## Whitepaper

# INNOVATE OR BE COMMODITIZED: THE PBM AND PHARMACY CHALLENGE FOR 2011

George Van Antwerp, GM, Pharmacy Solutions Silverlink Communications, Inc.

## **Table of Contents**

Overview	. 1
Is Innovation Really Necessary?	2
Key Themes	
Theme #1: Evidence -Based Approach to Consumer Engagement	5
Theme #2: Integrated Patient Centric Solutions	7
Next Steps	11

"Innovation will be increasingly important in the PBM world, as these companies seek to solve a greater set of pharmaceutical cost issues for their customers over the next 10 years."

- Larry Marsh, Managing Director, Equity Research Barclays Capital



Overview Doing more with less; dealing with constant change; and having technology be a part of everything... Those are things that the next generation will take for granted. For the rest of us, those are dynamics that are changing our personal and professional lives. We're constantly bombarded with information and decisions to make.

> While the pharmacy industry has generally avoided the collapse of the automotive industry and the radical change of the health insurance industry, we've seen unprecedented change in the past few years.

- We've seen more than 100,000 people lose their jobs in the pharmaceutical manufacturing industry1.
- We've seen CVS and Walgreens make numerous acquisitions Caremark, Longs, Duane Reade, Universal American.
- We've seen Wellpoint and Aetna along with others enter into long-term deals with standalone Pharmacy Benefit Managers (PBMs).
- We've seen Prescription Solutions grow from a niche captive PBM to the 4th largest PBM and one that might allow UnitedHealth Group to insource their PBM business from Medco Health Solutions.
- We've seen retail pharmacies beginning to be centers of care with clinics and administration of vaccines.
- We've seen PBMs buying genomic companies such as DNA Direct and Generation Health.
- We've seen the PBMs distancing themselves from the manufacturers only to potentially come full circle with specialty pharmacy and REMS.
- We've seen Wal-Mart introduce several new models \$4 generics, mail order without insurance and direct-to-employer at Caterpillar.
- We've seen Humana's captive PBM grow significantly and begin partnering with Wal-Mart on Medicare Part D.

It's almost impossible to go a few days now without seeing information about prescription drugs in the mainstream news. You might hear a financial analyst talking about the lack of blockbuster drugs in the pipeline. You might read about a drug recall in USA Today. You might see a new report talking about the \$290B cost of non-adherence2 to the country. Or, it might simply be water cooler discussions around how more than 25% of kids3 now take a prescription medication or how non-adherence can lead to hospital readmissions4.

This has raised the average consumer's awareness of the industry and continues to push the trend of consumerism with which the entire healthcare industry is dealing. Most of us in the industry already knew that pharmacy was the most used benefit (12 Rxs PMPY for PPO members<sup>5</sup>) and believed that pharmacists were a critical part of the care continuum.



The challenge now is for the industry to demonstrate their value beyond simple trend management. The growth in generics will slow down while specialty spending grows. Pharmacy and pharmacists have to become critical path in the care continuum and demonstrate how they engage consumers to improve outcomes. It will become increasingly important for companies to link outcomes and reimbursement as CIGNA Pharmacy did in their diabetes deal with Merck<sup>6</sup>.



Consumers are a fickle bunch. Their loyalty to any particular pharmacy outlet is built, one transaction at a time, through the accumulation of a series of satisfactory encounters with a store's pharmacists, technicians, service employees and even its Web site, in which needs are met, some small personal bond is created and maintained, and trust is gradually established.

Winning that trust has never been easy, and the pharmacy market remains a shifting competitive battleground where loyalties can shift with one bad service experience and new competitors can siphon off even long-time customers.7



Is Innovation The days where a "me-too" pharmacy or PBM model creates investor value are quickly fading. Really Necessary? Success is about more than just scale and operating efficiencies. In the "me-too" model, it's a race to the bottom. Who can make the least amount of money and stay in business? Or, who can negotiate better with the wholesalers, manufacturers, retailers, and PBMs?

