
P41	Immunizations	29.3 Encounters	7.32	0.02		0.02
P42	Well Baby Exams	- Encounters	0.00	0.00		0.00
P43	Physical Exams	55.2 Encounters	36.65	0.17		0.17
P44	Vision Exams	407.7 Encounters	28.55	0.97		0.97
P45	Speech and Hearing Exams	49.5 Encounters	16.10	0.07		0.07
P51	ER Visits and Observation Care	1,026.9 Encounters	25.91	2.22		2.22
P52	Consults	587.0 Encounters	35.27	1.73		1.73
P53	Physical Therapy	934.8 Encounters	11.93	0.93		0.93
P54	Cardiovascular	1,124.6 Encounters	8.10	0.76		0.76
P55	Radiology IP	3,463.1 Encounters	11.13	3.21		3.21
P61	Pathology/Lab IP/OP	569.4 Encounters	17.85	0.85		0.85
P63	Pathology/Lab Office	31.6 Encounters	2.92	0.01		0.01
P65	Chiropractic Services	10.7 Encounters	6.92	0.01		0.01
P66	Outpatient Psych	2,441.5 Encounters	38.93	7.92	3.55	11.47
P67	Outpatient Substance Abuse	453.0 Encounters	24.86	0.94	0.39	1.33
P82	Private Duty Nursing/Home Health	9.7 Encounters	658.33	0.53		0.53
P83	Ambulance	6,005.6 Encounters	41.15	20.59		20.59
P84	DME/Supplies	3,926.5 Encounters	11.11	3.64		3.64
P85	Prosthetics	73.0 Encounters	144.39	0.88		0.88
P89	Glasses/Contacts	499.8 Encounters	31.94	1.33		1.33
EPSDT	DD/MR EPSDT LPN/RN	- Encounters	0.00	0.00		0.00
P99	Other	9,506.6 Encounters	46.92	37.17		37.17
	Subtotal	44,700.1	\$31.66	\$111.67	\$3.94	\$115.61
Prescription Drugs						
SSB	Single Source Brand	209.2 Scripts	\$57.84	\$1.01	\$1.24	\$2.25
MSB	Multi Source Brand	90.4 Scripts	26.20	0.20		0.20
GEN	Generic	4,342.6 Scripts	11.55	4.18		4.18
	Rebates			(1.96)		(1.96)
	Subtotal	4,642.2 Scripts	\$9.38	\$3.43	\$0.00	\$4.67
Case Management						
	Service Coordinator			\$11.42		\$11.42
	RACC / MFCC Non-Institutional I	33,736.9 Days	14.81	49.87		49.87
	Other HCBS Non-Institutional Day	22,388.4 Days	9.80	21.90		21.90
	Subtotal			\$83.19	\$0.00	\$83.19
Other Services						
	Home Care Based Services (HCBS)	913.9 Proced.	\$1,014.35	\$77.26	\$0.00	\$77.26
E03	DD/MR HCBS	8,744.0	507.54	369.83	75.75	445.58
E04	DD/MR CDPA	10,416.4	15.33	13.31		13.31
	Transportation			13.79		13.79
	Subtotal	20,074.3	\$220.00	\$474.19	\$75.75	\$549.94

\$786.07

Notes:

- 1) Claims are assigned to service categories based on limited header level of detail. Entire claim is assigned to single service line and counted as one unit of service.
- 2) Additional adjustments based on re-weighting non-medical costs to reflect health status mix of working population (based on risk adjustment analysis).

EXHIBIT 2B – HAWAII WORKING COST MODEL – MEDICAID ONLY

Attachment 2B

The Research Corporation of the University of Hawaii

Projected CY2011 Incurred Costs (Based on FFS Data Incurred 1/2008 - 12/2008, Paid Thru 6/2009 with IBNP Completion) - Buy-In Population Medicaid-Only

