

UNC CENTER FOR THE BUSINESS OF HEALTH

Measuring the True Value of Corporate Well-Being Interventions

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For more than a year, researchers across the University of North Carolina at Chapel Hill's (UNC) Kenan-Flagler Business School (KFBS) and School of Medicine (SOM) worked with Sharecare, Inc. (Sharecare) to establish a framework for measuring the true value of corporate well-being interventions and develop a measurement tool to quantify their impact over time. The goal of the research was to assess the value of implementing corporate well-being interventions to improve employee health and lower direct medical costs to employers. Though digital well-being companies often publicly market potential cost savings associated with utilization of their products, verifying this value through measurement remains a common industry challenge due to misalignment between digital health interventions, individual health and disease trajectories, and financial evaluation techniques.¹

In this paper, we discuss the benefits of leveraging a value on investment (VOI) framework rather than traditional return on investment (ROI) methodologies to assess corporate well-being solutions. Though ROI evaluation techniques are ubiquitous across industry and align to other corporate enterprise-wide investments (e.g., technology, workforce solutions, people services), they lack the flexibility to properly evaluate behavioral interventions because they neglect the toll of disease on individuals and companies and undervalue disease prevention by excluding downstream impacts (e.g., employee illness days or poor performance related to illness) in the analysis. We highlight the benefits of a VOI framework, discuss the measurement tool created by the UNC research team, and present a corporate use case to illustrate how companies can measure the true value of well-being interventions within their population.

Value on Investment: An Evaluation Framework

Companies use ROI methods to assess the financial return generated on an investment over a specified period of time, often reporting results quarterly or annually through traditional financial statements. Since profitability is the desired output, these methods limit their analysis exclusively to financial cost and return to provide operators, executives, and shareholders visibility into a program or asset's effectiveness to create financial value. However, due to the limited analytical aperture, traditional ROI methods fail to capture a comprehensive view of programs that involve human behavior change, health management, or cultural transformation because these values do not yield predictable or consistent results according to corporate financial reporting periods or annual budgeting cycles.² In fact, focusing exclusively on financial indicators cuts against many corporations' Environmental, Social, and Governance (ESG) goals, as defined by their management and corporate advisory boards. As such, we recommend companies supplement traditional

¹ Digital well-being companies frequently associate financial value with utilization of their products by citing one of two metrics: return on investment (ROI) or maximum potential cost savings. Companies that cite ROI do not typically provide the data on cost or outcomes to verify their claims. Alternatively, companies that cite a maximum per person potential cost savings amount typically do not provide effectiveness data to establish a causal relationship between the savings referenced and their specific product. As a result, substantiating these claims remains a challenge across industry. We do not provide specific company claims here, however, multiple examples are available through a simple web search.

² In this statement, we do not mean to suggest that ROI analysis is not an appropriate analysis tool for measuring financial return of specific programs, including corporate health or well-being programs. Rather, our intention is to expand on traditional ROI methods to include financial and non-financial measures. Many of the non-financial measures do not fit into traditional ROI models, therefore we recommend adapting the evaluation method to accurately reflect the desired measurement.

ROI evaluation with more robust VOI frameworks when evaluating corporate well-being programs or expenditures.

Recent industry conversations regarding VOI frameworks spawn from earlier adaptations to the ROI evaluation method that sought to include non-financial metrics to assess corporations' social and environmental impact. As companies grappled with their societal role(s) and function(s) in a changing world, many organizations began to adopt ESG goals that included reducing negative environmental impact, increasing accountability and transparency, managing social perceptions, positively engaging internal and external stakeholders, and improving the employee experience. These topics, once considered secondary to profitability, have recently become Chief Executive Officer (CEO)-level issues that require new types of corporate investment, programming, and evaluation. In today's corporate environment, they are central to many companies' core business strategy due to their necessity for retaining or recruiting top talent and ability to shape and drive (or negate) consumer demand.

Tasked with measuring the value of Sharecare's digital suite of health interventions, the UNC Center for the Business of Health (CBOH) collaborated with Sharecare's Research Team to develop an assessment methodology that focused on value creation. This provides two benefits beyond a traditional ROI analysis. First, it creates a dynamic analytical framework that includes companies' financial and non-financial (e.g., health) outcomes. This aligns with corporate needs and expectations, and further provides companies flexibility to assess digital health interventions as they evolve or improve in effectiveness. Second, it mitigates the challenge of attributing complex behavioral and health changes to discreet interventions by aligning individual health trajectories to a spectrum of measurable, self-reported outcomes, and product engagement steps (e.g., engagement, behavior change, health improvement). This more accurately reflects the trajectory of disease and human behavior as dynamic conditions dependent on myriad controllable and uncontrollable factors. Though this evaluation technique has limitations, specifically its lack of standardization across industry and analytic specificity, we believe it provides an accurate assessment of the true value of corporate well-being solutions to improve employee health and reduce direct medical costs.

