Celebrating Five Years of Success

Examining a groundbreaking solution for controlling health care costs using financial incentives to invoke doctor-patient mutual accountability

By Jeff Greene
November 2009

Abstract

Our nation is in the midst of an important debate on health care. The issues revolve around affordability, accessibility, quality and funding. Of these issues, the one that all experts agree must be resolved for the good of the country is the high cost of healthcare.

Supported by years of testing and overwhelming empirical evidence by independent research, the MedEncentive Program has surfaced as a real breakthrough in resolving the issue of healthcare affordability. This report presents the findings from five years of testing and the independent research that validates the Program's efficacy and its underlining design principles.

Background - From 1997 through 2007, a small group of innovators consisting of practicing physicians, a medical academician, a self-insured business owner, a medical practice management consultant, and a health insurance executive sought to find ways to align the interests of healthcare consumers, providers and insurers. After years of studying the issues, the group concluded that the single most pressing problem in healthcare was affordability. Understanding that the majority of healthcare costs are driven by people's poor health habits and medical providers' variable practice patterns, the group focused on using incentives to align these stakeholders' interests to improve both health behaviors and practice patterns. This thought process led to the development of what would become a web-based incentive system called MedEncentive.

In August 2004, the first installation of the MedEncentive healthcare cost containment program was launched with the municipal government in Duncan, Oklahoma. This unique web-based incentive system functioned as designed and the City of Duncan realized significant cost savings in the very first year of installation. Two studies[1,2] were published that attributed these cost savings to the adoption of the MedEncentive Program.

Since that time, there have been a number of important developments that support the initial Duncan findings and offer evidence that MedEncentive could be a real breakthrough in making healthcare better and more affordable. These developments include the following:

- After five years of testing, the City of Duncan continues to benefit from the MedEncentive Program, confirming the first year's cost containment results.
- The original Duncan trial has been joined by 6 subsequent installations of the Program with employers in the states of Oklahoma, Kansas and Washington. The trial population has grown to approximately 7,000 enrolled health plan members. The results of the subsequent installations have corroborated the Duncan findings.
- Numerous independent studies of health literacy and wellness programs offer overwhelming empirical evidence that substantiates the MedEncentive design.
- Extensive patient surveys provide a deeper understanding of why MedEncentive is effective at controlling healthcare costs.
- An important development during the past five years has been the ability to more vividly describe the Program's key components. Terms such as "*information therapy,*" "*precision-guided, interactive financial incentives,*" "*doctor-patient mutual accountability,*" and "*triangulation*" are helping to convey the Program's novel characteristics.

Key Findings - The seven separate installations have provided an excellent opportunity to conduct concurrent analysis of what works best in terms of Program adaptation. The key findings are as follows:

- City of Duncan costs for the most recent year was 8.6% less than five years ago prior to implementing the Program, which is 34.9% less than the projected costs. The resultant four year savings equates to an 8:1 return on investment.

- 5 of the 7 trial employers have reported cost containment after implementing the Program, with the remaining two indeterminate as of this writing.

- The level of patient/member participation in the Program has the strongest correlation to healthcare cost containment. The trial data indicates that patient/member participation rates above 55% consistently produced cost containment.

- The overall annual patient/member participation rate in the Program for the year ending 6/30/2009 was 61.3%. Patient/member participation climbed in all installations through the first two years before reaching a plateau. Only one installation experienced a decline in participation, which coincided with that employer's decision to reduce the patient reward amount.

  For comparative purposes, participation in typical employer-sponsored wellness and prevention programs tends to peak around 25% in the first year and declines thereafter, according to independent studies and surveys.

- According to the trial data, the amount of the patient/member financial reward has the greatest impact on the level of patient/member participation in the Program. It appears from the trial data that financial rewards less than $15 are inadequate to achieve patient/member participation rates sufficient to bend the cost curve.

- Since the Program is delivered through a web-based application and the trial population spans a broad spectrum of socio-economic status, it appears that access and proficiency in the use of the Internet has not been a significant barrier. This is especially true if the patient/member financial rewards are adequate and the Program sponsor (employer/ insurer) offers alternative means of access to the Internet (such as the workplace, doctor's office, or library) along with suggestions on how to use the Internet (such as family, friends, or the employer's benefits department).

- Other factors that appear to impact patient/member participation include: a) the organizational environment or "Culture of Health" of the employer/insurer that sponsors the Program; b) physician participation; and c) the perceived beneficial quality of the health information supplied through the Program.

- For the year ending 6/30/2009, the overall annual physician participation rate in the Program was 21.4%. Since 2006, the participation rate among the 100 physicians with the highest concentration of covered patients was 57.9%. The highest rates of physician participation were achieved with installations in which the local medical community had a contractual relationship with MedEncentive.

  It is unclear what kind of impact physician participation in the Program has on cost containment and additional research is needed. However, physician participation does impact patients' perception of the beneficial quality of the health information prescribed through the Program. This leads us to conclude that higher physician participation will improve the Program's cost containment capabilities even more, and calls for the introduction of our more advanced recruitment tactics such as the pending Success Acknowledgment enhancement.

- The overall cost of the program for all trial installations on a per health plan member per year (pmpy) basis was $71.60 for the year ending 6/30/2009. This included rewards paid to member-patients, physician compensation, and MedEncentive's fees. This compares favorably to other employer sponsored incentive programs that recommend $600 to $1,000 per person initially and average more than $200 pmpy in rewards to plan members, excluding physician incentives and administrative costs.

  Though precise program cost data was readily available, all health plan costs were self-reported with the exception of the City of Duncan. As such, precise return on investment (ROI) results could not be calculated. However, based on the reported cost savings, it is estimated that the ROI results for the other trial installations were comparable to the City of Duncan's results.

- One of the attributes of the Program that is particularly attractive to physicians is the "anti-cookbook feature." This feature allows physicians to use their clinical judgment to deviate from an evidence-based medicine (EBM) treatment guideline recommended by the Program, provided physicians communicate the reason for deviation (from a menu of reasons supplied by the Program) to their patients, and agree to allow patients to acknowledge and comment on the reason. For the year ending 6/30/2009, physicians chose the option to deviate from EBM guidelines only 1.3% of the time.

- Information therapy is the principal medical intervention that has been and is currently being delivered through the Program. After taking their information therapy, all patients are required to answer the following question: "On a scale of 1 to 5, how helpful has this information been to you in self-managing your health (5 being the most helpful)?" The aggregate score of the 13,673 responses to this question for the year ending 6/30/2009 was 4.07. In addition, patients are asked to voluntarily comment on the Program. 1,194 patient/members offered comments out of 3,603 patient/member participants, representing a 33.1% response rate. The volume and quality of these re-

sponses coupled with the aggregate benefit score present a strong case for the clinical and economic efficacy of information therapy.

- The Program passed the scalability test, an important factor in determining the viability of cost containment solutions.
- The results of patient surveys conducted to measure the impact of the psychosocial motivational characteristics of the Program indicate that patient health behaviors are significantly influenced by physician awareness of patient health accomplishments.

Confirming the Value of Information Therapy - Since information therapy is the principal medical intervention delivered through the Program during the trial, we can deduce the following from the findings:

- As the empirical evidence of numerous studies indicates, health literacy has a significant impact on economic outcomes. Based on the design of the Program, the trial results confirm the empirical evidence by demonstrating that a medically informed and empowered person is better equipped to self-manage his/her health, which leads to lower healthcare costs.
- Most people need to be financially incented to become health literate.
- Information therapy is a powerful medical intervention because patients respond to health information that they know or believe comes from their doctor.
- Health literacy is advanced far better when people are financially rewarded to read pertinent health information and are asked about or are tested for comprehension on a web-based application. This allows people to learn in a place and at a time that they choose as most conducive to learning, as opposed to information that is communicated verbally or in writing by their doctor at the time of service.
- In general, people are responsive to their doctors and vice versa. As this applies to the MedEncentive Program, most patients do not want their doctors to think they are medically illiterate and non-compliant. Conversely, most doctors do not want their patients to learn that they practice substandard care. MedEncentive is effective at controlling costs, in part, because it allows both parties to dispel any wrong impressions with regard to patient literacy and compliance, and provider performance. This unique process is what we call "doctor-patient mutual accountability."

The Future - As the healthcare reform debate rages on, we believe our Program offers a comprehensive and yet remarkably simple solution to the fundamental health and healthcare issues that plague our country. We are obviously pleased with the results of our trial installations. However, the future holds the promise of much more. We say this for two reasons. First, the Program's current evidence-based medicine/information therapy application has not yet been tested in a large concentrated deployment or in an advanced Culture of Health environment. Second, MedEncentive is designed to wrap around a host of other medical inventions such as wellness and prevention, care management, patient-centered medical home, medication adherence, and personal health record adoption.

We are encouraged by the growing awareness of MedEncentive and a host of pending business opportunities that offer the promise of a breakthrough in terms of the widespread adoption of the Program. Until that breakthrough occurs, we are moving forward by having MedEncentive independently evaluated in much larger populations.

In November 2008, we released a request for proposals (RFP) to chapters of the National Business Coalition on Health to conduct independent evaluations of our Program. As of this writing, finalists for MedEncentive's independent evaluation seed grants have been identified in Kansas, Michigan, and Indiana. The leaders of these evaluation projects are currently recruiting health insurers and large employers to participate in the demonstrations.

In September 2009, Medical Justice, a member-based organization designed to help protect physicians from frivolous lawsuits, announced it would begin offering most favored pricing to physicians who practiced the MedEncentive Program. Though we have always understood that MedEncentive offers physicians a degree of medical liability protection, this is the first of what we hope will be widespread recognition by medical malpractice insurers and others of this special attribute.

Shortly after the Medical Justice announcement, President Obama issued an executive order to fund demonstrations that examine innovative solutions that balance patient safety against the prevention of frivolous lawsuits filed against medical providers. Because of MedEncentive's unique design, medical liability experts are touting our program as the means to perfectly balance these conflicting objectives in a manner that also reduces the costly practice of defensive medicine.

For these and a host of other reasons that are presented in this report, we believe MedEncentive offers great hope for improving healthcare quality, while at the same time empowering and motivating people to be healthier, all of which will lead to more affordable healthcare.

Table of Contents

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Background

From 1997 though 2007, I had the privilege of leading a small group of innovators consisting of practicing physicians, a medical academician, a self-insured business owner, a medical practice management consultant, and a health insurance executive. Our small band on pioneers included Dr. Susan Chambers, Oklahoma's 2003 Woman of the Year, and Dr. David Parke, now CEO of the American Academy of Ophthalmology. Along with my longtime colleague Jim Dempster, we met for breakfast weekly in Oklahoma City to contemplate the economics of medicine

Susan Chambers, MD

David Parke, MD

After years of studying the issues, our Breakfast Club concluded that the single most pressing problem in healthcare was affordability. We also recognized that healthcare affordability is a derivative of both health and healthcare. In order for healthcare to become more affordable, it was apparent to us that we had to find ways to improve people's overall health and improve the healthcare delivery system. We understood that the majority of healthcare costs are driven by people's poor health behaviors and medical providers' variable practice patterns. We began to wonder if there was a way to improve both health behaviors and practice patterns simultaneously and perhaps interactively, with the use of financial incentives. This thought process led to the development of what would become a web-based incentive system we named MedEncentive.

In 2004, the community of Duncan, Oklahoma was experiencing skyrocketing healthcare costs. The City of Duncan found itself in a particularly troublesome situation with no apparent solutions. As a last resort, City Manager Clyde Shaw, the City Council and the local labor unions agreed to take a chance on being the first adopter of a radically new program conceived by the folks who met for breakfast in Oklahoma City. Clyde concluded that the program's concept of financially rewarding both the City's health plan members and their doctors for accomplishing health and healthcare objectives made sense as a means of controlling costs. It was certainly a risk on Clyde's part, as well as the City Council and the unions.

On August 1, 2004, the MedEncentive Program was launched. In the very first year of the installation, the City experienced significant cost savings – and it has continued ever since. Now after five years, it can be said that Clyde and company made the right decision. Clyde summarizes the City's experience with the Program by stating simply, "We save money and everyone loves it."

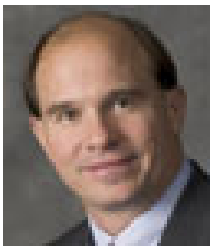
When combined with what has transpired outside of Duncan, many believe that MedEncentive offers a real breakthrough in improving healthcare's affordability, quality and accessibility. To commemorate the fifth anniversary of our launch, I have prepared this review of what we have learned from our trial installations and other developments that should give us all hope for the future.

What is Unique about MedEncentive?

For the uninitiated, MedEncentive is a web-based incentive system that is unique because we reward both the doctor and the patient for better performance and healthy behaviors. The system's uniqueness doesn't stop there because MedEncentive "ups the ante," so to speak, by requiring both parties to agree to allow the other party to confirm or acknowledge each others adherence to these performance standards and healthy behaviors. The power of this process will make more sense after describing how MedEncentive works.

How does MedEncentive Work? - To help explain how the Program works, I will pretend to be the patient and my family physician, Bill Bondurant, M.D., will be the doctor.

I receive MedEncentive coverage through my health plan, which could be underwritten by a health insurance company or a self-insured employer.



Dr. Bondurant

In this case, let's make believe I receive health coverage through my employer and my employer is fully insured through an insurance company called Bestco. Bestco has added the MedEncentive Program to my health plan. I learn about MedEncentive at my place of work and through communications from Bestco and MedEncentive. Dr. Bondurant learns about MedEncentive through Bestco and MedEncentive or from me during an office visit. In learning about the Program, Dr. Bondurant and I are informed that we can each earn a financial reward from Bestco through MedEncentive in conjunction with each office visit. We are also informed that participation in the Program is voluntary with each or all office visits. I am automatically enrolled in the Program through my health plan. Dr. Bondurant enrolls directly or through his group practice or through an independent practice association.

Dr. Bondurant learns that he earns additional compensation when he accesses the MedEncentive website to answer one or two questions. He enters my name and my diagnosis.

Let's pretend I have hypertension Figure 1 illustrates a sample treatment guideline for hypertension developed by a consortium of medical schools to include Vanderbilt, Duke, Oregon Health and Science, Emory, Washington – St. Louis and Mt. Sinai – New York. (It should be noted

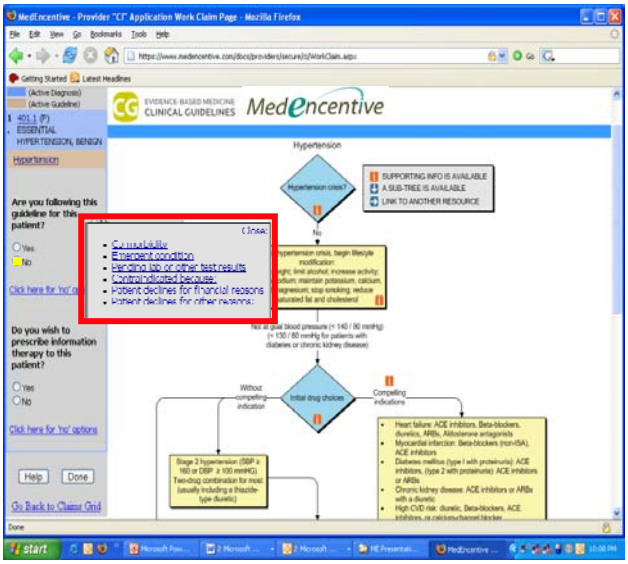


Figure 1

that the Program has been designed to be adaptable to any set of treatment guidelines as long as it is evidence-based, independently derived, peer-reviewed, nationally recognized, and relevant.)

The first question Dr. Bondurant is asked to answer is:

> *"Are you following this guideline in the treatment of this patient? Yes or No"*

The Program's website informs Dr. Bondurant that he will be eligible to earn additional compensation no matter how he answers this question. If he answers "yes," then he moves on to the second question. If he answers this question "no," in order for Dr. Bondurant to earn his additional compensation from Bestco, he is required to provide me with a reason why this guideline doesn't fit. To facilitate a "no" response, the Program pops up a menu that lists every appropriate reason why Dr. Bondurant would want to deviate from the guideline. These reasons include: co-morbidity; pending test results; guideline incorrect; incomplete or out of date; physician using an advanced treatment; contraindicated because...; patient refuses; etc.

In Figure 1, Dr. Bondurant has indicated that the guideline does not fit my particular circumstance, so the menu of reasons for guideline deviation is illustrated.

There is another aspect to this question that Dr. Bondurant must take into consideration. To earn his additional compensation from Bestco, he must agree to allow me to confirm his declaration of adherence or acknowledge his reason for non-adherence. This is the first in a series of checks and balances that are key to the Program's efficacy.

To keep things fair, I should mention that Dr. Bondurant is also agreeing to confirm or acknowledge my health performance. I will explain how this works later in a process called "Success Acknowledgment."

The second question on this webpage involves one of the most important aspects of the Program, which is called "information therapy." This second question asks Dr. Bondurant to prescribe to me at least one article from a list of articles associated with my medical condition that the Program retrieves from a database of medical information. I will be expected to read this information and demonstrate or declare to Dr. Bondurant that I understand the article's content. This process of having clinicians prescribe information to patients in a timely manner, so patients can make informed decisions and take appropriate actions to self-manage their health, is called "information therapy." Later, I will describe in more depth why information therapy is so important.

Similar to the treatment guidelines, the Program is designed to be adaptable to any credible medical content as information therapy. For the trial installations, we have used Healthwise® content. Healthwise® is one of the lead-

ing developers of web-based, consumer-grade content in the world. In fact, Healthwise® coined the term "information therapy" and originally registered the symbol "Ix®."

Answering these two questions completes Dr. Bondurant's tasks. If it seems fast and easy, it is. Once physicians become familiar with the Program, it takes less than a minute to answer the two questions.

I should mention that essentially all diagnoses and health conditions have consumer-grade medical content available from vendors like Healthwise®. This is not the case with treatment guidelines. The cost and time needed to subject a treatment to the rigors of randomized testing, plus the current state of medical science limit the number of diagnoses that have highly developed treatment guidelines. As a result, medical research has concentrated on developing treatment guidelines for the most common or most devastating diagnoses. The Program has offered 117 such guidelines through the trials, which cover thousands of the most common and expensive diagnoses and wellness conditions. In the instances in which a diagnosis has medical content but does not have a treatment guideline, the Program only requires the doctor to prescribe information therapy. This makes practicing the Program even easier and faster for physicians.

The Program is not only fast and easy, but flexible too. Dr. Bondurant can practice the Program at the time of service or at the end of clinic. If he forgets or doesn't know I'm a MedEncentive beneficiary, MedEncentive will send him an email or fax reminder once he submits the office visit claim for our encounter. Dr. Bondurant can delegate the simple data entry functions to his staff by having them enroll under his supervision.

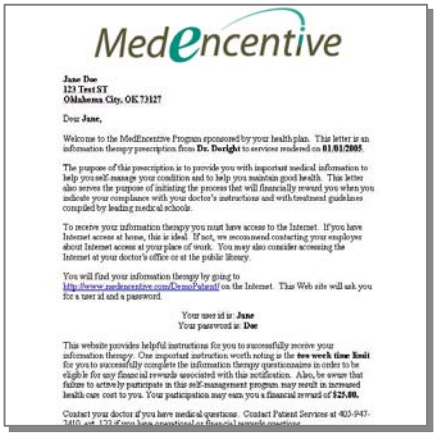
The Program has been integrated with an electronic health record system in a high-tech medical practice. But it has also been easily adapted in low-tech practices using slips of paper. All the technology a physician needs to participate in the Program is Inter-net access.

When Dr. Bondurant files his insurance claim for my office visit to Bestco, an electronic copy is sent by Bestco to MedEncentive. MedEncentive checks to see if Dr. Bondurant practiced the Program in conjunction with the office visit or shortly thereafter. If not, MedEncentive sends him an email or fax, and he is given a second chance to participate. Once Dr, Bondurant completes his MedEncentive queries and the Program's computer system matches his claim for my office visit to his online responses, then MedEncentive sends a payment authorization to Bestco, who makes payment to Dr. Bondurant.

If Dr. Bondurant fails to respond within four days to the "second chance" email or fax, his opportunity expires. However, I am not deprived of my opportunity to participate. MedEncentive keys off of the diagnosis that Dr. Bondurant put on the office visit claim he submitted for payment to Bestco. Using that diagnosis, MedEncentive is able to generate my information therapy prescription, and I am informed of this in my prescription letter.

