Building Wealth Through Wellness

Incentivizing Healthy Behaviors to Reduce Healthcare Costs and Increase Retirement Savings

HEALTHYCAPITAL

Motivating Individuals to Make Healthier Choices

FOREWORD BY RON MASTROGIOVANNI

***Ron Mastrogiovanni**, Chief Executive Officer of HealthyCapital & President and CEO of HealthView Services, has more than 30 years of experience in management consulting, financial services and healthcare software design. HealthView Services is the leading provider of healthcare cost data and retirement planning tools to the financial services industry.*

Over the past several years, as retirement plan administrators, we have adopted HealthView's cost-projection tools and shared them with employers. One result has become very clear: compelling data *can* drive behavior. When employees are informed about how much medical care will cost in retirement, they have increased their 401(k) contributions by as much as 25 percent.

Because HealthView has emerged as a leading provider of healthcare cost data for financial service firms, Mercy — recognized as one of the top five performing large health systems in the U.S. — contacted us to inquire about the potential of executing a new idea. In line with their experience in population health and lowering costs, Mercy administrators asked if we could quantify how much a person diagnosed with a chronic condition (or conditions) could save by adjusting certain behaviors and following doctors' orders. By working with clinicians and deepening our source data to 70-million medical cases, we were able to calculate and project the potential increase in savings and life expectancy for individuals who properly manage their conditions (including high blood pressure, Type 2 diabetes, high cholesterol, tobacco use, and obesity).

From these discussions, HealthyCapital — a Mercy and HealthView Services joint venture — emerged.

The data revealed that by simply making a few minor changes to daily routines, and reducing the risk factors leading to chronic disease, individuals could potentially add years to their lives and save more than one hundred thousand dollars in lifetime medical expenses. Here's the most important finding: depending on the diagnosis, these lifestyle adjustments can be as minor as properly adhering to a prescription drug protocol or slightly reducing daily amounts of sodium.

Would individuals be more likely to follow their prescriptions if they knew they could save thousands of dollars per year or more than $100,000 before retirement?

We believe the answer is "Yes." Combining clear financial incentives with increased longevity will motivate people to make healthier choices — especially if the lifestyle changes are simple, manageable, and easy to understand. Lower annual costs translate into more disposable income, which can certainly be used to plan a family vacation or increase retirement nest eggs.

It is no secret that millions of pre-retirees are concerned about paying for future medical expenses. With retirement healthcare inflation projected to triple Social Security cost of living adjustments (COLAs) over the next several years, their concerns are valid. However, patients who follow doctor's orders will not only save money pre-retirement, but also lower medical expenses during retirement *because they will be healthier*. Also, by choosing to invest, rather than spend, the annual savings, individuals can significantly increase their retirement income.

Finally, through an employer lens, companies (especially those who are self-insured) with a healthier, more productive workforce could also realize significant savings as fewer medical treatments for employees will lower company health-related expenditures.

Ultimately, making positive lifestyle choices is good for everyone, but finding the right motivator, which we believe is increased annual savings, may trigger a paradigm shift in understanding the wide-ranging financial implications of proper behavior management.

Focusing On What Patients Value Can Help Change Behavior

FOREWORD BY DR. RAYMOND M. WEICK, M.D.

***Dr. Raymond Weick**, Chief Medical Officer of HealthyCapital & Vice President of Physician Growth and Business Development at Mercy, is a practicing family physician in the St. Louis area with Mercy, a Truven top five performing large health system. In addition to his clinical role, Dr. Weick manages the southern St. Louis physician group for Mercy and has led key initiatives, including developing the electronic health record patient portal, enhancing the care delivery model, and creating the physician well-being program. In 2015, Dr. Weick was recognized as a "Tomorrow's Leader" by the Catholic Health Association.*

For the past 13 years, I have had the distinct pleasure of living my boyhood dream of becoming a family physician. During my career, I have developed a particular fondness for patients in the mid-to-latter stages of their professional lives. As part of my attempt to provide individualized holistic care for this demographic, I routinely ask two questions: "What motivates you to stay healthy?" and "What do you want your retirement to look like?" I have found the secret to improving individual outcomes is exploring what he or she values most — now, and in the future. Does the patient want to be able to play more golf, crawl on the floor with the grandchildren, take a trip to Europe, or make a special dinner with their spouse twice a week? This is the foundation of a patient-centered approach to care.

Regardless of each patient's objectives, I believe money can be a powerful theme and motivator. After all, most of our life goals and desires require financial means — whether vacationing at Disney with the grandchildren or buying a rod to fish at the local pond.

Over time, I have found success in conveying the financial toll of poor health as a way to motivate patients in achieving their personal goals. However, physicians are not currently armed with real-time, quality data to quantify the ramifications of good or poor health. At best, we can only speak in generalities.

Imagine a conversation in which a healthcare provider could show a patient with high blood pressure that by following simple treatment protocols and making minor lifestyle changes, he could save $100,000 in lifetime healthcare costs. Or someone with Type 2 diabetes, who could save an average of $3,000 per year in out-of-pocket costs until retirement — and potentially increase their life expectancy by several years.

These are very tangible motivators.