> PBMs are a perfect example. They have painted themselves into a "profit corner" where an estimated 53% of their profits come from generics at mail order. By single-sourcing their path to profitability, it has created opportunities for tactics such as \$4 generics to create disruption. Therefore, you see PBMs trying lots of new things:

- SXC is both a PBM and a technology company which serves some of its PBM competitors and independent pharmacies.
- Walgreens and Medco provide outsourced mail order services to other PBMs who no longer have to own a mail order facility to compete.
- CVS Caremark is blending their retail assets and their PBM assets to focus on solutions such as Pharmacy Advisor™ 9 and Maintenance Choice10.



- UnitedHealthcare offers an incentive model around refills (Refill and Save<sup>11</sup>) and many other companies are exploring different incentive programs.
- Express Scripts launched Consumerology® 12 and has been leveraging behavioral economics to create programs such as Select Home Delivery13.
- Some pharmaceutical manufacturers have started using voice biometrics to allow physicians to order samples without talking to an agent or detailer.
- Medco and Express Scripts have both been working internationally to create new markets.

PBMs and pharmacies who can't figure out ways of differentiating themselves in the view of the consumer and the payer will become commodities. There may be an opportunity for commodity PBMs (or PBAs<sup>14</sup>) to survive, but they won't be the darlings of Wall Street that we've seen historically. Additionally, with the massive concentration of fulfillment within the retail and mail order pharmacy sector (see table below on market share by prescription revenues<sup>15</sup>), it's important to have a unique approach to gain market share or to find a way to demand a premium to remain in the network.

Company	Stock Ticker	Estimated 2010 Prescription Revenues* (billions)	Share of Prescription Revenues	Primary Dispensing Format
CVS Caremark Corporation	CVS			
<ul> <li>Retail Pharmacy</li> </ul>		\$39.0	14.1%	Chain drugstore
<ul> <li>Pharmacy Services**</li> </ul>		\$16.7	6.0%	Mail-order pharmacy
Walgreen Company	WAG	\$44.9	16.2%	Chain drugstore
Medco Health Solutions, Inc.	MHS	\$24.5	8.8%	Mail-order pharmacy
Rite Aid Corporation	RAD	\$17.1	6.2%	Chain drugstore
Wal-Mart Stores, Inc.***	WMT	\$17.1	6.2%	Mass merchant with pharmacy
Express Scripts, Inc.	ESRX	\$13.2	4.8%	Mail-order pharmacy
The Kroger Company	KR	\$7.1	2.6%	Supermarket with pharmacy
Safeway, Inc.	SWY	\$4.0	1.4%	Supermarket with pharmacy
Target Corporation	TGT	\$3.0	1.1%	Mass merchant with pharmacy
Supervalu Inc.	SVU	\$2.5	0.9%	Supermarket with pharmacy
Kmart Corporation	SHLD	\$2.4	0.9%	Mass merchant with pharmacy
All other chains and specialty	n/a	\$39.1	14.2%	various
Independent Pharmacies	n/a	\$46.4	16.7%	Independent drugstores
otal		\$277.2	100.0%	

Totals may not sum due to rounding.

Source: Adam J. Fein, Pembroke Consulting, The 2010-11 Economic Report on Retail and Specialty Pharmacies, December 2010 (http://www.pembrokeconsulting.com/pharmacy.html)



<sup>\*</sup> Includes revenues from retail, specialty, mail-order, and institutional pharmacies.

<sup>\*\*</sup> Includes 90-day claims filled in CVS retail pharmacies under the Maintenance Choice program.

<sup>\*\*\*</sup> Includes Walmart and Sam's Club stores

Key Themes While there are certainly some opportunities for PBMs or pharmacies to differentiate by specializing in certain markets (e.g., Medicare, Worker's Compensation), the best opportunities for sustained differentiation are found in two areas of innovation<sup>16</sup>:

- 1 Using an evidence-based approach to consumer engagement and
- 2 Developing integrated solutions that are patient-centric.

These business strategies go beyond the traditional fundamentals - location, operational excellence, customer service, reporting, account management, managing trend, and leveraging efficiencies of scale (network pricing, rebates). While it's possible to create some differentiation in those areas, they are often difficult to maintain over time especially as you approach a point of diminishing returns.

Ultimately, understanding and succeeding at engaging the consumers whose choices drive the costs in our healthcare system is the path to success. This is a change for the PBMs more than the retail pharmacies, but, to succeed at this transition, both PBMs and pharmacies have to be nimble organizations that innovate and learn quickly. They have to understand the consumer from the outside-in and make decisions from an experiential perspective.