Cost Model Line	Benefit	Annual Utilization Per 1,000	Average Cost Service	Paid PMPM	Additional Non-Medical Adjustments ⁽²⁾	Final Paid PMPM
Hospital Inpatient ⁽¹⁾						
I00	Inpatient	2,604.1 Days	\$1,062.33	\$230.53		\$230.53
I02	Capital / Rate Reconsideration	2,495.4 Days	176.90	36.79		36.79
	Subtotal	2,604.1 Days	\$1,119.40	\$267.32	\$0.00	\$267.32
Hospital Outpatient ⁽¹⁾						
O00	Outpatient	3,253.1 Cases	\$444.85	\$120.60		\$120.60
OC2	FQHC	2,946.8 Cases	147.11	36.13		36.13
O41	Dialysis	387.5 Cases	2,059.25	66.50		66.50
	Subtotal	6,587.4 Cases	\$368.90	\$223.23	\$0.00	\$223.23
Long Term Care ⁽²⁾						
L02	Hospital	570.3 Days	\$165.77	\$7.88		\$7.88
Professional/Other (1)						
P11	Surgery	1,156.9 Encounters	\$171.84	\$16.57		\$16.57
P13	Inpatient Anesthesia	187.0 Encounters	240.34	3.75		3.75
P21	Maternity	29.9 Encounters	391.64	0.98		0.98
P31	Hosp Visits	3,753.1 Encounters	56.73	17.74		17.74
P32	Office/Home Visits	8,048.3 Encounters	43.29	29.03		29.03
P33	Urgent Care Visits	0.7 Encounters	43.80	0.00		0.00
P34	Office Administered Drugs	297.2 Encounters	23.52	0.58		0.58
P35	Allergy Testing	6.2 Encounters	153.90	0.08		0.08
P36	Allergy Immunotherapy	9.4 Encounters	45.55	0.04		0.04
P37	Misc Medical	1,036.9 Encounters	72.98	6.31		6.31
P41	Immunizations	250.7 Encounters	3.84	0.08		0.08
P42	Well Baby Exams	0.0 Encounters	0.00	0.00		0.00
P43	Physical Exams	99.1 Encounters	46.90	0.39		0.39
P44	Vision Exams	433.3 Encounters	55.18	1.99		1.99
P45	Speech and Hearing Exams	56.1 Encounters	29.80	0.14		0.14
P51	ER Visits and Observation Care	1,594.8 Encounters	72.12	9.58		9.58
P52	Consults	723.7 Encounters	104.58	6.31		6.31
P53	Physical Therapy	940.1 Encounters	36.88	2.89		2.89
P54	Cardiovascular	1,478.9 Encounters	29.35	3.62		3.62
P55	Radiology IP	4,506.0 Encounters	41.30	15.51		15.51
P61	Pathology/Lab IP/OP	11,554.5 Encounters	17.96	17.29		17.29
P63	Pathology/Lab Office	1,929.4 Encounters	3.00	0.48		0.48
P65	Chiropractic Services	0.0 Encounters	0.00	0.00		0.00
P66	Outpatient Psych	4,232.1 Encounters	61.82	21.80	2.02	23.82
P67	Outpatient Substance Abuse	1,085.6 Encounters	23.96	2.17	0.44	2.61
P82	Private Duty Nursing/Home Health	13.2 Encounters	568.85	0.63		0.63
P83	Ambulance	4,258.4 Encounters	79.44	28.19		28.19
P84	DME/Supplies	3,721.1 Encounters	37.60	11.66		11.66
P85	Prosthetics	36.3 Encounters	435.32	1.32		1.32
P89	Glasses/Contacts	702.7 Encounters	31.89	1.87		1.87
EPSDT	DD/MR EPSDT LPN/RN	3.2 Encounters	1,392.23	0.37		0.37
P99	Other	6,679.1 Encounters	48.58	27.04		27.04
	Subtotal	58,823.9	\$50.25	\$228.41	\$2.46	\$230.87
Prescription Drugs						
SSB	Single Source Brand	11,976.8 Scripts	\$285.59	\$285.04		\$285.04
MSB	Multi Source Brand	3,374.5 Scripts	92.36	25.97		25.97
GEN	Generic	29,477.6 Scripts	42.90	105.38		105.38
	Rebates			(111.07)		(111.07)
	Subtotal	44,828.9 Scripts	\$75.09	\$305.32	\$0.00	\$305.32
Case Management						
	Service Coordinator			\$11.42		\$11.42
	RACC / MFCC Non-Institutional D	3,571.3 Days	14.81	5.28		5.28
	Other HCBS Non-Institutional Day	4,909.8 Days	9.80	4.80		4.80
	Subtotal			\$21.50	\$0.00	\$21.50
Other Services						
	Home Care Based Services (HCBS)	519.8 Proced.	\$890.78	\$38.60	\$0.00	\$38.60
E03	DD/MR HCBS	4,933.5	600.85	247.02	28.80	275.82
E04	DD/MR CDPA	11,345.6	15.11	14.29		14.29
	Transportation			13.79		13.79
	Subtotal	16,798.9	\$224.09	\$313.70	\$28.80	\$342.50
Total						\$1,398.62

Notes:

- 1) Claims are assigned to service categories based on limited header level of detail. Entire claim is assigned to single service line and counted as one unit of service.
- 2) Additional adjustments based on re-weighting non-medical costs to reflect health status mix of working population (based on risk adjustment analysis).