Until now, there has been little access to actuarial data that shows the financial benefits of health management and lifestyle changes related to a specific condition, age, or gender. HealthyCapital — a joint venture between HealthView Services and Mercy — seeks to address this issue. Combining HealthView's data with Mercy's expertise in healthcare and patient management, HealthyCapital provides employers, employees, financial service firms, insurers, and providers with actuarial data and interventions that reveal the potential savings for individuals with specific health conditions.

Encouraging patients to improve personal wellness is also invaluable for employers struggling under the burden of providing healthcare coverage. For every dollar employees save in healthcare costs, employers will reduce expenditures as well.

We believe that the combination of actuarial-forecasted savings, strong condition management programs, and remote patient support will incentivize patients to change their behaviors, experience lower medical-related outlays, and live longer, healthier lives.

Executive Summary

Americans are anxious about rising healthcare costs. In Nationwide's "Healthcare Costs in Retirement Survey," (of 1,316 U.S. adults aged 50 or older) 74% admit that one of their top fears is out-of-control healthcare costs, and 64% are terrified of what healthcare costs may do to their retirement plans (up from 57% in 2015).[1]

However, there is some reason for optimism. In terms of personal cost, individuals may actually have more control than they think: through positive lifestyle choices and behavior adjustments.

In an attempt to lower costs, companies that embrace this concept have initiated wellness programs. Unfortunately, while seemingly popular among participants, there doesn't appear to be a viable, universally accepted, empirical method to measure overall effectiveness. It has also been challenging for companies and caregivers to motivate people to stay engaged in long-term health goals — perhaps because current standardized programs for those who need to lose weight, reduce stress, or exercise are often short-term fixes. Once individuals begin to deviate from their wellness activities, the weight, stress, or inactivity often returns. Genuine lifestyle changes must be practiced over time and properly incentivized to ensure prolonged commitment.

This paper seeks to address the issue of lowering healthcare costs through wellness from a financially motivated perspective — one that integrates actuarial data into a sophisticated methodology that immediately calculates the amount of savings people can experience through condition management. This process can also improve life expectancy, expand the future value of savings, and delay the need for long-term care.

Unlike traditional wellness programs, which often rely on external enticements such as gym memberships or small financial rewards, data-driven analysis provides medical professionals and employers the opportunity to show — in real time — that individuals can add years to their lives and save thousands of dollars annually, just by following treatment protocols.

The Case Study section illustrates that a typical 45-year-old male diagnosed with a chronic condition (high blood pressure) will spend $1,591 more annually out-of-pocket today than a healthy person. Fortunately, the data reveals that with a few simple lifestyle adjustments, he can save an average of $3,285 annually over his lifetime, extend his life expectancy by three years, and reduce his pre-retirement (age 50–64) healthcare costs by $65,697. To put this into perspective, if this person invested the annual savings into a typical retirement portfolio, he could generate an additional $100,348 for retirement by age 65.

This approach can apply to many other conditions and lifestyles; for example, individuals who have high cholesterol or Type 2 Diabetes, are obese, or use tobacco products.

In addition to the benefits gained by individuals, among those who stand to generate the greatest financial gains are self-insured employers. According to a report by the Integrated Benefits Institute, workers suffering from a chronic condition, as well as individuals who are obese, use tobacco products, or are physically inactive, cost employers $567 billion annually. This includes an estimated $232 billion in medical and pharmaceutical treatments, $117 billion in wage replacement (workers' compensation, disability), and $227 billion in lost productivity.[2] If self-insured companies, which usually cover the majority of employee health costs, can motivate even a small percentage of employees to improve their health and reduce required treatments, medical-related expenditures may decrease by hundreds of millions of dollars annually.

Considering the number of people who may see an increase in disposable income, financial service institutions, such as 401(k) record keepers, will benefit if even a small percentage of these individuals choose to dedicate even part of the savings to long-term investments.

The unifying theme throughout this paper is that encouraging individuals with chronic conditions (or at risk for a chronic condition) to follow their treatment protocols can have a substantial impact on workers, their employers, and also financial services firms.

Potential outcomes: individuals will enjoy longer lives with lower annual healthcare costs, employers will save money through reduced healthcare outlays and increased productivity, and financial-service firms can assist future retirees in accumulating more retirement assets.

1 Poll, H. (2016, October). Health Care Costs in Retirement Survey. Retrieved from https://nationwidefinancial.com/media/pdf/NFM-16070AO.pdf

2 Integrated Benefits Institute. https://ibiweb.org/?ACT=65&id=5UkhzOZyCfAtoSP8_oZLsR0XlywwJkQlgMfH5NFJ4ksId9p6b7-J7fbDCZ_-50ed2tyOcdyhHV8we8rQmWG9PA

The Cost of Healthcare and Chronic Conditions

Healthcare Costs

It is no secret that healthcare costs are being felt across the country. HealthView Services is projecting a nearly 6% average annual increase in HMO group plan premiums in the near future. Additionally, employees are becoming more responsible for a larger portion of out-of-pocket costs. From 2006 to 2016, the total value of employee contributions rose 78%,[3] and it is unlikely that this trend will end any time soon.