## Fail often to succeed sooner (IDEO Innovation Concept<sup>17</sup>)



Will there be other ways to differentiate? Of course there will be. You will see companies experiment with new service lines such as REMS18 or personalized medicine19. You will see companies explore international opportunities. You may also see some PBMs look at how they work better with manufacturers or more retailers look at how they create the pharmacy of the future (see example of Kaiser Innovation Center<sup>20</sup>). And, you will certainly see people experimenting with technology as a differentiator - mobile applications, social media (e.g., Dr. Obvious<sup>21</sup>), text messaging, remote monitoring and interaction (e.g., Rite-Aid and American Well<sup>22</sup>), and click-to-chat. Some of these approaches will create arbitrage opportunities. Some of them will simply become the cost of doing business, but most of them will not create a sustainable competitive advantage.



Theme #1: Consumer engagement and the "science" behind how consumers make decisions is a Evidence-Based hot topic across industries. Just look at the bookshelf at your local bookstore - Nudge, Approach to Freakonomics, and Drive are three examples of books focused on this topic. Healthcare Consumer is no different, but it often has the challenge of getting people to do something today to Engagement reap a benefit in the future (aka – hyperbolic discounting<sup>23</sup>). It also has the issue that many conditions are asymptomatic.

> For some companies such as the PBMs, consumer engagement has been a radical change from a B2B brand to focusing on B2C branding. For others like the retailers, this gave them a leg up in the battle for mindshare. How this will ultimately play out is still to be determined, but here are a few examples of what's happening:

- Walgreens and others provided motivational interviewing<sup>24</sup> training for their frontline workers.
- Several PBMs have developed and rolled out decision support tools for the call center and/or pharmacy that embed logic at an individual level to help them personalize their discussions with the consumer.
- Humana, CVS Caremark, and several others pharmacy companies have rolled out or are in development of mobile applications.
- Several PBMs implemented initial programs to begin to collect consumer preferences about channel of communication and types of communications (i.e., preference-based marketing).
- Express Scripts<sup>25</sup> and CVS Caremark<sup>26</sup> created panels of experts to help them leverage behavioral sciences.

And, everyone is monitoring or perhaps putting their toes in the water around social networking (i.e., Twitter, Facebook, LinkedIn, YouTube) even the pharmaceutical manufacturers with all the FDA limitations on them. The jury is still out on how to best use these to create sustainable value, but the insights they provide should prove valuable if integrated appropriately.

The big question is why does consumer engagement matter? As a PBM, why not just implement a narrow, closed formulary with a limited network? If all you cared about was pharmacy trend and disruption didn't matter, then this probably makes sense. But, since 75% of all healthcare costs are from preventable healthcare conditions<sup>27</sup>, it's critical to get and keep consumers engaged. Keeping them engaged doesn't mean having a member portal and a "build it and they will come" attitude. It means understanding consumer behavior; capturing consumer preferences; and segmenting and personalizing the messages. It's the un-engaged consumers that are the hidden mass of the iceberg.





Over a third of U.S. adults—77 million people—would have difficulty with common health tasks, such as following directions on a prescription drug label or adhering to a childhood immunization schedule using a standard chart<sup>28</sup>.

"

In healthcare, "marketing" is often a dirty word. The marketing function is really the consumer education group. They are focused on how to target and segment. They are evaluating different channels for outreach. They are looking at what messaging to use.

More and more, companies are using integrated medical and pharmacy data, and beginning to combine that with demographic data from both the eligibility files and external databases. This is being done to identify gaps-in-care (e.g., a diabetic not taking a statin) or to develop predictive models. It's also being used to increase the return on communications such that companies can apply their limited dollars in the most effective manner.

These insights that are generated create value and help companies to take an evidence-based approach to consumer engagement. For example, let look at some insights from recent Silverlink Communication's programs:

- E-mail is 10% more effective with consumers in urban areas than those in rural areas.
- Automated calls and direct mail are 30% more effective with females over
   70-years old than with other consumers.
- Males respond better to more frequent communications.
- Coordinating the sequencing of direct mail and automated calls improves response rates by 14-24% on average and by as much as 100% in some cases.
- "Health Savvy" members are 20% more responsive to social norm messaging (i.e., peer pressure).
- Sending a wellness message to those without a chronic condition prior to a plan change message increases satisfaction by 20-25%.
- Women are 3x more likely to get at least one medical screening when they are reminded about three missed screenings.