EXHIBIT 3A – COST PROJECTION – STABLE/MATURE POPULATION

Exhibit 3a
The Research Corporation of the University of Hawaii
Illustrative Cost Projections with Eligibility Scenarios

Scenario #1: Stable/Mature Population

Year	2011	2012	2013	2014	2015
Year #	Year 1	Year 2	Year 3	Year 4	Year 5
Starting PMPM Expense	\$956.40				
Pent-Up Demand Adjustment	1.00	1.00	1.00	1.00	1.00
Annual Trend Rate	n/a	1.06	1.06	1.06	1.06
Trended Claim Cost	\$956.40	\$1,013.78	\$1,074.61	\$1,139.09	\$1,207.44
Total HI ABD Population (<i>Estimate, not projected</i>)	40,000	40,000	40,000	40,000	40,000

Scenario #1 - "Restrictive" Participation ⁽¹⁾

Working Participation Rate	0.50%	0.50%	0.50%	0.50%	0.50%
Estimated Number of Participants	200	200	200	200	200
Total Annual Projected Claim Cost (\$ in millions)	\$2.3	\$2.4	\$2.6	\$2.7	\$2.9

Scenario #2 - Nationwide Average Participation ⁽¹⁾

Working Participation Rate	1.40%	1.40%	1.40%	1.40%	1.40%
Estimated Number of Participants	560	560	560	560	560
Total Annual Projected Claim Cost (\$ in millions)	\$6.4	\$6.8	\$7.2	\$7.7	\$8.1

Scenario #3 - Heavy Participation ⁽¹⁾

Working Participation Rate	5.00%	5.00%	5.00%	5.00%	5.00%
Estimated Number of Participants	2,000	2,000	2,000	2,000	2,000
Total Annual Projected Claim Cost (\$ in millions)	\$23.0	\$24.3	\$25.8	\$27.3	\$29.0

See Table 4 in report for illustrative plan provisions describing participation scenarios.

EXHIBIT 3B – COST PROJECTION – NEW POPULATION WITH PENT-UP DEMAND

Exhibit 3b
The Research Corporation of the University of Hawaii
Illustrative Cost Projections with Eligibility Scenarios

Scenario #2: New Population with Pent-Up Demand

Year	2011	2012	2013	2014	2015
Year #	Year 1	Year 2	Year 3	Year 4	Year 5
Starting PMPM Claim Cost	\$956.40				
Pent-Up Demand Adjustment	1.15	1.08	1.00	1.00	1.00
Annual Trend Rate	n/a	1.06	1.06	1.06	1.06
Trended Claim Cost	\$1,099.89	\$1,095.07	\$1,074.62	\$1,139.10	\$1,207.45
Total HI ABD Population (<i>Estimate, not projected</i>)	40,000	40,000	40,000	40,000	40,000

Scenario #1 - "Restrictive" Participation ⁽¹⁾

Working Participation Rate	0.20%	0.27%	0.33%	0.40%	0.50%
Estimated Number of Participants	80	108	132	160	200
Total Annual Projected Claim Cost (\$ in millions)	\$1.1	\$1.4	\$1.7	\$2.2	\$2.9

Scenario #2 - Nationwide Average Participation ⁽¹⁾

Working Participation Rate	0.50%	0.75%	1.00%	1.20%	1.40%
Estimated Number of Participants	200	300	400	480	560
Total Annual Projected Claim Cost (\$ in millions)	\$2.6	\$3.9	\$5.2	\$6.6	\$8.1

Scenario #3 - Heavy Participation ⁽¹⁾

Working Participation Rate	1.00%	2.00%	3.00%	4.00%	5.00%
Estimated Number of Participants	400	800	1,200	1,600	2,000
Total Annual Projected Claim Cost (\$ in millions)	\$5.3	\$10.5	\$15.5	\$21.9	\$29.0

See Table 4 in report for illustrative plan provisions describing participation scenarios.

EXHIBIT 4 – STATE PARTICIPATION ANALYSIS

Exhibit 4
The Research Corporation of the University of Hawaii
Summary of 2006 Participation Rates