With regards to physician compensation, the Program pays doctors well relative to the amount of time and effort required. Dr. Bondurant will earn $15 for his minute of effort if he completes his responses in a timely manner. On average, this represents a 20% increase in physician office visit compensation. Dr. Bondurant earns half that amount if he needs to be reminded by email or fax, but that is still a 10% boast in compensation.

Now it's my turn. As a result of Dr. Bondurant's participation in the Program or, if he fails to participate, his submission of a claim for the office visit, MedEncentive is prompted to send me an information therapy prescription letter. This letter (see Figure 2) directs me to the MedEncentive website. Once I logon, I discover that health information for my specific medical condition is waiting for me (see Figure 3). I am asked to read this information, which is written at the 6th grade comprehension level. I am then asked to answer a series of questions to make sure I understand what I just read. If I miss a question, I am taken to that section of the article and asked to read it again until I can answer the question correctly. In effect, MedEncentive and Dr. Bondurant want me to become medically literate and empowered to be able to self-manage my health. (Later I will explain why health literacy is so important.)


MedEncentive

Jane Doe
123 Test ST
Oklahoma City, OK 73127

Dear Jane,

Welcome to the MedEncentive Program sponsored by your health plan. This letter is an information therapy prescription from Dr. Dwight to services rendered on 01/01/2005.

The purpose of this prescription is to provide you with important medical information to help you self-manage your condition and to help you maintain good health. This letter also serves the purpose of initiating the process that will financially reward you when you indicate your compliance with your doctor's instructions and with treatment guidelines compiled by leading medical schools.

To receive your information therapy you must have access to the Internet. If you have Internet access at home, this is ideal. If not, we recommend contacting your employer about Internet access at your place of work. You may also consider accessing the Internet at your doctor's office or at the public library.

You will find your information therapy by going to http://www.medencentive.com/DemoPatient/ on the Internet. This Web site will ask you for a user id and a password.

Your user id is: Jane
Your password is: Doe

This website provides helpful instructions for you to successfully receive your information therapy. One important instruction worth noting is the two week time limit for you to successfully complete the information therapy questionnaires in order to be eligible for any financial rewards associated with this notification. Also, be aware that failure to actively participate in this self-management program may result in increased health care cost to you. Your participation may earn you a financial reward of $25.00.

Figure 2

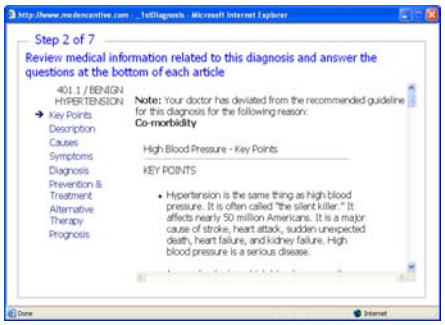


Figure 3

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MedEncentive
Rewarding better health

I am then asked to declare or demonstrate my adherence to what I just read. (Gulp! I better start taking my Lipitor like Dr, Bondurant said I should.) I must also agree to allow Dr. Bondurant to have access to my literacy score and my declaration of adherence through MedEncentive. (Double gulp! I really need to get back on my Lipitor.) (Referred to as the "Gulp Factor")

Once I have completed these steps, I am asked to rate Dr. Bondurant's performance on a scale of "consistent" to "inconsistent" (see Figure 4). This rating process is designed to be more objective than a satisfaction survey. In effect, I am being asked if I received from Dr. Bondurant the kinds of services and advice that are recommended in the information I just read and the test I just passed. Since I was the only other person present when care was rendered and I have demonstrated my knowledge, I am a much better judge of Dr. Bondurant's performance than an insurance company or the government based on claims or self-reported data. My rating is not shared with Dr. Bondurant, but is used in aggregate with other patient ratings to eventually establish a performance profile for Dr. Bondurant.

Figure 4

Having completed all the requirements of my information therapy prescription, I am informed that I will receive a check for all or a portion of my office visit co-payment or out-of-pocket costs. MedEncentive sends an electronic authorization to Bestco, who sends me a check.

Why does MedEncentive Work? – The secret to MedEncentive's effectiveness is how the Program's processes use financial incentives for the specific purpose of invoking the more powerful psychosocial motivators that exist in the doctor-patient relationship. In effect, MedEncentive's unique combination of financial incentives and psychosocial motivators encourage doctors and patients to respond to one another to do better and be healthier. Since our patent-pending combination of incentives and motivators are purposely aimed at inducing specific actions, we called them "precision-guided, interactive financial incentives." I will explain how this works beginning with Dr. Bondurant.

Initially, Dr. Bondurant may be motivated to participate in the Program because of the extra compensation he can earn or because I ask him to. In time, Dr. Bondurant will learn there are multiple reasons for him to not only participate, but to adopt improved treatment methods referred to as evidence-based medicine (EBM). These reasons include the realization that: a) information therapy is good medicine for me; b) the Program is fast, easy and flexible to use; c) the Program encourages him to use his clinical judgment to deviate from a treatment guideline when it is appropriate, as long as he tells me why; d) the Program could mitigate his malpractice risk; e) Dr. Bondurant's intrinsic desire to practice the best possible care, and last but not least; f) Dr. Bondurant will want to please me as his patient/customer. He will learn that I will be rating his performance against an evidence-based standard of care with each office visit. He will learn that my rating of his performance will occur immediately after I demonstrate or declare my understanding of the type of care he should have rendered or the appropriate reasons why he would choose to deviate from this type of care. He will learn that I will be rating his performance whether he participates in the Program or not. He will realize that I will tend to rate his performance higher if he participates, which will help motivate him to do so. Finally, Dr. Bondurant will learn my ratings will be aggregated with his other patients' ratings. When statistical significance is reached, Dr. Bondurant's overall score will be used to compare him to his peers.

Generally speaking, physicians don't like being rated. However, if there are going to be physician ratings, Dr. Bondurant would prefer having his own patients rate his performance, especially after his patients demonstrate their health literacy, as opposed to having a third party, such as an insurance company or the government, rate his performance based on claims data or self-reported data.

With third party ratings, we immediately enter into the endless arguments about who's doing the rating and what metrics are being used. If a single doctor is somehow mistakenly underrated by an imperfect rater or rating system, then there will be a lawsuit. To compensate for this eventuality, the metrics and rating system have to be watered down to the point that they no longer have any value.

On the other side of the coin, we get into the business of providers gaming the system. After all, the third party is not present when care is rendered, and it is difficult for third parties to effectively survey the parties that were present to really determine if the proper care was rendered. Pay-for-performance programs have already encountered these issues and have struggled with their effectiveness.

All of these issues go away by having patients rate their doctors. After all, the patient was present when care was rendered. The only issues that have been holding us back from moving in this direction have been the subjectiveness

of patient satisfaction surveys on the one hand, and the patient's lack of qualifications to objectively rate physicians on the other.

The Program solves these issues by financially rewarding the patient for gaining the necessary qualifications to objectively rate his/her physician just prior to the patient rating his/her physicians. The Program adds another layer of fairness by aggregating a number of patient ratings to achieve a statistical significance before reporting a doctor's overall rating. This prevents an individual patient rating from negatively affecting a physician's reputation.

And there is another important twist involved in this business of evidence-based care and physician performance ratings. The very act of participation in the Program immediately elevates Dr. Bondurant's standard of care through the process of prescribing information therapy. (I will explain why information therapy is so important later.)

Now, let's move on to how and why MedEncentive inspires me to become knowledgeable, empowered and motivated to self-manage my health.

Just like Dr. Bondurant, I am encouraged to participate and be adherent for multiple reasons. These reasons include: a) the financial reward I can earn; b) learning about how to self-manage my health is useful to me; c) acting on my new knowledge is good for my health; and last but not least; d) I know Dr. Bondurant will be able to see my literacy scores and my declarations of adherence. Since I trust and respect him, I have an inherent desire for Dr. Bondurant to know I understand how to self-manage my health and am compliant with his recommendations.

In effect, the Program causes Dr. Bondurant and me to become accountable to one another for our actions. In other words, I don't want Dr. Bondurant to think I am medically illiterate and non-compliant. Conversely, Dr. Bondurant doesn't want me to discover he practices substandard care. The Program provides both Dr. Bondurant and me an opportunity to dispel any wrong impressions by allowing us to demonstrate to one another our adherence. This is what we call "doctor-patient mutual accountability" and it is unique to MedEncentive.

It follows that as an informed, empowered and motivated patient, I will be healthier, experience fewer hospitalizations, and consume less total healthcare over time. My improved health coupled with Dr. Bondurant practicing better care will save Bestco lots of money. Thus, we all win - Dr. Bondurant, Bestco, and I. This alignment of interests among the three parties most responsible for healthcare costs is what we call "triangulation" - something few if any other solutions can accomplish.

So, the reason why MedEncentive is so effective is that it promotes patient education and empowerment with "information therapy" through the use of "precision-guided, interactive financial incentives" aimed at invoking "doctor-patient mutual accountability" that leads to lower healthcare costs. This produces a "triangulation" of interests among consumers, providers and insurers of healthcare.

A few final comments related to why MedEncentive works.

More often than not, people who learn about our program for the first time have the "ah ha" moment. Healthcare thought-leaders like Newt Gingrich and Health Affairs editor-in-chief, Susan Dentzer, give our solutions thumbs up. Others describe our solution as "brilliant," "compelling" and "elegant in its simplicity." Still others, such as U.S. Senator Tom Coburn, envision MedEncentive as a real breakthrough with endless applications. We are obviously pleased with these accolades and testimonials and welcome everyone to read what others have to say about MedEncentive on our website at www.medencentive.com.

At the other end of the spectrum, we get the comments like, "a program this simple can not possibly be effective," or "the results being reported are too good to be true," or "if something is so simple, why didn't someone else discover it long ago."

Well, MedEncentive is much more complex than meets the eye. Certainly, there are aspects of the Program that are simple, but the strategies embedded in the Program are very complex. Countless hours have been spent constructing the Program to meet carefully considered design objectives. Then we tested the Program to the limits that our trials afforded.

In the following sections, I will present our findings from five years of testing. I will also present independent research that not only supports our designs, but suggests that our results could have been and will be even better.

Trial Installations Findings and Independent Studies Substantiation

What Has Happened In Five Years?

In 2006, an in-depth analysis of the City of Duncan's first year's cost savings was conducted. All the parties involved in the Duncan trial, including the City, the City's third party administrator, and the Duncan medical community agreed that the data demonstrated a correlation between participation in the Program and the City's cost savings. These findings were published in a report entitled: *Pay-for-Performance Success Using Doctor-Patient Interactive Rewards*[1].

In 2007, Dr. David Parke published a follow-on thesis entitled: *Impact of a Pay-for-Performance Intervention: Financial Analysis of a Pilot Program Implementation and Implications for Ophthalmology*[2]. Though the findings were impressive, everyone involved agreed that additional testing was necessary to confirm the results. That is precisely what has taken place in the interim.

Since these studies were published, there have been a number of significant developments that confirm the original studies' findings. These developments include the following:

- **The City of Duncan continues to benefit from the Program, confirming the first year's cost containment results**
- **Subsequent installations of our Program with other employers in Oklahoma, Kansas and Washington have corroborated the Duncan findings**
- **Numerous independent studies of health literacy and employer-sponsored wellness and prevention programs substantiate the MedEncentive design**
- **Patient surveys provide a clearer understanding of why MedEncentive is so effective**

These developments and what we have learned in the five years since our first installation are presented in the following sections.

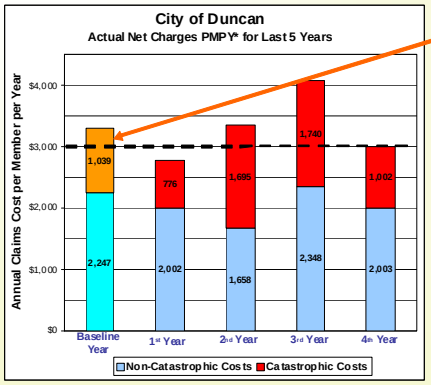
Trial Installations Findings

Confirmation in Duncan

For five years and counting, the City of Duncan has benefited from the Program. Using the same analytical design and methodology from the original studies[1,2], the most recent results are as follows:

a. **Cost Savings Validation**
The City's healthcare costs have remained effectively flat for four years running (refer to the adjacent Graph 1 and attached Graphs 3 through 11 and Tables 2 and 3). This is in spite of a relatively stable[3] but aging population, no significant changes in health benefits[4] after the first year, and a cumulative healthcare cost inflation of 34.9% from 2004 to 2008. In fact, the 2007-08 costs are 8.6% less than the costs in the year prior to adopting the program in 2003-04. (As of the date of this writing, it will be a few months yet before we will know how the fifth year fared.)

4 years of cumulative cost savings based on PMPY* validates MedEncentive impact on costs



- The 4th year "all-in" PMPY claims cost is **8.6% less** than the baseline 5 years ago.
- The 4 year average "all-in" PMPY claims cost is essentially flat (0.6% more than the baseline year) and **34.9% less** than projection.

* Based on per Member per Year costs ("PMPY")

Graph 1

In the original studies, the cost savings was principally attributable to a reduction in hospitalizations. Though the source of savings was not specifically examined in the four year results, there is no indication that the principal source of the savings has changed.

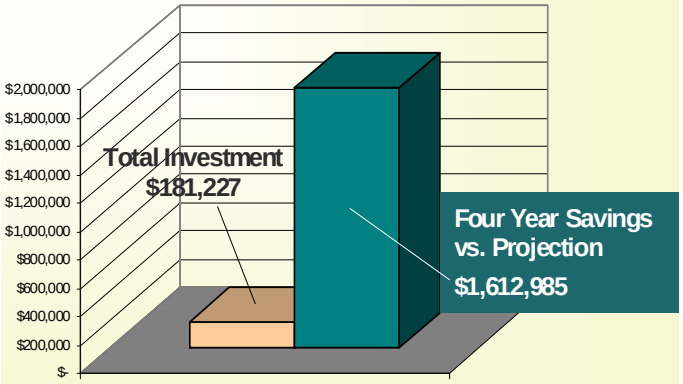
b. **Significant Return on Investment**
Using the same standard method of calculating return on investment (ROI) as was used in the original studies[1,2], the Program produced an 8:1 return on investment for the City when compared to the cumulative rate of healthcare inflation, (refer to the adjacent Graph 12 and the attached Graph 13). By any measure, this is an extraordinary ROI.

c. **Non-Catastrophic Costs Contained as Predicted**
Since MedEncentive is currently an office-based intervention, the best barometer of the Program's efficacy on the near term is non-catastrophic costs. Using the same methodology to normalize the data and the same stop-loss measure to segregate catastrophic cases as was used in the original studies[1,2], the City's average annual non-catastrophic costs over the four years since adopting the Program were more than 13% less than the baseline year. This is an almost unheard of accomplishment.

d. **Other Predicted Results**
Another interesting finding was how the City's costs responded to the introduction of blanket lab screenings (biometric testing) in year three. As Graphs 1 and 3 through 11 illustrate, the City experienced a spike in overall and non-catastrophic costs that coincided with these screenings. Prior to the analysis of year three's costs, I mentioned the blanket screens in a presentation to Dr. David Wennberg at Health Dialog. Based on Health Dialog research, Dr. Wennberg warned that a high percentage of positive lab results prove to be false alarms. He predicted that the City would experience a spike in costs as people sought answers to false positive lab results.

As the graphs indicate, costs spiked in year three. The City's Human Resource Manager, Donna Howell, confirmed that health plan members did, in fact, experience a high volume of false positives. It is also interesting to note the dramatic drop in costs in

Four Year Results: Rewarding Better Care, Patient Education and Compliance Lowers Cost



4 year program investment vs. "all-in" claims cost = **8:1 ROI**
Based on per Member per Year ("PMPY") data

Graph 12

MedEncentive Rewarding better health

the following year, in spite of another round of blanket lab screenings.

e. **Summation**
City Manager Clyde Shaw summarizes Duncan's five year experience with the Program by simply stating, "It saves us money and everyone loves it."

Subsequent Installations Corroborate the Duncan Findings

Since 2006, six self-insured employers have been added to our trial, increasing the trial population to approximately 7,000 people. The results among these trial employers to date confirm and expand upon the City of Duncan's findings. What we have learned from our expanded trial is as follows:

a. **Trial Employers Experience Cost Savings**
5 of the 7 MedEncentive trial employers (including Duncan) have demonstrated or are reporting cost containment of varying degrees after installing the Program (refer to Table 4, columns J and K). Cost savings for the remaining two employers is indeterminate. One of these two employers has had upwards of 40% annual turnover rate, making it nearly impossible to accurately calculate cost savings over time. The other employer is relatively new to the Program and has been hit hard by the country's economic recession. Even still, we have identified an encouraging preliminary finding in this employer's non-catastrophic costs.

The methods for calculating cost containment varied somewhat from employer to employer. However, the results reported in Table 4 were confirmed by all of the trial employers with the exception of Employer 7, which was experiencing a transition in management at the time of this writing.

b. **Patient Participation Rate is Key to Initial Cost Savings**
The trial employers' results indicate a strong relationship between patient participation rates in the Program and healthcare cost containment. The City of Duncan's health plan members are currently achieving the highest rate of patient/member participation[5] (80% to 90%) among the trial employers. The City has also achieved the greatest documented healthcare cost savings. This correlation between patient/member participation and healthcare cost containment is confirmed by the results of the other trial employers.

As Table 4 indicates, employers with patient/member participation rates above 55% are reporting the most significant cost savings, while those below 55% are reporting marginal or no cost savings (refer to column E compared to columns I, J and K).

c. **The Program Produced High Levels of Sustained Patient/Member Participation**
For the year ending 6/30/2009; the overall annual patient/member participation rate in the Program was 61.3% (refer to Table 4, column E).

Patient/member participation climbed in all installations through the first two to three years before reaching a plateau.

Only one installation experienced a decline in participation, which coincided with that employer's decision to reduce the patient reward amount.

These participation results are particularly impressive when compared to research conducted by Dee Edington, PhD, at the University of Michigan and surveys performed by Hewitt Associates (refer to Independent Studies Substantiate MedEncentive's Design, below). According to Dr. Edington's research[6], employer-sponsored wellness and prevention programs without substantial financial incentives tend to peak around 25% in the first year and decline thereafter.

d. **Correlating Physician Participation to Cost Containment Needs Additional Research**
Similar to patient participation rate, the physician participation rate is derived by dividing the number of times physicians successfully complete an information therapy prescription by the total number of office visits rendered to patients covered by the Program during an accounting period. For the year ending 6/30/2009; the overall annual physician participation rate in the Program was 21.4%. With relatively low market concentration, this level of physician participation is considered to be good.

The impact of market concentration appears to be significant. From 2006 to current, there were 90 physicians with 100 or more office visit opportunities. The participation rate among these physicians was 58.7%. The participation rate for physicians with less than 100 opportunities was 14.3%. During this same time frame, there were 412 physicians with at least one successful prescription out of a total of 3,600 physicians who had at least one office visit with a patient covered by the Program. However, out of these 3,600 physicians, 2,412 or 67% of physicians had 10 or fewer opportunities.

These findings clearly indicate that higher market concentrations do produce significantly higher rates of physician participation. This leads us to conclude that physicians recognize the value of the Program if there is a sufficient number of covered patients in a geographic area.

The highest rates of physician participation were achieved with installations in which the local medical community had a contractual relationship with MedEncentive. This is the case with the Duncan Physician Organization and with a large multispecialty group practice associated with Employer 5. We also noted fairly high rates of participation with physician populations that are employed by provider organizations (hospitals and large clinics) that effectively communicate the purposes and objectives of the Program. Conversely, the lowest rates of physician participation involved provider organizations that blocked access to employed physicians, such as in the case of Employer 7.

The drop in the overall physician participation rate reported in Table 4 is a bit misleading. The overall first year rate reflects the City of Duncan's result. As we added trial employers in larger and more diffuse markets, the overall physician participation rate declined.

We observed both growth and shrinkage in physician participation rates by trial location. The decrease in physician participation experienced by Employer 2 was primarily due to shrinkage and high turnover in their member population. Duncan's growth in physician participation is primarily due to a coordinated effort by MedEncentive and the Duncan Physician Organization.