Companies that understand the consumer and use a systemic approach to improvement and optimization will be able to create value. They will be able to demonstrate measurable outcomes and improvements that lower the overall healthcare costs and improve the health of their members. This will be how they differentiate.



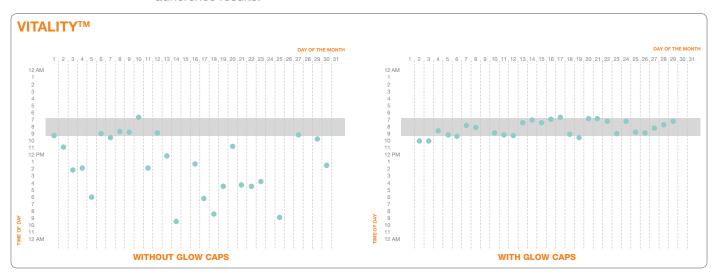
Theme #2: You are starting to hear more people talk about the patient or consumer experience in healthcare. Integrated Patient In some cases, companies such as CIGNA are even creating a role of a Chief Experience Centric Solutions Officer<sup>29</sup> who serves as somewhat of an internal champion for the individual. As an industry, we don't make this easy since we have numerous constituents both internally and externally providing information to the consumer - physician, hospital, pharmacy, PBM, disease management company, employer, and insurer. Those messages are rarely coordinated within a company much less across companies.

> When you combine this with the increasing do-it-yourself (DIY) culture of medicine<sup>30</sup> and the peer-to-peer (P2P) information which social networking and tools like PatientsLikeMe create, it can be overwhelming for consumers. Since complexity of therapy and lack of understanding of their condition are major contributors to non-adherence and preventative care, companies that can begin to address this will have a leg up.

Creating integrated solutions that are focused on the patient experience will be driven by three things:

- 1 An understanding of the devices being used and integration with those devices;
- 2 Capturing and using data to create knowledge of the consumer; and
- 3 Having technology that enables the delivery of positive experience across channels and time.

The standardization around devices won't happen in the immediate future, but companies can begin to experiment with new devices to see how consumers use them and what data can be captured. For example, there are companies like iMetrikus which provide a web-based, remote health monitoring solution. Or, there are companies like Vitality which provides a device -GlowCaps - that creates new insight into patient behavior<sup>31</sup> and has demonstrated significant adherence results.





Capturing this data will present challenges, and this challenge may become more complex in the future as the Accountable Care (or Patient-Centered Medical Home) models begin to be used more in the market. These frameworks will push some of the risk to the providers thereby increasing their interest and involvement in patient communications beyond the traditional office encounter.

A full understanding of the consumer across the entire healthcare spectrum may never happen, but there can be incremental improvements which are implemented as part of key solutions. Some recent things that have been done include:

- Creating a "buddy" which receives information about adherence which can serve
  as a sponsor (think Alcoholics Anonymous) or an authority figure (think parent) to
  encourage the patient to return to therapy.
- Providing blood pressure cuffs to patients with hypertension and then monitoring them monthly to look for spikes in blood pressure which can be cause for a case manager to reach out to the patient<sup>32</sup>.
- Implementing call center systems like the one from eLoyalty which uses linguistics from call dialogues to segment members and develop profiles of their behavior to allow companies to better meet their needs<sup>33</sup>.

One of the big challenges here is that people are different...and they change. Not only do people learn differently, but we all have different frameworks through which we view information. While it's important to build a personalized experience for the consumer, simply applying a basic framework such as zip code based model doesn't optimize the potential outcome.

And, to complicate it more, you have to understand concepts like the Prochastka Stages of Change Model<sup>34</sup> which shows how your perceptions change over time. Your framework and needs are very different when diagnosed with diabetes then they are 10 years later when you're focused on managing the condition.

Shifting the approach from conditions to a more holistic view of the consumer is part of the process, but it will ultimately be technology that will make this happen. Both CVS Caremark and OptumHealth (part of UnitedHealth Group) have talked about their solutions – Consumer Engagement Engine<sup>35</sup> and eSync Platform<sup>SM 36</sup>. Companies will have to have the ability to personalize the consumer experience by using a longitudinal view of the consumer and developing predictive models such as the one that Express Scripts recently discussed<sup>37</sup>.

