Part II - NARRATIVE DESCRIPTION OF EVALUATION RESULTS

Evaluation of the *HealthPass* program consists of three separate endeavors. The first is an external review of program impact on medical costs. The second consists of internal documentation of program impact on health risks, using HRA management summary results and preventive screening exams. Lastly, the program boasts highly successful satisfaction results from the members' themselves (via participant surveys) and substantial executive management support.

1. Impact of HealthPass program participation on total medical costs.

In January 2002, StayWell Health Management's Research Department conducted a program evaluation to examine the impact of participation in the *HealthPass* program on total medical costs. The data included program participation from 1990 to 2000, with medical claims data limited to 1997-2000.

Data analysis focused on 478,471 HMSA members enrolled in PPO plans during a four year period 1997-2000 (an average of 353,775 members each year). Based on study selection criteria, the study population consisted of 232,937 unique individuals per year.

A retrospective cohort (quasi-experimental) design compared medical costs between self-selected *HealthPass* participants and non-participants per study year, and over time.

Key Findings:

Lower total medical costs

Of those with claims, *HealthPass* participants cost an annual average of $200 less than eligible non-participants. This is a consistent finding after controlling for age, gender, member status, island, coverage type, plan type, and morbidity level. This difference represents an average savings of $4.4 million per year for all participants.

Fewer inpatient days

Among those with inpatient visits, participants have an average of 2 days shorter length of stay than non-participants. On average, participants' inpatient costs are $509 less than non-participants.

Positive ROI in two years or less

Controlling for baseline costs and including all members (with and without claims), participants have an average of $75 lower total medical claims each year. Based on estimated program costs of $150 per participant, the *HealthPass* program has a positive return-on-investment of about $1:$1 after two years' time.

2a. Impact of *HealthPass* on health risks

Health risks were measured using the *HealthPass* Health Risk Assessment (HRA)*. According to the 2000 HRA Management Summary, 12,826 participants completed the assessment in 2000 and at least one other assessment prior to the year 2000.

Key Findings:

Reduced total health risks

- Those with two or fewer health risks **increased** from 24% to 34%.
- Those with three to five health risks **decreased** from 56% to 52%.
- Those with six or more health risks **decreased** from 21% to 14%.

Improved lifestyle change

The greatest *decreases in risk* were found in the following categories: unsafe driving practices (49%), smoking (29%), mental health issues (22%), alcohol (19%), and exercise (17%).

2b. Impact of *HealthPass* on early detection and intervention

Based on biometric screening results and medical history, *HealthPass* members who are identified to be at risk for certain conditions are immediately referred for a secondary screening which includes *bone density scans, mammograms, sigmoidoscopies, or health maintenance exams*.

Key Findings:

Early detection and referral

During the year 2000, 4,432 of the 20,058 participants were referred for these screenings with 23% of them resulting in abnormal findings. These participants were then referred to their primary provider for further follow up and care.

3. Cultural Support

HMSA management support and member satisfaction are vital contributors to the success of HealthPass. Section III, part 3 outlines the specifics of this evaluation component.

* *HealthPass* uses StayWell Health Management's *HealthPath*® Health Risk Assessment (see Appendix C for information on validity and reliability)

Part III - DOCUMENTATION

Program Overview

HMSA's *HealthPass* program was started in 1990 and has become an integral part of HMSA's business plan. Many insurance companies are attempting to offer their members comprehensive prevention programs, but few have attained the level of success that *HealthPass* has over the years. Also, unlike many health plans that exclude PPO members from various preventive programs, *HealthPass* is a fully integrated benefit (see Appendix A). The program is a key component of HMSA's preventive health program designed to lower health-related risks, reduce high-cost medical claims for modifiable conditions, and educate low or no risk participants in order to maintain their "healthy" status.

HMSA's HealthPass
Mission Statement

…we will accomplish this by screening members to identify potential health risks and by providing thoughtful and personalized lifestyle counseling and ongoing support to improve the member's health habits and reducing health risks.

HealthPass will strive to prevent and/or delay the onset of disease and provide for early detection of (impactable) diseases whose morbidity (outcomes) may be lessened with timely intervention.