Based on the results to date, the relationship between physician participation in the Program and cost containment is unclear. On the one hand, the City of Duncan is achieving significant cost savings with the highest physician participation rate (refer to Table 4, columns F and I). On the other hand, Employer 6 and its benefits administrator reported an astounding first year's savings of $1M on 1,100 lives with over 60% patient participation, but less than 5% physician participation.

We believe that healthcare costs contained as a result of patient participation rates of 55% or higher, will be further contained as physicians participate more frequently and more aggressively in the Program. (The patient/member rating of the perceived benefit of prescribed health information helps support this supposition [refer to Physician Prescribed Information is Perceived by Patients/Members as Most Valuable, below].)

Another way to describe these impressions is to say that patient participation in the Program is essential to bending the cost curve on the near term, allowing physician participation to be phased in over time to achieve even greater cost savings.

We can also infer from these results that the process of educating and empowering the patient has a strong and fairly immediate impact on cost containment, while the cost containment capabilities of compensating physicians to deliver wellness and evidence-based care management, such as pay-for-performance programs, are somewhat unclear (refer to the Pay-for-Performance section in Independent Studies Substantiate the MedEncentive Design, below).

It is apparent from our trials that physician participation will climb as the number of covered patient/members increase in any given market. This is borne-out by the participation rates among physicians who have the greatest concentrations of covered patients, such as the as Duncan and area around Employer 5.

Furthermore, we have a number of physician recruitment tactics that we have not yet deployed. One of these tactics, called "Success Acknowledgment," promises to increase physician participation significantly (refer to Fulfilling MedEncentive's Potential, below).

In effect, Success Acknowledgment offers patients/members and their doctors the opportunity to earn additional financial rewards when patients/members get their doctors to return to the MedEncentive website to acknowledge a patient's successful completion of specific health objectives. Physicians accomplish this task by simply accessing our website to indicate that they are printing or importing our record of patient health successes to the patient's medical chart. Physicians can also send a congratulatory message through our system to the patient. Patients will be notified if their doctor has not responded within a time limit, and patients can remind their doctors about the opportunity. If the doctor fails to respond, then both parties will miss out on the additional financial reward, thus creating a more robust state of mutual accountability. We believe this enhancement will add considerably more motivation for both parties.

Success Acknowledgment has been on the drawing board for quite some time, and we will be introducing it with at least one trial employer beginning in 2010.

Another important method to increase physician participation in the future involves the medical liability facets of the Program. Once fully articulated,

the Program's ability to reduce the risk of medical malpractice lawsuits will attract more physicians to participate at even higher levels. (To learn more about the medical liability reform aspects of the Program, refer to the topic of Defensive Medicine in the Design Validation through Review of Cost Factor Studies and Reform Movements and Fulfilling MedEncentive's Potential sections, below.)

e. **The Size of the Financial Reward is a Key to Patient Participation**

As one would expect, the amount of the patient financial reward has a direct effect on the rate of patient participation in the Program (refer to Table 4, columns D and E). Based on the trial data, financial rewards less than $15 appear to be inadequate to achieve patient/ member participation rates sufficient to bend the cost curve.

The highest reward amount among the trial employers is $30 offered by the City of Duncan. Again, the City has recorded the largest and longest running cost savings. As Table 4 and Graph 14 indicate, patient participation rates are lower for those employers that offer a patient financial reward of less than $15 (Employer 4 and Employer 7). It should be noted that Employer 4 decreased the patient reward amount from $20 to $5, as a cost cutting measure. As Graph 14 illustrates, this change has caused a dramatic decrease in patient participation.

From these results, we conclude that most of us need extrinsic motivation, such as financial rewards or the approval of our doctor, in order to make the time and effort to become informed and empowered through prescribed information therapy.

As the studies on the clinical and economic impact of health literacy indicate (refer to Independent Studies Substantiate MedEncentive's Design, below), this need for extrinsic motivation to overcome the damage caused by health illiteracy and poor doctor-patient communications becomes increasingly apparent. The use of extrinsic motivators to inform and empower patients is one of the primary reasons MedEncentive has been so effective to date.

f. **The Program is Inexpensive, But Value is the Real Issue**

Insurers and employers are always interested in how much the Program costs. We always respond by saying that the Program is very inexpensive relative to the cost of wellness and pay-for-performance programs. However, the better questions that insurers and employers should be asking are, "What can our health plan expect in terms of return on investment with your program and how can we maximize the value we receive from your program?"

To answer the questions about cost and value, we begin by explaining that our program is unique in that it combines features found in employer sponsored wellness programs and in programs sponsored by insurers that compensate providers for demonstrated performance – referred to as pay-for-performance or P4P programs. We researched the cost of these programs and then compare them to the cost of our program.

When examining the cost of programs similar to ours, there are three cost components that need to be taken into consideration - the patient/member incentive payments, the compensation paid to physicians, and the program administrative fees. For our comparative analysis, we gathered data on these three cost components from the best available P4P and wellness programs to construct Table 1.

Relative Cost of Similar Pay-for-Performance and Wellness Programs

Source	Beneficiary Incentive	Provider P4P Compensation	Program Administration	Total PMPY Costs
Edington[6]	$300.00	N/A	N/A	$300.00
Credit Suisse[7]	N/A	N/A	$60.00	$60.00
BTE[a]	N/A	$9.26	$5.76	$15.02
Totals	$300.00	$9.26	$65.76	$375.02
MedEncentive	$29.12	$6.47	$36.01	$71.60
Difference	**($270.88)**	**($2.79)**	**($29.75)**	**($303.42)**

Table 1

To determine the amount typically paid for (or invested in) employer-sponsored wellness incentives, we referenced the highly regarded research[6] conducted by Dee Edington, PhD, Director of the Health Management Research Center at the University of Michigan. According to Dr. Edington, employer sponsored health plans need to convince upwards of 70% to 90% of plan members to participate in wellness programs, such as health risk assessments, in order to control overall healthcare costs and improve employee productivity. Edington goes on to report that employers make an initial invest of at least $600 to $1,000 per person in the form of cash incentives to reach the 70% to 90% rate of employee participation. Edington also reports that employers that buy into the business case for investing in the health and wellbeing of a workforce

will make this level of investment each year.

For our cost comparison analysis, we used the low end of Edington's $600 to $1,000 per person per year range. Since it was not clear whether this was on a per employee or per health plan member basis, we took a conservative approach and divided the $600 figure by 2, assuming two health plan members per employee to derive a beneficiary incentive of $300 per member per year (refer to Table 1).

Edington does not provide wellness program administrative costs in his latest research. However, a strategic analysis of the disease management and wellness industry conducted by Credit Suisse[7] reveals that fees charged by wellness program suppliers range from $2 to $8 per member per month. For our comparative analysis, we used the midrange figure of $5 pmpm, or $30 pmpy (refer to Table 1).

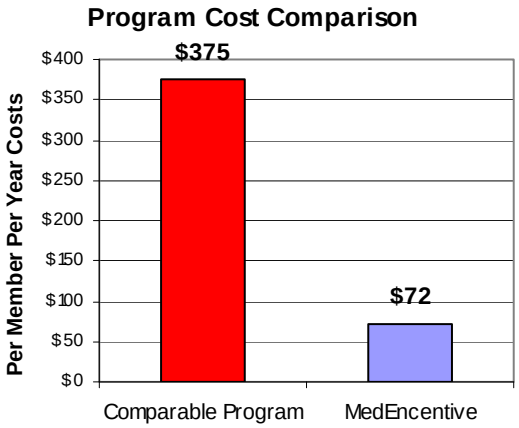
To acquire a basis of comparison for the cost of a pay-for-performance program, we referenced the Bridge-to-Excellence website. BTE is the longest running and best known P4P program in the country.

Using the BTE ROI Evaluator[a] and assuming our trial's health plan enrollment (7,000) and physician participation level (21%), a P4P physician reward amount of $9.46 pmpy and an administrative cost of $5.76 pmpy were derived. We used these figures our comparative analysis (refer to Table 1).

The overall annual cost of our program for all trial installations was $496,690.09 for the year ending 6/30/2009. There was an average of 6,937 health plan members enrolled in the program over this time frame. As a result, the cost of the program per member per month (pmpm) was $5.97 or $71.60 per member per year (pmpy). The three component costs of member-patients incentive payments, physician compensation, and MedEncentive's fees, are presented in Table 1.

As Table 1 indicates, the MedEncentive pmpy cost compares favorably to the aggregate employer-sponsored wellness incentive and provider-centric P4P program costs. In fact, the cost of the wellness/P4P aggregation is in excess of $300 or 424% more expensive than the MedEncentive Program. The magnitude of the difference in cost is illustrated in Graph 2.

Though precise program cost data was readily available, overall healthcare costs were self-reported by the trial employers, or reported by the employers' third party administrators, with the exception of the City of Duncan. In Duncan's case, we were able to conduct the return on investment analysis and our findings were confirmed by that trial's participants. Since we did not have direct access to the cost data, we were unable to calculate precise return on investment (ROI) results for all trial installations.



Graph 2

However, based on the reported cost savings by the trial employers, it is estimated that the ROI results for these trial installations were comparable to the City of Duncan's results.

In comparing our trial employers' ROI to the literature and other studies, only Edington's research of employer-sponsored wellness programs that are well financed and managed demonstrated consistent ROI. However, the cost of these successful programs is much higher than MedEncentive, and therefore, not as efficient as our program.

MedEncentive achieves greater efficiency by combining wellness and P4P in a unique manner that taps into the doctor-patient relationship. In so doing, MedEncentive creates strong psychosocial motivators that displace the need for the much larger financial incentives required by stand alone wellness and P4P programs. In other words, the combination of financial incentives and psychosocial motivators that are present in the MedEncentive solution shapes the consumer behaviors and provider performance in a manner that bends the overall cost curve at a much lower program cost. This is in part why our program is able to achieve such extraordinary ROI, which is the truest measure of value.

g. **Physicians Infrequently Elect to Deviate from**

[a] Source: Bridges to Excellence ROI Evaluator. http://www.bridgestoexcellence.org/Content/ContentDisplay.aspx?ContentID=110

Evidence-based Guidelines

One of the attributes of the Program that is particularly attractive to physicians is the "anti-cookbook feature." This feature allows physicians to use their clinical judgment to deviate from an evidence-based medicine (EBM) treatment guideline associated with the patient's diagnosis, provided physicians communicate the reason for deviation (from a complete menu of appropriate reasons supplied by the Program) to their patients, and agree to allow patients to acknowledge and comment on the reason. Of the 1,666 responses to the question: "Are you following this guideline in the treatment of this patient?" for the year ending 6/30/2009, physicians chose the option to deviate from the guideline only 1.3% of the time. In other words, participating physicians declared adherence to the EBM guidelines 98.7% of the time. Physician selected nine of the ten reasons for non-adherence offered by the Program. The leading reason for non-adherence was contraindicated due to "co-morbidity."

h. **Culture of Health is a Key to Patient Participation and Beyond**

We have observed that the environment in which the Program is installed has a significant impact on patient (and physician) participation rates and subsequent cost containment. We describe this environment as the employer or community's "Culture of Health."

It is apparent that organizations that communicate the benefits of the Program and encourage participation in the Program on a regular basis have the highest levels of patient participation and the greatest cost containment. We have also noted that the party who communicates the importance of the Program makes a big difference. This communication is most effective when it is delivered by senior management and by health committees comprised of rank and file employees. We believe these observations merely support the fact that people do respond to authority and to peer pressure.

People also respond to enthusiastic and well-organized leadership. A person who possesses these traits and is assigned responsibility for the Program is described as an "Internal Champion." Installations with some degree of Internal Champions, such as the City of Duncan, Employer 3 and Employer 5, have reaped the benefits, while other installations have not.

Based on these observations and from successes reported by other employer-sponsored wellness programs, we developed a set of criteria and action steps that define a Culture of Health (refer to Attachment A). The criteria includes such things as senior management support and involvement, the selection and empowerment of an Internal Champion and a rank and file health committee to advance the Program, and regular monitoring of results with on-going refinement of the Program. Action steps include initiating internal contests among departments and awarding prizes and recognition based on participation rates for completing health objectives tracked through the MedEncentive Program.

Using these criteria and action steps, we devised a rating scale (refer to Table 6) that we used to rate the trial employers' Culture of Health. As Table 4, column H indicates, the City of Duncan demonstrates the greatest number of Culture of Health characteristics among the trial employers, achieving a level of 6 out of a possible 10. This correlates with the City having the highest level of patient participation. On the other hand, employers with the lowest Culture of Health scores (Employer 2, Employer 3 and Employer 7) have experienced relatively low levels of patient participation.

It should be noted that the highest Culture of Health rating is 6, while the average rating is only 3.4 out of 10. This implies that there is a good bit of room for improvement.

We made other observations related to health cultures. All of our trial experiences have been with small to medium sized employers. We noted that health benefits decision making among employers of this size are often based on feelings as opposed to logic and facts. The emotions that we encountered most often were fear and frustration.

In small to medium size employers, it is a well known impression that human resource managers tend to be risk adverse and, therefore, are not overly enthusiastic about adopting new innovations. Without strong support from upper management, these managers and their outside consultants are continually concerned about the consequences of making the wrong decisions and, therefore, postpone taking needed actions for long periods of time.

Most CEOs and CFOs of large organizations have embraced the business case for investing in the health and wellbeing of their employees. However, many CEOs and CFOs of medium to small size organizations take a decidedly hands-off approach when it comes to health benefits and cost contain-

ment. The subject seems to be particularly frustrating to these leaders, many of whom believe there are no good solutions. After all, our country has been unable to control healthcare inflation for decades.

During the current economic recession, we have witnessed this fear and frustration prompt medium to small sized employers to postpone, diminish, switch, suspend and even jettison wellness programs, and resort to dramatic cost shifting to employees. We have seen a single catastrophic case cause some employers to back away from their employee health and wellness strategies. We have also seen the recession cause a good bit of management turnover. With this turnover comes changes in employee health and wellness strategies, often resulting in a detrimental whipsawing effect.

Throughout our five year assessment period, we have encouraged our trial employers to take advantage of their successes with our program by adopting our newest enhancements. With notable exceptions, even our trial employers demonstrated a hesitancy that seemed rooted in fear and frustration.

Breaking through these emotional barriers has been and will be our biggest challenge. But we are confident that logic and necessity will win in the long run.

i. **The Benefits of Information Therapy Content are Well Established**

Information therapy is the principal medical intervention that has been and is currently being delivered through the Program. To measure the effectiveness of information therapy, all patients are required to answer the following question:

"On a scale of 1 to 5, how helpful has this information been to you in self-managing your health (5 being the most helpful)?"

As Table 5 and Table 4, column G indicates the aggregate score of the 13,673 responses to this question for the year ending 6/30/2009 was 4.07. Six of the seven trial employers rated the value of the content above a level 4 during this time period.

In addition to the required survey, patients are also asked to voluntarily comment on the Program. 1,194 patient/ members offered comments out of 3,603 patient/member participants, representing a 33.1% response rate. When the volume and quality of these responses (refer to Patient Surveys Provide a Clearer Understanding of Why MedEncentive is So Effective, below) are coupled with the aggregate benefit score of 4.07, it is clear that patients place a high value on receiving the right information at the right time so they can make informed decisions about their health. These results also present a strong case for the clinical and economic efficacy of information therapy and the design of the Program.

j. **Physician Prescribed Information is Perceived by Patients/Members as Most Valuable**

As previously mentioned, information therapy can be prescribed to patients/members through the Program in three ways – i) by the physician on a real-time basis while the patient is in-office or shortly thereafter, referred to as a Point-of-Service-Initiated or POSI prescription; ii) by the physician after-the–fact as the result of a claim for the office visit being submitted by the physician, referred to as a Claims Initiated or CI prescription; and iii) by the MedEncentive computer system based on the diagnosis listed by the physician on the office visit claim, referred to as System-Generated information therapy.

As Table 5 indicates, the annual overall patient/member rating of the perceived value of the information prescribed through the Program was 4.07 out of 5, for the year ending 6/30/2009. The patient/member overall rating of POSI prescriptions was 4.24, followed by CI prescriptions at 4.16 and System-Generated prescriptions at 4.03.

According to the data, information prescribed by physicians at the time of service (POSI) is valued highest by patients. This implies that either the quality of the information is better when the patient encounter is fresh on the mind of the physician or timeliness improves the perceived value of the information or both.

It is noted that even though System Generated prescriptions received the lowest ratings by patients among the three sources of prescriptions, this rating was still above 4 out of 5. We would consider this to be a very respectable rating for the purposes of the Program. However, it is clear that the objective should be to increase the number of physician prescriptions, preferably on a real-time basis, in order to optimize the benefit of the Program.

k. **The Internet Does Not Appear to be a Significant Barrier to Patient Participation**

Since the Program is delivered through a web-based application and the trial population spans a broad spectrum of socio-economic status, it appears that access and use of the Internet has not been a significant barrier. This is especially true if the patient/member financial rewards are adequate and the Program sponsor (employer/insurer) offers alternative means access to the Internet, such the work-

place, the doctor's office, or the public library. It is also helpful when the sponsor proactively offers suggestions to patients/members on how to use the Program's web-based application to those unfamiliar with the Internet, such as seeking assistance from family, friends, or the employer's benefits department.

l. **Program Passes Scalability Test**

An important consideration with any healthcare cost containment solution is scalability. In other words, how easy is the solution to implement and maintain. The fundamental viability of any cost containment solution is compromised if it requires an inordinate amount of resources to launch and maintain or is particularly disruptive to the existing cultures or involves an excessive amount of buy-in by the stakeholders or is too operationally complicated or complex.

From the beginning, our overall design goal has been to create a system that is exceptionally scalable by circumventing these types of constraints. More specifically, our operational design objectives have been to create a program that: i) is highly adaptive to existing cultures and systems so that the Program can be implemented in less than thirty days with large populations in remote locations; ii) is highly automated so that the Program can operate reliably 24/7, needing little or no human intervention; and iii) is capable of achieving the Program's purpose of healthcare cost containment.

Through five years, the Program has accomplished all of these objectives with all seven trial installations reporting that the Program was easy to implement and is easy to maintain.

One of the more challenging aspects of the Program from an operational standpoint involves the daily transmission of claims data, weekly processing of reward payments, and monthly updating of member eligibility through a health plan's third party administrator (TPA). To accomplish this task, test files must be electronically transmitted between MedEncentive and each TPA in manual and then automated modes before transaction processing "goes live." This set-up procedure takes less than a week with a willing and able TPA. Most of the TPAs fell into this category. However, we did experience a degree of initial resistance from a few TPAs. Some of this resistance led to delays and poor execution, requiring the self-insured employer to intervene.

In spite of this resistance, it is noteworthy that transaction processing for all installations is on "autopilot," requiring very little human intervention by MedEncentive or the TPAs.

In terms of scalability, the installation with Employer 6 in Washington offered a perfect opportunity to put the Program to the test. From a distance of 1,350 miles, Employer 6 was installed essentially site unseen in less than thirty days.

To orient employees and physicians, kits were mailed from rosters transmitted electronically to us by Employer 6 and its health plan administrator (TPA). The Program was initiated when the TPA, located in Pennsylvania, began electronically transmitting medical claims data for the Employer 6 health plan members on a daily basis. This prompted the emailing of participation notifications to physicians and the mailing of information therapy prescription letters to patients in Washington from our offices in Oklahoma City.

Member Kit

After the first year, Employer 6 and its TPA reported $1M in cost savings on the 1,100 members enrolled in the Program. In the spirit of full disclosure, it should be noted that other cost containment measures were introduced simultaneously at Employer 6. Furthermore, we have not been able to validate these results. However, the TPA reports that Employer 6 cost savings are: i) being sustained at Employer 6 into the second year; and ii) are unique among its customers that adopted similar cost containment measures excluding MedEncentive.

m. **Patient Surveys Provide a Clearer Understanding of Why MedEncentive is So Effective**

Perhaps the single most important development in MedEncentive's evolution has been the personal responses we receive from patients who use the Program. It is these responses that give us the best understanding as to why the Program is so effective.

Beginning in 2008, we added the following question to the patient questionnaire:

"In the space below, please take a moment to describe how much or in what way the MedEncentive Program helped you with your

health and wellbeing or helped you communicate better with your doctor. We also welcome your suggestions so we can make the Program even better. Thank you…"

Responding to this question is voluntary, so we did not know what to expect. The results to date have exceeded our expectations.

