



## Managing the Obesity Problem:

### *A Case Study with Measurable Results*

The numbers tell the story: more than 61 percent of American adults are overweight and 27 percent are living in the obesity range.<sup>1</sup> Truly, obesity has moved beyond fat jokes to become a serious health issue, closing in on tobacco as the country's number one preventable cause of death.

#### **Obesity: Counting the costs**

A study released this year by the Centers for Disease Control and Prevention (CDC) found that a poor diet and physical inactivity caused 400,000 deaths in 2000, a 33 percent jump in just ten years.<sup>2</sup> Obesity and inactivity increase the risks for the top three killers: heart disease, cancer and strokes. Obesity and a sedentary lifestyle also strongly increase the risk of diabetes, the sixth leading cause of death.

Obesity is a costly problem. A January 2004 CDC study estimated the cost of obesity-related medical costs totaled \$75 billion in 2003.<sup>3</sup> The study estimated that taxpayers spent about \$39 billion (or \$175 per person) through Medicare and Medicaid programs for obesity-related illnesses such as Type 2 diabetes, heart disease and cancer. States spend about one dollar out of twenty in medical costs on obesity.

Business paid the lion's share of the rest of the bill—and these represent only present-day, direct costs. A recent Rand study<sup>4</sup> found that increases in obesity threaten to erase improvements in health among middle-age and older Americans. At current rates, health care spending on obesity among people 50 to 69 years old is expected to increase by 50 percent by 2020. Another Rand study found that obesity outranked both smoking and drinking on its effects on health and health costs,<sup>5</sup> revealing that obesity has roughly the same association with chronic health conditions as does twenty years of aging—greatly exceeding the associations with smoking or problem drinking.

In comparison to those who fall within normal weight ranges, obesity is associated with a 36 per-

cent increase in inpatient and outpatient spending and a 77 percent increase in medications.

**What about the hidden costs of obesity?** The National Business Group on Health has composed a fact sheet on the cost of obesity to employers, linking it to millions of lost work days, restricted activity days and “bed days.”<sup>6</sup> The Institute for Health and Productivity Management (IHPM) has coined the term “presenteeism” to denote the time when employees continue to work despite the presence of illness that reduces their productivity. Good health optimizes employee functionality; in other words, employees who feel better also tend to work better.

#### **A cure for the obesity problem: population health management**

Smaller waistlines may also improve employers' bottom lines, as better population health translates into fewer claims and lower insurance costs. Employers interested in reducing costs are paying serious attention to vendors who claim to have the cure for obesity. Savvy employers are also asking vendors important questions: **will a health and disease prevention program actually pay off in lower claims costs?** Will my company save money through disease prevention and health promotion?

The right kind of support and motivation is crucial for success in a weight management plan. Gordian Health Solutions, a leader in population health management, has found that the most effective weight loss plan incorporates one-on-one individually tailored programs that educate, motivate, support and guide a participant, step-by-step, to reach an attainable, sustainable goal. Gordian's proven system of population evaluation, health risk analysis, individually tailored programs and re-evaluation have produced measurable return on investment for client companies.

A Gordian client case in point is HCA, with 191 affiliated hospitals and 82 outpatient surgery centers in 23 states, with approximately 190,000 affiliated

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Figure 1

employees. Like many other large organizations, HCA experienced double-digit health care cost increases from 2000 to 2003.

Then HCA contracted with Gordian to implement lifestyle improvement and disease management programs, starting with a pilot population in the Southeast

“Like most companies, HCA monitors its affiliated employee medical benefit plan to determine the drivers of higher health care costs,” says Bob Read, director of benefits planning and design for HCA. “Our analysis shows that a small percentage of the population drives a high percentage of the costs. So we introduced the Gordian-administered disease management and lifestyle improvement programs to encourage people to ‘do the right thing’ and manage their chronic conditions and make lifestyle changes—which we believe will have a positive impact on both their well being and total health care costs in the long run.”

“We anticipated that the ROI would be at least \$2 saved for each dollar spent when we implemented the program,” Read added. “We are encouraged with our results of close to \$3 for each dollar spent.”

