The Health Project 2019 C. EVERETT KOOP NATIONAL HEALTH AWARDS APPLICATION



Baylor College of Medicine Houston, TX

BCM BeWell Wellness Program



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https://www.bcm.edu/careers/benefits/bcm-bewell

Vendors: The Vitality Group, Quest Diagnostics, UnitedHealthcare, Optum, Weight Watchers, Baylor Corporate Programs, Reason2Race, Faithful Paws, Real Appeal, CVS/Caremark

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Section I: Executive Summary of Program and Evaluation Highlights

Located at the heart of the Texas Medical Center in Houston, Texas, Baylor College of Medicine (Baylor) is a multifaceted non-profit corporation that specializes in three unique aspects of medicine. Baylor is an acting medical system, an academic health sciences university, and a research institution. Baylor has a dynamic workforce of 10,000+ faculty, staff, residents, and post-doctoral fellows that span the globe and have unique needs. Baylor's medical professionals focus their efforts on improving human health in the communities they serve.

In 2011, Baylor Human Resources (HR) wanted to create a culture of health and well-being among the individuals who performed this task for others on a daily basis. HR began with newsletters and internal social events, "Wellness Wednesdays," where HR employees were asked to create and share healthy food items with the team. In 2012, HR enlisted the help of their actuarial firm and consulting partner, Mercer, to assist with developing strategy that would expand the wellness program to all benefit eligible employees. The first steps for Baylor included hiring wellness coordinator, beginning a partnership with a wellness portal provider (Vitality Group), and using biometric screenings (Quest Diagnostics) to gauge the needs of Baylor's community. The mission of the new wellness program, BCM BeWell, has been to educate, inspire, and create a culture of health and well-being throughout the College. BCM BeWell's goal is to meet participants where they are in their health and well-being journey. Since the expansion in 2014, BCM BeWell has become a staple benefit of Baylor College of Medicine.

Using analytics provided by Vitality Group, reports show Baylor College of Medicine employees have significantly improved their overall health since 2014. With physical wellness being the most highly utilized aspect of BCM BeWell, the percentage of participants meeting recommended guidelines for physical activity1 increased by 14.7% and those meeting the guidelines for nutrition2 increased by 9.7% between 2014 and 2018. According to BCM BeWell's annual company survey, 86.48% of respondents reported BCM BeWell has contributed in the improvements in their overall health and well-being over the last five years. Because of these trends, the increased health awareness, and the program design enhancements from the benefits team, Baylor has experienced a medical budget surplus in 2018 and was able to keep the employee-paid portion of medical insurance premiums static for 2018/2019. In 2017, highly engaged BCM BeWell members helped create a \$1.4 million medical claims savings. Because of the community's improvements to health and demonstrated financial impact, senior leadership of Baylor endorses the BCM BeWell program and in turn continues to allot for program growth including increased breadth and depth of resources available to employees.

Section II: Narrative Description of Program and Evaluation Results

Your Organization

The origins of Baylor College of Medicine date back to 1900, when a small group of physicians and community leaders started a medical school in Dallas to improve the practice of medicine in North Texas. In 1903, the College collaborated with Baylor University and in 1943 relocated to the newly formed Texas Medical Center in Houston. The College gained international attention once Dr. Michael E. DeBakey joined the faculty as chair of the Department of Surgery. Throughout the 1950s, Dr. DeBakey's innovative surgical techniques and advancements helped the College's recognition grow and in 1969, Baylor College of Medicine became an independent institution.

Since then, Baylor College of Medicine has become one of the leaders in medicine and as a teaching institution. Baylor's 10,000+ employees and students improve human health through science, scholarship and innovation all over the world. As a part of this vision, BCM BeWell assists the workforce in being the best versions of themselves in order to help others. While most employees are concentrated in Houston, Baylor has researchers in several African countries, South America, and other countries overseas. Since 2014, the gender demographic has remained relatively unchanged with around 70% of the workforce being female.

Baylor College of Medicine ranks among the top medical schools in the U.S. and in National Institutes of Health (NIH) funding. According to the 2019-2020 News and World Report annual ranking of top graduate schools, Baylor ranked 22nd out of the 152 medical schools in the nation and ranked fourth in the primary care category. The Baylor Physician Assistant program rose to third, from a previous rank of 13th. Additionally, Baylor ranked among the top in the following categories:

- 8th Pediatrics
- 13th Family Medicine
- 15th Surgery
- 16th Obstetrics & Gynecology
- 17th Anesthesiology
- 25th Internal Medicine

Thirteen Baylor College of Medicine departments ranked in the top 30 in NIH funding. The consistent high ranking by U.S. News & World Report is a clear indication of Baylor's strength and the combined efforts of their faculty, staff and trainees. Baylor College of Medicine is a health sciences university that creates knowledge and applies science and discoveries to further education, healthcare and community service locally and globally. The mission of BCM BeWell is to educate, inspire, and create a culture of health and well-being throughout the College. With such a dynamic workforce having a deep passion for helping others and the concerns of having a high stress environment, Baylor HR had to ensure it created a wellness program that was holistic and with the dedicated employees in mind. BCM BeWell's goal has always been to, "meet people where they are" on their health and well-being journey.