Out of 3,603 beneficiaries who have used the Program since introducing this question, we have received 1,196 voluntary responses. This equates to a 33.1% response rate, which compares favorably to response rates for personalized surveys.

What makes these responses even more impressive is the quality and genuineness of their content. It is worth noting that these responses are submitted by regular people, many of whom misspell words and misuse grammar. But it is clear that these responses are heartfelt.

Josh Seidman, PhD, President of the Center for Information Therapy in Washington, DC wrote a blog entitled: *Patients Make the Most Compelling Case for Ix*[8]. Using a sampling of our patient testimonials, Dr. Seidman does a terrific job of highlighting many of the areas in the healthcare system that MedEncentive affects.

He notes that what's really interesting about these testimonials is that our Program holds patients accountable for their health. Yet, when you read our patient testimonials, you will barely notice that patients feel like they are being held accountable for anything. That is why Michael Millenson, a well-known healthcare thought-leader from Chicago, says about our program:

"MedEncentive is like a magic trick. While the audience watches the financial incentives in the left hand, behaviors are being shaped by the psychological incentives in the right hand."

Following the example of Dr. Seidman's blog, I have assembled a few testimonials that illustrate the sincerity of the patient comments and highlight aspects of our solution that help explain why MedEncentive is so effective.

The first example deals with the benefits of information therapy to help people self-manage their health (note that these responses have not been edited for spelling or grammar):

"I had the symptoms of a sinus infection again. With the imformation (sp) I learned here; to contain it before it got any worse, I used the therapies I learned from my last lessons and I didn't have to go to the doctor. The infection got better the next day and was gone in a day or two."

This is a common theme among many of the responses. The obvious net effect in this instance is better health and lower costs. This example also illustrates that information therapy has a residual benefit for even non-chronic conditions.

One of the most important aspects of MedEncentive is its ability to deliver information therapy to patients in a place and at a time that is most conducive to learning. The next comment speaks to this benefit of the Program:

"The information is very helpful and helps to explain some of the things the doctor talks about in more detail when I can take the time to 'digest' it at my leisure."

An informed patient is an empowered patient, and an empowered patient is more likely to be health inspired. Empowerment can also help patients visualize being healthy. Therefore, patient empowerment is an important objective of MedEncentive's information therapy. Here are a couple of comments that speak to patient empowerment:

"It makes me feel like I have a say in how my doctor is providing me the kind of service that I need."

"I APRREICIATE (sp) BEING ABLE TO RATE MY DOCTORS' PERFORMANCE."

"I BELIEVE THE INFORMATION HELPS ME TO ASK QUESTIONS TO MY DOCTOR AS WELL AS KEEP ME AND MY DOCTOR INFORMED ON CONTINUED GOOD HEALTHCARE SERVICE."

The next comment illustrates how the Program impacts patients' relationship with their doctors:

"I find the information very educational, and it reinforces all the medical advice my Dr. gives me."

The following response speaks to the issue of doctor-patient communications:

"I have learned so much from the Medencentive program so much more than from what my doctors are telling me, and have tried to put so much of it to use, it has

really helped me I believe. Thank you so much."

The next comment indicates that the patient understands the importance of the Program's "doctor-patient mutual accountability" aspect:

"I think it's a great program, especially for conditions that are involved and require both physician and patient follow through."

The following comment illustrates how the extrinsic financial incentive leads to intrinsic benefit:

"I was doing this for the $ but found learning more very helpful."

Other patients just like getting paid for doing something positive for their health and wellbeing:

"I like the idea of getting part of my co-pay refunded when i participate in my personal healthcare. Great idea. Thanks"

The following comments indicate that patients have a full appreciation of the MedEncentive Program:

"I find the program very easy to follow with lots of good information. After a while it seems like you are reviewing for a test and some of the info which was helpful at first gets redundant! Yet it is an imformative (sp) program which allows us to get some or all of our money back for a few minutes of reading and you can always find a part you glanced over or didn't quite understand, which is what it is all about, right? Helping ourselves with information on our afflictions for some much needed money back from your copays! It's a win-win situation!!! Thank You"

"I think the information presented is wonderful. It is easy to understand and I feel the program is set up to allow the patient the opportunity to be fully informed regarding their diagnosis and allows the patient to ascertain the quality of care they are receiving from their physician. I appreciate those physicians who participate in the program because they are allowing themselves to be graded by the patient while encouraging the patient to learn more about their condition."

"We are very impressed with the Medencentive program. The additional information has helped us understand our health conditions more fully. We can gain this help by using our own time, not being rushed with the Dr.s time. We also can refur (sp) back to this info as we need to do so. We are more relaxed as we deal with health isses (sp) with this program. Makes life less stressful. Of course the rewards have been a life savior to our budget as well."

When these testimonials are combined with the high patient ratings of the information therapy delivered through the Program, combined with the preponderance of empirical evidence that quantifies the clinical and economic impact of health illiteracy and poor doctor-patient communications; then it becomes clearer why MedEncentive is so effective. It also becomes clear to us that we have only scratched the surface in terms of the Program's potential to advance better health and healthcare.

n. **Patient Survey Results are Confirming the Psychosocial Motivators Present in the Program**

Inspired by the patient surveys that generated the voluntary written feedback described in the previous section, we wanted to learn more about the presence of psychosocial motivators that improve behaviors in our program. In other words, we wanted to know to what degree physicians influence patient behavior and vise versa.

To test the impact of physician influence on patient health literacy and behaviors, we embedded a series of three questions directed to the patient. The first question is as follows:

"As you know, your responses are being made available to your physician. On a scale from 1 to 10, with 10 being the most, how much does the knowledge that your physician has access to your questionnaire responses motivate you to improve your health literacy and health behaviors?"

To date, the aggregate score for this question is 7.9, thus affirming the psychosocial motivational characteristics of our program.

To isolate the desire of patients to demonstrate their health literacy to their doctors, we are asking the following question:

"On a scale from 1 to 10, with 10 being the most, how important is it to you that your doctor is aware that you understand how to self-manage your health?"

As of this writing, the aggregate score for this question is 8.8.

To determine the degree to which patients want their doctors to know of

their efforts to improve and maintain good health, we are asking the following question:

> *"On a scale from 1 to 10, with 10 being the most, how important is it to you that your doctor is aware that you are trying to accomplish or are accomplishing health objectives?"*

The aggregate score for this question is 8.9.

We can conclude from these survey results that physicians exert a strong and positive influence on patient behavior. We can also conclude that the Program's design creates strong psychosocial motivation for patients to improve their health literacy and behaviors. Furthermore, we believe these questions, in and of themselves, heighten the patient's awareness of the physician's presence in our model, and therefore, will further inspire patients to be healthy and literate.

Obviously, this is only half of the "doctor-patient mutual accountability equation." In time, we intend pose a series of questions to physicians that are designed to accomplish the same objectives of awareness and positive motivation. We believe the possibilities of this type of questioning are only limited by our imagination in terms of how it can be used to improve health and healthcare.

o. **A New Set of Terms Helps Explain Why MedEncentive Works**

We find it interesting that when we re-explain our Program to someone that knew about MedEncentive two years ago by saying:

> *"The reason why MedEncentive is so effective at controlling healthcare cost is that it promotes patient education and empowerment plus doctor adherence to evidence-based care by delivering* ***'information therapy'*** *through the use of* ***'precision-guided, interactive financial incentives'*** *aimed at invoking* ***'doctor-patient mutual accountability.'*** *This produces a* ***"triangulation"*** *of interests among consumers, providers and insurers of healthcare."*

...invariably our old acquaintances will say; "Wow, your program has come a long way."

Well, we have in fact introduced a number of Program enhancements, but we have also learned how to better articulate the attributes of our original concepts with the use of more descriptive terms. We count this as one of the many important developments in MedEncentive's evolution. Two of these terms represent concepts that are particularly important "doctor-patient mutual accountability" and "triangulation." The following explores these two terms in more depth.

i. **Doctor-Patient Mutual Accountability** - Embedded in the MedEncentive Program is a series of checks and balances that we call **"doctor-patient mutual accountability."** In the context of the Program, mutual accountability is designed to increase the level of doctor and patient motivation beyond the capacity of the financial incentives offered through the Program, by encouraging doctors and patients to respond to one another. In fact, our Program is specifically designed to use financial incentives to invoke the more powerful psychosocial motivators that are present in the doctor-patient relationship.

Now you may be asking "what psychosocial motivators?" This report is not intended to be a thesis on behavioral science or motivational factors, but stated in simpler terms, it goes like this:

> *Patients don't want their doctors to think they are medically illiterate or non-compliant. Conversely, doctors don't what their patients to learn or believe they practice substandard care. MedEncentive creates an opportunity for both parties to dispel any wrong impressions by allowing each party to demonstrate adherence to the other party.*
>
> *In effect, physicians hold a position of intellectual authority when is comes to matters of health and medicine. Authority psychology teaches that people do not generally want to challenge or defy persons in positions of authority. Moreover, people have an inherent need to please someone they trust and respect, like their doctor. This desire to please borrows from the process of transference and principles developed in Maslow's "hierarchy of needs," which can be strong motivators to change behavior.*
>
> *From the physician's point of view, patients are their customers. Customer psychology is very simple – aim to please. This is taught in free market economics by Adam Smith and Milton Friedman. But there is more to it*

when is comes to professional services. In effect, a professional's reputation is their most important asset – something that is deeply embedded in the psyche of physicians.

Heretofore, no healthcare reform method has effectively tapped into the special relationship that exists between doctors and patients quite like MedEncentive. Through our method, the doctor becomes aware that the patient knows that the doctor knows, and vice versa. This is what we call "doctor-patient mutual accountability," and it is one of the essential elements that has been missing in previous attempts to reform healthcare and is also missing in the current healthcare reform strategies.

ii. **Triangulation -** Another related term we use to describe what makes MedEncentive unique is "triangulation." In effect, MedEncentive aligns the interests of the provider, consumer and health insurer to create a win for each of these key stakeholders. Thus the term "triangulation."

The best way to explain why triangulation is so important is to examine three other famous attempts to reform healthcare that failed to attend to this principle.

- The first example is capitated HMOs. This is one of the best examples of what happens when the principle of triangulation is not achieved.

  Under capitated HMOs, the risk of underwriting healthcare coverage is shared between providers and the insurer. In effect, the insurer pays a provider group a fixed amount to provide care to a certain number of people. Theoretically, the provider group pockets profits if it delivers efficient care to that group of people. At its peak in the 1990s, the HMO movement did slow the rate of healthcare inflation. However, cost containment was too often achieved when insurers and provider groups rationed care to patients based on economic factors. Some patients sued the HMOs and won large judgments. Eventually, Congress passed the Patients Bill of Rights to prevent rationing and capitated HMOs as a sustainable means to control costs disappeared in most parts of the country.

  Note that the missing party from the triangulation equation with capitated HMOs is the patient. Under a capitated HMO, the patient has little or no responsibility to achieve and maintain good health or control costs. With the patient off the hook, he/she is free to demand as much healthcare as he/she wants. In many instances, this is what drove providers and insurers to ration care.

  Recently, there has been a great deal of interest among policymakers and thought-leaders to revisit capitation in what is called episodic care management. In this model, a lump sum payment is made to a group of providers to care for an episode of care such as a surgical procedure. Theoretically, this payment approach intends to encourage providers to coordinate care in a way that will produce greater efficiencies and lower costs. Does this concept sound familiar? Is the patient responsible for anything?

- Another example of violating the triangulation rule is the pay-for-performance (P4P) movement. P4P involves payers compensating providers for rendering better quality care. Just like capitated HMOs, the patient is left out of the equation.

  After years of experimentation, it is apparent that P4P does, in fact, improve quality to a degree. However, costs have not been contained. To the contrary, costs have actually increased at an even higher rate of inflation in many P4P models.

  The largest and longest running P4P experiment in the country, Integrated Health Associates in California, is acknowledging in its 2009 annual report[12] that its program has: 1) failed to bend the cost curve; and 2) should have found a way to engage the consumer/patient. MedEncentive's "doctor-patient mutual accountability" could resolve this issue almost overnight.

  The P4P movement is explored in more depth in the Design Validation section, below.

- Disease management (DM) intends to control costs by closely managing chronic patients. Typically, the tactics used by DM organizations to manage high cost patients involve a nurse or coach calling or interfacing with the patient on a high frequency to get the patient to be adherent to recommended treatments. The cost containment results have been mixed and the sustained return on investment has been nearly nonexistent, in part, because patient recruitment and retention in DM is not

high enough and the cost of the nurses and coaches is too high. Most experts agree that the fundamental flaw with DM is the exclusion of doctors from the care process. As the previous section described, patients respond to their doctors. This type of interpersonal bond does not translate to a non-physician stranger on a telephone. As a result, DM companies are seeking to find ways to engage physicians. Again, MedEncentive's "doctor-patient mutual accountability" could resolve this issue in short order (refer to Fulfilling MedEncentive's Potential, below).

Disease management is discussed further in the Design Validation section, below.

In each of these examples, one of the three key stakeholders was left out of the equation, which resulted in a failure to achieve the goal of universal access to affordable and high quality healthcare. And yet, the reform debate currently raging throughout the country seems to be intent on revisiting the same failed strategies of leveraging either providers or consumers or insurers, independently. My colleagues and I say this as loudly and as clearly as possible; "if a healthcare reform solution cannot pass the triangulation test by aligning the interests of the provider, consumer and insurer, then it will simply not work."

p. **Physicians Endorse the Program**

One of the most gratifying developments of the past five years has been the endorsements we have received from physicians. Doctors who are familiar with our program, and especially physicians who are knowledgeable of the overriding issues that are plaguing health and healthcare, are some of our program's strongest supporters. Doctors list a number of reasons for their support to include the following:

- First and foremost, physicians like the fact that MedEncentive is beneficial to their patients
- It helps confirm patients understand important health information
- It is fast, easy and flexible for physicians to use
- It pays physicians well for the amount of time and effort required
- If used properly, physicians report gaining clinic productivity by transferring the time consuming face-to-face (and marginally effective[17]) patient in-office education to online education with testing or confirmation of patient understanding
- It requires essentially no financial investment by the physician
- It is "anti-cookbook medicine" and rewards physicians for using their clinical judgment
- It helps reduce the risks associated with medical liability
- It holds the patient accountable to be adherent to treatment recommendations
- It provides a means to counter patient freelance web searches
- Physicians prefer being rated by an freshly educated patient administered by the program as opposed to a third party (insurer, government agency or rating service) based on claims or self-reported data
- It provides physicians with a clinical resource to confirm treatments
- Its completely voluntary
- The quality and cost containment alternatives are less attractive

As a result of these features, MedEncentive has been endorsed or has formed partnerships with the following physician organizations:

- The IPA Association of America (TIPAAA)
- Oklahoma Academy of Family Physicians
- Wichita Clinic
- Northern New Jersey IPA
- Duncan Physician Association

In addition to these organizations, we have scores of physicians who understand our program and actively support it, even lobby state legislators to pass laws to expand the Program to state employee health plans and Medicaid.

We have taken note of physician non-acceptance and resistance to the Program as well. The lack of patient concentrations is to be the leading reason physicians do not participate. However, the leading reason physicians resist using the Program is due to a misconception of how and why it works. On numerous occasions, we have been able to gain a physician's acceptance by explaining or demonstrating how easy the

Program is to use and why the Program is important for doctors and patients. Rarely has a physician rejected the Program after this type of orientation.

We have had a few complaints about the lack of guidelines and specific types of patient information. Occasionally, physicians complain about operational functionality. Most of these complaints stem from operator errors. This drives us to find ways to make our applications even easier to use and fail-safe.

Independent Studies of Cost Factors Substantiate MedEncentive's Design

As mentioned earlier, there have been a number of important studies that have been released since the introduction of the Program that substantiate the MedEncentive design. These studies have been conducted by highly respected researchers at renowned institutions and organizations throughout the country and around the world such as Northwestern and Emory, the University of Connecticut, Stanford, the University of Michigan, Rand Corp, Forrester Research and Hewitt Associates. Each of these studies supports one or more aspects of MedEncentive's model.

These studies examine the cost implications of a number of factors that are addressed in the MedEncentive design. These factors include: a) patient health illiteracy; b) poor doctor-patient communication; c) low participation in employer sponsored wellness and prevention programs; d) low adoption of personal health records; e) pay-for-performance and disease management programs; f) provider non-adherence to evidence-based medicine; and g) defensive medicine. The annual cost of the factors addressed by the MedEncentive Program is listed in Table 7.

Table 7

Healthcare Cost Factor	Estimated Annual Cost
Patient Health Illiteracy	$106B to $238B[8]
Poor Doctor-Patient Communication	No Data Available
Low Participation in Employer Sponsored Wellness and Prevention Programs	No Data Available
Provider Non-Adherence to Evidence-Based Medicine	$630B[24]
Defensive Medicine	$105B to $189B[26]
Obesity	$147B[9]
Patient Medication Non-Adherence	$290B[25]
Total Potential Savings	**$1,278B to $1,494B**

Added together, these cost factors represent better than 50% of the total amount spent annually on healthcare in the U.S. It is also noteworthy that the root cause of each of these factors is related to a correctable behavior of the healthcare consumer, provider or system. MedEncentive's efficacy is derived by its ability to address each of these behaviors through its methods of "doctor-patient mutual accountability," and "triangulation" methods and by incorporating evidence-based guidelines and information therapy. Furthermore, the sheer magnitude of these cost factors helps explain why MedEncentive has been effective at controlling costs in our trials. It also offers a glimpse into how much more effective MedEncentive can be once its full potential is realized (refer to Fulfilling MedEncentive's Potential, below).

Design Validation through Review of Cost Factor Studies and Reform Movements

Understanding how our solution is tied to the independent research of cost factors presented in Table 7 is key to understanding MedEncentive's design logic. Understanding how MedEncentive differs from the other reform efforts is also important. Together, this knowledge validates the MedEncentive design, explains why our trials have been so successful and gives a glimpse into the potential of our solution.

The following describes the independent research that developed the cost estimates presented in Table 7 and how MedEncentive addresses these cost factors. Also presented is a review of past, present and future reform movements, and how MedEncentive is different.

Patient Health Illiteracy

A team of researchers led by John A. Vernon, PhD from the University of Connecticut published a study[10] in 2007 that reported on the "overwhelming empirical evidence" that links health literacy to clinical and economic outcomes. Using contemporary data[11] and the Friedland modeling assumptions[12], Dr. Vernon's team estimated that health illiteracy accounts for 7% to 17% of total healthcare expenditures in the U.S. According to this study, these percentages equate to $106B to $238B annually, more than enough to cover all the uninsured people in America.

The MedEncentive model focuses heavily on elevating the health literacy of patients through the use of web-based information therapy and extrinsic motivators such as financial incentives and physician approval. Based on the estimated costs of health illiteracy determined by these researchers, it becomes more apparent why MedEncentive has been so successful in controlling costs.

These researchers go on to suggest ways to improve health literacy through public policy initiatives. Their suggestions include:

- Offering incentives to health insurers and health care professionals to ensure that patients understand instructions;
- Creating federally funded health literacy centers to study innovative ways to improve health literacy practices and programs at the state and local level;
- Providing federal support for education programs in the fields of medicine, nursing, and pharmacy that focus on health literacy skills among patients; and
- Having federal policymakers revise their approach to estimating the impact of federal policy reforms to incorporate a "health literacy impact" assessment that would yield "scorable" estimates of the effects of reforms on population literacy.

These recommendations are consistent with our design. We would add to these recommendations that patients must be motivated by financial incentives and physician approval to become informed and empowered. We also believe patients must be tested to establish their literacy on an on-going basis – and their test results must be tied to financial rewards and physician approval to close the loop on health literacy. We believe that health literacy testing should be "open-book" and made easy enough that essentially everyone who tries can pass – so if a person or their caretaker tries, they will become informed.

Dr. Vernon's team cited a number of other studies that supported their research and supports the MedEncentive design. Quoting directly from this study, the supporting researchers and their findings include:

- Nielsen-Bohlman, Panzer, and Kindig (2004)[13] found that individuals with limited health literacy reported poorer health status and were less likely to use preventive care.
- Baker et al (1998[14]; 2002[15]) found that individuals with low levels of health literacy were more likely to be hospitalized and to experience bad disease outcomes.
- Howard (2004[16]) estimated that inpatient spending increased by approximately $993 for patients with limited health literacy.
- Baker et al (2007[17]) found that, within a Medicare managed care setting, lower health literacy scores were associated with higher mortality rates, after controlling for relevant factors.
- Weiss (1999[18]) found that adults with low health literacy are less likely to comply with prescribed treatment and self-care regimens, make more medication or treatment errors, and lack the skills needed to navigate the healthcare system.