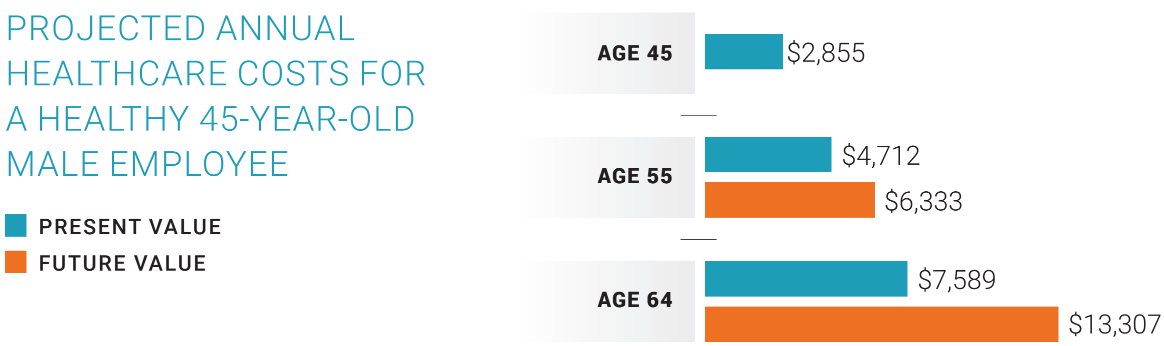
A recent Kaiser survey reveals that for those reporting problems paying medical bills, 7 in 10 (73%) are cutting back spending on food, clothing, or basic household items just to pay for health-related services.[4]

Affording quality healthcare has become a universal issue.

Current projections in **Table A** reveal the average annual medical-related expenditures for a healthy 45-year-old male and highlight the impact of healthcare inflation over time.

TABLE A

PROJECTED ANNUAL HEALTHCARE COSTS FOR A HEALTHY 45-YEAR-OLD MALE EMPLOYEE



**Assumes OOP costs for medical premiums, hospitalizations, doctors, tests, and prescription drugs under HMO group coverage.*

The average 45-year old male worker with no major health conditions on an HMO group plan will pay $2,855 in healthcare expenses. Over the next decade, because of high inflation and more required services, his costs will increase by nearly 466% — reaching $13,307 per year — before he signs up for Medicare (at age 65).

3 The Henry J. Kaiser Family Foundation. (2016, September). 2016 Employer Health Benefits Survey. https://www.kff.org/report-section/ehbs-2016-summary-of-findings/

4 The Henry J. Kaiser Family Foundation. (2017, March). Data Note: Americans' Challenges with Health Care Costs. https://www.kff.org/health-costs/poll-finding/data-note-americans-challenges-with-health-care-costs/

The Cost of Healthcare and Chronic Conditions *cont...*

Chronic Disease

As of 2012, about half of all adults in the U.S. (117 million people) had one or more chronic health conditions, and one in four adults had two or more.[5] The leading causes are not taking prescriptions, tobacco use, poor nutrition, lack of physical activity, and excessive alcohol use. Treatments cost approximately $2.9 trillion annually — amounting to roughly 86% of the nation's annual health-related expenditures.[6]

Table B provides collective data from several sources on the number of Americans affected (and the costs associated) with the disease states covered in this paper.

TABLE B

IMPACT OF CARDIOVASCULAR DISEASE, DIABETES, OBESITY, AND SMOKING

		ANNUAL COST	
CONDITION/ BEHAVIOR	POPULATION	MEDICAL EXPENSES	LOST PRODUCTIVITY
Cardiovascular Disease[7]	102.7 million	$318 billion	$237 billion
Diabetes[8]	30 million	$176 billion	$69 billion
Obesity[9, 10]	84 million	$147 billion	$4.3 billion
Smoking[11]	36.5 million	$170 billion	$156 billion

**Some Americans have two or more conditions/behaviors.*
***Cardiovascular disease, affecting approximately 103 million Americans, consists of various conditions that include, but are not limited to, high blood pressure and high cholesterol, which are highlighted throughout this report.*

5 Ward BW, Schiller JS, Goodman RA. Multiple chronic conditions among US adults: a 2012 update. Prev Chronic Dis. 2014;11:E62.

6 https://www.cdc.gov/chronicdisease/resources/publications/aag/pdf/2015/nccdphp-aag.pdf

7 American Heart Association. (2017). Cardiovascular Disease: A Costly Burden for America. https://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_491543.pdf

8 American Diabetes Association. Economic Costs of Diabetes in the U.S. in 2012. http://care.diabetesjournals.org/content/early/2013/03/05/dc12-2625

9 Finkelstein EA, Trogdon JG, Cohen JW, Dietz W. Annual medical spending attributable to obesity: payer- and service-speci c estimates. Health A .2009;28(5):w822-31. https://www.ncbi.nlm.nih.gov/pubmed/19635784

10 Trogdon JG, Finkelstein EA, Hylands T, Dellea PS, Kamal-Bahl. Indirect costs of obesity: a review of the current literature. Obes Rev.2008;9(5):489–500. https://www.ncbi.nlm.nih.gov/pubmed/18331420

11 U.S. Department of Health and Human Services. (2014). The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. https://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf

The Cost of Healthcare and Chronic Conditions *cont...*

In addition to those who have already been diagnosed, data indicates that current behavioral patterns will lead to even more frequent medical-related issues and higher expenses in the future. Fifty percent of adults aged 18 years or older do not meet doctor recommendations for aerobic physical activity, which could lead to higher levels of obesity.[12] Also, approximately 90% of Americans aged two years or older consume too much sodium, which can increase the risk of high blood pressure.[13] Finally, the CDC reports that as many as 86 million Americans who are currently considered pre-diabetic could advance their condition without immediate behavioral modifications.[14] Looking forward, the projected costs for treatment of chronic diseases between 2016 and 2030 is a staggering $42 trillion.[15]

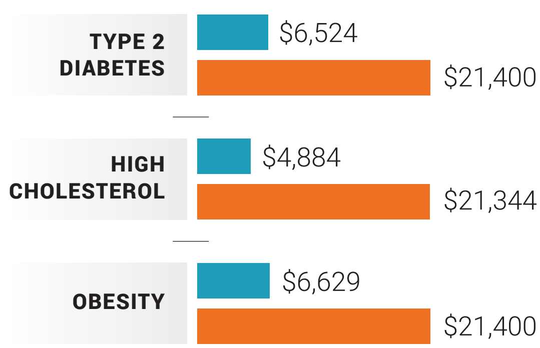
Current projections in **Table C** reveal the average annual medical-related expenditures for a 45-year-old female employee who suffers from either Type 2 diabetes or high cholesterol, or is obese.

TABLE C

PROJECTED ANNUAL HEALTHCARE COSTS FOR A 45-YEAR-OLD FEMALE EMPLOYEE WITH VARIOUS HEALTH CONDITIONS

AGE 45

AGE 64



**Includes HMO group coverage premium costs and assumes out-of-pocket costs for hospitalization, doctors, tests, and prescription drugs.*
***Based upon out-of-pocket maximums within the Affordable Care Act*
****Assumes Average Managed care*
*****Cost projection for age 64 shown in future value*

Fortunately, as the latter half of this paper will show, those who suffer from chronic conditions, as well as those who are classified as obese or use tobacco products, could add years to their life expectancies and save thousands of dollars in medical expenses just by actively managing their conditions.

12 Office of Disease Prevention and Health Promotion. (2018, January). Physical Activity. https://www.healthypeople.gov/2020/topics-objectives/topic/physical-activity

13 Centers for Chronic Disease Control and Prevention. (2009-2012). Prevalence of Excess Sodium Intake in the United States. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6452a1.htm

14 Centers for Chronic Disease Control and Prevention. (2016, July). Working to Reverse the US Epidemic at A Glance 2016. https://www.cdc.gov/chronicdisease/resources/publications/aag/diabetes.htm

15 Partnership to Fight Chronic Disease. What Is the Impact of Chronic Disease on America? https://www.fightchronicdisease.org/sites/default/files/pfcd_blocks/PFCD_US.FactSheet_FINAL1%20%282%29.pdf

Intervention and Wellness Programs

Individuals, employers, insurers, and providers want to lower medical expenditures, but achieving this goal has proven elusive.

Over the past several years, employers have spent substantial amounts of time and resources trying to determine the optimal approach to keeping workers healthy, which has often come in the form of wellness programs. These are frequently created as company-sponsored opportunities for employees to improve their health through financial incentives, such as premium discounts or gym memberships.

A 2016 Kaiser Foundation Survey found that 49% of employers with less than 200 employees offer some type of wellness program, as do 81% with more than 200 workers.[16] Employers theorize that wellness programs can produce considerable savings for group plan premiums — as well as derivative benefits, such as increased productivity, fewer sick days, and increased morale — if they can motivate employees to engage in such initiatives.

The primary question is: "Do they work?"

The current answer is: results are mixed. While many large companies have attempted to increase worker participation, it is difficult to determine the impact — if any — they have had on employee well-being or the firm's bottom line.

It is also worth noting that most current wellness programs fail to target the most important subgroup: people with chronic conditions, such as high blood pressure, high cholesterol, or Type 2 diabetes. While those suffering from chronic conditions incur the highest healthcare costs, they also have the greatest opportunity for improvement.

Lack of Measurement

One possible reason that results are mixed is that there is no universally accepted process that measures whether wellness initiatives work. A 2015 survey conducted by the Integrated Benefits Institute, a non-profit research firm, reports that only 23% of chief financial officers (CFOs) measure any outcome at all — including improvements to employee health, a change in job performance, or program participation. This is presumably because the empirical data is difficult to collect and quantify. Interestingly enough, in the same study, 53% of the polled CFOs stated they would be able to make better decisions about benefits if health-related improvements in job performance were linked to business metrics.[17]

It is possible that for those who do choose to measure performance, the data could be trending in the right direction, as evidenced by a recent Rand Corporation study, which examined the lifestyle and disease-state management programs over a 10-year period for a Fortune 100 company. The disease-state management program (which helped employees diagnosed with chronic conditions keep track of their lab results and take prescribed medications) was extremely successful and netted a return of $3.80 for every dollar invested.[18] Also promising, General Mills reported a 20%

16 The Henry J. Kaiser Family Foundation. (2015, September). 2015 Employer Health Benefits Survey. https://www.kff.org/report-section/ehbs-2015-summary-of-findings/