Baylor HR implemented a high deductible plan in 2015 and each year contributes to employees' Health Savings Account if they register. Baylor has a small population of employees that use tobacco, <1%, but in 2014, they also added a \$50 per month nontobacco use incentive to further encourage the workforce to make healthier decisions.

Health Management Strategy/Programs

In 2011, Baylor College of Medicine's Human Resources (HR) department wanted to create a culture of health that aided Baylor's community with putting their health and well-being first. With the help of Mercer, Baylor created BCM BeWell and included an onsite wellness coordinator, an innovative science based wellness portal provider (The Vitality Group), and a biometric screening company (Quest Diagnostics). Through their multidimensional wellness initiative (Table 1) they began offering programs for all employees that focus on improving health literacy, the working environment, and providing the tools and resources needed to live a healthy lifestyle. BCM BeWell added spouses and domestic partners included on an employee's Baylor sponsored medical plan in January 2019. Baylor is dedicated to the health of their employees, not just while they are at work but while they are at home with their loved ones as well. Located in the heart of the Texas Medical Center, Baylor provides an environment for employees to thrive. Baylor's buildings have areas for employees to de-stress and build physical activity into their day via nearby tracks, StairWELLs and nature trails. They offer ergonomic risk assessments and various conference rooms equipped with standing options. Some buildings even have full kitchens for employees to prepare their meals. Employees have a variety of options for breakfast, lunch and dinner through onsite cafés and affiliate hospital cafeterias.

Using an interactive wellness portal, BCM BeWell has been able to reach employees despite the challenge inherent to a workforce mobilized throughout the world. After completion of the Vitality Health Review (VHR), participants receive a "Vitality Age" based on the answers of the assessment and any verified screening measures. This helps guide their pathway through the wellness portal, providing notifications about possible web-based goals, programs and education. Using a wellness portal allows BCM BeWell to implement challenges, provide on-demand educational resources, and allow for targeted intervention to participants regardless of where they are on their health journey. Participants can link a number of different fitness devices (Fitbit, Garmin, Nike+, Apple Health, Map My Fitness, and more) to the portal and earn points that equate to bucks to spend in an online mall.

Education is the program's core mission because BCM BeWell believes that engaging and educating employees empowers them with a strong foundation to manage their well-being. Through presentations, online and print materials, and challenges, BCM BeWell uses every teachable moment to increase health knowledge. Another focus is increasing participation in preventative care by education on the importance of creating and maintaining relationships with their primary care physician.

Dimensions of Wellness	Examples of BCM BeWell/ Baylor Resources	
Physical	 BCM BeWell Vitality Program/ Vitality Wellness Portal Getaway to Good Health/ Challenges Biometric Screenings Online and Telephonic Condition Management Programs Educational Seminars/ DocTalks Gym Discounts 	 Healthy Vending Machines Walking Trails BCM BeWell StairWELLS Express Care Clinic Nutrition Consultations (Q4-2019) Mother's Aid Stations Ergonomic Consultations Telemedicine
Social	 Faithful Paws BCM BeWell Events/ Wellness Fair Charity Challenge 	Recognition Programs Reason2Race Community Events
Emotional/ Spiritual	 EAP Program Free Yoga Mindfulness Presentations Integrity Hotline Diversity and Inclusion Programs 	 Volunteer Days Off Onsite Employee Ombudsman Title IX Coordinator Bright Horizons Back-up Care
Financial	 Financial Wellness Week / Mon\$yTalk Seminars Financial 1:1 Appointments Competitive Retirement Plans 	 Personal Finance Coach through AYCO (2020) Pre-retirement Training HSA Contributions
Environmental	 Recycling Programs Commute to Work Benefits Market Days 	Blood Pressure Kiosks Express Care Clinics
Intellectual	 Tuition Reimbursement Advanced Training Programs Book Clubs 	Leadership/ Management Training Bright Horizons College Coach

Table 1: BCM BeWell and Baylor College of Medicine resources available to all employees. (BCM BeWell resources available for benefit eligible employees)

Participation

Since 2014, BCM BeWell has steadily increased participation in the program and in the number of individual activities participants complete (Table 2). BCM BeWell operates on a calendar year from January 1 through

December 31. Participants complete yearly assessments, starting with the VHR, and earn points by completing various activities through the year (Supplement B). BCM BeWell tracks participation two different ways each year. "Enrolled members" are individuals who register in the wellness portal but do not complete yearly activities. They determine "Active Participants" as members who enroll and complete at least their yearly VHR. With the addition of spouses and domestic partners in 2019, BCM BeWell believes this will increase engagement based on increased social interaction through health behaviors and motivation.