Measuring the Value of Corporate Well-Being Interventions

In June 2021, the UNC CBOH research team completed development of a VOI model that measures the value of digital health intervention(s) across four key categories: Screening, Vaccination, Medical, and Behavioral.³ Incorporating economic and clinical data from over a year's worth of research, the model can measure or predict a company's direct medical costs associated with 17 specific behavioral or health metrics (see Table 1), evaluate the effectiveness of various interventions, and assess a company's progress towards achieving the goal of improving employee health.

³ These groupings were developed by researchers to support each metric's placement in the VOI Model based on the primary intervention type. We recognize that some metrics, such as stress, could be included in multiple categories (e.g., Behavioral and Medical). However, to simplify model development, UNC researchers chose to include each metric in only one category. Doing so did not impact the analysis in a material way.

Table 1. Health Metrics Assessed and Included in the VOI Model⁴

Screening	Vaccination	Behavioral	Medical
Breast Cancer Screening	Flu Vaccination	Alcohol	Blood Pressure
Cervical Cancer Screening	Pneumonia Vaccination	Sedentary Lifestyle	Body Mass Index
Colon Cancer Screening		Suboptimal Diet - Fruit	Cholesterol
		Suboptimal Diet - Vegetables	HbA1c
		Tobacco	Stress - Financial
		Sleep	Stress – Home/Work

To create this model, researchers analyzed existing literature and data across medical, public health, and economic disciplines to understand the value of individual and collective behavioral interventions. First, researchers from the UNC SOM conducted scoping reviews of the existing medical literature to assess the effect of mHealth interventions on improving health behaviors. They reviewed the impact, composition, and delivery methods associated with targeted mHealth interventions, identified intermediate outcomes of diseases associated with the specific metric, and assessed their overall effectiveness to change behavior and improve health over time. Leveraging the data and inputs from the first research workstream with additional primary and secondary research, CBOH researchers developed a microsimulation model to identify the direct medical costs associated with each wellness condition. The researchers incorporated analyses from multiple national and regional data sets to identify intermediate outcomes, prevalence rates, care treatment pathways, and direct medical costs for each condition.

Once the intermediate outcomes and associated costs were identified, the research team completed a series of steps to identify the true expected cost for each metric. CBOH researchers identified the strength of the associations between each of the metrics, addressed duplication to avoid double counting within the model, applied cost adjustments, and developed a hierarchy that leveraged proven value-based care principles established by the Centers for Medicare & Medicaid Services (CMS) to ensure each individual within the enterprise population was aligned to a single disease trajectory.

These data were aligned to Sharecare’s Real Age Test data collection schema and input into a flexible Excel model that adjusts based on population size, the type of intervention (e.g., individual interventions versus multiple, concurrent interventions), and the time sequence for evaluation. As a result, UNC CBOH and Sharecare can quantify or predict the amount of value generated for Sharecare’s corporate interventions as well as the impact these interventions have on the employer’s population during the time period. Though this methodology has limitations, it exceeds current evaluation techniques by presenting corporations with a data-driven, academically-verified set of values to evaluate their investment and assess progress towards improving their population’s health.

Value on Investment: Corporate Use Case

⁴ UNC researchers worked with Sharecare to identify the metrics for evaluation based on Sharecare’s well-being platform and ability to measure outcomes within corporate populations over time through Sharecare’s Real Age Test.

To evaluate the effectiveness of its corporate well-being solutions, Sharecare’s Research Team applied the VOI model to real-world client engagement data.⁵ Data were pulled from self-reported Real Age Test answers over a period of 12 months, and individuals were excluded from the analysis if they did not have both test results on record. Table 2 summarizes the high-level financial outputs of the model and demonstrates the overall financial value of Sharecare’s well-being intervention.

