

*Innovation Valley (www.ivalley.org)*

# Ease Their Pain ... with Information-Based Medicine

**John Michitson, Seth J. Itzkan**

The names have been changed in this true story to protect the patient and his family, and the healthcare providers that served them.

Joshua was very fit at 80 years young until cancer was diagnosed – his life and that of his family would never be the same again. The saga begins with his daughter providing a handwritten list of fifteen medications that he was taking for various other illnesses upon his initial admittance into the hospital for a battery of cancer-related tests. The information appeared to be typed into a computer during the admitting process, but it was not forwarded to anyone. A black hole came to mind.

A week later, when the tests were completed, Joshua returned to the hospital to see his cancer doctor to review the tests. Joshua's family was again asked to provide a medication list to the doctor's nurse who then rewrote the list by hand. The doctor asked the nurse to revise the list of medications based on the test results and his diagnosis, despite not knowing the basis for many of the original fifteen medications which were prescribed by a variety of specialists.

There were no notes from the specialists and no consultation calls. The only explanation of previous visits to the specialists was provided by the patient and perhaps someone in Joshua's family, who may have taken him to the appointments with the specialists. In some cases, the cancer doctor eliminated some of the original medications because they clashed with some of the new medications being prescribed. Joshua and his family began to wonder who, if anyone, had the big picture view of his medical condition.

On a subsequent trip to the emergency room (ER) at the same hospital due to complications from the cancer, Joshua's family was again asked to provide the revised list of medications during the admittance process. Again, the information appeared to be typed into the computer, but was not sent to anyone. However, this time a printout was carried by a "runner" to the ER nurses and doctor.

After an examination and review of the test results, the ER doctor tried to diagnose Joshua's acute symptoms without the detailed history and rationale for many of the medications prescribed by the various specialists. Notably, the ER doctor did make a consultation call to the cancer doctor, since both worked at the same hospital. Still, the ER doctor was

forthright with the uncertainty in his diagnosis leaving Joshua and his family very anxious.

The ER doctor then updated the list of medications once again based on his diagnosis. The ER nurse crossed out some medications on the list and added some new ones. This became the list of record to be transported by Joshua and his family. It was a major burden during a time of duress for Joshua and his family to be responsible for providing the list of the medications to each health provider, especially to be queried about the rationale for the medications.

Over the course of the next few months, the cycle was repeated many times as Joshua was checked in and out of ERs, hospitals and clinics for care numerous times and visited several physicians, including the cancer doctor, a variety of specialists, his primary care physician and the radiation doctor. It was hit or miss with physicians in terms of how closely they coordinated with all of the other medical professionals associated with Joshua's health conditions. In many cases, there were time and technology constraints, as well as corporate business, legal and regulatory barriers that prevented collaboration amongst the key stakeholders.

Unfortunately, at the end of this rigorous and sometimes haphazard marathon, Joshua passed away. While his family agrees that a better medical process would not have saved their father's life, better medical processes and information technology (IT) tools may have extended his life and eased his pain during the ordeal, and would have lessened the wear and tear on the family.

Many community hospitals, like those in the Merrimack Valley, have recognized these shortfalls, and are in various stages of improvement. While the medical centers in big cities like Boston generally have more modern health delivery processes and IT tools, they too have much room for improvement. The challenges involved are not trivial.

**Potential Solutions**

IBM, in conjunction with the healthcare industry, is the early leader in helping to better connect the various stakeholders in the healthcare delivery process by enabling information-based medicine. The Personal Health Record (PHR), an individual's health record stored in an electronic file, is a key building block for the solution. It directly addresses the problem of creating, maintaining and accessing an accurate list of medications on-demand, as well as a detailed history of test results, examinations by medical professionals, diagnoses and status.

Together with electronic collaboration tools, such as secure email, the PHRs can help connect the various medical providers in the end-to-end healthcare delivery system with each other and to the key information that they need on-demand to make sound medical decisions.

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This all sounds easy to do in this electronic age; yet nothing could be further from the truth. The adoption rate for PHRs has been low so far. As a consumer, you are most likely to create and manage a PHR through your health plan provider. They are best positioned to establish a user-friendly, secure web-based service for you to implement a PHR. They must coordinate with all the providers in each customer's healthcare delivery system, traversing many organizations, with business, legal, regulatory and technology interoperability barriers. The web-based PHR must be compatible with and easily accessible from all the pertinent stakeholders.

The biggest barrier to adoption of web-based PHRs is clearly privacy. Privacy issues in healthcare dwarf similar concerns that consumers have with electronic financial transactions. Every consumer is concerned about the wrong person or organization acquiring knowledge about their health history or status and using it against them. And it's not just hackers that they are worried about.

Many organizations may legally have access to a patient's information – but who will have access within the organizations, under what controls, and how will the information be used? Many controls and substantial education are needed to spawn adoption.

To make matters worse, the web-based PHR faces the same hurdles that every software product manager faces – it must be user-friendly, with a strong value proposition for the consumer to devote the time to learn how to use it. Then, the value proposition must be marketed, so that the consumer can be made aware of the benefits.