			Pi	rogram Participation Trend	ls				
Year	Total Eligible Participants	Percent of Eligible Population Enrolled in Wellness Portal	Health Assessment Completion	Average Monthly Wellness Portal Activities	Total Number of BCM BeWell Activities Offered Each Year	Max Activities Completed by Single Participant	Percent Completing 2 or More BCM BeWell Activities		
2014*	9108	25%	21.8%	0.5					
2015	9226	48%	40.6%	4.1	13	9	29.9%		
2016	9662	55%	38.9%	5.4	22	15	29.7%		
2017	10,116	59%	38.7%	6.0	24	16	41.4%		
2018	10,708	62%	39.3%	7.2	24	15	42.4%		
Data pro	10,700 62% 39.3% 7.2 24 13 42.4% *Initial program year from 5/1/2014-12/31/2014 Data provided by The Vitality Group All percentages are as of 12/31 of the given year. ndividual event tracking started in 2015 to distinguish between "enrolled" and "active participation".								

Table 2: Program participation trends from 2014 through 2018.

* Individual participation not tracked in 2014.

Longevity/Design Changes

Each year, BCM BeWell analyzes all data gathered through participation in the wellness portal, biometric screenings, interest and feedback surveys, medical claims, workers comp, pharmacy claims, etc., to create a program that is tailored to the needs and wants of the Baylor College of Medicine community. Since implementation, Baylor has seen a minimal rise in medical cost trends due to the partnership of the BCM BeWell team, medical benefits design, insurance provider, actuaries, and others.

With the assistance of Baylor's various departments, such as Family and Community Medicine, Baylor is able to offer annual onsite flu vaccinations. UnitedHealthcare offers disease management, healthy pregnancy and the Quit for Life tobacco cessation coaching program. Baylor offers these resources at no cost to employees. Since 2014, BCM BeWell has continually added resources to enhance the program. (Table 3)

	Wellness Program Strategic Plan and Prog	ram Milestones (Developed by Mercer/ BCM BeWe	ell)
Year	BCM BeWell Goals		
2011	Wellness Wednesdays within HR	Internal Wellness Newsletters	
2012	 Conducted an inventory of wellness programs available through UHC and BCM. Evaluate effectiveness of current programs. Presented to Senior Leadership to gain approval for wellness. 	 Evaluated the need to outside wellness consulting. (BCM decided to use Mercer) Developed a Wellness Champion Network (50) 	Created Financial Fitness Week presentations
2013	 Implemented a formal health assessment. (Utilized UHC's assessment while vetting potential vendors) Conducted onsite biometric screenings (UHC) Offer tobacco cessation program. (UHC) 	 Leveraged internal resources for biometric screening follow-up Used Mercer to assist with wellness portal RFP process 	 Utilized social media avenues for enhanced communication.
2014	 Implemented interactive wellness portal to serve as central hub for wellness initiative. (Vitality was launched) Implemented incentive management strategy using Vitality and internal resources. 	 Conducted onsite and offsite biometric screenings using venipuncture method for expanded results. (Quest) 	 Implemented nontobacco incentive. Hired a full-time Wellness Coordinator to focus exclusively on wellness. (Jesse Gavin)
2015	 Launched Baylor wide campaigns to encourage focus on high blood pressure, diabetes, heart disease, and obesity. (Getaway to Good Health) Implemented premium reduction incentive strategy. Apply for awards geared towards wellness. Partnered with Weight Watchers 	 Leveraged internal resources (Developed "DocTalks") Implemented team sponsored community events including 5K walks and BP MS 150. Added High Deductible Plan Option 	 Increased wellness champion participation. (100) Utilized 25-30 points of communication to expand program outreach.
2016	 Added additional full-time wellness staff member Developed internal diabetes management program with internal resources. (E3 – DiaBEATes) 	 Partnered with additional internal departments. (Offered vision and hearing screenings during screenings) 	Expand premium reduction
2017	 E3 was launched at inaugural site. Partnered with Reason2Race to offer community based charity program. 	 Expanded onsite environment through StairWELLS and onsite cafeteria vendors. 	Added Volunteer Time Off
2018	Added additional blood pressure kiosk at remote location (Increase to 3 total) Increased report and claims reports to show ROI	 Expanded Financial Wellness offerings through presentations and education. Added specific BCM Life wellness program for students. 	 Added Real Appeal telephonic coaching service through UHC
2019	 Added additional BCM BeWell staff member. (Registered Dietitian) Added spouses on the medical plan to the wellness initiative. Added "MoneyTalk" presentations Transitioned to eHealthScreenings as our screening partner to enhance education. 	 Expanded premium reduction incentive Add pharmacy and Rx data to claims report for expanded ROI 	 Offer nutrition consultations (Q4) Increase participation among faculty Faculty focused Mental Health Director
2020	 Focus on enhancing policies and procedures for align with employee health and well-being 	 Offer personal financial coaching through AYCO 	

Table 3: BCM BeWell strategic plan and program highlights from 2011-2020. 2011-2015 created by Mercer and 2016-2020 created by BCM BeWell.

Incentive Structure

All benefits-eligible employees qualify to receive incentives through the BCM BeWell program. The program offers a variety of incentives for both participation and outcomes tied to health metrics. Participants can use the points they earn in the wellness program toward gift cards and fitness devices through an online mall. This allows participants to earn immediate rewards throughout the year.