It is our belief that these efforts will serve not only to positively impact the member's health status and quality of life, but to ensure continued affordable health coverage.

HealthPass is HMSA's comprehensive health risk assessment (HRA), screening and referral program, available to members of the Preferred Provider and Point-of-Service Plans. Each year, in the month prior to the subscriber's birthday, *HealthPass* sends a letter inviting eligible members and their covered spouses to participate in the program. Participation begins when the subscriber or spouse returns the enclosed mailer or calls *HealthPass*'s automated system to make an appointment for an office visit. Two to three weeks prior to their appointment, *HealthPass* sends a printed health risk assessment instrument and instructions to prepare for the biometric screening portion of their appointed visit, to the participant's home. The office visit involves three main components: biometric screening, review of HRA results and scheduling of appropriate secondary exams.

The biometric screening provides information on the participant's blood pressure, cholesterol, glucose, Body Mass Index (BMI), and percent body fat. An abbreviated medical history is also obtained to get additional information on the participant's preventive exam history and family health history. This information may indicate a need for additional preventive exams if the participant is deemed at high risk for certain health conditions.

After the screening, a nurse reviews HRA results with the participant to identify areas of greatest concern and develop a personal health action plan. The Stages-of-Change model[i] guides the consultation to focus on areas where the participant is most ready to make lifestyle behavior changes. If appropriate, the nurse may offer the participant the opportunity to participate in a physical fitness assessment designed for sedentary populations.

If the HRA, biometric screening, and abbreviated health history indicate a need for secondary, preventive exams, the nurse assists the participant by making these appointments at the end of the visit. If any of these exams come back with abnormal results, the *HealthPass* nurse contacts the participant to report the results and can make arrangements for them to be sent to their personal physician.

This comprehensive program exceeds traditional HRA programs by ensuring personal contact and ongoing follow-up with program participants. This approach is intended to encourage participants to take an active interest in their health by completing preventive exams, making lifestyle behavior changes, and appropriately using the health care system.

Evaluation Methods and Results

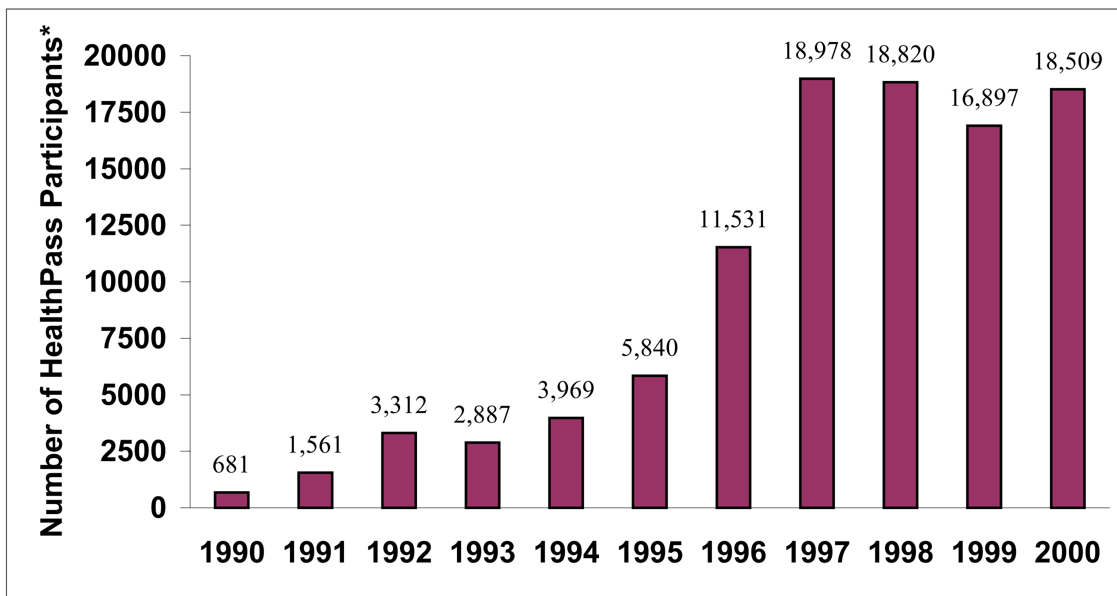
1. Impact of *HealthPass* on Total Medical Costs