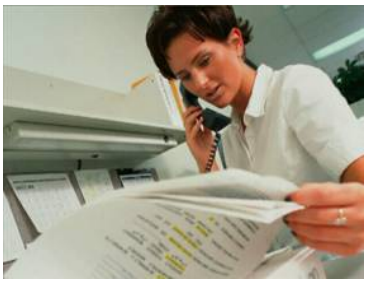
This represents but a fraction of the research on the clinical and economic impact of health literacy, all of which helps explain why we focused our solution on information therapy to resolve health illiteracy. This is an important reason why MedEncentive is so effective.

Poor Doctor-Patient Communication

Most everyone has had an experience when we or a family member missed or misunderstood an important instruction from our doctor. Regardless of our level of health literacy, poor doctor-patient communication is a separate issue that afflicts all of us. And just like health illiteracy, the consequences of poor doctor-patient communications can be devastating, both clinically and economically.

There are obvious reasons for poor doctor-patient communication. Doctors are often in a hurry or distracted. Doctors speak a foreign language, both figuratively and literally. Doctors can forget to convey an instruction. Patients are distracted because they are scared or intimidated or too focused on being polite and engaging with their doctor. Patients don't want to appear ignorant to their doctor and, therefore, often fail to ask the doctor what they may fear is a stupid question.

Whatever the reason, poor doctor-patient communication is prevalent. Numerous studies point to this fact. One study[19] determined that doctors on average interrupt patients in the first 23 seconds of an encounter. Another study[20] determined that 15% of patients fully understand what their doctors tell them and 50% of patients leave their doctors' offices uncertain of what they are suppose to do to care for themselves. Though there are no definitive studies on the subject, the researchers of these studies conclude that the clinical or economic impacts of poor doctor-patient communication are substantial. Commonsense tells us that "what you don't know could kill you," or at least cause you to end-up in the hospital.



To resolve poor doctor-patient communication, some experts recommend that doctors use smaller words and talk more slowly. Doctors are asking for more time with their patients, in part, to improve communications. Well, the facts are that we have a shortage of doctors, especially primary care physicians. Furthermore, patients are still distracted for the reasons mentioned above. Therefore, these recommendations are limited in their ability to be effective and really don't make good sense.

What does make sense is to give doctors a tool to prescribe information to their patients so patients can read or view the information at a time and in a place they find to be more conducive to learning. Better yet, if this tool can administer a knowledge test, then the patient and the doctor will know that the patient understands what he/she needs to know. Add financial incentives for both doctors and patients to motivate participation in this process of education, and poor doctor-patient communication plus patient health illiteracy are remedied. This is, in effect, the MedEncentive information therapy solution.

Provider Non-Adherence to Evidence-Based Medicine

A seminal study by the RAND Corporation[21] determined that Americans receive recommended care only 55% of the time. This leads to poor clinical outcomes and higher costs. Another well-documented aspect of poor quality of care is the variability of treatments[22,23] from provider to provider and from geographic location to location that is being documented on an on-going basis by the Dartmouth Atlas Project. This wide variability indicates a degree of over-treatment, under-treatment and mistreatment causes less than optimal clinical outcomes and higher costs.

A report[24] entitled "*Reducing the Cost of Poor Quality Health Care Through Responsible Purchasing Leadership*" published by the Midwest Business Group on Health estimates that 30% of all direct health care outlays today are the result of poor-quality care, consisting primarily of overuse, misuse, and waste. With national health expenditures of roughly $2.1 trillion in 2008, the 30% figure translates into $630 billion wasted due to poor quality of care.

MedEncentive addresses the cost of poor quality by compensating doctors for declaring adherence to evidence-based guidelines or providing a reason for non-adherence, and then agreeing to have their declarations of adherence or reason for non-adherence confirmed by their patients.

This process of consumerism has the power to influence physicians to follow evidence-based treatments. After all, a patient who is being financially rewarded for becoming informed and then confirming that his/her physician is rendering proper care is something that has been missing in healthcare delivery. By adding an inducement of reduced medical liability if physicians participate in the Program, then waste due to variable care will dissipate. No other solution does this.

Patient Medication Non-Adherence

A research brief by the New England Healthcare Institute[25] estimates the overall cost of poor medication adherence, measured in otherwise avoidable medical spending, is as much as $290 billion per year or 13% of total health care expenditures.

To alleviate medication non-adherence, our solution asks patients if they have filled their prescriptions, if they are

taking their medication, if the medication is being effective, and if the patient is experiencing any side effects. We believe this line of questioning has some effect on getting patients to fill and take their medicines. However, the pending MedEncentive Drug Literacy and Medication Adherence program will do much more. This program is designed to financially reward patients for passing a drug literacy test and declaring or demonstrating their medication adherence, or conveying their reasons for non-adherence, to their doctor. When this enhancement is coupled with e-prescribing and pharmacy transactions, then the Program's processes of financial rewards and doctor-patient mutual accountability will be brought to bear on the both patient safety and cost savings. At least two pharmaceutical companies have expressed interest in developing this enhancement, and a number of trial and demonstration employers are requesting deployment.

Defensive Medicine

According to the best known study (Kessler and McClellan[26]), defensive medicine represents 5% to 9% of total healthcare expenditures. At the nation's current healthcare spending level, this equates to $105B to $189B annually.

Since inception, we have recognized that our solution has the potential to mitigate the practice of defensive medicine. In our study[1] of the first year's results, we discovered a decrease in the volume of radiologic costs from the baseline year to the year after Program installation that was inconsistent with the other medical services. This finding suggested a reduction in defensive medicine, which could be attributed to participating physicians' reliance on the Program's evidence-based guidelines or on the Program's ability to improve patient communications or both. The physicians involved in the trial at the time concurred with our conclusion.

In September 2009, Medical Justice, a member-based organization that provides physicians with protection from frivolous lawsuits, announced it would begin offering most favored pricing to physicians who practiced the MedEncentive Program. Medical Justice CEO and founder, Jeff Segal, M.D., J.D., learned of our solution earlier in the year and immediately recognized its potential to mitigate medical malpractice lawsuits and defensive medicine. According to Dr. Segal, compensating physicians for documenting their adherence to an evidence-based treatment guideline or providing a documented reason for non-adherence are very important in medical malpractice risk management. Studies[27] indicate that good doctor-patient communication is also an important factor in reducing malpractice risks, as is educating and empowering patients to self-manage their health and protect themselves against malpractice before it becomes litigious. All of these factors are present in our solution.

In our study[1] published in 2006, we did in fact report a defensive medicine abatement finding in the original trial installation with the City of Duncan. In spite of an overall increase in professional fees, physicians ordered less radiology in the year following the Program's installation compared to the baseline year. When we add to this finding the thousands of patient testimonials that point to the patient safety aspect of our solution, there is good evidence of MedEncentive's ability to balance frivolous lawsuit prevention against patient safety in a manner that will reduce the practice of defensive medicine.

Medical Justice's endorsement is the first of what we hope and expect will be widespread recognition of our program's frivolous lawsuit prevention capabilities by medical malpractice and healthcare insurers. We also hope and expect that our program's patient empowerment features will attract support from healthcare consumer advocacy organizations. We know of no other solution that is or can balance these divergent interests as effectively as MedEncentive.

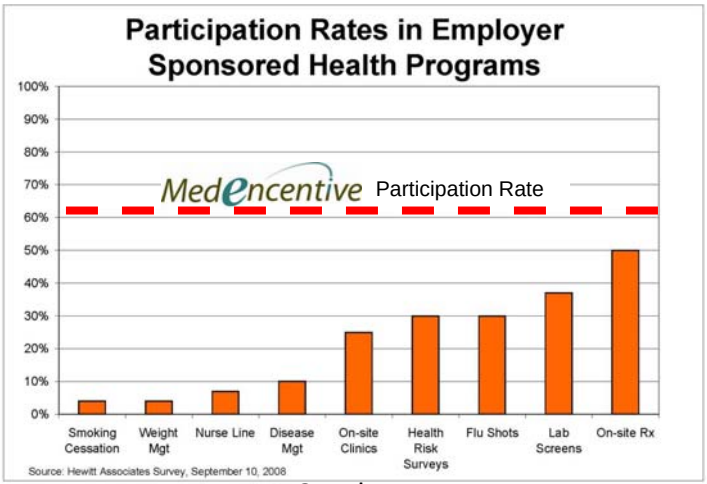
Shortly after the Medical Justice announcement, President Obama issued an executive order to fund demonstrations to examine innovative solutions that balance patient safety against the prevention of frivolous lawsuits filed against medical providers. As of this writing, we are working with multiple health systems to develop proposals in response to this solicitation.

Low Participation in Employer Sponsored Wellness and Prevention

Dee Edington, PhD, Director of the Health Management Research Center at the University of Michigan, has conducted extensive research[6] into the use of employer sponsored wellness programs. Dr Edington's research is revered by all of us familiar with his work. Therefore, I should make it clear that comparing our findings to Dr. Edington's research is not intended to diminish or contradict Dr. Edington's research in anyway. To the contrary, Dr. Edington's research provides an excellent set of benchmarks to measure the effectiveness of our program.

In the absence of financial incentives, Dr. Edington and his colleagues at the UM - HMRC have determined that participation in employer sponsored wellness and prevention programs, such as health risk assessments, exercise, flu shots and lab screenings, peaks around 25% in the first year and declines thereafter. Edington's research suggests that participation in these types of programs needs to reach 70% or better in order to bend the cost curve. This level of participation is typically achievable when financial incentives of $200 or more are offered to health plan members, according to Edington.

Dr. Edington's findings are confirmed in an annual survey conducted by Hewitt Associates. Graph 15 illustrates Hewitt's 2008 survey results[28] on the level of patient/member participation in employer sponsored wellness



Graph 15

and prevention programs. Superimposed on this graph is MedEncentive's overall annual patient/member participation rate of 61.3% for the year ending 6/30/2009. It is noteworthy that our program's rate of participation was achieved with an annual investment of approximately $70-$75 per patient/member participant, and this figure includes incentives paid to participating patient/members and doctors, plus the fees for our program. More importantly, our trial results indicate that this level of investment by the sponsoring health plans and this rate of participation by patient/members are adequate to bend the cost curve and produce a significant return on investment.

As mentioned early, Edington's research indicates a tendency for participation in wellness programs to decline over time. This has not been the case with our program. As previously mentioned, our trial installations demonstrated increases in patient/member participation through the first two to three years before reaching a plateau. Except in the instance in which a trial employer reduced the patient/member reward to less than $15, no other employer has experienced a decline in participation (refer to Patient Success Rates in Graph 14, below). The City of Duncan is beginning its sixth year with the Program and is maintaining patient/member participation (success) rates between 80% and 90% with a cost that is a fraction of the amounts reported in Edington's research.

With this mind, it can be stated that MedEncentive's use of "precision-guided, interactive financial incentives" to invoke "doctor-patient mutual accountability," produces an adequate level of patient/member and physician participation to achieve significant cost containment at a relatively low financial investment when compared to the best research on the subject.

Analysis of Personal Health Record Adoption Calls for MedEncentive

Personal health records (PHRs) offer the promise of filling the information gap that is needed to deliver coordinated and efficient healthcare. The promise and the potential of PHRs have attracted over 50 individual vendors, every major health insurer and numerous healthcare systems to develop PHRs. Large companies such as Google, Microsoft, WebMD, WalMart, IBM and others realize that PHRs could attract millions of users to their websites, thus launching huge new revenue streams.

However, there is a fly in the ointment. Consumers and providers don't seem to be interested in using PHRs. Therefore, participation by these two key stakeholders in PHRs is very low.

In November 2007, Forrester Research's principal analyst on healthcare, Elizabeth Boehm released a report entitled*: PHRs: From Evolution To Revolution - A Health Plan Guide To Navigating The Personal Health Record Market*[29], in which she and her team surveyed a number of national and regional insurers, and other businesses such as Microsoft, McKesson, Healthways, and WebMD, to determine what was needed to get consumers and providers to adopt personal health records (PHRs). The following is the executive summary from this report:

> *Health plans, driven by employer demand and expectations of improved member satisfaction and reduced medical costs, are investing in payer-based personal health records. But consumers have not raced to adopt them. Health plan customer experience professionals are on the hook to not only drive adoption but also engineer low-cost, interactive health support programs that will help members make better choices and save costs. To maximize their chance of success, health plan customer experience professionals need to focus on four critical areas: data management, behavior change, interface best practices, and patient and provider recruitment. This focus will help drive near-term success and position plans to weather the coming changes in the personal health record (PHR) market.*

Boehm and her team go on to conclude that financial incentives would need to be offered to both patients and their doctors in order to stimulate the use of PHRs. Without knowing about our solution, Boehm had, in effect, recommended MedEncentive, the only doctor-patient interactive incentive system on earth.

In 2009, I had the opportunity to present our solution to - Ms. Boehm. She immediately recognized MedEncentive's uniqueness and how it could offer a viable solution to her team's recommendations. She has since referred some of

Forrester's customers to us, describing our solution as "very compelling."

More recently, we have successfully uploaded our system's data into Google Health's PHR and Microsoft's HealthVault. We are in discussions with these and other vendors about how our solution can recruit users and bring value to their PHR products.

Pay-for-Performance, Disease Management and Other Programs Failure to Triangulate Prevents Cost Containment

Two of the most important aspects of the MedEncentive Program have to do with "doctor-patient mutual accountability" and "triangulating" the interests of healthcare consumers, providers and insurers. These concepts go hand-in-hand. You really can't have one without the other. When we add "information therapy" to this duo, health and healthcare are improved and costs are contained.

Models that do not have these elements have not been able to achieve or sustain healthcare cost containment. Proof in point is the general consensus regarding the cost containment capabilities of pay-for-performance (P4P) and disease management (DM) programs.

- **Pay-for-Performance –** On the surface, the pay-for-performance (P4P) concept makes good sense. Who could argue against incenting providers for providing specific services that are intended to improve the quality and efficiency of healthcare? However, after years of experimentation, P4P has failed to accomplish these objectives.

  The country's largest and longest running P4P program is the Integrated Healthcare Association (IHA) in California. IHA recently published its 7th annual report[30]. This report was a retrospective on what has been accomplished since IHA's inception. The following are excerpt from this report:

  – *"Steady, incremental quality improvements have been realized, but breakthrough improvement has not been achieved."*

  – *"Dramatic regional/geographic variations in quality have surfaced".*

  – ***"Affordability.*** *The California P4P program was not originally designed with costs in mind, but in retrospect, including costs as a component of performance measurement should have been an earlier consideration. Efforts to integrate cost into the measurement set have been both politically and technically challenging, but progress has been made."*

  – *"Cost must be integrated with quality to address affordability."*

  – *"Strategies for encouraging consumer engagement ... need to be developed."*

  – *"Finally, P4P itself is not the answer; rather, it is an important step to building a foundation of accountability, continuous quality improvement, and effective payment reform in health care. Incorporating the above components will create a more robust program, and aid in the realization of breakthrough improvements that have thus far been elusive."*

  The IHA leadership is to be congratulated for its tremendous accomplishments in terms of organizing a project of this magnitude with all the divergent interests. IHA is also to be congratulated for being so objective in its self-rating through this annual report.

  The take away from this experiment is loud and clear - when P4P does not engage consumers by holding them accountable for their health behaviors, then P4P fails to triangulate, and thus is constrained in its ability to improve quality and control costs.

- **Disease Management –** The idea behind disease management is to provide focused and more intense care to patients with chronic conditions through a nurse or health coach, often over the telephone, to help insure these patients are adherent to evidence-based treatments. The ultimate objectives are to achieve better clinical outcomes and lower overall costs.

  A review of the literature[31,32,33,34,35,36,37] reveals inconclusive evidence and a general skepticism toward DM's ability to improve clinical and economic outcomes. There are multiple reasons that explain DM's inability to control costs, but most experts agree that DM's failure to engage physicians in its care processes constrains DM's ability to recruit and retain patients to participate, and thus its ability to control costs. It is a simple fact that people respond better to their physicians than they do to a stranger over the telephone. This is another example of a concept that intends to improve healthcare quality and control costs, which fails to triangulate, and thus fails to achieve its objectives.

- **Patient-Centered Medical Home -** The patient-centered medical home (PCMH) is currently all the rage, and for good reason. The concept of promoting primary care providers as a medical home to help coordinate care makes good sense. However, just like P4P and DM, one of the three key stakeholders is left out of the cost equation. In the case of the PCMH, it is the patient that is not held accountable for his/her health.

If this is not corrected, we could be reading a PCMH annual report years from now that is very similar to IHA's.

To prevent this noble effort from revisiting the same mistakes of its healthcare reform predecessors, we are attempting to take an active role in PCMH trade association – the Patient-Center Primary Care Collaborative (PCPCC). We are currently a member of the PCPCC Participatory Engagement Program workgroup and suggesting our solution.

P4P, DM and PCMH are all good ideas. Each of these concepts could achieve their objectives by adopting the principles of triangulation and doctor-patient mutual accountability. And this is one of our objectives.

Insurance Companies are Ill Positioned to Control Healthcare Costs

Leonard Schaeffer, former CEO and Chairman of Wellpoint-Anthem, said in a 2006 interview with McKinsey:

- *"We insurers can see the opportunities, but when we offer solutions we're at a disadvantage relative to some third parties. For one thing, many doctors don't trust us."*
- *"Unfortunately, insurance companies aren't seen (by doctors) as sources of accurate, timely, and unbiased information, so most likely we'll see third-party 'infomediaries' emerging that will gather and correlate industry data."*

Mr. Schaeffer is correct when he suggests that third party "infomediaries," whose financial interests are not in conflict with providers and consumers, will indeed be needed to gather and authenticate the data. In this regard, MedEncentive is the quintessential "infomediary."

But Mr. Schaeffer stopped short of addressing the real issue of controlling healthcare costs. He did not mention that it is fundamentally not in the best interest of commercial health insurers to control costs. As long as commercial insurers are compensated on a percentage of premium (healthcare costs) or on the number of transactions processed, their motivation to control healthcare costs will be in conflict with their business goals of generating revenues and profits. Furthermore, as long as we insist on holding health insurers responsible for healthcare costs driven by provider performance and consumer health behaviors, the trust issue will persist and costs will not be contained.

Actually, someone needs to relieve insurers from these responsibilities. After all, we pay insurers to efficiently and effectively underwrite and administer the insurance benefit, not to police providers and consumers.

If it is provider performance and consumer behaviors that we are attempting to improve, then why shouldn't we assign that responsibility to the providers and consumers by having them challenge and encourage one another to improve? The basis and method of judgment to be used by providers and consumers simply needs to be supplied and authenticated by an independent third party whose interest is purely to improve health and healthcare to control costs. As Mr. Schaeffer suggests, what is needed in this model are "infomediaries."

In order for this model to work, infomediaries must offer relevant and unbiased performance standards by which providers will be measured, plus universally accepted health objectives for the consumer to strive toward. The infomediary must also offer a means to insure that providers and consumers judgment each other objectivity. The infomediary's system has to be easy to use, implement and maintain. Finally, incentives must be added to this mix in order to inspire consumers, providers and insurers to participate.

What I have just described is the MedEncentive Program. In effect, its ability to bridge the gap between physicians and insurers (and consumers), plus our company's relationship with the medical community are two of MedEncentive's principal strengths that should be desired by all health insurers.

We stand ready and willing to help health insurers with a service they cannot provide for themselves – namely Mr. Schaeffer's "infomediary." It would certainly solve a big issue for insurers, and the other healthcare stakeholders in the process.

Fulfilling MedEncentive's Potential

As we consider what we have learned since our first installation five years ago, we believe MedEncentive has only scratched the surface in terms of the Program's capabilities. We say this for a number of reasons.

Success Acknowledgment

We have a number of important enhancements to the current system that are scheduled to be released in the near future. Perhaps the most exciting development is Success Acknowledgment. This particular enhancement will represent the full manifestation of doctor-patient mutual accountability.