Aside from these immediate incentives, BCM BeWell also offers a medical insurance premium reduction incentive to individuals who achieve a designated amount of points in the portal during the year. Baylor applies the premium reduction for the entirety of the following calendar year. Employees not enrolled in the Baylor medical plan or those with fully subsidized insurance (e.g. residents), are eligible for gift cards as a substitute to the premium reduction.

One reason the wellness initiative has been successful in utilizing internal resources is the ability to offer "Employer Sponsored Points". Within the portal, employers can offer their own individual points for any activity they would like to include as part of their wellness resources. BCM BeWell used the points to increase participation in flu shots, financial wellness and open enrollment presentations.

Incentive Design and Criteria						
Year	Vitality Portal Incentives*	Premium Red	Premium Reduction Criteria			
		Required BCM BeWell Vitality Points	Premium Reduction Percentage			
2014*	Gift Cards and Devices					
2015	Gift Cards and Devices	16,000	15% on individual only			
2016	Gift Cards and Devices	16,000	15% on individual only			
2017	Gift Cards and Devices	16,000	20% on individual only			
2018	Gift Cards and Devices	18,000	20% on individual only			
		Ind. = 15,000 Points	20% Reduction on individual only medical insurance			
2019	Gift Cards and Devices	Ind. and Spouses = 20,000 Points (5,000 from Spouse)	10% Reduction on Individual plus Spouse medical insuranc			

Gift cards are given to individual who meet the criteria but do not pay premiums (residents) or are not on a Baylor medical plan.

Table 4: BCM BeWell incentive design changes from 2014-2019.

Addressing Disparities

As previously mentioned, Baylor faces a challenge of their workforce being located throughout the world. BCM BeWell works diligently to be inclusive to create that overall culture of wellness. They record select presentations and make them available online for individuals who work at any of the affiliate locations or around the world. The most common message sent by BCM BeWell is, "No matter where you are in the world, you can still participate and have access to the resources available through BCM BeWell." The wellness portal has allowed BCM BeWell create a program that is beneficial for all participants. With all of the challenges offered, there are three different incentive structures for completion. This allows participants that are more active a chance to challenge themselves while individuals just starting their health journey can earn incentives at their own pace.

To ensure the wellness program is legally compliant with any updated wellness laws and regulations, BCM BeWell works closely with their legal team to ensure they communicate all reasonable alternatives to those who might need them throughout the year. For example, during the Getaway to Good Health virtual walking challenge BCM BeWell has participants who develop injuries throughout the year so they develop alternative ways for them to participate. BCM BeWell does an audit at the end of each year to check the Summary Plan Description and intranet pages to ensure they are up to date with information.

Because people learn in different ways and have different interests, BCM BeWell uses resources created in different formats including written, verbal and auditory, as well as, through technology and in person. Baylor College of Medicine is a young community when compared to other organizations, with an average age around 40. Although BCM BeWell relies on technology, they do not forget that social interaction is a key component in an individual's health.

Communication/Internal Collaboration

BCM BeWell actively utilizes 25-30 different forms of communication (Table 5), including but not limited to newsletters posters, media screens, video, intranet postings of information and videos, push notifications to smart phones, face-to-face presentations, and promotion tables to continually provide ongoing information to

employees. Participants have access to a full library of health information at any point during the day. Additionally, BCM BeWell collaborates with Baylor's insurance carrier, UnitedHealthcare, to send out targeted information based on identified conditions to offer disease management and control gaps in care.

BCM BeWell has recruited a network of over 80 Wellness Champions to aid in dispersing communication to employees as well as to serve as peer role models. Wellness testimonials are collected and communicated to employees to further serve as positive peer modeling.

Communication Avenues	Examples	Frequency
Intranet	Main Page Announcement HR Page Announcement Wellness Page Announcement	Once for 2 weeks Multiple times for 2 week span No time limit
Print/ Visual	 Flyers Posters TV Screens Table Tents 	Unlimited Unlimited Multiple times for 2 week span Unlimited
Email	Newslink Signature HR Email Blast Company Wide Email Blast Email from Dr. Klotman Wellness Email HR Connections Out of Office Message	 Weekly Friday Email Unlimited 2x Per Year 2x Per Year Once per year As Needed Once a month As Needed
Newsletters	Wellness Newsletter Challenge Newsletter BCM Family Wellness Champ Newsletter	 Monthly Monthly Monthly Monthly Monthly
Vitality Wellness Portal	 Newsfeed Notification App Notification Alert Message 	 Unlimited Unlimited Unlimited Unlimited
Other	 Wellness Champs Word of Mouth Promo Tables Events Facebook Department Meetings Wellness Champ Meetings 	 Unlimited Unlimited As Needed As Needed Unlimited As Requested Quarterly

Table 5: Communication avenues utilized by wellness program.

Health Management Scorecard Data

Employers and providers use the HERO scorecard to determine best practices for wellness initiatives and building a company health culture. With a score of 159 out of 200 possible points, Baylor College of Medicine is well above the national average, which displays their dedication to health and well-being. Baylor excelled in areas such as Strategic Planning, Programs, Participation Strategies, and Measurement & Evaluations. However, HERO noted improvements needed in the Program Integration category. Baylor's partnerships and internal programs will continue to improve the overall experience of employees to provide the best care and resources provided.

