

2012 Trends in Medication Adherence



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MTS - Medication Technologies

A CVS Caremark Corporation study published in “Health Affairs” in 2011¹ found that patients who take medications as doctors direct may save the healthcare system as much as \$7,800 per patient annually. The study also found that these patients experienced fewer ER visits and inpatient hospital stays.

The second annual **Medication Adherence** e-survey, conducted in September 2011,² indicates a slight uptick in the last 12 months in the number of programs designed to improve non-adherence as well as an increasing reliance on community or “retail” pharmacists to help individuals understand and adhere to their medication regimens.

And what tools are they using to improve medication adherence? The application of motivational interviewing to boost compliance levels is second only to general patient education efforts, respondents said.

¹ M. Christopher Roebuck, Joshua N. Liberman, Marin Gemmill-Toyama and Troyen A. Brennan, “Medication Adherence Leads To Lower Health Care Use And Costs Despite Increased Drug Spending,” HealthAffairs, January 2011 vol. 30 no. 1 91-99.

² Healthcare Intelligence Network, “2011 Trends in Medication Adherence: More Help from Retail Pharmacists,” September 2011.

The primary care physician continues to be charged with the core responsibility of improving medication adherence in individuals, with the pharmacist a close second. A new metric for 2011: a community or retail pharmacist is involved in almost half of reported programs.

Barriers to Improving Adherence

What is non-compliance and why does it occur? In the case management field, we prefer to use the term non-adherence, said Connie Commander, president of Commander's Premier Consulting Corporation. Non-compliance became associated with negative connotations, so we stepped away from it. The reasons for non-adherence are exactly what you'd think. Patients don't know what to do or how to take the medication. Often, they're not motivated to take it. They're ambivalent about the fact that it is necessary and that it is going to help them.

Another factor that causes non-adherence is the cost and the number of times a day they must remember to take it. We assume the motivation is something that we can control. However, motivation is internal. All we can do is educate an individual and support them to be motivated. In the end, people motivate themselves. Likewise, people must manage their own illness. Healthcare providers struggle with this because we think that we can manage it. In reality, we must educate them to manage their own illnesses. That's the difference.

*Connie Commander
is president of
Commander's
Premier Consulting
Corporation and
immediate past
president of the Case
Management Society
of America.*

Some potential barriers to improving adherence are:

- ✓ Poor attitude
- ✓ Memory deficit
- ✓ Language and literacy issues
- ✓ Cultural issues
- ✓ Alternative health beliefs
- ✓ Poor support
- ✓ Pride (In some cultures, illness is not respected.)
- ✓ Denial (Most of us don't want to get ill as we age, but if it happens we must accept it and manage it.)
- ✓ Fear of embarrassment
- ✓ Side effects
- ✓ Religious beliefs
- ✓ Unable to "see" results of drug therapy (This occurs often with behavior modification drugs for psychological conditions. Patients may feel worse initially and not see the benefit immediately. If we don't inform them of those things we'll have negative outcomes.)
- ✓ Lack of choice (People are told that they're ill and must take a particular drug. They feel like, "Where's my choice in this?")

When should we be most concerned about compliance? Chronic illness is definitely an important and difficult one. If the patient has to maintain for a long period of time — years, if not forever — healthcare providers and case managers must constantly step back and work with the patient. Compliance is also an issue when the patient is

asymptomatic or has a progressive disease. Perhaps they're very tired of fighting it. Often, cost is a huge barrier, or side effects discourage them. We're learning that patient knowledge and understanding is the key to improving adherence and compliance.

Figure 1 outlines the health behavior change model, which looks at the strategy and process of assessing the individual patient's knowledge, motivation to change and their support. Those are pivotal elements. One of the major points is that it's patient-centered. When I use the behavior change model and talk about a "proposed treatment plan," people ask, "Why is it a proposed treatment plan?" My answer is that it's a proposed plan until the patient embraces it and agrees to work with it. Then it becomes an active treatment plan. Until the patient picks it up and does

Health Behavior Change

✓ A strategy and collection of methods geared to the brief patient-centered consultation, based on:

- Motivational interviewing
- Stages of change model

✓ It is:

- Patient-centered
- Directive
- A method of communication
- Used to explore and resolve **ambivalence**.

Rollnick S, et al. *Health Behavior Change: A Guide For Practitioners*. Churchill Livingstone; 2003:10,11.

Miller WR, et al. *Motivational Interviewing*. 2nd ed. Guilford Press; 2002:25.

Source: Connie Commander, Commander's Premier Consulting Corporation

Figure 1

something with it, it's only a proposed plan presented by the healthcare team and the multidisciplinary professionals that are on the team.