In effect, Success Acknowledgment offers patients/members and their doctors an opportunity to earn additional financial rewards when patients/members get their doctors to return to the MedEncentive website to acknowledge a patient's successful completion of specific health objectives. Physicians accomplish this task by simply accessing our website to indicate that they are printing or importing MedEncentive's record of patient health successes into the patient's medical chart, which triggers an automatic acknowledgment to the patient. Physicians can also add a congratulatory message to this acknowledgment.

Patients will be notified by email and telephone (telephony) if their doctor has not responded within a specific time limit. These notifications will encourage patients to contact their doctors to remind them of this mutual opportunity. If the doctor fails to respond, then both parties will miss out on the additional financial reward, thus creating a more robust state of mutual accountability.

Though we have designed our reward system around other medical interventions (see Incorporation of Other Medical Interventions), Success Acknowledgment opens the door to endless opportunities. In fact, we believe this enhancement has the potential to match and perhaps exceed our original design in terms of attracting both doctor and patient participation, stimulating greater adherence to evidence-based care and healthy behaviors, and driving even more cost containment.

Enhanced Patient Knowledge Testing

We have delayed the full development of patient information therapy test questions until recently. In the latest version of our website software, we have the capability of rapid development of patient test questions. Even though additional questioning that is more focused on specific health conditions may frustrate patient success rates, it will authenticate patient knowledge levels like never before. Coupled with additional financial rewards associated with Success Acknowledgment, we believe the Program can deliver higher participation rates, improved health literacy and better knowledge authentication.

Culture of Health Adoption

Being able to compare the differences between multiple installations is one of the important benefits of our trial. Based on this comparative analysis, we know our trial employers can realize much greater cost savings when they adopt recommendations that have been most successful among the installations. We expect even more savings achieved as the Culture of Health scores improve among our trial and demonstration employers.

Incorporation of Other Medical Interventions

It has been demonstrated that the Program's use of information therapy and evidence-based medicine are powerful medical interventions in achieving the objectives of better health and healthcare to make healthcare more affordable. But we have always envisioned the Program's doctor-patient mutual accountability incentive system wrapped around other medical interventions. Interventions such as health risk assessments and lab screenings, pharmacy e-prescribing and medication adherence, smoking cessation, weight management, exercise programs, pre-certification of expensive care, disease management, hospital care management, personal health record adoption, the patient-centered medical home, etc. Participation by patient/members and their doctors in each of these interventions will only improve the existing return on investment capabilities of our Program. We are anxious to move on to these interventions as soon as possible.

Along these lines, pharmaceutical companies have approached us about testing our Program in the area of medication adherence. A couple of companies have seen our medication adherence program mock-up. We have referred these companies to the sponsors of our independent evaluations and expect that pharmaceutical companies will fund the medication adherence aspects of our demonstrations.

We have also been approached by disease management companies. There is clear-cut synergy with these companies in terms of healthcare cost containment. At least one company has suggested using our Program in a demonstration with some of their customers. We are offering the same opportunity to them with our pending demonstrations.

Medical Malpractice and Defensive Medicine Mitigation

As mentioned earlier, we have recognized since inception that our solution has the potential to mitigate the practice of defensive medicine.

Medical liability expert, Jeffrey Segal, M.D., J.D., learned of our solution and immediately recognized its potential. According to Dr. Segal, compensating physicians for documenting their adherence to evidence-based treatment guidelines or providing a documented reason for non-adherence are very important in terms of medical malpractice risk management. Studies[38] indicate that good doctor-patient communication is also an important factor in reducing malpractice risk. MedEncentive does both – treatment guidelines documentation and improved (and documented) doctor-patient communications. MedEncentive also assigns important responsibilities to the patient in terms of education and adherence that help improve patient safety and prevent mistakes becoming critical.

Dr. Segal is founder and CEO of Medical Justice, a one-of-a-kind pre-paid legal service that provides physicians with protection from frivolous lawsuits and Internet defamation. In September 2009, Medical Justice announced it would offer its protection services to physicians at significant discounts when they practice MedEncentive. In the announcement, Dr. Segal noted that MedEncentive's unique design strikes a perfect balance between the conflicting interests of frivolous lawsuit prevention and patient safety. Dr. Segal goes on to say that this capability should help prevent the costly practice of defensive medicine.

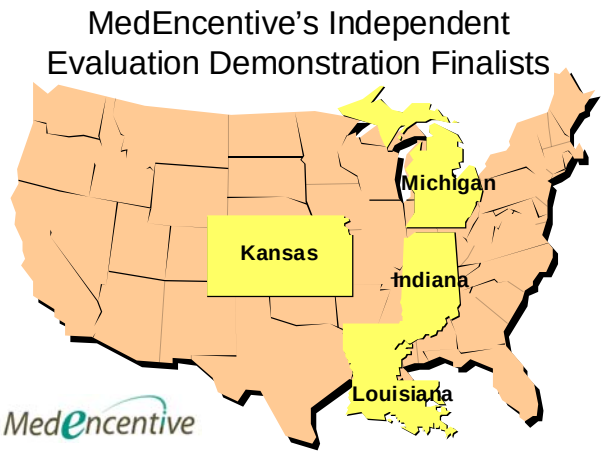
As previously mentioned, our 2006 study[1] did in fact report a defensive medicine abatement finding in the original trial installation with the City of Duncan. When we couple this finding with the thousands of patient testimonials that point to the patient safety aspect of our solution, there is good evidence of MedEncentive's ability to balance frivolous lawsuit prevention against patient safety in a manner that reduces the practice of defensive medicine.

Shortly after the Medical Justice announcement, President Obama issued an executive order to federally fund demonstrations that test innovations that balance patient safety and frivolous lawsuit prevention to reduce the practice of defensive medicine. This development helps underscore the importance and potential of our solution. As of this writing, MedEncentive is in discussions with multiple health systems to develop proposals to respond to the President's executive order. To build on the patient safety features of our solution, we are also seeking healthcare consumer advocacy organizations to join us in this project.

Independent Evaluations

In late 2008, we released a request for proposals for the independent evaluation of MedEncentive. Through this RFP, we offered seed grants to local chapters of the National Business Coalition on Health (NBCH) that were qualified to conduct an evaluation of this nature. To help local coalitions recruit employers and insurers to participate in these demonstrations, we offered significant discounts in program costs in exchange for a share of any realized cost savings. We also offered additional funding for larger populations, as well as assistance in soliciting additional funding from other sources such as the government and private foundations.

We received a good bit of interest from NBCH chapters.



As of this writing, there are two finalists for our grants – the University of Kansas School of Medicine – Wichita and Michigan Purchasers Healthcare Alliance. Two other finalists in Louisiana and Indiana may yet materialize. These finalists are currently involved in recruiting their participants. Based on preliminary indications of interest, these demonstrations may attract 20,000 enrollees or more per site.

Commercialization

We are reaching out to commercial health insurers, large self-insured employers, benefit consultants, governments and trade associations in our efforts to commercialize MedEncentive. We believe MedEncentive is the ideal tool to bridge the gap between health insurers and primary care providers for the purpose of fundamental healthcare reform. We are exploring ways that these parties can become co-invested in MedEncentive to promote the principles of "triangulation" and "doctor-patient mutual accountability." Once co-invested, we believe MedEncentive will be well positioned to function in the role of independent "infomediary" that former Wellpoint-Anthem CEO, Leonard Schaeffer described in his 2006 McKinsey interview. Our preliminary efforts to execute this strategy have been well received by both insurers and primary-care organizations.

In addition to this strategy, we have executed numerous non-disclosure agreements with disease management companies, personal health record companies, health insurers and others who are interested in our solution.

Limitations

There is a great deal more that we want to learn about the MedEncentive Program. We also recognize that there are limitations to the findings in this report.

To a large extend, we relied on results reported by the trial employers and their third party administrators to establish the presence of cost containment. As a result, the methods of determining costs most likely varied among the trial employers.

Another limitation of not having direct access to the data was an inability to determine the source of the cost savings for most of the trial employers. In our detail review of the City of Duncan's claims data, we were able to determine that most of the cost savings was derived from a reduction in hospitalizations. We assume this was the case for the other trial employers, but the actual source of the cost savings is unknown.

The purpose of the MedEncentive sponsored independent evaluation demonstrations is to address these limitations and to test a host of other hypotheses. The following is a partial list of suppositions that we want to test in the independent evaluations:

- Can the Program's cost containment capabilities be confirmed in a randomized trial against a control group?
- Can the Program's cost reductions be attributed to improvements in patients' health status?
- Can these trial findings be generalized to a broader population?
- Can patient ratings of physicians be correlated to physician adherence to evidence-based treatments?
- Can Success Acknowledgment increase the level of both patient and physician participation?
- How much disparity in Program efficacy is demonstrated in vulnerable populations?
- What is the impact of high levels of physician participation?
- Can the Program improve the efficacy of other types of medical interventions such as medication adherence, personal health record adoption, weight management, health risk assessment resolution, etc?
- What is the impact of larger financial rewards for both the physicians and patients?
- Can the Program reduce the incidents of frivolous lawsuits against providers?
- Can patient's safety be improved?
- Can the MedEncentive model be adapted to hospital care?

We look forward to testing these and many more questions in the months and years to come.

Summary

Our country is in the midst of an important debate on reforming healthcare. The issues revolve around affordability, accessibility, quality and funding. Of these issues, the one that all experts agree must be resolved for the good of the country is the high cost of healthcare.

Supported by years of testing and overwhelming empirical evidence by independent research, the MedEncentive Program has surfaced as a real breakthrough in resolving the issue of healthcare affordability.

Since the Program's original installation in August 2004 with the City of Duncan, we have learned a great deal about how and why MedEncentive is so effective at controlling healthcare costs. Our education in this regard has been as a result of MedEncentive's expanded trial involving seven separate employer installations consisting of approximately 7,000 health plan members and hundreds of participating physicians in the states of Oklahoma, Kansas and Washington. Five of seven installations demonstrated or reported cost containment that has been attributed to the Program by the trial's self-insured employers. The remaining two installations were undetermined at the time of this writing.

As a result of five years of testing, the Program's method of promoting patient education and empowerment with "information therapy" through the use of "precision-guided, interactive financial incentives" aimed at invoking "doctor-patient mutual accountability" has been shown to lower healthcare costs. In the process, MedEncentive produces the desired, yet elusive state of "triangulation" among consumers, providers and insurers of healthcare.

Based on all of the previous failed attempts to reform healthcare such as capitated HMOs, pay-for-performance and disease management, coupled with the results of our trials, it can be concluded that healthcare reform must incorporate the principles of doctor-patient mutual accountability and triangulation in order to achieve the goal of high quality and affordable healthcare.

According to independent research, the cumulative economic impact of health illiteracy, poor doctor-patient communication, poor quality of health care, patient non-adherence to drug therapy, the prevalence of defensive medicine, obesity, and non-participation in wellness and prevention contributes more than half of overall health expenditures in the U.S. Since MedEncentive addresses each of these cost contributors, deductive reasoning supports our trial results and predicts even greater cost containment capabilities as more medical interventions are introduced and the Program is expanded.

One noteworthy cost containment capability was highlighted as a result of the announcement by Medical Justice to offer its frivolous lawsuit protection services to physicians at significant discounts when they practice MedEncentive. Medical Justice CEO and medical liability expert, Jeff Segal, M.D., J.D., noted that MedEncentive's unique design strikes a perfect balance between the conflicting interests of frivolous lawsuit prevention and patient safety. Dr. Segal goes on to say that this capability should help prevent the costly practice of defensive medicine. In our original study[1] published in 2006, we did in fact report a defensive medicine abatement finding in the original trial installation with the City of Duncan.

Shortly after the Medical Justice announcement, President Obama issued an executive order to federally fund demonstrations that test innovations that balance patient safety and frivolous lawsuit prevention to reduce the practice of defensive medicine. This development helps underscore the importance and potential of our solution. As of this writing, MedEncentive is in discussions with multiple health systems to develop proposals to respond to the President's executive order.

Because of MedEncentive's unique ability to adapt to a wide variety of medical interventions in a way that recruits and retains high levels of sustained consumer and provider participation, we envision MedEncentive as the quintessential facilitator of these interventions. As such, we have a number of initiatives with vendors of these interventions in various stages of development. These interventions include the patient-center medical home, personal health records, e-prescribing coupled with medication adherence, disease management, plus a host of wellness programs such as health risk assessments, smoking cessation, weight management, exercise programs, etc. Further in the future, we anticipate developing adaptations to hospital care management and the precertification of expensive services.

Armed with the results of our trials and the supporting independent research, we are moving forward in our efforts to achieve widespread adoption of our program. At the same time, MedEncentive will continue to validate our program's effectiveness by funding independent evaluations in places like Kansas, Michigan, Louisiana and Indiana. The sponsors of these demonstrations are recruiting health insurers and large self-insured employers.

They are also soliciting additional funding to augment our seed grants. We expect these demonstrations will attract tens of thousands of member participants and hundreds of physicians.

Finally, if anyone has doubts about the effectiveness of our program, we encourage them to read the thousands of voluntary patient responses that we receive on a continual basis. These responses paint an undeniable picture – a picture that underscores the power of information therapy, financial incentives and the relationship that exists between people and their doctors.

All of what we have learned these last five years and all of what we see on the horizon give us great hope and enthusiasm that our solution will play a significant role in improving health and healthcare in America.

Acknowledgments

As I stated in our original study, reforming health care is challenge only a few committed risk-takers are willing to accept. This is to acknowledge those pioneers who accepted the challenge and made this study and project possible.

I begin by thanking my MedEncentive colleagues, Jim Dempster and Robert Purser. Jim and Robert have toiled long and hard against tall odds to develop and deploy what we believe will make health care better and more affordable. I am proud to be associated with these gentlemen and am truly grateful for their commitment and sacrifices. I thank my fellow MedEncentive co-founders, Drs. Susan Chambers and David Parke for years of Friday morning breakfasts, inspiration, and leadership. I thank Cliff Winburn, my longtime business partner and brother-in-law for his financial and moral support, especially during the tough times. I add to this original list Greg Main, Ken Schuerman and Cindy Williams. Greg has been supportive of our venture in numerous ways and in multiple capacities to include his leadership at i2E, Inc., and now as President and CEO of the Michigan Economic Development Corporation and member of our Board of Directors. Ken is serving our venture in a variety ways, but none more important than trusted friend. Cindy came to our small family at a time when the need for family was mutual. I am grateful for her presence and contribution.

This core of committed pioneers acknowledges the contributions of others who have been instrumental in this project. First and foremost, we acknowledge and express our sincerest gratitude to Duncan City Manager Clyde Shaw, the members of the Duncan City Council and the Duncan Employee Benefits Council for their willingness to allow the City of Duncan, Oklahoma to be the first adopter of the MedEncentive Program. Without their steadfast support throughout, this project could not have taken place. We also thank Donna Howell, City of Duncan Human Resource Manager for her assistance and constructive feedback that helped insure this project stayed on track. We are most appreciative of the support we received from the Duncan Physician Organization, its members and leaders, including Drs. David Buntley, Jeff Jones and Bill Stewart. Their support and involvement is earning Duncan and Stephens County an important place in the annals of health care reform.

We sincerely thank Dr. Rob Kenagy, Frank Cordon, Stan Hupfeld, Jim Crosby and his staff, Craig Pearsall, and Joe McNeil for reviewing this report and confirming the results of their respective installations. Just like the City of Duncan, your trials and tribulations in this important endeavor is paving the way for others to benefit from our collective experiences.

I want to express my appreciation to U.S. Senator Tom Coburn from my home state of Oklahoma. As a physician, Dr. Coburn recognized the special attributes of our solution long before the current reform debate. He has introduced our program to numerous decision-makers in and out of government. Dr. Coburn recognizes the bi-partisan nature of MedEncentive and we thank him for arranging an audience with President Obama's top healthcare advisors. We are confident this will bear fruit in time.

I extend a special and sincere thank you to my extended family and friends who invested in our business. Without their moral and financial support, we could not have continued this important venture.

Finally, I recognize the support I receive each day from my wife Debby and son Jess and daughter Sarah Beth. Your willingness to indulge my pursuits is most appreciated. However, knowing you are proud of what Dad is doing is the fuel that inspires me to press on, and it means the world to me.

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Table 2

City of Duncan Return on Investment in MedEncentive Based on Absolute Cost Data				
Year	Annual Healthcare Inflation Rate	Non-Catastrophic Costs	Catastrophic Costs	Total Costs
Actual Costs				
2003-04 Baseline Actual Costs w/o MedEncentive		1,207,613.28	558,439.89	1,766,053.17
2004-05 Actual Costs w/MedEncentive		1,068,235.20	414,047.71	1,482,282.91
2005-06 Actual Costs w/MedEncentive		874,235.16	893,672.17	1,767,907.33
2006-07 Actual Costs w/MedEncentive		1,206,743.84	894,095.04	2,100,838.88
2007-08 Actual Costs w/MedEncentive		1,043,818.07	522,304.19	1,566,122.26
Totals Over 4 Years		**4,193,032.27**	**2,724,119.11**	**6,917,151.38**
Projected Costs				
2003-04 Baseline w/o MedEncentive		1,207,613.28	558,439.89	1,766,053.17
2004-05 Projected Costs w/o MedEncentive**	10.0%	1,328,374.61	614,283.88	1,942,658.49
2005-06 Projected Costs w/o MedEncentive**	7.4%	1,426,674.33	659,740.89	2,086,415.22
2006-07 Projected Costs w/o MedEncentive**	7.0%	1,526,541.53	705,922.75	2,232,464.28
2007-08 Projected Costs w/o MedEncentive**	6.7%	1,628,819.81	753,219.57	2,382,039.39
Totals Over 4 Years		**5,910,410.28**	**2,733,167.09**	**8,643,577.37**
Cumulative Savings (Loss)		**1,717,378.01**	**9,047.98**	**1,726,425.99**
Physician and Patient Rewards				107,764.00
Cumulative Savings (Loss) w/o Rewards			**"A"**	**1,834,189.99**
Physician and Patient Rewards plus MedEncentive Fees			**"B"**	**181,204.70**
Return on Investment ("A"-"B")/"B"				**9.12**

** Derived by Multiplying Previous Year's Costs by Annual Inflation Rate, Beginning with Baseline Year's Actual Annual Costs

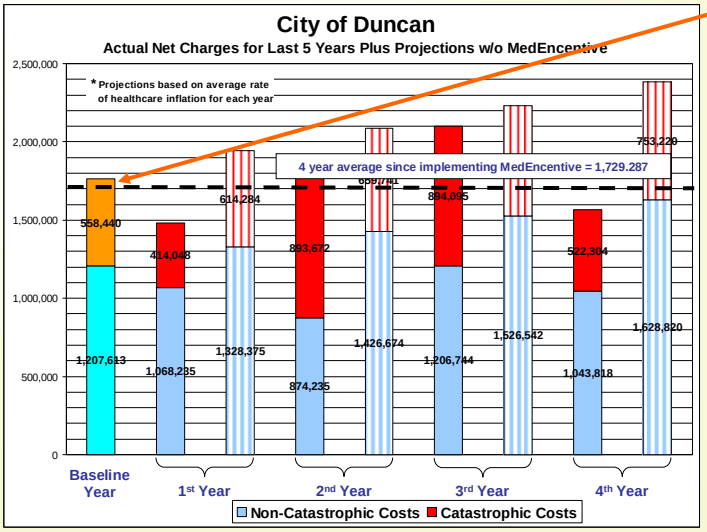
Table 3

City of Duncan Return on Investment in MedEncentive Based on per Member per Year (PMPY) Data					
Year	**Average Annual Member Enrollment**	**Annual Healthcare Inflation Rate**	**Non-Catastrophic Costs**	**Catastrophic Costs**	**Total Costs**
2003-04 Baseline w/o MedEncentive*	537		2,247.46	1,039.30	3,286.76
2004-05 Projected Costs w/o MedEncentive**		10.0%	2,472.21	1,143.23	3,615.44
2004-05 Actual Costs w/MedEncentive*	534		2,001.88	775.93	2,777.81
2004-05 Difference: Projected – MedEncentive			470.33	367.30	837.63
2004-05 Difference x Members for 2004-05			**250,974.88**	**195,998.19**	**446,973.07**
2005-06 Projected Costs w/o MedEncentive**		7.4%	2,655.15	1,227.83	3,882.98
2005-06 Actual Costs w/MedEncentive*	527		1,657.70	1,694.56	3,352.26
2005-06 Difference: Projected – MedEncentive			997.45	(466.73)	530.72
2004-05 Difference x Members for 2004-05			**526,033.10**	**(246,142.31)**	**279,890.79**
2006-07 Projected Costs w/o MedEncentive**		7.0%	2,841.01	1,313.78	4,154.79
2006-07 Actual Costs w/MedEncentive*	514		2,348.13	1,739.77	4,087.90
2006-07 Difference: Projected – MedEncentive			492.88	(425.99)	66.89
2004-05 Difference x Members for 2004-05			**253,298.86**	**(218,923.53)**	**34,375.34**
2007-08 Projected Costs w/o MedEncentive**		6.7%	3,031.36	1,401.80	4,433.16
2007-08 Actual w/MedEncentive*	521		2,003.14	1,002.33	3,005.46
2007-08 Difference: Projected – MedEncentive			1,028.22	399.47	1,427.69
2004-05 Difference x Members for 2004-05			**535,797.49**	**208,161.72**	**743,959.21**
Cumulative Savings (Loss)			**1,566,104.33**	**(60,905.92)**	**1,505,198.41**
Total 4 Year Physician and Patient Rewards					(107,764.00)
Cumulative Savings (Loss) w/o Rewards				**"A"**	**1,612,962.41**
Physician and Patient Rewards plus MedEncentive Fees				**"B"**	**181,204.70**
Return on Investment ("A"-"B")/"B"					**7.90**