In January 2002, StayWell's Research Department conducted a program evaluation to examine the impact of the *HealthPass* program on total medical costs. The data included program participation from 1990 to 2000, with medical claims data limited to 1997-2000. Below are details from the report.[ii]

Design
A retrospective cohort design (quasi-experimental) compared medical costs between self-selected, *HealthPass* participants and non-participants per study year, and over time. Proxy for participation was completion of the *HealthPass* Health Risk Assessment (HRA).

Population
Participants for the study were selected from HMSA members enrolled in PPO plans from 1997 to 2000 (approximately 375,000 members each year). After removing selected individuals based on exclusion criteria (e.g., were dependents, eligible less than 9 months, changed health plans, or were pregnant during the study the period), an average of 233,000 individuals remained in the study population per year. On average, approximately 18,000 individuals per year participated in *HealthPass* at least once (see Figure 1 for *HealthPass* participation by year). A majority of participants have participated more than once (58%).

Figure 1. *HealthPass* Participation by Year
*Unique individuals per year. Numbers are based on raw data (i.e., before selection criteria).



HealthPass participation has grown over the last 11 years. [Note: Some data were not available from 1990-1996. Actual participation during this time may have been higher.]

Data Sources

Facility Inpatient and Facility Outpatient costs were obtained from HMSA and were summarized per individual per year. Costs were in paid dollars; did not include member drug costs including outpatient prescription costs, "rider benefits" such as dental, vision, chiropractic, complementary care, or other benefits; and did not include denied or excluded services. Costs were based on a six-month payment run out. The exception was 2000 data, which had a one-month runout.

Total costs were calculated per individual per year by summarizing facility inpatient, facility outpatient and professional services.

Analyses

Logistic regression and GLM univariate procedures were conducted to study the impact of the *HealthPass* program on medical costs.

Logistic regression models addressed the impact of program participation on the likelihood of having any medical claims. These analyses controlled for other covariate factors such as age, gender, member status, island, plan type and morbidity level.[⊗]

GLM univariate procedures were used to estimate the impact of participation on the magnitude of any expenditures incurred. Costs were in paid dollars and controlled for age, gender, member status, island, coverage type, plan type and morbidity level. In the trend analyses, costs at baseline were controlled as well.

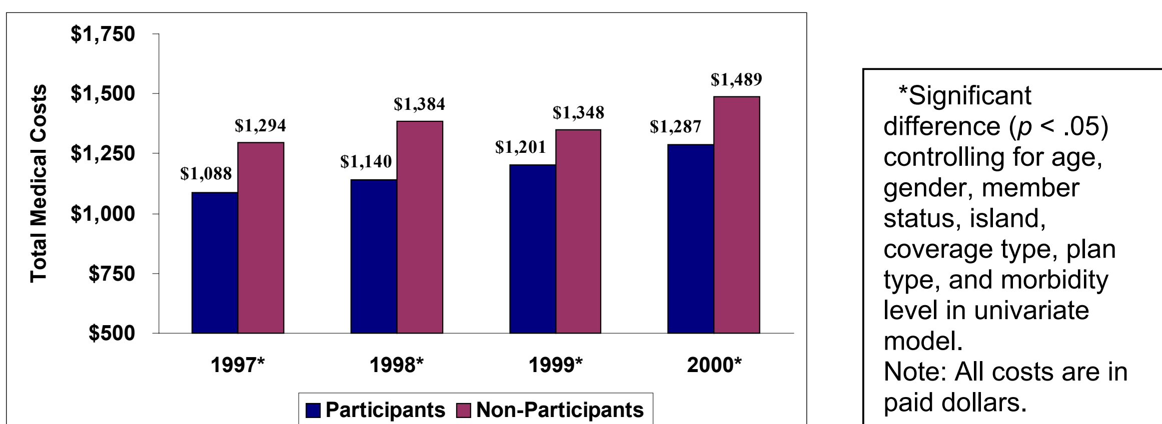
Outliers and data distribution - Although medical cost data are highly skewed, it was believed, given the large sample size, that the untransformed data provided unbiased estimates of the regression parameters with easier interpretation. To control for the effects of a wide variance and skewed distribution of the medical costs on the saving estimation, medical costs over $100,000 (< .1% of claims) were truncated at $100,000.