	Your Score	National average	Max # of points
Section 1: Strategic Planning	18	10	20
Section 2: Organizational & Cultural Support	39	23	50

Section 3: Programs	32	21	40
Section 4: Program Integration	4	5	16
Section 5: Participation Strategies	46	22	50
Section 6: Measurement & Evaluation	20	9	24
Total Score	159	90	200

Table 6: 2019 HERO scorecard results for Baylor College of Medicine.

Section III: Evaluation Methodology & Business Case Results

BCM BeWell uses a wide variety of data outlets to track and report outcomes for the wellness program. They use feedback surveys and questionnaires to gauge participants' thoughts on programming and what they feel the wellness program should implement. BCM BeWell uses health claims data and pharmacy data to determine the long-term impact of the wellness initiatives to the self-funded health care plan. Lastly, they use the wellness portal and screening vendor to determine real-time needs for wellness interventions.

In 2018, 1,561 employees completed BCM BeWell's annual survey and 86.48% reported BCM BeWell has assisted them in improving their overall health and well-being over the last 5 years. They offer biannual on-site biometric screening events with multiple date and physical location options to accommodate a mobilized workforce. Screenings are followed by a presentation with in-person and streaming options to educate employees on their results with the goal of bridging the gap between participants and their primary care physicians. BCM BeWell facilitates these onsite screenings at 95% of the locations. Participants may also opt to attend an off-site screening through any clinic at their convenience.

Participation and Engagement

BCM BeWell has tracked participation in BCM BeWell activities and wellness portal status since the beginning of the expanded program in 2014. For monthly wellness portal activities, they used a comparison between the portal's book of business and members participating in the BCM BeWell program. Starting in January 2015, BCM BeWell participants surpassed the portal's book of business. In 2015, BCM BeWell members averaged four activities per month across all eligible BCM BeWell participants, compared to 2.8 for other wellness programs. At the end of 2018, members averaged more than seven activities per month across the full eligible employee population (0.8 activities per month higher than the Vitality program average). (Figure 1) Baylor attributes this to BCM BeWell's focus on utilizing internal services, offering a medical premium reduction incentive and Employer Sponsored Points. These factors have also helped BCM BeWell participants achieve higher status levels in the portal and increase their engagement in the program. (Figure 2) By the end of 2014, 245 participants achieved gold or platinum status and in 2018, this number increased to 2,719. As Baylor's culture of health and incentive structure improved, additional employees wanted to take part in BCM BeWell and utilize the College resources available to them.



Figure 1: Number of monthly activities per participant.

	PΥ	(1	PΥ	2	P۱	13	P۱	4	PΥ	5
Earned Status	Count	%								
Bronze	7,928	87.0%	6,477	70.2%	6,808	70.5%	6,920	68.4%	7,220	67.4%
Silver	935	10.3%	588	6.4%	559	5.8%	810	8.0%	769	7.2%
Gold	208	2.3%	704	7.6%	586	6.1%	652	6.4%	646	6.0%
Platinum	37	0.4%	1457	15.8%	1709	17.7%	1734	17.1%	2073	19.4%
Gold & Platinum	245	2.7%	2,161	23.4%	2,295	23.8%	2,386	23.6%	2,719	25.4%
Total Population	9,1	08	9,2	26	9,6	62	10,	116	10,	708



A common critique of wellness programs is the result of self-selection bias. Critics fear that the healthiest employees tend to be the most robust participants and that wellness programs do not address high-cost claimants or those employees with pre-existing health conditions. BCM BeWell used a quasi-experimental design to compare the wellness portal participation of individuals who fall within the top 20% of high cost claimants and the bottom 80%. The results show engagement is comparable in both groups with 32.6% of the participants experiencing the highest claims achieving silver, gold or platinum in 2018, compared to 35.2%. (Figure 3) This shows individuals living with chronic conditions are engaging in the wellness program and likely

yielding positive results. BCM BeWell is a proven resource for everyone, even the participants who fall within the top 20% of medical cost claims have shown to be actively engaged in the program.



Figure 3: Engagement and status level of top 20% of high cost claimants versus bottom 80%.

Biometric and Lifestyle Risk Trends

Since 2014, Baylor employees have shown positive results from participating in the BCM BeWell program. Based on reports provided by UnitedHealthcare, there has been a 7 percent increase in participants receiving their age appropriate preventative physicals.

To gauge the risk trend of the Baylor population, BCM BeWell focuses on the increase or decrease in risk for 10 different clinical and lifestyle factors that are defined in Figure 4.