* Derived by Dividing Actual Annual Costs (see Table 2) by Average Annual Member Enrollment

** Derived by Multiplying Previous Year's PMPY Costs by Annual Inflation Rate, Beginning with Baseline Year's Actual PMPY Costs

4 years of cumulative absolute cost savings validates MedEncentive impact on costs

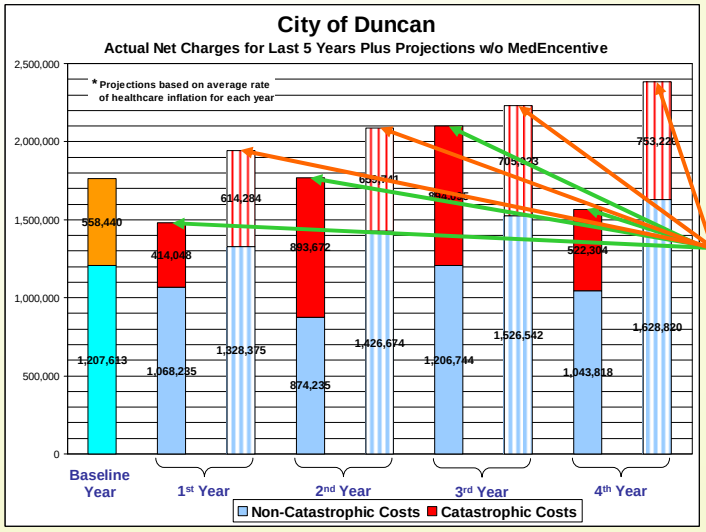


•The 4 year average of "all-in" claims cost since implementing MedEncentive is **2.1% less** than the baseline year.

Based on absolute costs

Graph 3 – City of Duncan Average Annual Absolute Claims Costs vs. Baseline Costs

4 years of cumulative absolute cost savings validates MedEncentive impact on costs



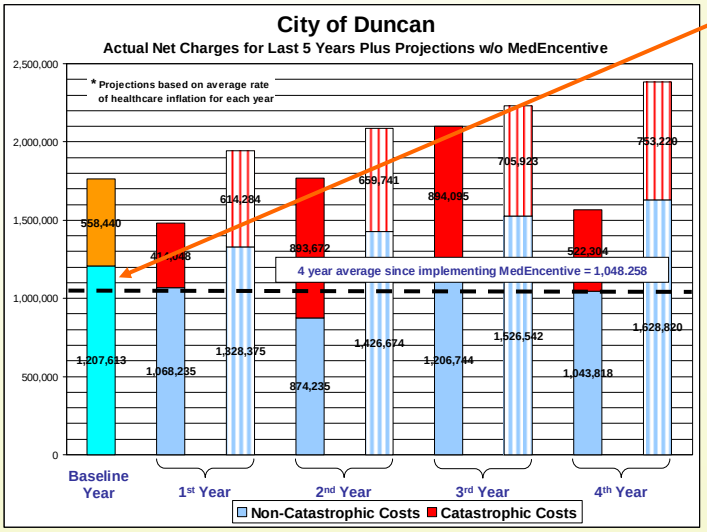
•The 4 year average of "all-in" claims cost since implementing MedEncentive is **2.1% less** than the baseline year.

•The 4 year "all-in" claims cost since implementing MedEncentive is **20.0% less** than expected costs using average healthcare inflation.

Based on absolute costs

Graph 4 – City of Duncan Average Annual Absolute Total Claims Costs vs. Expected Costs

MedEncentive's office-based solution used in Duncan is most effective at controlling the underlying non-catastrophic costs



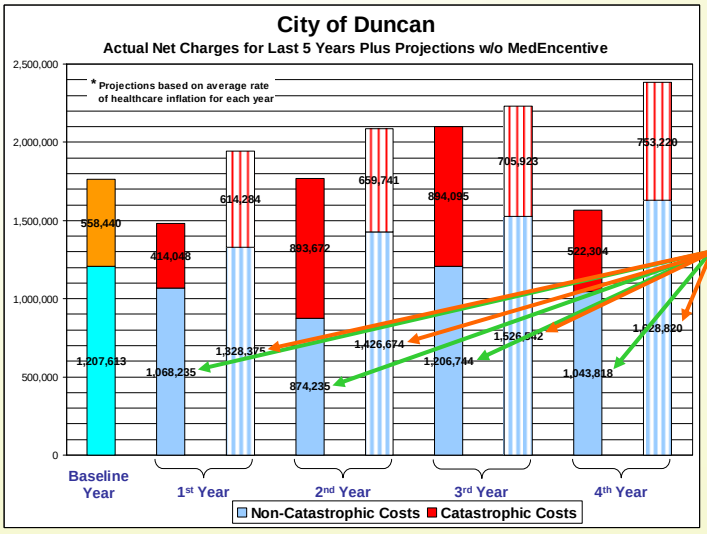
- The 4 year average of non-catastrophic claims cost since implementing MedEncentive is **13.2% less** than the baseline year.

Based on absolute costs

MedEncentive

Graph 5 – City of Duncan Average Annual Absolute Non-Catastrophic Claims Costs vs. Baseline Costs

MedEncentive's office-based solution used in Duncan is most effective at controlling the underlying non-catastrophic costs



- The 4 year average of non-catastrophic claims cost since implementing MedEncentive is **13.2% less** than the baseline year.
- The 4 year non-catastrophic claims cost since implementing MedEncentive is **29.3% less** than expected costs using average healthcare inflation.

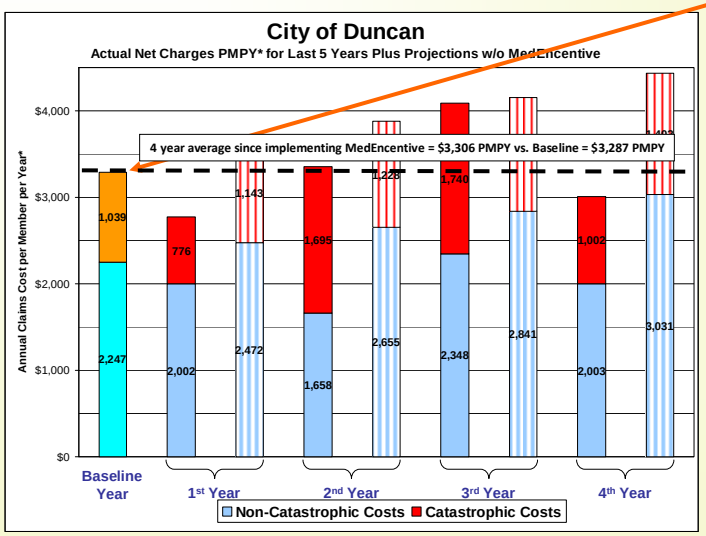
Based on absolute costs

MedEncentive

Graph 6 – City of Duncan Average Annual Absolute Non-Catastrophic Claims Costs vs. Expected Costs

MedEncentive
Rewarding better health

4 years of cumulative cost savings based on PMPY* validates MedEncentive impact on costs



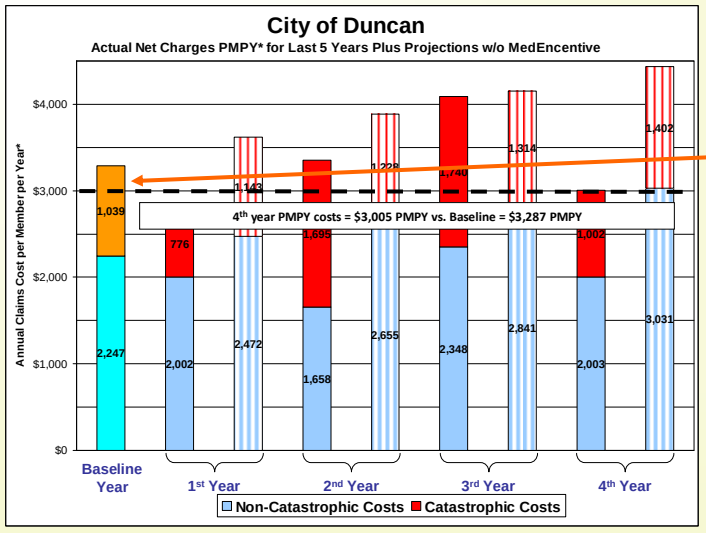
- The 4 year average "all-in" PMPY claims cost is essentially flat (0.6% more than the baseline year).

* Based on per Member per Year costs ("PMPY")

MedEncentive

Graph 7 – City of Duncan Average Annual Total PMPY Claims Costs vs. Baseline Costs

4 years of cumulative cost savings based on PMPY* validates MedEncentive impact on costs



- The 4 year average "all-in" PMPY claims cost is essentially flat (0.6% more than the baseline year).
- The 4th year "all-in" PMPY claims cost is **8.6% less** than the baseline 5 years ago.

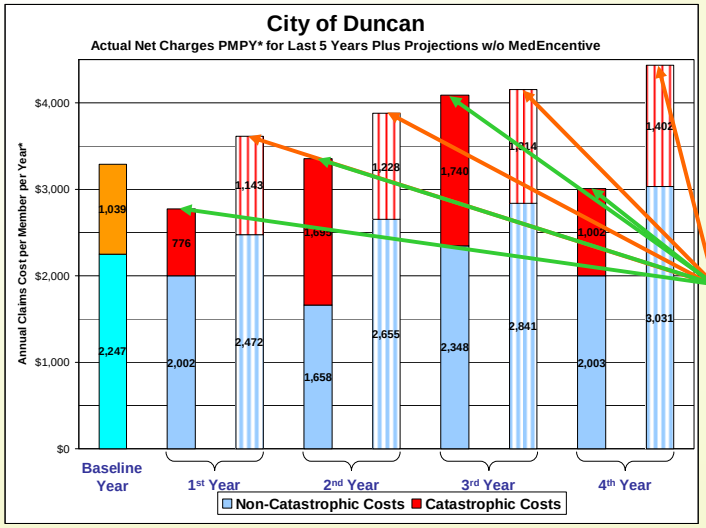
* Based on per Member per Year costs ("PMPY")

MedEncentive

Graph 8 – City of Duncan 2007-08 Total PMPY Claims Costs vs. 2003-04 (Baseline) Costs

MedEncentive
Rewarding better health

4 years of cumulative cost savings based on PMPY* validates MedEncentive impact on costs



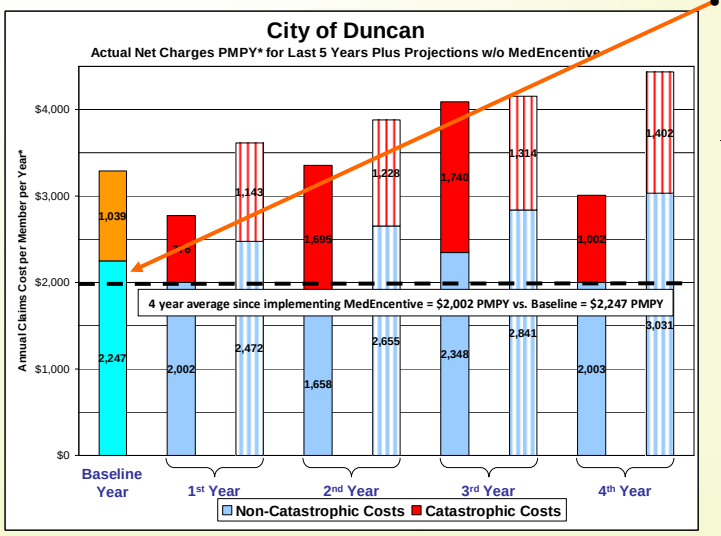
- The 4 year average "all-in" PMPY claims cost is essentially flat (0.6% more than the baseline year).
- The 4th year "all-in" PMPY claims cost is **8.6% less** than the baseline 5 years ago.
- The 4 year "all-in" PMPY claims cost since implementing MedEncentive is **19.1% less** than expected costs using average healthcare inflation.

MedEncentive

* Based on per Member per Year costs ("PMPY")

Graph 9 – City of Duncan Average Annual Total PMPY Claims Costs vs. Expected Costs

4 years of cumulative cost savings based on PMPY* validates MedEncentive impact on costs



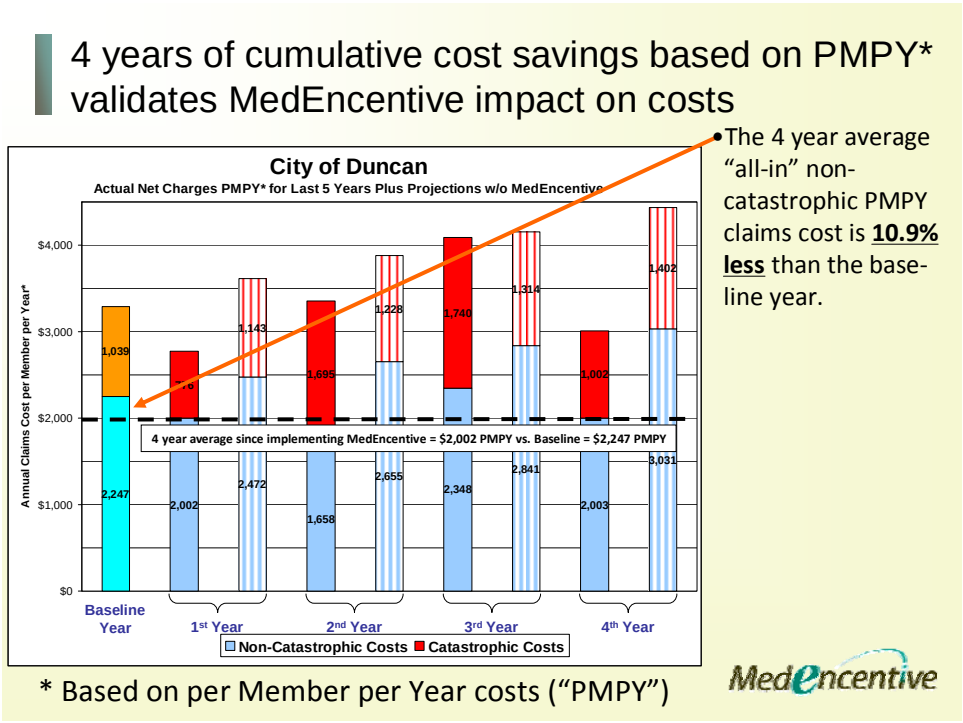
- The 4 year average "all-in" non-catastrophic PMPY claims cost is **10.9% less** than the base-line year.

MedEncentive

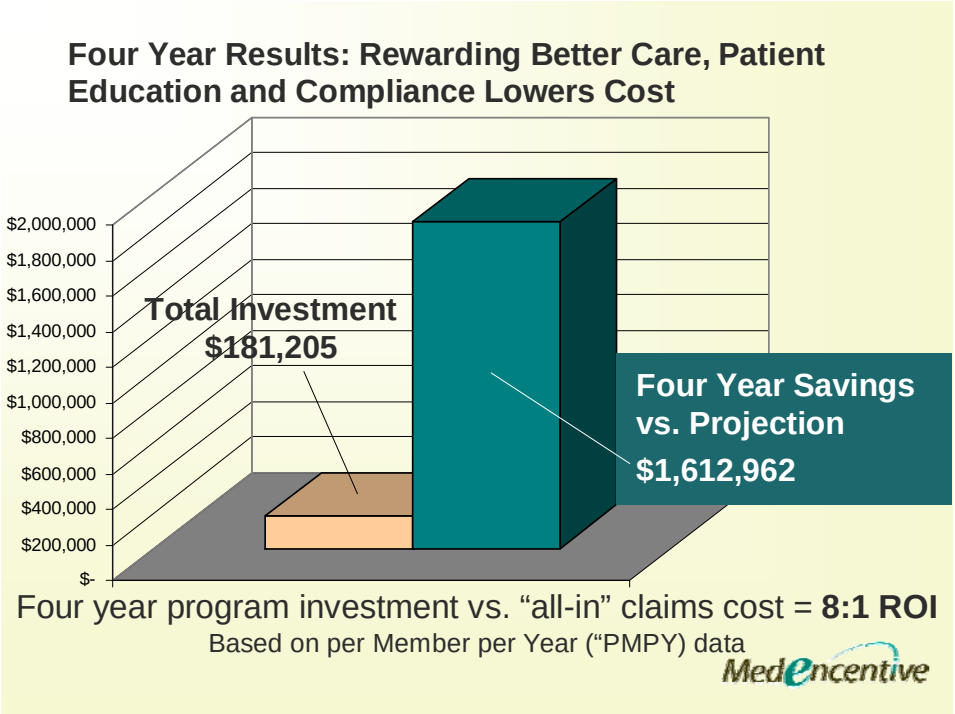
* Based on per Member per Year costs ("PMPY")

Graph 10 – City of Duncan Average Annual Non-Catastrophic PMPY Claims Costs vs. Baseline Costs

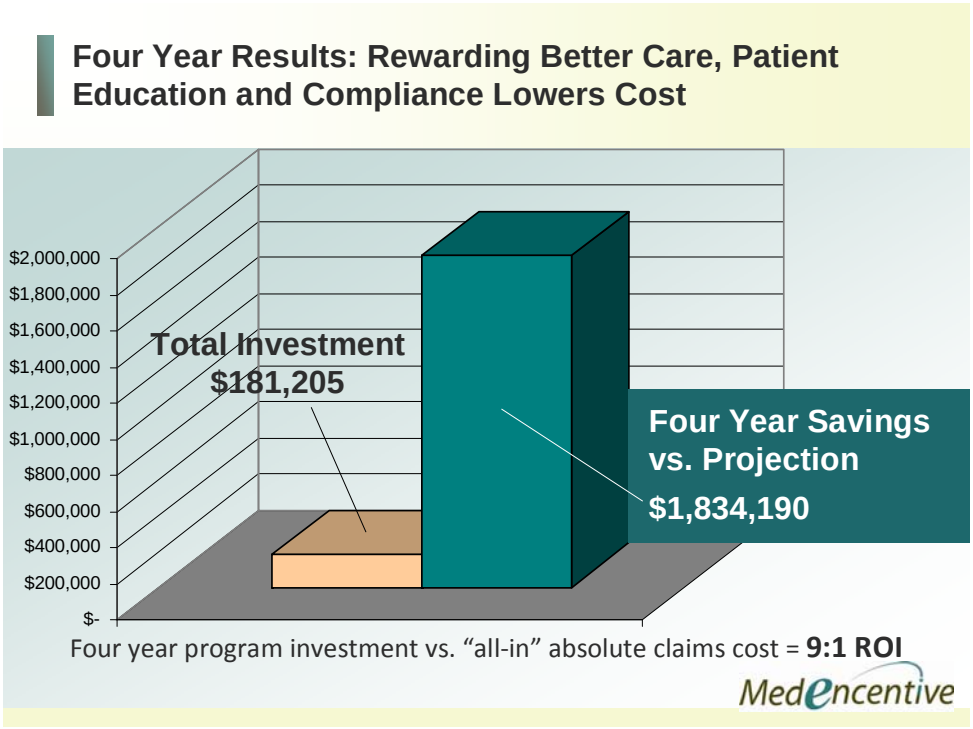
MedEncentive
Rewarding better health



Graph 11 – City of Duncan Average Annual Non-Catastrophic PMPY Claims Costs vs. Baseline Costs