Results

Lower total medical costs

Of those with claims, *HealthPass* participants cost an average of $200 less than eligible non-participants, controlling for baseline and demographic differences (see Figure 2). This difference represents an average of $4.4 million per year for all participants.

Figure 2. Total Medical Cost Comparisons by Participation Status.

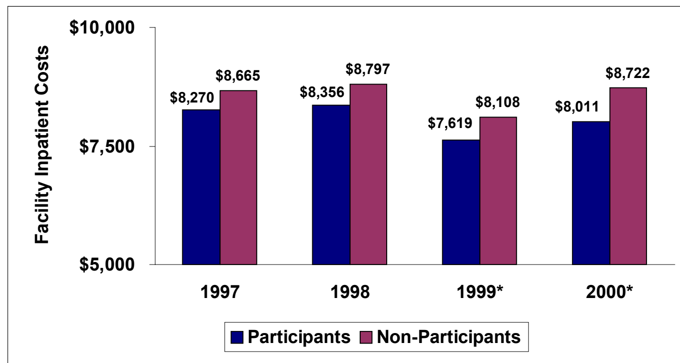


[⊗] based on Johns Hopkins University Adjusted Clinical Group (ACG) Case-Mix System [see www.acg.jhsph.edu for more information]

Fewer inpatient days

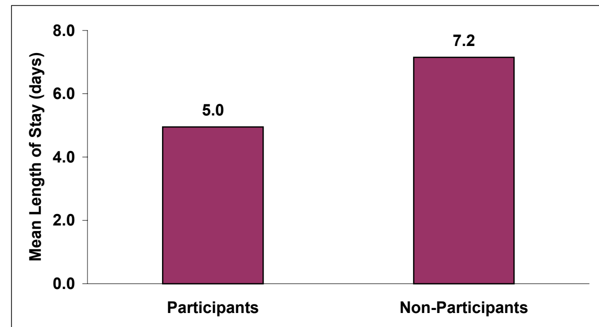
Despite participants being 3 to 4 times more likely to have any claim, non-participants are 50% more likely to have costly inpatient stays. On average, participant inpatient costs are $509 less than non-participants (see Figure 3). This difference represents a total savings of $1.46 million for participants over these four years.

Figure 3. Facility Inpatient Cost Comparisons by Participation Status.



*Significant difference ($p < .05$) controlling for age, gender, member status, island, coverage type, plan type, and morbidity level in a univariate model. Note: All costs are in paid dollars.

Figure 4. Length of Stay by Participation Status.



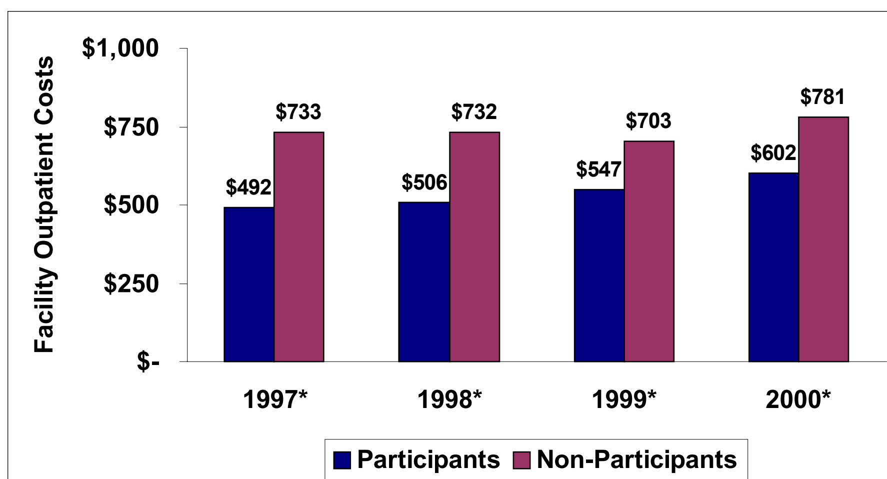
Note: Figure represents average of values for 1997-2000.