17 Integrated Benefits Institute. (2015). Integrated Benefits Institute's 2015 CFO Survey. https://ibiweb.org/?ACT=65&id=txXzdIgpsFVTvP9VW7-kanTr0ATrBiyR29sqaD2yTShKz0yi_sBY7RYS0sPtLYPLfnyhq0dZyT632TSRL5WFgw

18 Rand Corporation. Do Workplace Wellness Programs Save Employers Money? https://www.rand.org/content/dam/rand/pubs/research_briefs/RB9700/RB9744/RAND_RB9744.pdf

Intervention and Wellness Programs *cont...*

cost reduction in healthcare costs after implementing its wellness programs.[19] If the financial impact of successful wellness programs can be measured and continues to trend in this direction, more firms will be open to offering them as a value-added benefit to employees.

There is also evidence that the practice of combining technology (such as text message reminders) with human interaction (referring patients to the correct physical healthcare resource) may also be effective. A recent study of patients enrolled in various text-based wellness programs, which incorporated this concept, yielded the following results:

- **Increased average medication adherence from 60% to 86.5%[20]**
- **Reduced COPD specific hospitalizations by 61%[21]**
- **Dropped diabetic HgbA1c levels by an average of 1.15 points[22]**
- **Reduced hypertensive SBP (systolic blood pressure > 140) by half (with a direct reduction in SBP by 10.8 mm Hg) and reduced DBP (diastolic blood pressure) by 6.6 mmHg[23]**

The findings suggest that the combination of technology and human interaction could be an integral component of successful wellness initiatives in the future.

Ultimately, experts across several domains — hospitals, insurance companies, Fortune 1000 firms — all share one common goal: to reduce both current medical expenditures and the trajectory at which these costs increase. Regardless of whether companies are actively engaged in measuring the success of their plans — or whether they even work at all — wellness has expanded to an $8 billion industry and is expected to grow by 7.8% through 2021.[24]

Perhaps the greatest determining factor in this shared objective is how to incentivize people to adopt positive behaviors and follow prescribed treatments. Individuals will only adopt long-term behavioral changes if the program is easy to integrate into their daily routines. To be successful, initiatives need to include financial incentives and mobile applications with user-friendly and accessible interfaces, similar to Facebook or Uber, that will motivate people to save. Simply put, people will not embrace a practice that is counterintuitive or difficult to use.

Wellness has expanded to an **$8 BILLION** *industry and is expected to grow by* **7.8%** *through 2021.[24]*

19 Schimpff, S. C. (2012), Pg.108. The future of health-care delivery: why it must change and how it will affect you. Retrieved from https://books.google.com/books?id=qoVCRV2ftFIC&pg=PA108&lpg=PA108&dq=behavior+modification+percentage+decrease+cost+diabetes&source=bl&ots=Qdjh7PkCRR&sig=eN2R4J1KBPO4QCzzghgr2uBSbCQ&hl=en&sa=X&ved=0ahUKEwj_9-3Zp7_YAhUh6IMKHb_rCRoQ6AEIVzAG#v=onepage&q&f=true

20 EPharmix. ExpMedTracking: Feasibility Evaluation of an SMS-Based Medication Adherence Tracking System in Community Practice. (2017, May). https://www.researchprotocols.org/2017/5/e87/

21 EPharmix. ExpCOPD: Chronic Disease Management Using Digital Medicine. http://content.epharmix.com/Epharmix-White-Paper-EpxCOPD.pdf

22 EPharmix. Improving Glycemic Control with a Standardized Text-Message and Phone-Based Intervention: A Community Implementation. (2017). https://diabetes.jmir.org/2017/2/e15/

23 EPharmix. Assessing the Utility of a Novel SMS- and Phone-Based System for Blood Pressure Control in Hypertensive Patients: Feasibility Study. https://cardio.jmir.org/2017/2/e2/

24 Turk, Sarah. IBISWorld. IBISWorld Industry Report OD4621 Corporate Wellness Services in the US. (2016, February). http://static.politico.com/3e/68/b29a1ff04e7d8bc7c8231352ffc5/ibis-study-on-corporate-wellness-programs.pdf

The Financial Benefits of Managing Common Health Conditions

Data shows that disease management programs, virtual care, and consistent follow-up can make a difference in patient wellness. However, getting people to adhere to a long-term behavior management program has still been challenging.

Even something as simple as getting people to properly follow their prescription drug protocol can be a difficult task. Recent surveys reveal 50% of Americans diagnosed with a chronic condition do not take their prescribed medication after six months. As a result, healthcare costs increase and patient lives could be shortened.[25]

A recent study shows that the leading contributor to premature death is individual behavior (**Table D**).[26] When it comes to health, personal choice is more powerful than genetics, social and environmental factors, and even medical care.

TABLE D

IMPACT OF DIFFERENT FACTORS ON RISK OF PREMATURE DEATH

So, what can be done to get people to change their behaviors?

Money can be a powerful motivator, but rewards have to be sufficient enough to drive change. To this point, doctors have been unable to immediately provide their patients with actuarial evidence that health management can lead to substantial annual savings and a longer life.