Graph 12 – City of Duncan PMPY Return on Investment Based on PMPY Costs vs. Expected Costs



Graph 13 – City of Duncan Average Annual Non-Catastrophic PMPY Claims Costs vs. Baseline Costs

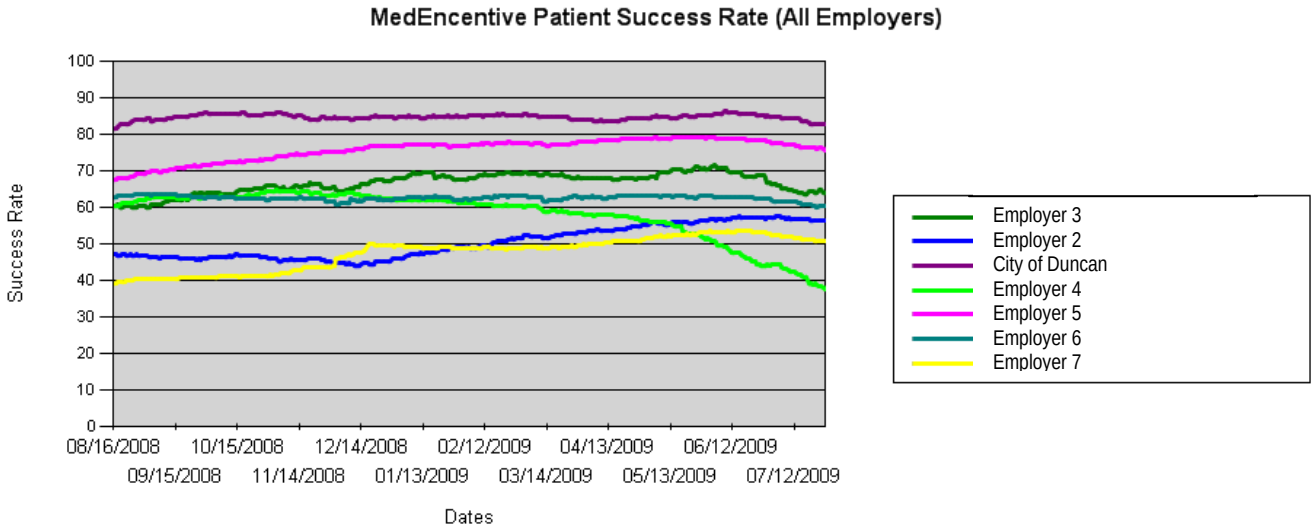
Trial Installations Table of Results - Table 4

A	B	C	D	E	F	G	H	I	J	K
Trial Employer (Location)	**Implement-ation Date**	**Low Range of Member-ship**	**First Year's Member Reward Amount**	**First Year's Member Participation Rate**	**First Year's Physician Participation Rate**	**Rating of Information Therapy Benefit to Personal Health on a Scale of 1 to 5**	**Culture of Health on a Scale of 1 to 10 (refer to criteria)**	**Confounding Variables**	**Did Employer Achieve a Measure of Cost Containment and ROI After Implementation ?**	**How Was the Cost Containment Result Determined?**
		High Range of Member-ship	**Most Recent Year's Member Reward Amount**	**Most Recent Year's Member Participation Rate**	**Most Recent Year's Physician Participation Rate**					
City of Duncan (Oklahoma)	8/1/2004	see totals	$25	43.8%	35.5%	4.27	6		Yes	Analysis is well documented with an 8:1 ROI confirmed by employer and TPA
		see totals	$30	84.1%	53.6%					
Employer 2 (Oklahoma)	1/1/2006	see totals	$15	37.0%	43.5%	4.23	<3	40% annual turnover and adverse selection	Cannot tell	Unable to document cost containment due to high turnover
		see totals	$25	53.5%	29.5%					
Employer 3 (Oklahoma)	11/1/2006	see totals	$25	56.0%	41.2%	4.14	4	Small population	Yes	Employer is reporting costs are flat and better than projections
		see totals	$25	65.4%	28.7%					
Employer 4 (Oklahoma)	11/20/2006	see totals	$5	51.3%	8.7%	4.06	<3	Discontinuing program due to financial difficulties and lack of support from CFO	Yes	We documented a 2% cost reduction in non-catastrophic costs that the employer acknow-ledged. Employer reports significant cost reductions in 3rd year.
		see totals	$20	52.3%	7.6%					
Employer 5 (Kansas)	6/1/2007	see totals	$15	61.6%	57.9%	4.03	4	Temporarily sus-pended due to re-cession/projections	Yes	Employer is reporting costs are flat and better than projections
		see totals	$15	76.1%	46.5%					
Employer 6 (Washington)	1/1/2008	see totals	$15	59.2%	2.3%	3.93	4	Other incentives	Yes	Employer is reporting $1M savings in first year, which the em-ployer, consultant and TPA attribute primarily attribute to MedEncentive
		see totals	$15	61.5%	2.4%					
Employer 7 (Oklahoma)	5/1/2008	see totals	$10	39.6%	0.8%	4.03	3	Workforce under constant threats of bankruptcy, plus high turnover in 2008	Too early to tell	In spite of partial year, bankruptcy threat, and lower than recom-mended reward amount, non-catastro-phic costs indicated a preliminary bend in the cost curve.
		see totals	$10	49.2%	1.3%					

Table 4 – Trial Installations Results, Continued

A	B	C	D	E	F	G	H	I	J	K
Trial Employer	**Implementation Date**	**Low Range of Membership**	**Low Reward**	**First Year's Member Participation Rate**	**First Year's Physician Participation Rate**	**Rating of Information Therapy Benefit to Personal Health on a Scale of 1 to 5**	**Culture of Health on a Scale of 1 to 10 (refer to criteria)**	**Confounding Variables**	**Did Employer Achieve a Measure of Cost Containment and ROI After Implementation ?**	**How Was the Cost Containment Result Determined?**
		High Range of Membership	**High Reward**	**Most Recent Year's Member Participation Rate**	**Most Recent Year's Physician Participation Rate**					
All Trial Employer	1/1/2008	563	$5	43.8%	35.5%	4.07	3.4	Refer to the individual employer notes	5 of 7 trial employers achieved a measure of cost containment and ROI	Refer to the individual employer notes
		7,775	$30	61.6%	21.4%					

Patient Participation Rate Trend by Trial Installation
Effects of Reducing Financial Rewards (note Employer 4)



Graph 14 – Patient Participation Rate Trend - Effects of Reducing Financial Rewards

Table 5

Patient Rating of the Perceived Benefit of Information Prescribed through the MedEncentive Program

Annual Results as of the Year Ending June 30, 2009

On a scale from 1 to 5, how helpful has this information been to you in managing your disease or condition? (5 being very helpful)

Company-wide	Level - 1	Level - 2	Level - 3	Level - 4	Level - 5	Total	% of Total	Average Level
POSI:	35	42	191	364	693	1,325	9.69%	
POSI %:	2.642%	3.17%	14.415%	27.472%	52.302%	100.00%		4.24
CI.:	62	39	310	476	856	1,743	12.75%	
CI %:	3.557%	2.238%	17.785%	27.309%	49.111%	100.00%		4.16
Sys. Gen.:	507	451	2,021	2,881	4,745	10,605	77.56%	
Sys. Gen. %:	4.781%	4.253%	19.057%	27.166%	44.743%	100.00%		4.03
Total:	**604**	**532**	**2,522**	**3,721**	**6,294**	**13,673**	100.00%	
%:	**4.417%**	**3.891%**	**18.445%**	**27.214%**	**46.032%**	**100.00%**		**4.07**

Attachment A

A "Culture of Health" is key to healthcare cost containment and improved workplace productivity…and MedEncentive is the key to a Culture of Health…

It is evident that healthier employees improve productivity and presenteeism, while reducing healthcare costs. An employer's best possible strategy to improve employees' health is by implementing what is called a "Culture of Health." In effect, a Culture of Health is a commitment by an employer to stimulate the desire within its workforce to adopt behaviors that achieve and maintain good health.

Studies have shown that the combination of the MedEncentive Program plus a Culture of Health gives an employer the best possible means to optimize the health of its employees. Both of these solutions improve health by improving health behaviors.

The MedEncentive Program improves health by tapping into the doctor-patient relationship. Through MedEncentive's web-based system, employers offer financial incentives to health plan beneficiaries and their doctors for encouraging and challenging each other to do better and be healthier. The reason that this method works so well is due to the intrinsic social-psychological desire by doctors and patients to please one another. Studies have shown that we, as patients, do not want our doctors to think that we are medically illiterate or non-compliant to healthy behaviors. Conversely, our doctors do not want us to think they practice substandard care. The MedEncentive Program is designed to invoke these motivations to improve health and lower healthcare costs.

There are additional motivators that exist in the workplace; namely team spirit (peer pressure), respect for authority, and personal recognition. Again, to take advantage of these motivators to improve health and productivity involves creating a Culture of Health. In effect, a Culture of Health is a commitment by an employer to advance health by stimulating these motivators in an organized and intelligent manner.

It just so happens that the MedEncentive Program is ideally suited to facilitate a Culture of Health. Furthermore, when a Culture of Health is combined with the MedEncentive Program, an employer is utilizing the best possible methods to stimulate the types of motivators that improve health and productivity, and control healthcare costs.
Implementing and maintaining the MedEncentive Program and a Culture of Health is relatively easy and will produce a substantial return on investment. However, it does require dedication and constant attention.

The Culture of Health Criteria

The Culture of Health strategy begins with an absolute commitment by the organization's leader and senior management to the following:

1. Making a personal pledge to the goal of better health public announcement to a Culture of Health
2. Making a meaningful financial investment in a Culture of Health campaign and the expectation and goal of a measurable return on that investment
3. Assigning and empowering an operational Culture of Health Internal Champion
4. Creating and empowering a Health and Safety Committee at the lowest level of the organization
5. Insuring Internal Champion and Health and Safety Committee have direct access to senior management
6. Holding the Internal Champion and Committee accountable by tying compensation and rewards to results
7. Establishing meaningful and measurable Culture of Health objectives
8. Setting realistic goals against the objectives
9. Developing a coordinated, well conceived plan to accomplish objectives (Refer to the recommended Culture of Health plan below.)
10. Requiring that results are track, analyzed and reported monthly to senior management and actions are taken to continually improve accordingly
11. Publicly recognizing and rewarding excellence (including tying personal bonuses to results)
12. Commissioning the Internal Champion and Committee to continually improve and innovate

The Culture of Health Plan

A well conceived Culture of Health plan uses the employer's resources to produce the goals of better health, higher productivity and low healthcare costs. The plan describes the key attributes such a plan:

1. Establish participation goals for plan members in all health improvement programs to include health risk assessments*, drug compliance*, smoking cessation*, weight management*, fitness club participation*, flu shot*, success acknowledgement*, information therapy*, and personal health record adoption* programs.
2. Establish incentives for successful participation that will drive employees, their covered dependents, and their doctors to achieve the stated goals
3. Create a participation contest by dividing the organization into competitive departments and establishing some exciting contest prizes
4. Actively promote the contest(s)
5. Elect representatives from each department to form Health and Safety Committee.
6. Have Committee track and publish results monthly throughout the contest(s).
7. Throw a party to recognize the winners.

* The MedEncentive Program is designed to both recruit health plan beneficiaries to these programs and to motivate participants to achieve health objectives by engaging physicians in the process. MedEncentive is also designed to effectively and efficiently track, analyze and report participation on an on-going basis.

Table 6

MedEncentive	
Levels	**Culture of Health Levels Descriptions**
10	Demonstrates all 12 Culture of Health Criteria, has executed all 7 Culture of Health Planning Steps and has expanded the number of health programs covered by MedEncentive
9	Demonstrates all 12 Culture of Health Criteria, has executed all 7 Culture of Health Planning Steps and is planning to expand the number of health programs covered by MedEncentive
8	Demonstrates 10 Culture of Health Criteria and is preparing to execute the 7 Culture of Health Planning Steps
7	Demonstrates 8 Culture of Health Criteria
6	Demonstrates 6 Culture of Health Criteria
5	Demonstrates 4 Culture of Health Criteria
4	Demonstrates 2 Culture of Health Criteria
3	Does not demonstrate any of the Culture of Health characteristics. Two of three leadership components (CEO, CFO, HR) are unsupportive. Resistive to recommendations to enhance the Program. Generally neglects Program
2	Same as Level 3, plus demonstrates skepticism toward the Program.
1	Same as Level 2, plus has taken actions that compromise the integrity of the Program

References and End Notes

[1] Greene J. (2006) *Pay-for-Performance Success Using Doctor-Patient Interactive Rewards: An Evaluation of the Impact of the MedEncentive Program on the City of Duncan Health Plan.* A MedEncentive Study. September 15, 2006. Available online: http://www.medencentive.com/Archives/P4P_Using_Interactive_Rewards.pdf

[2] Parke D. (2007) *Impact of a Pay-for-Performance Intervention: Financial Analysis of a Pilot Program Implementation and Implications for Ophthalmology (An American Ophthalmological Society Thesis).* Transactions of the American Ophthalmological Society. Available online: http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=2258124&blobtype=pdf

[3] The turnover rate during the trial period average approximately 12% per year.

[4] In the first year, the City increased the annual deductible from $250 to $500, but also added office visit coverage (for the first time) and MedEncentive. In effect, one benefit change was a takeaway and the other two changes were give-backs. In an effort to distill any impact of these changes, total covered medical charges (both City and employee payments) were analyzed. Since the first year, the City made only two benefit changes - increasing the MedEncentive patient reward from $25 to $30 in year two, and offering a half day off with pay for plan members who had City sponsored bio-metric testing in year three, which had a detrimental impact on costs (see item d, Page 12). Due to the nature, timing and results of these benefit changes, plus the absence of any other cost containment measures during the trial period, all involved with this trial installation attribute the cost containment to the MedEncentive Program.

[5] Every office visit generates an information therapy prescription. The patient participation rate is calculated by dividing the number of successfully completed information therapy prescriptions by the total number of office visits.

[6] Edington D. (2009) *Zero Trends; Health as a Serious Economic Strategy.* University of Michigan Health Management Research Center. Ann Arbor, Michigan

[7] Glynn M, Nersessian G. (2007) *Disease Management: Curing Ills in the Healthcare System.* Credit Suisse, Strategic Analysis.

[8] Seidman J. (2009) *Patients Make the Most Compelling Case for Ix.* (2009) *Patients Make the Most Compelling Case for Ix.* Information Therapy (Ix) Blog. http://ixcenterblog.org/archives/734.http: //ixcenterblog.org/archives/734. July 27, 2009

[9] Finkelstein E, Trogdon J, Cohen J, Dietz W. (2009) *Annual Medical Spending Attributable To Obesity: Payer- And Service-Specific Estimates.* Health Affairs, doi: 10.1377/hlthaff.28.5.w822. Published online July 27, 2009.

[10] Vernon, J., Trujilo, A., Rosenbaum, S., Debuono, B. (2007) *Low Health Literacy: Implications for National Policy.* University of Connecticut Press.

[11] Medical Expenditure Panel Survey (MEPS) (2003)

[12] Friedland, R. (2002) *What Did the Doctor Mean? Estimating the Direct Health Costs of Low Functional Literacy.* Working Paper.

[13] Nielsen-Bohlman L, Panzer A, Kindig D. (2004) *Health Literacy: A Prescription to End Confusion.* National Academy Press, Washington, D.C.

[14] Baker DW, Parker RM, Williams MV, Clark WS. (1998) *Health Literacy and the risk of hospital admission.* Journal of General Internal Medicine. 13(12): 791-798.

[15] Baker DW, Gazmararian JA, Williams MV, Scott T, Parker RM, Green D, Ren J, Peel J. (2002) *Functional health literacy and the risk of hospital admission among Medicare managed care enrollees.* American Journal of Public Health. 92(8): 1278-1283.

[16] Howard DH, Gazmararian J, Parker R. (2005) *The impact of low health literacy on the medical costs of Medicare managed care enrollees.* The American Journal of Medicine. 118: 371-377.

[17] Baker D, Wolf M, Feinglass J, et al. (2007) *Health Literacy and Mortality Among Elderly Persons.* Archives of Internal Medicine. 167(14):1503-1509.

[18] Weiss, Barry D. (1999) *20 Common Problems in Primary Care.* McGraw Hill, New York, NY.

[19] Marvel MK, Epstein RM, Flowers K, Beckman HB. *Soliciting the patient's agenda: Have we improved?* JAMA. 1999;281:283-287.

[20] Kaplan SH. *Is Your Doctor Really Listening to You?,* University of California, Irving, National Center for Policy Analysis. Daily Policy Digest; 2004. Source: Levine M. Tell the Doctor All Your Problems, but Keep It to Less Than a Minute.

[21] McGlynn E, Asch S, Adams J, Keesey J, Hicks J, DeCristofaro A, Kerr E. *The Quality of Health Care Delivered to Adults in the United States.* The RAND Corp. New England Journal of Medicine. July 26, 2003. Volume 348:2635-2645.

[22] Wennberg J.E. “Small Area Variations in Health Care Delivery.” Science. 1973. 182; 1102-1108.

[23] Wennberg J.E. “Understanding Geographic Variations in Health Care Delivery.” New England Journal of Medicine. January 7, 1999. Vol. 340, No. 1. Pg. 52-53.

[24] Mortimer J, DeFeo J, Stepnick L. *Reducing the Costs of Poor-Quality Health Care Through Responsible Purchasing Leadership.* 2003. Midwest Business Group on Health, Juran Institute, The Severyn Group.

[25] A NEHI Research Brief – August 2009. *Thinking Outside the Pillbox: A System-wide Approach to Improving Patient Medication Adherence for Chronic Disease.* 2009. New England Healthcare Institute.

[26] Kessler D and McClellan M, (1996) *"Do Doctors Practice Defensive Medicine?"* NBER Working Paper No. 5466, February 1996, published in Quarterly Journal of Economics, 111, pp. 356-90.

[27] Moore, P, Adler, N and Robertson, P. (2000) *Medical malpractice: the effect of doctor-patient relations on medical patient perceptions and malpractice intentions.* Western Journal of Medicine.

[28] Kanter, M Lucas, M. *Hewitt Survey Reveals Which Health Programs Most Utilized by Employees, Most Valued by Employers.* Hewitt Associates release, 9/10/08

[29] Boehm E, Manning H, McInnes A, Melnikova O. November, 2007. *PHRs: From Evolution To Revolution - A Health Plan Guide To Navigating The Personal Health Record Market.* Forrester Research, Available online: http://www.forrester.com/Research/Document/Excerpt/0,7211,43653,00.html

[30] Integrated Health Association. (2009) *The California Pay for Performance Program: The Second Chapter*. Executive Summary

[31] Congressional Budget Office. (2004-10-13) An analysis of the literature on disease management programs.

[32] Goetzel RZ, et al. Return on investment in disease management: a review. (2005) *Health Care Financing Review* Summer;26(4):1-19.

[33] Mattke S, et al. Evidence for the effect of disease management: is $1 billion a year a good investment? *American Journal of Managed Care* 2007 Dec;13(12):670-6.

[34] Hebert PL, et al. Cost-effectiveness of nurse-led disease management for heart failure in an ethnically diverse urban community. *Annals of Internal Medicine* 2008;149:540-8.

[35] Brown R, et al. 15-site randomized trial of coordinated care in Medicare FFS. *Health Care Financing Review* 2008; 30:5-25.

[36] Bott DM, Kapp MC, Johnson LB, Magno LM. Disease management for chronically ill beneficiaries in traditional Medicare. *Health Affairs* 2009 Jan-Feb;28(1):86-98.

[37] Maciejewski ML, Chen SY, Au DH. Adult asthma disease management: an analysis of studies, approaches, outcomes, and methods. *Respir Care* 2009 Jul;54(7):878-86.

[38] Moore, P, Adler, N and Robertson, P. (2000) *Medical malpractice: the effect of doctor-patient relations on medical patient perceptions and malpractice intentions.* Western Journal of Medicine.