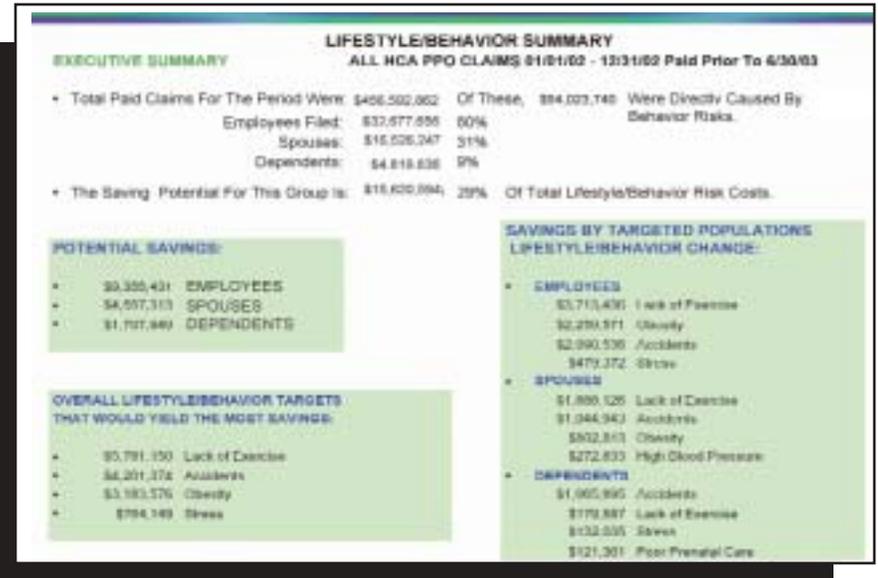
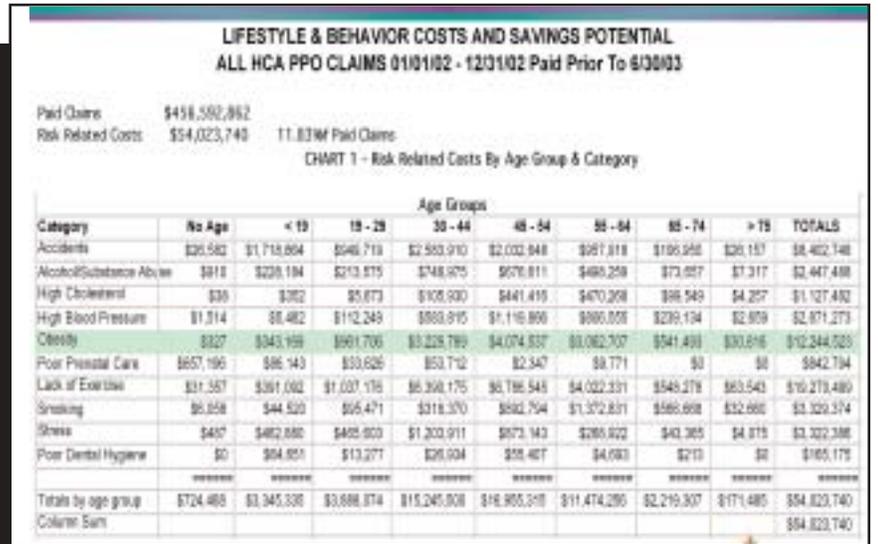


Figure 2



**Step 1: Determine the causes of healthcare claims**

Gordian began by establishing baseline measures of the relevant cost drivers and health risks in order to gain a clear picture of the covered population. The first step was to conduct a retrospective medical claims analysis to produce an historical perspective on past cost drivers, and to create an estimate of savings potential based on the implementation of moderately successful intervention programs. Gordian then ranked the costs and savings potential to allow targeting of specific conditions and populations. (figure 1)

The analysis showed HCA's total paid claims for the period were \$456,592,862, and the analysis showed \$54,023,740 of that was tied directly to behavioral risks. If Gordian programs were put in place to address all the identified behavioral risks,

Gordian conservatively estimated it could save HCA's healthplan \$15,620,594.

Gordian targeted obesity as a key claims cost driver, placing a total cost of obesity for this group at \$12,244,523. (figure 2) Using historical success and participation rates as benchmarks, it was estimated that Gordian could save HCA's healthplan about 29 percent of this cost, or \$3,183,576, (figure 3) by implementing a lifestyle behavioral change program with this population.

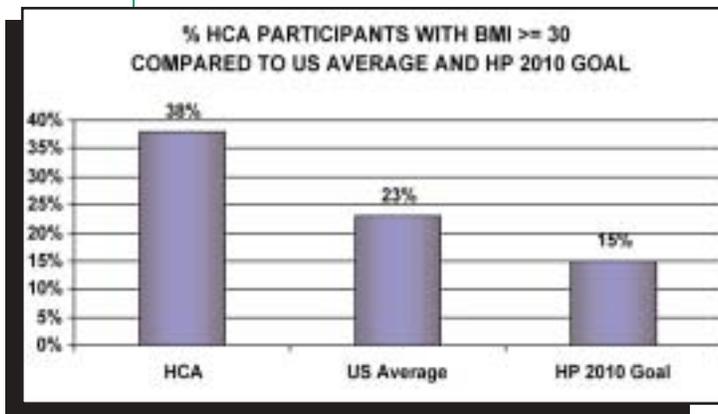
Gordian then broke the data down further, studying age and gender and relationship factors, and found that two-thirds of the costs and savings potential were attributed to female employees between the ages of 30 and 64.