Methodology Risk Factor Definitions

Risk Factor Biometric Risk Factors	Low Risk	At Risk	High Risk
Body Mass Index (BMI)	18.5 to 24.9	25 to 29.9	Less than 18.5 or 30 or higher
Systolic Blood Pressure (mm Hg)	Less than 121	121 to 129	130 or higher
Diastolic Blood Pressure (mm Hg)	Less than 81	n/a	81 or higher
Total Cholesterol (mg/dL)	Less than 200	200 to 239	240 or higher
Fasting Glucose (mg/dL)	Less than 100	100 to 124	125 or higher
Triglycerides (mg/dL)	Less than 151	151 to 204	205 or higher
Lifestyle Risk Factors			
Alcohol consumption (frequency perweek)	Females: 7 or fewer Males: 14 or fewer	n/a.	Females: more than 7 Males: more than 14
Physical Activity (average minutes per week)	150 minutes or higher (moderate to vigorous intensity)	60 to 150 minutes (moderate to vigorous intensity)	0 to 60 minutes (moderate to vigorous intensity) or any low intensity
Fruits and vegetables (daily servings)	5 or more	2 to 4	0 to 1
Stress (Kessler score)	Less than 20	20 to 29	30 or higher
Tobacco Use	Never	Previously	Currently

Figure 4: Description of risk stratification definitions.

A McNemar test determined whether there was a significant difference between the pre- and post-risk factor measurements. Participants with pre- and post- measurements fewer than 90 days apart were excluded from analysis. Biometric risk factors are derived from biometric screening or submitted primary care physician results. Lifestyle risk factors are self-reported data assessed through the yearly online assessments. Baylor observed statistically significant results in risk reduction for systolic and diastolic blood pressure, tobacco use, alcohol use, nutrition, and physical activity (Figure 5).

Similar to the individual risk analysis in Figure 6, an overall lifestyle and biometric risk analysis was conducted including the same risk factors and inclusion criteria, but requiring members to have reported measures for all risk factors with at least 90 days between the first and last measurements. Risks groupings were based on the count of elevated risks (0-2, 3-4, and 5+) using the stratifications defined in Figure 4. 1,795 members were included in this analysis with an average of 3 years between the first and last measurements. Overall lifestyle and biometric risk for a consistent cohort, measured as a count of elevated risks, decreased by 15% even though the cohort itself aged by an average of 3 years.

Because BCM BeWell noticed an increase in fasting glucose risk, they decided to leverage internal resources and create a program to combat this rising diabetes risk. Through a partnership with Baylor's Corporate Programs, Baylor College of Medicine developed the E3: DiaBEATes program. Currently on its fourth cycle, E3 has already proven to be an effective resource. As E3 collects and analyzes more results, the goal of the program is to produce a sustainable, cost effective program that will be made available to other organizations. While creating proprietary, tailored programming is beneficial to employees. After discussions with Baylor's internal clinicians, BCM BeWell suspects this increase in glucose risk to be from decreasing adherence to fasting instructions during subsequent screening years, which has skewed the overall results. In prior years, biometric screening staff was reticent to turn away non-fasted participants from screenings. Beginning in 2019, participants cannot complete the biometric screening unless they are truly fasting. This will aid in eliminating confounding data from the risk analysis.

	Risk Factor	Members	Stayed at Low Risk	Increased to Elevated Risk	Stayed at Elevated Risk	Decreased to Low Risk	Significance Indicator	Net Change in Risk
	BMI	2,437	43%	5.0%	46%	6.1%		-1.1%
	Cholesterol	2,443	58%	10.3%	21%	10.4%		-0.1%
Biometric	SBP	2,438	58%	12.6%	14%	15.3%	\checkmark	-2.7%
	DBP	2,438	71%	9.9%	6%	12.6%	4	-2.7%
Bio	Glucose	2,431	79%	7.6%	7%	6.1%		1.4%
	Tobacco Use	3,908	88%	1.3%	8%	2.6%	4	-1.3%
	Alcohol	3,909	97%	0.7%	1%	1.5%	\checkmark	-0.7%
e	Stress	3,908	75%	7.6%	9%	8.6%		-1.0%
Lifestyle	Nutrition	3,917	11%	5.5%	68%	15.1%	\checkmark	-9.7%
Ě	Physical Activity	3,984	22%	8.7%	48%	21.5%	4	-12.8%

Figure 5: Cohort analysis of biometric and lifestyle risk transitions for employees from 2014 – 2018; p<.05.

Physical Activity

In 2014, BCM BeWell created a culture audit to gauge employee perception of health and well-being. In response to a common trend highlighting sedentary workplace conditions, they wanted to create an initiative to encourage employees to move more during the day. Participants can synchronize their accelerometers to the wellness portal to track their daily physical activity. They can also load gym workouts into the system to gain "verified workouts" and daily points. Verification of the workouts minimizes the chance an employee submits false activity tracking or enhanced results. Using a prospective observational analysis, the number of employees who are completing verified workouts, the type of physical activity has also increased in intensity. When this is compared to the vendor's book of business, BCM BeWell participants achieved more verified workouts in 2017 (PY4) and 2018 (PY5) and have surpassed their overall number of workouts completed each year since 2015.



Figure 6: Number of verified workouts per employee and type of verified workout versus Vitality's book of business.

The significant increase in physical activity starting in 2015 is directly attributed to the sustained success of the Getaway to Good Health challenge. In 2015, BCM BeWell created the Getaway to Good Health campaign, a 6-year interactive virtual step challenge around the United States. Each year, the campaign is broken down into 10-month individual challenges where participants virtually walk to different cities. Through the years, this challenge has motivated employees to sit less and make changes to their overall daily habits. Aside from increases in step data as reported through the portal, there is a palpable culture change associated with this challenge. Employees are seen bringing tennis shoes to work. Some departments have even made the challenge their own by hanging a map with avatars of departmental employees indicating where each employee is along the route to encourage walking and a little friendly competition.