Also, surveys reveal that pre-retirees are worried about paying for healthcare in the future. With retirement healthcare inflation rising by approximately 5.5% per year, the gap between what Americans have saved and what they will need to cover their projected lifetime costs in retirement is widening.[27]

HealthyCapital quantifies how much patients can save — as well as how much longer they can live — by following physician protocols. As detailed in the Case Study section, a 45-year-old male who effectively manages his high blood pressure can save $3,285 annually, reduce pre-retirement expenditures by $65,697, and increase life expectancy by three years.

HealthyCapital not only illustrates the savings and additional longevity that can be achieved through condition management, but also how funds can increase retirement investments. Individuals can direct the additional disposable income into long-term investment vehicles and potentially generate tens of thousands of dollars in retirement savings.

25 Mercy Health Research

26 Schroeder, SA. (2007). We Can Do It Better – Improving the Health of the American People. NEJM. 357-1221-8.

27 Bureau of Labor Statistics. Databases, Tables & Calculators by Subject. https://data.bls.gov/timeseries/CUUR0000SA0L1E?output_view=pct_12mths

The Financial Benefits of Managing Common Health Conditions *cont...*

Aside from the obvious advantage to individuals, self-insured firms may also benefit as employees become healthier — in terms of medical-related expenditures, reduced sick days, and increased productivity.

In 2017, the number of self-insured employers grew 48% (for employers with 25 to 49 employees). Nearly two thirds (60.9%) of all large employers (1,000 or more employees) are currently self-insured. In 2017, firms paid an average of $9,935 per employee in annual healthcare costs, while the employee paid an average of $6,401 per year.[28] Growth on this trajectory, for both workers and companies, is unsustainable.

To illustrate the potential impact of a successful wellness program, let's examine how much can be saved by motivating diabetic employees to follow their treatments.

Currently, 9.3% of the U.S. population has diabetes, and employers spend an average of $9,975 annually for those diagnosed with this condition.[29, 30] **Table E** shows that a 20% reduction in healthcare outlays for diabetics will save $1,995 annually per employee.

TABLE E

POTENTIAL SAVINGS GAINED BY EMPLOYERS THROUGHHEALTHIER EMPLOYEES WITH DIABETES

TOTAL NUMBER OF EMPLOYEES	AFFECTED EMPLOYEES	COST SAVINGS PER EMPLOYEE [YEAR 1]	TOTAL ANNUAL EMPLOYEE COST SAVINGS
1,000	93	$1,995	$185,535
2,000	186	$1,995	$371,070
5,000	465	$1,995	$927,675
10,000	930	$1,995	$1,855,350

The larger the company, the greater the savings (the table above only applies to those suffering from diabetes). Costs can be reduced exponentially as workers with other chronic conditions participate, as well.

This is just one example of how properly incentivized wellness initiatives can reduce a firm's medical-related expenditures.

Firms that adopt innovative cost-savings strategies will, at the very least, be able to keep pace with rising healthcare inflation, currently projected to be 5.6% over the next several years.[31] Given the high percentage of those with chronic conditions, influencing even a small number of those afflicted can have widespread financial ramifications on individuals, plan sponsors, and 401(k) record keepers.

28 Moore, Rebecca. PLANSPONSOR. Employers Still Shifting Some Health Care Costs to Employees. (2017, October). https://www.plansponsor.com/employers-still-shifting-health-care-costs-employees/

29 HME News. CDC: 9.3% of U.S. Population has diabetes. (2014, June). http://www.hmenews.com/article/cdc-93-us-population-has-diabetes

30 Farr, Kit. Benefits PRO. Corporate culture, chronic disease and the care continuum. (2016, November.) http://www.benefitspro.com/2016/11/02/corporate-culture-chronic-disease-and-the-care-con

31 Center for Medicare & Medicaid Services. National Health Expenditure Projections 2016-2025. https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/proj2016.pdf

CASE STUDY

Benefits of Health Management

The following case study details a middle-aged male who has had high blood pressure for five years, but does not manage his condition as well as he should.

John is 45 with a blood pressure of 150/95. He attempts to adopt the lifestyle changes that his physician advised to properly manage his condition. Sometimes he forgets to take his medications; other times he doesn't follow his suggested diet. This classifies him as an *Average Managed* patient.

With a new application that includes plans linked to actuarial data, John is able to see that adherence to a prescribed treatment program can lengthen his life, reduce total healthcare costs, and generate additional retirement savings.

The treatments listed in **Table F** are the specific behavior modifications advised by his doctor. By making the necessary changes, John becomes classified as *Well Managed*; he will not only be healthier, but also add three years to his projected life expectancy (**Table G**).

Aside from a longer, healthier life span, John can save on his medical expenditures because proper care translates to fewer doctor visits, services needed, prescription drugs, catastrophic events, and procedures.