Figure 3

Total Cost of Obesity	\$12,244,523
Total Potential Savings	\$ 3,183,576
Employee Savings Potential	\$ 2,259,571
Spouse Savings Potential	\$ 802,813
Children Savings Potential	\$ 121,192
Total Savings Potential	\$ 3,183,576

*\* Estimates based on results of moderately successful programs*

Figure 4



### Step 2: Determine population baseline risk status

The next step was to conduct health risk assessments and health screenings in the HCA pilot population to determine baseline risk status. Health risk assessments were offered to 5,845 eligible affiliated employees and 844 participated.

The health risk assessment found that a full 38 percent of those screened had a body mass index, or BMI, greater than 30 (the U.S. average is 23 percent, and the Healthy People 2010 goal for the nation is for no more than 15 percent of the population to register a BMI greater than 30).

All the health risk assessments were analyzed and individuals were stratified into an appropriate intervention program using national guidelines. For example, those with total cholesterol greater than 200 mg/dl were offered a cholesterol management program, and those using tobacco were offered a tobacco cessation program. Sixty-two percent of those who enrolled in a program fell into the weight management category (229 employees).

### Step 3: Modify participant risk behavior

Gordian set clear goals for helping the HCA affiliated employees modify their risk behavior. First, they were asked to increase their weekly exercise and physical activity level. They were also asked to reduce the fat in their diets. They were advised to increase their levels of dietary fiber. And Gordian health coaches helped participants make permanent behavioral change in food selection and consumption patterns.

The Gordian approach to behavior change is based on education, motivation and compliance. In this case, the employer agreed to provide a \$116 cash incentive to each participant upon completion of the weight management program—an employee motivator that also conveyed HCA's strong support for the pilot program.

Then Gordian introduced participants to its telephonic health coaching program. This is a more personal approach to education than simply handing a person health information to read. Gordian health coaching includes counseling for the individual based on stage of change and risk level. It also includes:

- Development of an individual action plan that includes six month and twelve month goals, and the steps that will be taken to reach the goal. This is essentially a behavioral contract.
- Telephonic coaching sessions covering readiness to change, barriers to health improvement, handling social situations related to food, making prudent choices when dining out and assessment of goal status.
- Healthy challenges. These are behavior change activities designed to engage individuals in experimenting with new healthy behaviors. An example would be drinking 8 glasses of water per day for two weeks, or climbing 5 flights of stairs per day.
- Educational mailings selected from authoritative and reliable sources about weight management.

### Step 4: Measure Results

Gordian measured the results of its program in objective terms for HCA. Six months into the program, 31 percent of participants achieved their six-month weight management behavioral goals. This result is a valuable achievement in itself for individual participants, but returns could also be measured by HCA's healthplan bottom line.

Gordian uses the Johns Hopkins methodology for calculating return on investment. This statistical method tracks health care expenses and savings by

cohort, or defined group, over time and compares the cohorts to each other and then to the non-intervention group.

**The cohorts tracked for HCA were:**

- 1) Program non-participants – those who were informed about the program but elected not to participate;
- 2) Those who participated in a health risk assessment and health screening but no other program component;
- 3) Those who participated in health risk assessment and screening and were determined to be risk free;
- 4) Those who participated in health risk assessment, health screenings and lifestyle improvement programs; and
- 5) Those who participated in health risk assessment, health screenings and disease management programs.

Baseline medical claims expenses were measured for each group in year one (2001) and re-measured in year two (2002), twelve months after program implementation. Gordian also factored in cost adjustments for medical inflation rates. Program expenses included Gordian's fees, pharmacy co-payments that were waived for those enrolled in disease management programs, pharmacy authorizations and program completion incentives. The total expenses were then also adjusted for inflation.

The result? For the entire program\*, a simple pre vs. post comparison adjusted for inflation found a \$734,221 reduction in medical claims expenses in year two compared to year one for the participating groups. Total expenses for the program were \$265,836 after adjustment. The simple return on investment is \$734,221:\$265,836 for an ROI of 2.76:1.

As the workforce continues to age, it's more important than ever to manage health rather than merely managing health care costs. For employers, the obesity bottom line is measured in better employee health and productivity—and the lower costs that result.

In place of the old cost model with a focus on health claims alone, the new cost model measures the true value of wellness and prevention. Keeping the entire employee population as healthy as possible, for as much of the time as possible, avoids many of the direct and indirect costs of poor health and disease. Population health management puts the employee in charge of self-care, and transforms the corporate health care benefit into an investment in employee health, with a return to be gained.