To determine the true results of this challenge, BCM BeWell grouped the participants based on the number of challenges they participated in from 2015 to 2018. A pre- and post-test experimental design was analyzed for each member group to determine whether the number of years a participant completed the challenge effected their risk measurements and physical activity. (Supplement D) BCM BeWell designed this challenge with graded task assignment theory as a basis. Mid-point milestones provide encouragement to less active participants, and the step count for the grand prize increases with each subsequent year. Individuals who have completed all four challenges to date averaged 9,226 steps per day, compared to 538 steps for people who do not participate. When looking at overall risk reduction, measured using a combined relative risk score of all biometric and lifestyle risk factors, individuals participating in all four years had a 23% risk reduction versus 7% of individuals not participating. This is also similar to a decline in physical activity risk, 24% versus 8% respectively.

Participation in the Getaway to Good Health challenge is a proven behavior change resource for individuals in the BCM BeWell program. Multiple employees have mentioned postponing their retirement until the conclusion of the challenge in December 2020.

Business Outcomes/Financial Impact

In 2018, BCM BeWell began looking at engagement and the effects on medical cost savings for the College. They used a third party analytics partner, SCIO Health Analytics, to analyze medical claims and participation in BCM BeWell from 2015-2017. Since all benefits-eligible employees have access to the wellness program, individuals who choose to elect coverage outside of Baylor were excluded from the data. Participants were further separated by engagement in the wellness portal each year. Participants in the "highly engaged" group achieved a status of Gold or Platinum in 2017, while individuals not enrolled or achieved Bronze/Silver were placed in the "non-engaged" group.

Pharmacy data was not available for this analysis; however, BCM BeWell is currently working with CVS/Caremark to integrate pharmacy claims into future analysis. BCM BeWell analyzed the individual savings and the total cost savings from 2016-2017. (Table 7) There was not a significant return on investment in 2016 to report using only direct medical cost savings. In 2017, the total cost savings for only the highly engaged members totaled \$1.4 million. Additional cost savings were highlighted when expanding the data to include the members who achieved silver status in 2017. Based on engagement, the analytics team concluded these cost savings for individuals and the College are directly attributed to the BCM BeWell program. Baylor College of Medicine has experienced decreasing overall medical claims, which allowed the employee-paid portion of medical premiums to stay the same from 2018 to 2019. BCM BeWell works closely with Baylor's medical and pharmacy vendors to understand employees' most common diagnoses and weave solutions into the program such as adding Centers of Excellence and various pharmacy options.

Summary of Total Medical Cost Savings

Measurement	Total Return on Investment Savings for Baylor College of Medicine for PY4 (2017)
Evaluation Design	Quasi-experimental study design comparing the sum of medical costs from 2016 versus 2017 for engaged and non-engaged participants.
Number of Eligible Participants	2016: 6,628 eligible for full wellness portal year. 5,476 eligible for full United Healthcare (UHC) year. 2017: 8,012 eligible for full wellness portal year. 6,743 eligible for full UHC year.
Participants Included	N = 5,446
Participant Selection Method	 Participants who were not enrolled in both UHC and the wellness portal in both 2016 and 2017 were excluded from analysis. 5,446 participants who were both enrolled in the wellness portal and active members of UHC in both 2016 and 2017. 1,805 members in the "engaged" group achieved gold or platinum wellness portal status in 2017. 3,641 members in the "non-engaged" group in the bronze or silver wellness portal status in 2017.
Control/ Comparison Group	3,641 members in the "non-engaged" group in the bronze or silver status in 2017.
Key Outcomes and Results	Engaged participants saved an average of \$333 per member per year (PMPY) when compared to non-engaged participants with a total direct savings of \$600,271 in 2017 and an indirect savings of \$750,339, totaling \$1,350,609. This equated to an ROI of 1.76 in 2017. The analysis was done using medical claims only from 2015-2017. Significant results were not noted in 2016 from medical claims. Once pharmacy data and the 2018 claims are analyzed, additional ROI is anticipated.
Analysis/ Statistical Methods	Propensity score matching was used for this analysis to correct for any selection bias. Engaged members were repeatedly matched with non-engaged members on similar variables such as age, gender, and condition counts. This matching process was repeated several times to ensure true cost savings. Indirect savings reflects savings from reduced presenteeism, absenteeism, long -term disability, and short -term disability. This amount is calculated using a factor of 1.25 applied to the direct savings. The factor of 1.25 is based on an in -depth analysis of indirect savings as part of Vitality's recent award -winning analysis and submission for the 2011 C. Everett Koop Award.
Relevant Statistics	100% of bootstrap samples have confidence intervals that do not span zero; 95% confidence interval.
Publication	Publications are currently being written.