TABLE F

HIGH BLOOD PRESSURE BEHAVIOR MODIFICATIONS

WELL MANAGED CARE
Medication Compliance
Exercise 30 Minutes/Day, 5 Days/Week
Moderate Alcohol Intake
Choose Healthy Fats
Limit Dietary Salt
Cease Tobacco Use (If Applicable)

TABLE G

POTENTIAL CHANGE IN LIFE EXPECTANCY CHANGES FOR A PERSON WITH HIGH BLOOD PRESSURE MOVING TO WELL MANAGED CARE

84
Average
life expectancy

87
Well Managed
life expectancy

For the purpose of the case study, we will only compare John in two levels of care: **Average Managed (loosely follows physician recommendations) and **Well Managed** (fully complies with physician recommendations).*

Table H provides a comprehensive comparison of John's pre-retirement healthcare costs if he moves to *Well Managed* care.

TABLE H

POTENTIAL HEALTHCARE SAVINGS THROUGH PROPER CONDITION MANAGEMENT

	ANNUAL OUT-OF-POCKET HEALTHCARE COSTS:		REDUCTION IN HEALTH EXPENDITURES
	AVERAGE	WELL MANAGED	
Age 45	$2,477	$1,286	$1,192
Age 64	$13,936	$7,343	$6,592
Total Pre-Retirement	$138,288	$72,591	$65,697
Total In-Retirement	$51,790	$28,031	$23,759
Grand Total	**$190,078**	**$100,622**	**$89,456**

**Projections past age 45 are displayed in future value*

If John begins immediately, he can reduce his pre-retirement healthcare expenses by over $65,000 and his in-retirement outlays by almost $24,000. Managing his condition will also produce average pre-retirement annual healthcare savings of $3,285. Those who suffer from other medical conditions, such as Type 2 diabetes, will benefit from similar lifestyle changes.

While external factors (such as legislative changes to Medicare or healthcare inflation) may be out of John's control, the remainder of the case will show that he does have the power to not only lower his healthcare costs, but also generate more income, which can be used to save for retirement, travel, or whatever he chooses.

To show potential long-term financial implications, instead of spending all of the health-related savings, John allocates the annual total to his 401(k) program that is projected to grow at a 6% rate of return (**Table I**).

TABLE I

POTENTIAL RETIREMENT SAVINGS THROUGH INVESTMENT AFTER HEALTH MODIFICATION

YEARS OUT	AGE/YEAR	SAVINGS FROM BEHAVIOR MODIFICATIONS	INVESTMENT BALANCE
0	Age 45 (2017)	$1,192	**$1,192**
1	Age 46 (2018)	$1,159	**$2,422**
2	Age 47 (2019)	$1,255	**$3,823**
3	Age 48 (2020)	$1,387	**$5,439**
4	Age 49 (2021)	$1,547	**$7,313**
5	Age 50 (2022)	$1,770	**$9,522**
6	Age 51 (2023)	$1,995	**$12,087**
7	Age 52 (2024)	$2,214	**$15,026**
8	Age 53 (2025)	$2,454	**$18,382**
9	Age 54 (2026)	$2,711	**$22,197**
10	Age 55 (2027)	$2,999	**$26,527**
11	Age 56 (2028)	$3,313	**$31,432**
12	Age 57 (2029)	$3,657	**$36,974**
13	Age 58 (2030)	$4,058	**$43,250**
14	Age 59 (2031)	$4,496	**$50,342**
15	Age 60 (2032)	$4,978	**$58,340**
16	Age 61 (2033)	$5,504	**$67,344**
17	Age 62 (2034)	$6,080	**$77,465**
18	Age 63 (2035)	$6,336	**$88,449**
19	Total at Age 64	$65,697	**$100,348**
	Average Annual Lifetime Savings:	**$3,285**	

**Projections past age 45 are displayed in future value*

By the time he is ready for Medicare at age 65, John will have earned $100,348. To put this concept into perspective, based on the average savings of a 64-year-old U.S. adult today, John could add 57% to his retirement assets just by staying healthy.[32]

Table H illustrates that John can continue to reduce his medical expenditures by $23,759 throughout retirement. Also, if he continues to invest the $100,348 saved during his pre-retirement years (shown in **Table I**), he will increase his annual disposable income by $9,875 throughout (an average 18-year) retirement.[33] This represents 60% of the Social Security benefits for the average beneficiary — a considerable supplement to any retirement budget.[34]

The following table highlights savings for other health conditions.

TABLE J

IMPROVEMENT FOR 45-YEAR-OLD MALE MOVING TOWARD WELL MANAGED CARE

	LIFE EXPECTANCY:			AVERAGE ANNUAL PRE-RETIREMENT HEALTHCARE COSTS:		
CONDITION	**AVERAGE MANAGED**	**WELL MANAGED**	**YEARS OF LIFE ADDED**	**AVERAGE MANAGED**	**WELL MANAGED**	**VALUE OF SAVINGS AT RETIREMENT**
Type 2 Diabetes	71	80	**9**	$10,366	$7,578	**$86,117**
High Cholesterol	84	87	**3**	$7,989	$7,032	**$29,041**
Tobacco Use	79	84	**5**	$9,563	$7,175	**$91,237**
Obesity	80	82	**2**	$7,006	$5,862	**$34,687**

**Assumes savings are invested annually at a 6% rate of return*
***Costs shown in future value*
****Cost savings for a tobacco user include the savings from the actual tobacco product*

Table J provides a detailed breakdown of changes in both life expectancy and healthcare costs for those who properly manage their care. Regardless of the condition, individuals are able to improve their life expectancies (by a range of two to nine years) and decrease their pre-retirement healthcare costs. Pre-retirement savings, if invested, can be worth between $29,000 and $91,000 at retirement age, depending on the condition.