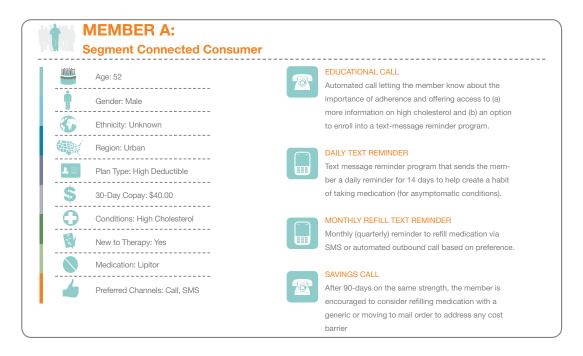
The burden of integration rests upon the industry to figure out how to add value. What processes can be integrated across the care continuum? What data should be captured and integrated?



What "devices" should be supported and which tools will add value?

As an example, members need to be segmented such that they can be "enrolled" into different campaigns for programs such as adherence. The experience that a newly diagnosed patient with an asymptomatic condition like high cholesterol needs is radically different that the experience that you would use to engage a long-term diabetic with a gap-in-care.

Here's an example we use at Silverlink which shows how you might use different data elements to customize a program for a patient based on both their personal data and the segment that they fit into.



By creating an experience that blends data from claims and pulls in data from devices, companies with the right technology infrastructure and partners will be able to improve patient trust and satisfaction. These are core fundamentals in improving engagement.



**Next Steps** The one thing that we all know is that change is the new constant. The "Great Recession" will change people's attitudes in ways we may not realize for years. Health reform may have unintended outcomes that we may not realize for years. But, the fundamentals will remain the same.

> PBMs and pharmacies are foundational elements of our healthcare system. Consumers experience their benefits in many ways through their prescription drug benefit and the pharmacists, technicians, and customer support people that interact with them. This is an opportunity to become a critical element in the improvement of health outcomes in this country.

> At the same time, consolidation and competitive forces make differentiation an important strategy. That's not always simple. Innovation is a critical element in creating not just short-term differentiation, but longer-term opportunities to grow market share and offer a robust consumer experience. To be successful at this, companies need to look at two critical themes:

- 1 Using an evidence-based approach to consumer engagement.
- 2 Developing integrated solutions that are patient-centric.

By focusing on these themes and developing a trusting relationship with consumers, PBMs and pharmacies will demonstrate their value in the future healthcare system. To do this, they need to focus on capturing data and turning it into insights and establishing processes and technologies that make this engagement a systemic solution.



Helping patients access the medications that are shown to improve their health, and helping them stick to those medications, is one of the best ways to reduce overall health care spending and provide the greatest value for every pharmacy dollar.

Eric Elliott, President and CEO, Prime Therapeutics LLC38





Endnotes 1"Still More Pharma Jobs Go By The Wayside", Pharmalot blog, posted on Nov. 3, 2010, http://www.pharmalot. com/2010/11/still-more-pharma-jobs-go-by-the-wayside/

> <sup>2</sup>"Thinking Outside The Pillbox", New England Healthcare Institute, published Aug. 12, 2009, http://www.nehi. net/publications/44/thinking outside the pillbox a systemwide approach to improving patient medication adherence for chronic disease

<sup>3</sup>Berkrot, Bill, "Prescription Drug Use By Children On The Rise", Reuters, accessed on 1/4/11, http://www. reuters.com/article/idUSN1924289520100519?type=marketsNews

<sup>4</sup>Leventhal MJ, Riegel B, Carlson B, De GS., Negotiating compliance in heart failure: remaining issues and questions, Eur J Cardiovasc Nurs., 2005;4:298-307, (abstract online at http://www.escardiocontent.org/periodicals/ejcn/article/S1474-5151(05)00038-1/abstract)

Managed Care Digest Series: Key Findings, last updated Nov. 2010, http://www.managedcaredigest.com/ KeyFindings.aspx?Digest=HMO

6"CIGNA and Merck Sign Performance-Based Agreement", CIGNA Press Release from April 23, 2009, http:// newsroom.CIGNA.com/article\_display.cfm?article\_id=1043