Savings may be explained by the observation that among those with inpatient visits; participants have an average of 2 days shorter length of stay than non-participants (see Figure 4).

Lower outpatient costs

Although more likely to have a claim, participant outpatient costs average $200 less than non-participant costs (see Figure 5).

Figure 5. Facility Outpatient Cost Comparisons by Participation Status.



From 1997-2000, 41,352 participant outpatient claims were paid at an average cost of $200 less than non-participants.

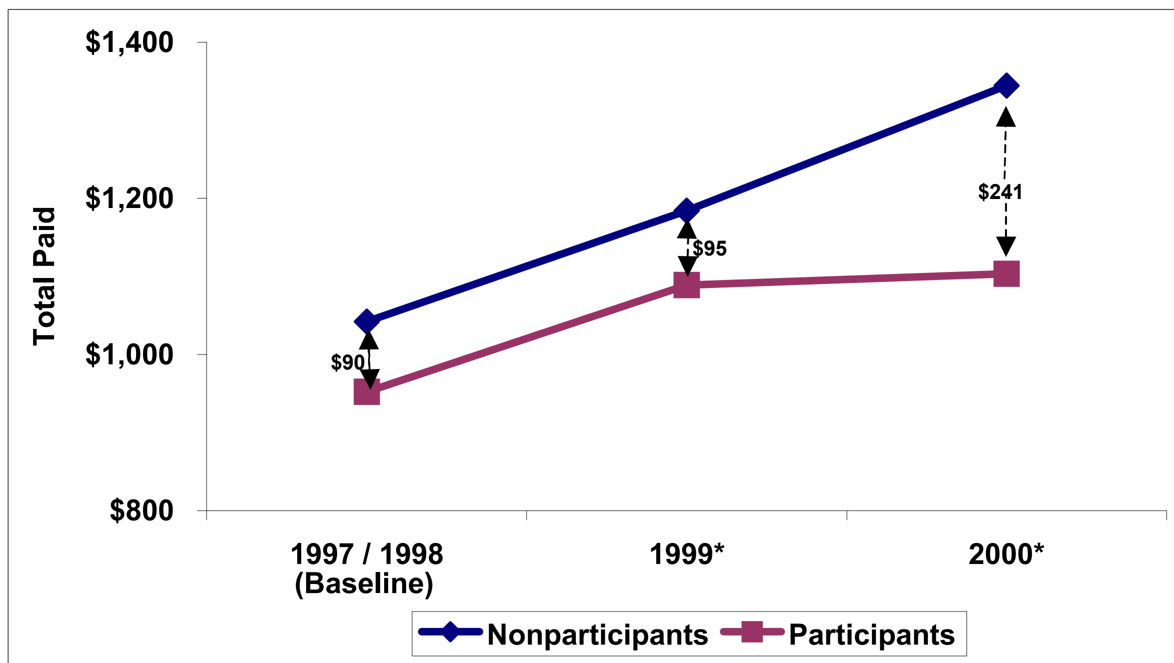
*Significant difference ($p < .05$) controlling for age, gender, member status, island, coverage type, plan type, and morbidity level in a univariate model. Note: All costs are in paid dollars.

Positive ROI in two years or less

Controlling for baseline costs and including all members (with and without claims), participants have an average of $75 lower total medical claims each year (see Table 1 and Figure 6). Overall return-on-investment (ROI) can be calculated based on a number of methods. Using a conservative approach, the *HealthPass* program seems to provide a return of about $1:$1 or a little better than "breakeven" in two year's time. This estimate assumes the *HealthPass* program costs are approximately $150 per participant and the savings over a two-year period are $150. The longer a member stays with the plan, the greater the ROI since the savings for participants continue for each year after the initial participation.

Table 1 and Figure 6. Medical Cost Trends by Participation Status – 1999 Cohort.