Table 7: Return on investment calculations for 2017. (Analysis was done from 2015-2017)

Expanded Business Opportunities

Due to the success of the BCM BeWell program and Baylor's overall commitment to wellness, companies have asked Baylor to consult on their wellness programs to see how to begin or improve their own efforts. This has led to business partnerships that increase revenue for the College. This partnership also allowed Baylor to expand the wellness initiative to the student community. The Office of Student Services created "BCM Life" in 2018 to enhance the social, financial, mental, and physical well-being of Baylor's 1,600+ students in order to set them up for success in becoming future healthcare practitioners.

Vitality Group and Baylor College of Medicine created an additional partnership in 2017. This Baylor-owned franchise opportunity allows us to offer clinical and well-being solution to small and mid-market corporations in Texas. The agency has access to Baylor resources and an in depth wellness strategy, which is appealing to employers seeking healthcare and wellness solutions. The E3:DiaBEATes program is still in its early stages of testing but the goal would be to market this solution to assist employers lower their risk of diabetes and provide a workplace-based condition management strategy.

Baylor and BCM BeWell have won numerous awards for our wellness initiative, which helps our brand recognition as a leading health sciences university in Houston. In 2016, Baylor placed fifth for the National Healthiest 100 award by Healthiest Employers LLC. Among others, BCM BeWell also won the inaugural Bill Baun Memorial Excellence in Wellness award from the Houston Business Coalition on Health in 2017 and the American Heart Association has ranked the organization among the healthiest companies in Houston since 2015.

Potential Limitations, Improvements, and Conclusion

As mentioned in this application, Baylor would like to focus on multiple areas within BCM BeWell going forward. BCM BeWell has currently taken steps in 2019 towards improvements that will lead to enhanced reporting capabilities and the ability to identify cost savings such as adding pharmacy claims data from 2017 and going forward.

In this application, BCM BeWell highlighted analysis on programs that have yielded positive results. With most wellness programs, there is a selection bias in the data shown. The positive results could be from people wanting to make changes regardless of a present wellness program or high participation from an already energetic and engaged group of employees rather than the program's effectiveness to produce results. While this might be true, Baylor believes the BCM BeWell program provides the right resources to allow the community and the individuals who are a part of it to create that change for themselves. Cost avoidance is not included in this analysis because of the inconclusive nature of the results. It cannot be determined if the condition avoided is directly due to the program. However, BCM BeWell has shown not only healthy people participate and the programs/interventions have assisted employees in making more conscious health choices, reducing overall risk, and enhancing quality of life within Baylor and at home. Based on feedback, BCM BeWell is one of the most common answers of what employees liked most about working at Baylor College of Medicine.

Going forward, BCM BeWell would like to take the success of the interventions and integrate their holistic programming into the organizational infrastructure at Baylor. This includes collaboration between clinic services to enhance employee care and the creation of a seamless referral network for at-risk employees. This also refers to internal policies and procedures. Baylor wants to ensure the work environment is promoting an overall healthy work/life balance and culture. They would also like to bridge the gap between various departments to enhance the College's previously demonstrated teamwork to meet the needs of Baylor College of Medicine.

References

- 1. https://www.cdc.gov/physicalactivity/resources/recommendations.html
- 2. https://health.gov/dietaryguidelines/

Section IV. Supplemental Documentation

Supplement A: Case Study (2017)



Supplement B: Baylor New Hire Orientation Information and 2019 Incentive Structure



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2019 Earning Points and Status

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How to achieve Vitality Status:

VITALITY STATUS

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Supplement C: 2018 BCM BeWell Claims Analysis Infographic







Risk Transition results include the first and last measurement on file for all employees who were eligible for at least part of all four challenges between 2015 and 2018 and eligible as of 12/27/2018. The measurements were taken at least 90 days apart and include either self-reported or verified metrics for each employee.

Supplement E: 2015 Email from Dr. Paul Klotman, CEO of Baylor College of Medicine

At Baylor College of Medicine, we are committed to the health and well-being of our community through the work we do in all of our mission areas. As employees of an academic medical center, we also have a unique opportunity to be role models for a healthy lifestyle.

Our BCM BeWell team will be offering many opportunities in 2015 to be active and make healthy choices, starting with the Getaway to Good Health campaign. Employees who sign up for this campaign will be able to get a free Fitbit to track their steps per day, and those reaching certain milestones will be eligible for prizes. I encourage all benefits-eligible employees and residents to get involved. By challenging one another and even engaging in some friendly competition, we can all be more active this year. Sign up for the Getaway to Good Health by contacting BCM BeWell.

I also encourage you to participate in another BCM wellness initiative – the BCM BeWell biometric screenings, which will take place this spring at various campus locations, including the Children's Hospital of San Antonio. This confidential health analysis will measure your Body Mass Index, blood pressure, blood glucose and cholesterol levels, allowing you to identify potential health problems before they become more serious.

The wellness program will offer plenty of other activities throughout the year, including organized teams for the MS 150 bike race and Avon 39: The Walk to End Breast Cancer. Please consider joining as a participant or volunteer by contacting BCM BeWell.

We're pleased to offer the BCM BeWell program to employees to inspire and create a culture of healthy living and wellness throughout BCM.