<sup>7</sup>2008 Pharmacy Satisfaction Digest by WilsonRx and Boehringer-Ingelheim (accessible online at http://www. carepharmacies.com/images/IndependentReport2008\_Master\_lorez.pdf)

Fein, Adam, 2010-11 Economic Report on Retail and Specialty Pharmacy (available for purchase - http://www. pembrokeconsulting.com/pharmacy.html)

9"CVS Caremark Launches Program To Help Pharmacy Benefit Management Clients Improve Diabetes Care", CVS Caremark Press Release, May 11, 2010, http://info.cvscaremark.com/newsroom/press-releases/cvs-caremark-

104 CVS Caremark Maintenance Choice Program Improves Medication Adherence For US Airways Employees and Dependents", CVS Caremark Press Release, Sept. 15, 2010, http://info.cvscaremark.com/newsroom/ press-releases/cvs-caremark-maintenance-choice-program-improves-medication-adherence-us-air

11"UnitedHealthcare 'Refill And Save Program' Rewards Prescription Drug Compliance With Discounts on Selected Medications", UnitedHealthcare Press Release, Feb. 1, 2010, http://www.uhc.com/news\_room/2010\_ news release archive/refill and save program for prescription drugs.htm

<sup>12</sup>Express Scripts' Consumerology webpage - http://www.consumerology.com

13"Lowe's Leads First Wave of Companies Partnering With Express Scripts to Apply Behavioral Economics to Healthcare", Express Scripts Press Release, http://phx.corporate-ir.net/phoenix.zhtml?c=69641&p=irol-

<sup>14</sup>PBAs or Pharmacy Benefit Administrators typically provide claims processing or retail networks or rebate administration. They typically don't own a mail order facility and have limited (if any) trend management tools. <sup>15</sup>Chart provided by Adam Fein, Pembroke Consulting from "The 2010-11 Economic Report on Retail and Specialty Pharmacies", December 2010

<sup>16</sup>This builds upon my graphical list of 11 Things For Pharmacies To Consider in 2011 blog post -

<sup>17</sup>"Fail Often To Succeed Sooner: Adventures In Innovation", The Permanente Journal, Fall 2005, Vol. 9, No. 4, http://xnet.kp.org/permanentejournal/fall05/fail.html

<sup>18</sup>REMS is Risk Evaluation and Mitigation Strategies. More information on REMS can be found on the FDA website - http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/2009/ucm184399.htm

<sup>19</sup>Personalized Medicine means lots of different things to different people. One good resource for information is the Age of Personalized Medicine website - http://www.ageofpersonalizedmedicine.org/. Another good resource is "The Future of Pharmacy: Personalized, Specialized, and Consumer-Driven" by Dr. Robert Epstein at Medco Health which can be accessed through their media room at http://medco.mediaroom.com/index.

<sup>20</sup>Information on the Sidney R. Garfield Health Care Innovation Center accessed on Jan. 4, 2011 at http://xnet. kp.org/innovationcenter/

<sup>21</sup>Dr. Obvious is Medco's social media presence in Facebook, Twitter, and YouTube. For more information -



http://www.prnewswire.com/news-releases/the-medco-pharmacy-the-obvious-choice-for-safety-convenience-and-savings-on-long-term-prescription-drugs-95604444.html

<sup>22</sup>Johnsen, Michael, "Rite Aid Enters Partnership With American Well", Drug Store News, April 21, 2010, <a href="http://drugstorenews.com/article/rite-aid-enters-partnership-american-well">http://drugstorenews.com/article/rite-aid-enters-partnership-american-well</a>

<sup>23</sup>For information on hyperbolic discounting, you can start with Wikipedia - <a href="http://en.wikipedia.org/wiki/Hyperbolic discounting">http://en.wikipedia.org/wiki/Hyperbolic discounting</a>

<sup>24</sup>Motivational interviewing is "a directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence" as described in Rollnick S., & Miller, W.R. (1995), What is motivational interviewing?, Behavioural and Cognitive Psychotherapy, 23, 325-334

<sup>25</sup>Consumerology Advisor Board accessed on Jan. 4, 2010 at http://www.consumerology.com/board