**Our Recommendation**

We recommend that the Merrimack Valley healthcare community band together and develop a pilot to introduce information-based medicine to the region. There are many success stories that we can build from – visit [www.ibm.com](http://www.ibm.com) for case studies. There are likely examples from the network of world class hospitals in Boston that can be used as models. Further, there are examples of initial efforts in the Merrimack Valley healthcare community that should be leveraged.

It is clear that a broad-based working group of all key stakeholders, including patients, will need to work together to ensure that the unfortunate sequence of events endured by Joshua and his family will not be repeated.

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Seth Itzkan is president of Planet-TECH Associates, a consulting agency identifying innovations in economic development. Recently, Mr. Itzkan helped The Boston Foundation to conceptualize and implement its Hub of Innovations tool. You can email him at [seth.itzkan@gmail.com](mailto:seth.itzkan@gmail.com)



John Michitson was a Haverhill city councilor for 10 years; the last 2 as president. He is a manager and electrical engineer at the MITRE Corporation in Bedford, Mass. John and his wife, Heidi, are enjoying the childhood of their 4-year-old daughter and 6 year-old son. email: [michitson@verizon.net](mailto:michitson@verizon.net).

The Innovation Valley initiative seeks to help stimulate economic growth and quality-of-life enhancements in the Merrimack Valley. Every month we will report on innovative businesses, practices, and ideas that are helping to make Merrimack Valley the place to be. Look for our article in print media and online at [www.ivalley.org](http://www.ivalley.org).



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# Buyer Beware: 13 Extra Costs to Be Aware of Before Buying a Home

By Sal Polizzotti

**Methuen** – Whether you are looking to buy your first home, or trading up to a larger one, there are many costs – on top of the purchase price – that you must figure into your calculation of affordability.

These extra fees, such as taxes and other additional costs, could surprise you with an unwanted financial nightmare on closing day if you are not informed and prepared.

Some of these costs are one-time fixed payments, while others represent an ongoing monthly or yearly commitment. While not all of these costs will apply in every situation, it is better to know about

them ahead of time so you can budget properly.

Remember, buying a home is a major milestone, and whether it is your first, second or tenth, there are many small but important details, not to mention stress and excitement, to deal with during the process. The last thing you need are unbudgeted financial obligations in the hours before you take possession of your new home.

To help home buyers understand what these extra costs are, and in what situations they may apply. A free industry report has been

prepared called "13 Extra Costs to Be Aware of Before Buying a Home".

To hear a brief pre-recorded message about how to order your free copy of this report, call 1-800-611-8549 and enter ID# 3708. You can call any time, 24 hours a day, 7 days a week. Call now to make sure you are budgeting properly for your next move. Or visit [www.CostlyError.com](http://www.CostlyError.com)

This report is courtesy of Sal Polizzotti, RE/MAX Preferred, Methuen, MA 01844. Not intended to solicit properties currently listed for sale.



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# Anti-cancer Pill Improves Survival in Lung Cancer Patients

When 36-year-old Brooke Jaeger's doctor diagnosed her with lung cancer four years ago, she could hardly believe it.

"I was probably the last person you'd expect to have lung cancer," she said. "I was a tennis player and a marathon runner, and I had never smoked in my entire life."

Brooke's first sign of trouble was a lump in her neck. A tissue biopsy and a battery of diagnostic tests revealed that she had non-small cell lung cancer.

Cancers of the lung generally are one of two types: small cell and non-small cell. Small-cell lung cancer occurs almost exclusively in smokers.

Non-small cell lung cancer is the most common form of the disease, accounting for more than 80 percent of all lung cancer cases. It is also a particularly aggressive cancer, with a five-year survival rate of less than 10 percent.

Following surgery to remove the bulk of the tumor in her lung, Brooke underwent chemotherapy and radiation. After an 18-month remission, she found a second lump in her neck, and testing revealed that the cancer had returned.

"The first round of chemotherapy and radiation was really hard for me," she said. "I just couldn't face the thought of going through those treatments again."

Brooke's doctor offered her the option of taking a new oral anti-cancer medication known as Tarceva. In 2004, the drug was approved by the U.S. Food and Drug Administration for the treatment of non-small cell lung cancer. Unlike chemotherapy and radiation, the drug attacks and damages only cancerous cells, leaving normal, healthy cells unharmed.

According to cancer specialist Alan Sandler, M.D., medical director of thoracic oncology at Vanderbilt University, "Tarceva targets the DNA that is found only in cancer cells. Because it doesn't affect the other cells of the body, it is a much less toxic treatment, with far fewer side effects than chemotherapy or radiation."

While chemotherapy and radiation are notorious for causing hair loss, severe nausea and vomiting, and a greater susceptibility to infections, the most common side effects

associated with Tarceva are rash and diarrhea. Even better, the drug has been shown to extend the lives of some cancer patients.

Tarceva is particularly effective in treating non-small cell lung cancers in patients who have never smoked, with a response rate approaching 80 percent.

In certain lung cancer patients, treatment with the oral medication is an acceptable alternative to chemotherapy.