	N	1997 / 1998 (Baseline)	1999*	2000*
Non-Participants	94,590	$1,042	$1,184	$1,344
Participants	1,549	$952	$1,089	$1,103
Difference		$90	$95	$241



* Significant difference (*p* < .05), controlling for age, gender, member status, island, plan type, morbidity level and baseline medical costs in a univariate model.
Note: All costs are in paid dollars. HMSA is primary payer.

2a. Impact of *HealthPass* on Health Risks

Reduced total health risks

Health risks were measured using the *HealthPass* HRA*. *HealthPass* sees the total number of risks as a key indicator of a member's overall health and lifestyle, and focuses on reducing the number of risks as well as reducing each risk factor. The association between higher health risks and increased direct medical costs has been well documented elsewhere, as well.[iii,iv,v]

According to the 2000 HRA Management Summary, 12,826 participants completed at least one assessment prior to the year 2000. Of these:

- Those with two or fewer health risks **increased** from 24% to 34%.
- Those with three to five health risks **decreased** from 56% to 52%.
- Those with six or more health risks **decreased** from 21% to 14%.

Improved lifestyle change

The greatest *decreases in risk* were found in the following categories: unsafe driving practices (49%), smoking (29%), mental health issues (22%), alcohol (19%), and exercise (17%) [see Table 2 for the specific percent change in the high risk and at risk groups].

Table 2. Change in Health Risks

Risk Area	Decrease in at risk	Decrease in high risk
Driving safety	49%	51%
Smoking/Tobacco use	29%	44%
Mental health	22%	7%
Alcohol use	19%	36%
Exercise / Activity	17%	32%
Eating habits	15%	25%
Preventive screening exams	13%	9%
Stress management	11%	20%
Self care	8%	23%
Blood pressure control	3%	11%
Back care	3%	9%

Note: Average time between assessments equals 5.2 years

* *HealthPass* uses StayWell Health Management's *HealthPath*® Health Risk Assessment (see Appendix C for information on validity and reliability)

2b. Impact of *HealthPass* on Early Detection and Intervention

Based on biometric screening results and medical history, *HealthPass* members who are identified to be at risk for certain conditions are immediately referred for a secondary screening which includes *bone density scans, mammograms, sigmoidoscopies, or health maintenance exams*.

Early detection and referral

The *HealthPass* program model incorporates the entire continuum of care with a strong emphasis on prevention and early detection. The mission includes striving to prevent and/or delay the onset of disease and provide for early detection of impactable diseases whose morbidity may be lessened with timely intervention. During the year 2000, 4,432 of the 20,058 participants were referred for these secondary screenings with 23% of them resulting in abnormal findings. These participants were then referred to their primary provider for further follow up and care. In this way, *HealthPass* supports HMSA's providers in the continuum of care.

3. Cultural Support

3a. HMSA management support

ISLAND SCENE, HMSA's award-winning member magazine, has featured the *HealthPass* program on several occasions and includes a listing of *HealthPass* offerings in every issue. The magazine has the largest circulation of any publication in the state of Hawaii, reaching an average of 300,000 households with every issue. This commitment to the program demonstrates that *HealthPass* is fully supported by HMSA executive management. The program has been promoted directly by the CEO in many editions and is also referred to in the HMSA annual reports (see Appendix B).

3b. Member support

Year after year, the *HealthPass* program participants are extremely satisfied with the overall program, the professionalism of the staff, and the quality of information provided. Some highlights from the most recent satisfaction survey include:

- **99.3%** stated that the staff provided attentive service when they arrived for their appointment.
- **99.6%** stated that the staff was professional and skillful.
- **99.4%** said the health consultant's explanations were easy to understand.
- **94.7%** agreed that the health consultant helped the participant to develop a wellness goal based on the health risks identified.
- **99.4%** were satisfied with the level of service received.
- **99.6%** would recommend HealthPass to family and friends.
- **98.6%** consider HealthPass an important part of their HMSA plan benefits.