32 Poll, H. (2016, October). Health Care Costs in Retirement Survey. Retrieved from https://nationwidefinancial.com/media/pdf/NFM-16070AO.pdf

33 U.S. Census Bureau Data

34 Social Security Administration Press Office. Social Security Fact Sheet. 2017. https://www.ssa.gov/news/press/factsheets/basicfact-alt.pdf

CASE STUDY

Benefits of Health Management *cont...*

Since John's blood pressure of 150/95 is relatively moderate, many Americans with higher rates will have much more room to improve — and stand to save even more annually and over time — simply by following treatment protocols. The extra $100,000 John can generate for retirement is substantial for an individual, but just the tip of the iceberg compared to potential cost reductions for employers or additional assets under management for 401(k) record keepers.

This case can serve as a benchmark for how condition management can provide substantial, long-term medical and financial benefits, which may instill Americans with a greater sense of stability, empowerment, and control of their futures.

Conclusion

The complexities of America's healthcare system are vast, but there is evidence to suggest that providing individuals with actuarial life-expectancy calculations, data-driven cost projections, and measurable savings may be enough to inspire the millions who suffer from chronic conditions to engage in the necessary lifestyle changes that will lead to longer, more financially stable lives. This methodology may also have long-term residual effects for those who adhere to interventions, improve their health, and offset retirement healthcare costs.

In essence, everybody wins.

- **People live longer, have more discretionary income, address future expenses, and delay the age when long-term care is required, which will result in a more fruitful and enjoyable retirement.**
- **Employers, especially those that are self-insured, experience a considerable reduction in medical-related outlays because employees are visiting the doctor less frequently. Healthier employees will also result in a noticeable decrease in sick days and an increase in productivity and morale.**
- **Financial professionals, as part of an advisory service, can prepare clients for pre- and in-retirement healthcare costs through the utilization of simple, easy-to-understand, and customized data projections.**
- **401(k) record-keepers will have more assets under management, as employees with increased disposable income may contribute more to their 401(k) plans.**
- **Medical professionals elicit measurable and meaningful long-term change in their patients.**

Unlike traditional wellness programs, this methodology contains a built-in measurement tool. Tracking annual progress can be easily monitored and will generate objective and quantifiable data. Over time, past recommendations can be re-evaluated and new goals established to continue health improvement.

This innovative approach of using savings and life expectancy to motivate better behavior has the potential to reduce costs at a time when rising medical expenses are increasing pressure on families, companies, and the economy. Educating individuals on the financial impact of their current and future well-being is the first step to a healthier and wealthier population.

About HealthyCapital

A joint venture between Mercy and HealthView Services, HealthyCapital's physician- and actuary-reviewed approach draws upon clinicians, 70 million medical cases, government and economic data, HealthView Services' decade of experience in healthcare cost projections and Mercy's extensive experience in population health management. The company's application utilizes cost data to provide powerful information that incentivizes individuals to improve health through simple behavior modifications and the assistance of health coaching. It also displays the potential financial savings that can be gained through specific behavior modifications - an effective motivational tool.

About HealthView Services

HealthView Services is the leading provider of retirement healthcare cost data, Social Security optimization, and long-term care retirement planning tools for the financial services industry.

About Mercy

Mercy, named one of the top five performing large U.S. health systems in 2017 by Truven, serves millions annually. Mercy includes 44 acute care and specialty (heart, children's, orthopedic and rehab) hospitals, and more than 700 physician practices and outpatient facilities. Mercy is an innovator and leader in condition management services offered to employers.

HealthyCapital Data & Assumptions: Calculating Costs

HealthyCapital draws upon data from clinicans, 70 million healthcare cases, actuarial data, and government statistics to determine and project healthcare costs. The dataset covers the general population from 18 to 80 through life expectancies as high as 110. The firm leverages an actuary- and physician-reviewed algorithm to calculate and estimate annual costs throughout life based on conditions and adherence to protocols.

Pre-retirement cost projections are based on group health management organization (HMO) premiums and out-of-pocket costs (OOPs) related to hospitalization, doctors, tests, and prescription drugs.

Retirement healthcare cost projections include Medicare Parts B and D, and Supplemental Plan F insurance premiums. (It is assumed that most Americans paid Medicare taxes while employed and will not be responsible for Medicare Part A premiums.) Projections also include out-of-pocket expenses related to hospitalization, doctors, tests, and prescription drugs.

Calculations assume actuarial longevity for different ages, health conditions, and condition management.

This report includes the impact of behavior modifications on healthcare costs and life expectancy. When an individual is classified as average managed or well managed, varying cost and life expectancy factors are applied to baseline values to adjust for each level of health management status.

Future value data represents the amount of a balance once it has incurred an annual 6% inflation rate. For 401(k) balances, the total has also grown at an annual compounding interest rate of 6%. Present-value data represents a future value that has been discounted at the national average rate of 3% in order to reflect today's dollars. Unless otherwise indicated, the paper relies on present-value estimates. Actual costs and figures for individuals may vary.

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