*\*HCA purchased the comprehensive Gordian program: client services, member communications, health risk assessment, lifestyle improvement, disease management, program reporting, and incentive administration. The cost for all program components, also included the cost for the actual incentive such as pharmacy copayment reductions, the preauthorization of pharmacy copayment reductions, and the cash incentive for each participant.*

## References

- [1] Centers for Disease Control and Prevention, National Center for Health Statistics, *National Health and Nutrition Examination Survey*, 1999. Obese is defined as having a Body Mass Index greater than or equal to 30, and overweight is defined as having a Body Mass Index from 25 to 29.9.
- [2] CDC study, released March, 2004 in JAMA
- [3] CDC study published Jan. 23, 2004 in the journal *Obesity Research*.
- [4] March, 2004.
- [5] "The effects of obesity, smoking, and drinking on medical problems and costs. Obesity outranks both smoking and drinking in its deleterious effects on health and health costs." *Health Aff* (Millwood) 2002 Mar-Apr;21(2):245-53.  
[www.rand.org/publications/RB/RB4549/](http://www.rand.org/publications/RB/RB4549/)
- [6] "Estimate on the Costs and Health Effects of Obesity Fact Sheet," online at [www.wbgh.com/pdfs/obesity\\_factsheet.pdf](http://www.wbgh.com/pdfs/obesity_factsheet.pdf).

## Six things an employer needs to consider before implementing an obesity management program

- 1 Conduct baseline measurements to determine the magnitude of the problem** in dollars and cents, establish budgets, and target the appropriate populations for intervention. Two tools that can help employers establish appropriate baseline measurements are:
  - a. Medical claims analysis to determine the cost and potential savings related to obesity
  - b. Health risk assessments and health screenings to identify those in need of weight management.
- 2 Conduct corporate culture assessment.** Does the corporate culture promote obesity or encourage healthy lifestyle? This may seem obvious but it's wise to start with a global evaluation of the company and its culture. Many employers unwittingly create environments that encourage reduced physical activity and promote high fat diets by offering traditional vending and meal services in the workplace.
  - a. If there are vending machines on the premises, do these machines offer healthy snacks and beverages?
  - b. If meals are served at the worksite are there healthy dishes that promote low fat, high fiber diets?
  - c. Are there exercise facilities at the work place?
  - d. Does the company sponsor or promote recreational sports?
  - e. Are members of the management team overweight?
  - f. Is there a champion at the worksite who would promote and encourage healthy lifestyles?
  - g. Has the employer been successful in promoting healthy lifestyles in the past? For example has the employer offered health fairs or health screening? Were these activities well attended?
  - h. Are there any "healthy" incentives offered? For example, are there health premium differentials offered for participation in health promoting activities?
- 3 Determine the type and intensity of the incentives.** Design incentives that are appropriate to the employers' culture and budget that will drive participation and send a clear message of employer support for healthy lifestyles. Voluntary lifestyle improvement programs typically attract those who are already pre-disposed to improve their health while meaningful incentives can and do attract more participants to weight management who may not have otherwise engaged in a lifestyle improvement program.
- 4 Conduct an internal resource inventory.** Work to identify those activities and personnel that could be reasonably reassigned to assist in program design and implementation. Are there health professionals already on payroll? Does the employer have good employee communications channels up and running? Is there any physical space that could be allocated as needed for health fairs, screening activities or educational programs?
- 5 Make "build or buy" decision for intervention programs.** With the new HIPAA regulations, many employers are shy about handling any Protected Health Information such as health risk assessment data – as they should be. Selecting a vendor to conduct health risk assessments, medical claims analysis and lifestyle improvement programs should include the following key points:
  - a. Vendor has demonstrated success with similar employers both in terms of ROI and program effectiveness.
  - b. Vendor has ability to manage and administer incentives through a direct payroll interface.
  - c. Vendor has proven ability to establish baseline measurements and target interventions appropriately to deliver a cost effective program.
  - d. Vendor is HIPAA compliant and capable of electronic interface and warm transfer to other health plan vendors such as pharmacy benefits managers, disease management vendors, and employee assistance programs. Vendor can track and report on referrals and integration.
  - e. Vendor has full range of population health management programs.
- 6 Make a commitment to an aggressive internal employee communications campaign.**

## About Gordian Health Solutions

Gordian is a national population health management company based in Nashville, Tennessee. The company offers a comprehensive suite of products and services such as population health risk analysis, telephonic counseling, online products, health education hotlines, on-site health education/fitness center management and lifestyle and disease management programs. Gordian works with employers, health plans and hospitals to identify, control and manage health risk factors and their associated costs. Through targeted and tailored programs, and sophisticated tracking, monitoring and reporting capabilities, Gordian works with clients to measure program progress and cost savings. For more information about Gordian Health Solutions, visit [www.gordian-health.com](http://www.gordian-health.com).



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