A health behavior change strategy is direct and gives detailed information. However, there are open lines of communication regarding whether it's a good time to talk and the patient thinks the plan is a good thing. It's a method of communication with the patient that explores and attempts to resolve ambivalence. Because often the patient hears the doctor and other professionals, but they're not quite ready to make major changes.

One of the things that will lead to success in motivational interviewing is to have patients state their goal early in the communication process. Even before that, however, discuss whether they agree with what the physician has told them about their illness. If they don't agree, you're not going to be able to set any goals because you've got credibility and trust issues. You've got to deal with that first. Once that's done, you want the patient to state their goals. Once they have verbalized goals, it becomes very credible for them. It's now something they can visualize, because they've heard themselves say it. They'll want to work toward it.

Case Management Adherence Guidelines

I'll talk briefly about the Case Management Adherence Guidelines we received from the Case Management Society of America (CMSA®). (See "For More Information.") Anyone can download them at <http://www.cmsa.org>. The guidelines are free, and you don't have to be a member. They're case management's use of validated tools to improve adherence. We've gotten many variations; some are disease-specific. This tool has concepts that we use as presented by the WHO. The guidelines provide an interaction and management algorithm. We built in some concepts that strive to improve a

patient's knowledge and motivate them to take their medications. That's how it started, but now it's grown to the complete treatment plan.

If you can get a person to follow the medication regime, you can probably get them to follow the whole treatment plan. That's where we're heading with these. The guidelines provide great flexibility so that each patient's needs can be taken into account.

You can also improve adherence through the use of reminder aids. Some of the tools are pill boxes, medication calendars, Parenteral Drug Association (PDA) reminders (See "For More Information"), telephone, mail or e-mail reminders and medicine wallet cards and diaries. You can also suggest that medication activity be tied to some other daily activity that they already do, such as brushing their teeth. If they walk the dog first thing in the morning, suggest putting the leash near the medication.

Return to Health

One of the solutions to medication non-adherence is working with case managers, disease managers and health coaches to help the people with adherence issues, is Thom Stambaugh, chief pharmacy officer and vice president of clinical programs and specialty pharmacy with CIGNA Pharmacy Management.

The following is an interesting quote and guide that we adhere to: "The best medications in the world can't help those that don't take them as prescribed." We want to focus on this as our "return on health." This is about improving adherence in individuals, and trying to reduce the negative consequences non-adherence would have on their health.

*Thom Stambaugh is
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of clinical programs
and specialty
pharmacy with
CIGNA Pharmacy
Management.*

Seven Barriers to Medication Adherence

There are seven barrier domains that we have focused on as reasons for non-adherence. These reasons are:

- ✓ **Knowledge** – Lack of understanding of medication and its proper use, as well as lack of understanding regarding the disease and consequences. Also, failure to take medicine when feeling good.
- ✓ **Motivation** – Competing priorities win out over need to manage one's disease. Carelessness or forgetfulness, as well as lack of readiness to improve adherence behaviors.
- ✓ **Provider support** – Doctor doesn't take the time to discuss medication and its proper use or doesn't discuss it in a way that can be understood.
- ✓ **Lifestyle** – Travel in job and/or lack of day-to-day continuity in order to establish routine for taking medication. Also, numerous responsibilities of competing importance.
- ✓ **Social support** – No family or friends with which to discuss health or medications.
- ✓ **Health literacy** - Does not understand terms used by providers, instructions on pill bottles or which medication is used for which condition.
- ✓ **Medication and disease-specific issues** - Discouraged by cost, complexity of regimen (too many pills), getting refills and fear of side effects.

Identifying Medication Adherence Gaps

Next, we'll focus on solutions — how we identify medication adherence gaps and assess the barriers. Once we get to the point of knowing the issues, we can provide solutions.