State	2006 Total Enrollment	Working-Age People with a Disability	Authority	Year Program Started	Year in Existence as of 2006	Participation	Of Interest to HI
Wisconsin	12,952	209,160	BBA	2000	7	6.2%	
Iowa	12,389	119,646	BBA	2000	7	10.4%	
California	3,990	1,394,587	BBA	2000	7	0.3%	
New Mexico	2,413	88,740	BBA	2001	6	2.7%	
Maine	1,204	84,093	BBA	1999	8	1.4%	
Utah	1,084	80,860	BBA	2001	6	1.3%	
Vermont	931	31,858	BBA	2000	7	2.9%	
Oregon	787	185,292	BBA	1999	8	0.4%	
Alaska	357	28,329	BBA	1999	8	1.3%	x
Nebraska	142	61,256	BBA	1999	8	0.2%	
South Carolina	46	256,582	BBA	1998	9	0.0%	
Rhode Island	19	51,488	BBA	2006	1	0.0%	
South Dakota	1	25,796	BBA	2006	1	0.0%	
Indiana	8,563	300,624	Ticket Act Basic	2002	5	2.8%	x
New Jersey	2,734	304,901	Ticket Act Basic	2000	7	0.9%	
New Hampshire	2,082	56,815	Ticket Act Basic	2002	5	3.7%	x
Minnesota	8,213	184,122	Ticket Act Basic	1999	8	4.5%	x
Michigan	1,296	531,186	Ticket Act Basic	2004	3	0.2%	
Louisiana	1,275	257,694	Ticket Act Basic	2004	3	0.5%	x
Illinois	1,009	465,720	Ticket Act Basic	2002	5	0.2%	x
North Dakota	473	19,393	Ticket Act Basic	2004	3	2.4%	x
Arkansas	105	201,676	Ticket Act Basic	2001	6	0.1%	x
Wyoming	28	23,265	Ticket Act Basic	2002	5	0.1%	
Nevada	28	95,920	Ticket Act Basic	2004	3	0.0%	
Pennsylvania	10,646	620,363	Ticket Act Basic & Medical Improvement	2002	5	1.7%	
Connecticut	5,512	133,084	Ticket Act Basic & MI	2000	7	4.1%	x
Arizona	1,276	248,766	Ticket Act Basic & MI	2003	4	0.5%	x
Kansas	1,273	108,775	Ticket Act Basic & MI	2002	5	1.2%	
Washington	1,221	314,919	Ticket Act Basic & MI	2002	5	0.4%	x
West Virginia	540	163,258	Ticket Act Basic & MI	2004	3	0.3%	
Massachusetts	14,866	267,896	Section 1115 Waiver	1997	10	5.5%	
Maryland	85	198,325	Section 1115 Waiver	2006	1	0.0%	
Total	97,540	7,114,389			5.5	1.4%	
Total w/o Section 1115 Waiver	82,589	6,648,168			5.5	1.2%	
Total	82,589	6,648,168				1.2%	
"x" - Of Interest to HI	30,086	2,211,142				1.4%	
All Other	52,503	4,437,026				1.2%	

Summary by Authority

2006 Total Enrollment	Total ABD Population	Authority	Avg # Years	Participation	Min	Max
36,315	2,617,687	BBA	6.4	1.4%	0.00%	10.35%
46,274	4,030,481	TA	4.8	1.1%	0.03%	4.46%
14,951	466,221	Section 1115 Waiver	5.5	3.2%	0.04%	5.55%
97,540	7,114,389		5.5	1.4%		

Summary By Years of Existence (Excluding Section 1115 Waiver)

2006 Total Enrollment	Total ABD Population	Years in Program	Count of States	Avg # Years	Participation	Min	Max
3,632	1,144,735	1-3	7	2.4	0.3%	0.00%	2.44%
29,700	2,510,523	4-6	11	5.2	1.2%	0.05%	3.66%
49,257	2,992,910	7+	12	7.6	1.6%	0.02%	10.35%
82,589	6,648,168	Total	30	5.5	1.2%		

* Source: MATHEMATICA April 2008 Report "The Three E's: Enrollment, Employment, and Earnings in the Medicaid Buy-In Program, 2006," Appendix C, page 80.

EXHIBIT 5 – PENT UP DEMAND FACTOR ANALYSIS

Exhibit 5
The Research Corporation of the University of Hawaii
Documentation of Estimated Pent-Up Demand Adjustment Factors

Assumed Annual Trend Factor

1.06

	2004	2005	2006	2007
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A. Kansas PMPM ⁽¹⁾	\$517	\$469	\$401	\$282
B. Trend Costs back to 7/1/2004 (6% Trend)	\$517	\$442	\$357	\$237
C. Stable Average at 7/1/2004	\$237	\$237	\$237	\$237
D. Pent-Up Demand	2.18	1.87	1.51	1.00
Impact of 25% new enrollee mix	1.30	1.22	1.13	1.00
Relative to Baseline 2 Year Average	1.15	1.08		

1. Data Source:

Total Medicaid Inpatient and Outpatient Expenditures for Continuously Enrolled Working Health Participants, PMPM
 Kansas "Working Healthy" Policy Brief, Number 12, March 2009

Program was implemented in July 2002, These are PMPMs for people continually enrolled from 2004 -2007.

n =254

2. Per Mathematica data, average duration of member is 2.2 years in program.

Duration of Buy-In Enrollment (Finder File)	Years	Participants
0-6 months	0.3	19,158
7-12 months	0.8	15,839
13-24 months	1.5	21,722
25-36 months	2.5	13,812
37-60 months	4.0	17,935
>60 months	6.0	9,025
Average	2.2	97,491

Source: MATHEMATICA April 2008 Report "The Three E's: Enrollment, Employment, and Earnings in the Medicaid Buy-In Program, 2006"