Chapter 4: Description of Benefits

HealthPass Program

Covered, if you are 14⊕ years of age or older when received from or coordinated by *HealthPass,* a screening program that provides you with information about how to build a healthier life by looking at your current lifestyle, health habits, and family medical history.

You are eligible to receive a health risk assessment by calling HealthPass during the period from 30 days before or after the birth month of the person who signs the HMSA application form to make an appointment.

After your assessment, we will work with you to develop a personal health action plan. We can also recommend other health improvement activities and provide support to help you meet your health goals. Yearly visits will enable you to measure your progress and alert you to any changes that might require additional actions to meet your health goals.

After you call the HealthPass office for an appointment, we'll send you a health questionnaire. Your answers will be combined with the results from your annual screening, which includes:

- Height and weight measurements.
- Body fat analysis.
- Blood pressure measurement.
- Blood cholesterol, HDL and glucose screening tests.
- Physical fitness assessment if you return annually.

If applicable, we may recommend that you attend programs to learn more about:

- Nutrition.
- Smoking cessation.
- Weight management.
- Exercise.

If you have certain risk factors that become apparent during your initial screening, you'll be eligible for coverage for additional screenings. Examples include:

- Health maintenance physical examination.
- Mammogram.
- Sigmoidoscopy.
- Bone density testing for osteoporosis.

The HealthPass program operates under the direction of a physician who serves as the program's medical director. HealthPass health consultants are specially trained in preventive health, nutrition, and health promotion.

⊕ Note: 14-18 year olds are eligible for the "HealthPass for Teens" program which is not specifically included in this award application.

Appendix B – Letter from President and CEO, HMSA (Island Scene, Summer 1997)

ISLAND SCENE

Dear Member,

The older I get, the more I become aware (maybe "concerned" is a better word) about the state of my health. But how many of us really know what our blood pressure or cholesterol levels are, or whether our body fat percentage is within healthy limits? Knowing where we stand in relation to medical "norms" lets us formulate a plan of action that can lead to a healthier lifestyle.

At HMSA we recognize that preventive care plays an important role in improving the quality of life and keeping health care costs in check. That's why we created HealthPass, a health screening and education program for members in HMSA's Preferred Provider Plan. HMO members have access to a similar program called StepUp.

I went through a HealthPass screening last year, and the most difficult part for me was facing my cholesterol level and body fat percentage (don't ask). The friendly, professional staff also advised me about foods I should cut down on and the importance of regular exercise.

In January of this year I participated in the Hawai'i Diet Project along with Gov. Ben Cayetano and several other community leaders. That low-fat, low-cholesterol, high-fiber diet got us eating like we know we should. It's been six months since the diet project ended, and my recent HealthPass screening is reporting better numbers.

There's no magic – just a commitment to eat right and exercise.

The first step in correcting any problem is recognizing it exists. That's why I encourage all eligible HMSA members to take advantage of this convenient and valuable benefit. HealthPass can help you take your first step toward better health.

Sincerely,

ROBERT P. HIAM
PRESIDENT AND CHIEF EXECUTIVE OFFICER, HMSA

Appendix C - Validity and Reliability of Health Risk Assessment

The validity and reliability of StayWell's HRA technology has been developed and tested over a 20 year period and has been subjected to rigorous validation testing. Content validity has been assured through a two-step process. Subject matter experts were consulted to identify and prioritize content domains to be included, to identify standard and often previously validated measurement protocols and develop initial questions for testing as necessary. Second, large groups of test participants were asked to complete and evaluate the questionnaire. Subsequent use of the assessment tools by several million participants had provided further verification of exceptional content validity.

Predictive validity of the assessment tools on key indicators such as mortality, medical costs and absenteeism has been validated by several studies[vi,vii].

The American Institutes of Research, Cambridge Research Center, validated mortality predications made by 40 HRA's against cases selected from the Framingham Study that has known mortality outcomes[viii]. The validity of the StayWell HRA, was comparable to the best health risk assessments available in the study.

Reliability of the HRA reviewed concordance between baseline and follow-up risk levels across both self-reported and screening risk measures. For 2-week intervals of test-retest reliability assessment, concordance levels generally approached 100% for most assessed risk areas.

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