<sup>26</sup>"CVS Caremark Launches the Behavior Change Research Partnership to Develop Ways to Encourage Adherent, Healthy Behaviors While Saving Patients Money", CVS Caremark Press Release, March 2, 2010, <a href="http://info.cvscaremark.com/newsroom/press-releases/cvs-caremark-launches-behavior-change-research-partnership-develop-ways-enco">http://info.cvscaremark.com/newsroom/press-releases/cvs-caremark-launches-behavior-change-research-partnership-develop-ways-enco</a>

<sup>27</sup>Clinical Preventative Services: Disease Prevention and Early Detection, accessed on Jan. 4, 2011 at <a href="http://www.businessgrouphealth.org/preventive/background/part1.pdf">http://www.businessgrouphealth.org/preventive/background/part1.pdf</a>

<sup>28</sup>"America's Health Literacy: Why We Need Accessible Health Information", An Issue Brief from the US Department of Health and Human Services, 2008, accessed on Jan. 4, 2011 at <a href="http://www.health.gov/communication/">http://www.health.gov/communication/</a> literacy/issuebrief/

<sup>29</sup>Interview with Ingrid Lindberg the Chief Experience Officer at CIGNA, published on my blog on April 15, 2010, http://georgevanantwerp.com/2010/04/15/ingrid-lindberg-chief-experience-officer-CIGNA/

<sup>30</sup>"Do-It-Yourself Diagnosis on the Web", NPR, Dec. 13, 2007, accessed on Jan. 4, 2011 at <a href="http://www.npr.org/templates/story/story.php?storyId=17214066">http://www.npr.org/templates/story/story.php?storyId=17214066</a>

<sup>31</sup>Graph provided by David Rose, Chief Executive Officer, at Vitality (<a href="http://www.rxvitality.com">http://www.rxvitality.com</a>)

<sup>32</sup>Silverlink Communications solution described in Time Magazine article "Get Wellness" by Francine Russo and published Jan. 10, 2011. More information also on <a href="https://hypertension.silverlink.com">https://hypertension.silverlink.com</a>

<sup>33</sup>Boyd, E.B., "How a Personality Test Designed to Pick Astronauts is Taking The Pain Out Of Customer Support", Fast Company, Dec. 1, 2010, <a href="http://www.fastcompany.com/1706766/how-a-system-designed-to-weed-out-nasa-astronauts-is-taking-the-pain-out-of-customer-support-call">http://www.fastcompany.com/1706766/how-a-system-designed-to-weed-out-nasa-astronauts-is-taking-the-pain-out-of-customer-support-call</a>

<sup>34</sup>Information about the Prochastka model can be found in Wikipedia at http://en.wikipedia.org/wiki/Transtheoretical\_model and also on the Pro-Change website at <a href="http://www.prochange.com/ttm">http://www.prochange.com/ttm</a>

<sup>35</sup>"CVS Caremark To Deploy Consumer Engine", Chain Drug Store Review, accessed on Jan., 4, 2011 at <a href="http://www.chaindrugreview.com/front-page/newsbreaks/cvs-caremark-to-deploy-consumer-engine">http://www.chaindrugreview.com/front-page/newsbreaks/cvs-caremark-to-deploy-consumer-engine</a>

<sup>36</sup>Information provided from OptumHealth website on eSync Overview accessed on Jan. 4, 2011 at <a href="http://www.optumhealth.com/esync-platform/">http://www.optumhealth.com/esync-platform/</a>

<sup>37</sup>"Express Scripts Accurately Predicts Which Patients Are Likely to Ignore Doctor's Orders", Express Scripts Press Release, Oct. 11, 2010, <a href="http://phx.corporate-ir.net/phoenix.zhtml?c=69641&p=irol-newsArticle&ID=1481000&highlight">http://phx.corporate-ir.net/phoenix.zhtml?c=69641&p=irol-newsArticle&ID=1481000&highlight</a>

<sup>38</sup>"Prime Therapeutics Reports 7th Consecutive Year of Single Digit Drug Trend", Prime Therapeutics Press Release, Aug. 5, 2010, accessed on Jan. 6, 2010 at <a href="http://www.primetherapeutics.com/pdf/PrimeDrugTrend.pdf">http://www.primetherapeutics.com/pdf/PrimeDrugTrend.pdf</a>