"Studies show that patients taking Tarceva live longer than those taking placebo," said Sandler. "With this drug, we can now measure a patient's life expectancy in terms of years, instead of months."

Lung cancer is the leading cause of cancer death among American men and women. Each year in the United States, more people die of lung cancer than of cancer of the colon, breast, and prostate combined.

According to the American Cancer Society, more than 200,000 new cases of lung cancer will be diagnosed in 2007, and nearly 160,000 people will lose their lives to the disease. Sadly, most of the deaths are attributable to smoking, and could be prevented.

Tobacco smoke contains more than 3,500 chemicals, at least 40 of which are known carcinogens. The longer a person smokes, the greater the chance of developing lung cancer.

Not everyone who develops lung cancer is a smoker: About 12 percent of lung cancer cases in the U.S. occur in non-smokers. Among people who don't smoke, risk factors for lung cancer include a family history of the disease, exposure to secondhand smoke, radon, asbestos, and other industrial carcinogens.

"Lung cancer in people who have never smoked appears to be on the rise, especially in women," Sandler said.

*The results of clinical trials in 1995 and 1998 revealed that when administered to no-option patients with life expectancies of less than two years, the protein significantly improved blood flow to their hearts.*

**Dr. Rallie McAllister**



"We're not sure why this is happening, but we're searching for the answers, and we're working to develop better treatments."

For Brooke Jaeger, treatment with Tarceva has been especially beneficial. Within seven days of beginning the new medicine, she could no longer feel the tumor in her neck.

Now in her second year of treatment with the drug, she is cancer free. "Tarceva has put me back into remission, and is allowing me to live a normal life," she said. "I work a full-time job, I travel, and I'm even learning to surf."

Dr. Sandler is encouraged by the treatment effects of Tarceva in Brooke Jaeger, and in other patients with the disease. "We're not curing lung cancer patients yet," he said, "but we're definitely beginning to see some major improvements."

Rallie McAllister, M.D., M.P.H., is a family physician in Kingsport, Tenn., and author of "Healthy Lunchbox: The Working Mom's Guide to Keeping You and Your Kids Trim." Her Web site is <http://www.rallieonhealth.com>. To find out more about Rallie McAllister, M.D., and read features by other Creators Syndicate writers and cartoonists, visit the Creators Syndicate Web page at [www.creators.com](http://www.creators.com).

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## Home Health Foundation Family Of Agencies Host 17<sup>th</sup> Annual Caring Cup Golf Tournament

Lawrence and Georgetown, Mass. – Home Health Foundation's family of agencies will be hosting their 17<sup>th</sup> annual Caring Cup Golf Tournament on June 18, 2007 to benefit Home Health VNA, Merrimack Valley Hospice, and HomeCare, Inc. This year they will host it at the Georgetown Golf Club with a shotgun start at 7:30 a.m.

For the past sixteen years the proceeds from this tournament have enabled the three agencies to provide care to individuals in the community who have little or no resources. The not-for-profit agencies made 500,000 home visits in the last year to seniors, teen mothers, HIV/AIDS patients, people recovering from illness, as well as terminally ill patients and their families. Annually, the agencies provide approximately \$850,000 worth of free care, which fundraisers like this tournament help to offset.

"Each year we have received a great deal of support from the community and we are looking forward to another successful year," said Joan Stygles Hull, President / CEO of Home Health Foundation. "This tournament is our largest single fundraiser, and it offers our agency a chance to work towards our mission of providing compassionate care to patients across the area regardless of their ability to pay."

Participants are treated to a continental breakfast, four-person scramble tournament and an awards luncheon for an entry donation of \$175.00. The donation is inclusive of the greens fees and golf carts. Prizes will be awarded for closest to the pin, hole-in-one, longest drive, straightest drive, and many fabulous raffles. Registration must be completed by June 1, 2007. Caring Cup sponsorship opportunities are welcomed, and can be tailored to each sponsor's needs. For more information contact Janine Papesh at 978-552-4162 or email at [edesmarais@homehealthfoundation.org](mailto:edesmarais@homehealthfoundation.org). Golfers can also register online at [www.homehealthfoundation.org](http://www.homehealthfoundation.org) in the News & Events section.

The Home Health Foundation Family of Agencies is comprised of Home Health VNA, Merrimack Valley Hospice and HomeCare, Inc. Together, the three agencies serve more than 80 communities in the Merrimack Valley and Southern New Hampshire. Visit them on the web at [www.homehealthfoundation.org](http://www.homehealthfoundation.org).

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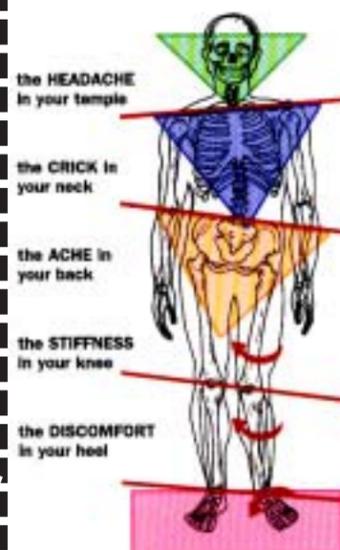
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