Table 2. Sharecare Corporate Use Case High-Level Financial Results

Metric Category	Initial Assessment	Final Assessment	Value of Intervention
Screening	\$36.6M	\$26.9M	\$9.7M
Vaccination	\$110.7M	\$106.6M	\$4.1M
Behavioral	\$74.2M	\$66.3M	\$7.9M
Medical+	\$99.0M	\$96.1M	\$2.9M
		Total	\$24.6M

In addition to the total financial value of ~\$24.6M associated with Sharecare’s intervention, the model identified specific health improvements among the participating population. For example, throughout the 12-month intervention, researchers observed a decrease in the number of individuals requiring routine cancer screenings due to corporations encouraging individuals to adhere to medical guidelines and covering the cost of the screening. Though covering routine screenings for employees can lead to up-front expenditures, early identification of disease can result in long-term cost savings and significant health benefits for the individual. During this intervention period, the UNC researchers estimate Sharecare’s enterprise clients saved approximately \$9.7M by identifying cancer early and helping individuals find appropriate and timely medical care. Similarly, researchers noticed an increase in the number of individuals receiving the flu vaccination over the course of the engagement. By increasing the population’s flu vaccination rate, companies were able to save money (~\$4.1M), reduce employee illness and illness days, and maintain productivity. Additional data on the Behavioral and Medical metrics are included in Table 3.

Table 3. Sharecare Corporate Use Case Financial Results: Behavioral & Medical

Metric Category	Initial Assessment	Final Assessment	Value of Intervention ⁶
Alcohol Consumption	\$5.5M	\$4.3M	\$1.2M
Sedentary Lifestyle	\$37.4M	\$35.0M	\$2.4M
Suboptimal Diet – Fruit	\$5.8M	\$5.1M	\$0.7M
Suboptimal Diet – Vegetables	\$4.5M	\$3.9M	\$0.6M
Suboptimal Sleep	\$19.7M	\$16.9M	\$2.8M
Tobacco Use	\$1.2M	\$1.1M	\$0.1M
Stress – Home/Work	\$3.0M	\$2.6M	\$0.4M
Stress – Financial	\$5.0M	\$4.3M	\$0.7M
HbA1c	\$8.0M	\$6.8M	\$1.2M
Blood Pressure	\$5.9M	\$5.6M	\$0.3M
Body Mass Index	\$76.7M	\$76.4M	\$0.3M
Cholesterol	\$0.4M	\$0.4M	\$0.0M

⁵ Data were provided and independently verified by the Sharecare Research Team based on their total enterprise book of business. The data included in this section includes inputs from approximately 210,000 total individuals across multiple corporations and geographies.

⁶ The total value of these interventions in the table do not sum to \$10.8M due to rounding.

Over the 12-month intervention, Sharecare's corporate population improved their self-reported health outcomes in each Behavioral and Medical condition, which in turn reduced direct medical expenditures by a total of approximately \$10.8M. The population also saw significant health improvements, including:

- **Risky Alcohol Consumption Decreased:** Throughout the intervention, the number of individuals self-reporting risky alcohol consumption levels decreased from ~8,800 to ~6,100.
- **Individuals Improved their Physical Activity, Sleep, and Diets:** The number of people reporting poor levels of physical activity dropped by nearly 5,000; the number of individuals who improved their sleep to meet the medical recommendations increased by ~9,000; and the number of individuals who reported eating better increased by ~26,000.
- **Individuals Managed their Blood Pressure and HbA1c Better:** The number of people who reported managing their blood pressure and HbA1c increased by ~2,000 and ~1,000, respectively.

Though outcomes varied by company and population segment, researchers observed significant self-reported health improvements among the participating population, which are valued at approximately \$24.6M across Sharecare's entire enterprise portfolio. However, the true value of Sharecare's well-being intervention includes the increase in individuals' physical and mental health, their uninterrupted participation in and contributions to a productive work and community culture, and their improved personal and family lives.

Conclusion

In this paper, we highlighted the benefits of developing a VOI framework to evaluate corporate well-being solutions, discussed the VOI model's ability to measure and/or predict the value of behavioral interventions across 17 key health metrics, and presented a corporate use case to illustrate how UNC researchers assessed the true value of Sharecare's well-being interventions across their enterprise book of business. Though we recognize the limitations of this type of evaluation, particularly its reliance on multiple researcher assumptions to develop the analytical schema, the inherent bias of self-reported data, and its emphasis on non-financial or 'softer' metrics, we believe it is necessary for companies to expand their analytical framework(s) from a limited focus on financial return to broader considerations of individual, community, and corporate value. As employees' and consumers' personal values and preferences change, corporations must also adapt to remain competitive. This paper highlights the need for this change and provides a framework and tools for future analysis of corporate health and well-being solutions.