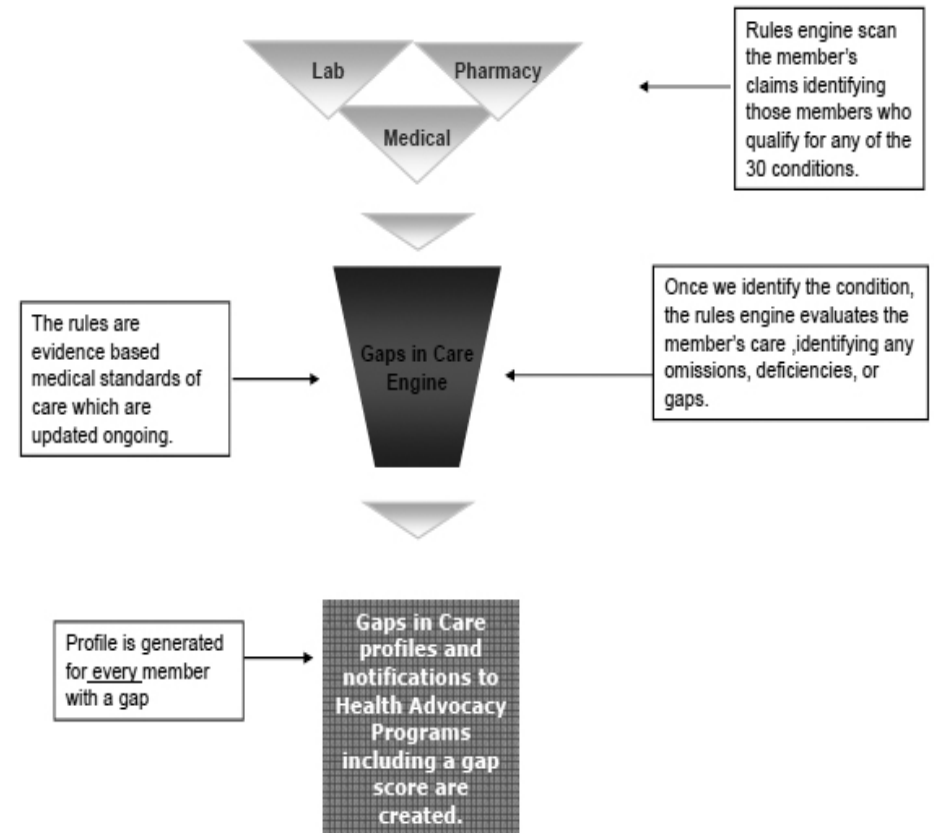
CIGNA's overall approach of identifying medication adherence is through our Outcome Improvement Program. Through our program, we strive to:

- ✓ Promote a more active physician/patient dialogue. In other words, identify where medication adherence issues may exist, and then provide the information to the physician and patient so it can be discussed.
- ✓ Influence adherence to appropriate medications. Give the individual patient information so that they understand why the medication is important.
- ✓ Maximize the potential for positive health outcomes.
- ✓ Reduce unnecessary drug costs associated with inappropriate utilization. Improve those outcomes to get the total medical cost reduction.

Figure 2 outlines one of the most important and critical starting points that we've identified, which is a systematic approach to evaluating the evidence-based standards. One of those is looking at medication adherence on a frequent basis. We've done this by taking our 10 million members and setting up evidence-based standards as rules in a rule engine. You can then assess those evidence-based standards and medication adherence for the previous six months on a monthly basis.

This allows us to review each month if a patient has been medication adherent. Are they getting their refills on time? Do we see a pattern in the date that would indicate that they are medication adherent? Once this information is identified, we create a profile for that individual. The profile includes all of their evidence-based standards, including medication adherence, and indicates whether they are or are not meeting those.

Identifying Adherence Issues



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Source: Thom Stambaugh, CIGNA Pharmacy Management

Figure 2

Health Advocacy Teams Resolve Adherence Gaps

A process within CIGNA Healthcare begins once adherence gaps have been identified. First, the provider or physician is

contacted by mail. Then, the member is contacted by mail, and we communicate that medication adherence is not where we expect it to be. This is important in that we look at severity scores to identify individuals whose adherence has had the greatest impact on their overall medical outcomes. That may kick off another communication through our health advocacy teams. This means getting information regarding medication adherence issues out to case managers, disease managers and health advisors or health coaches. We must ensure that they understand the medication adherence and utilization patterns for that individual. This is critical because the most important thing we can do is not just identify that adherence is an issue, but then through one of those channels — a personal outreach or through a mailing or Web site — get to that individual's specific barrier to medication adherence. That's one of the benefits of a health advocacy team outreach and working through some of the motivational interviews and behavior modification techniques. It's difficult to get the best sense of an individual's barriers through mailings. It's a more straightforward process when you have the opportunity to work with the individual, get to know them and use some of these techniques.

Cost-Saving Strategies

Some studies show that cost is an issue up to 20 percent of the time. One of the things we do in the outreach, either by mailing or one of the alternatives we have for our health advocacy team, is to help individuals know about lower-cost alternatives.

Other services and solutions that we provide, particularly for the home delivery service are reminder aids. These include outreach calls, text

messages and e-mails — all the things that support the individual when they're using the home delivery service. These reminders help them to refill their medications or take their medicine on a daily basis — whatever that individual needs.

Eliminating Communication Breakdowns to Improve Adherence

Almost 50 percent of the time, physicians are not giving instructions or the patients are not hearing the medication instructions correctly, said Jan Berger, M.D., chief medical officer of Silverlink Communications Inc. Therefore, even if you are in front of a physician, information like how long to take a medication, possible side effects and how to take a medication is not given correctly. There is a breakdown in communication and there will most likely not be a successful outcome. Misuse of medication or lack of instruction on how to use medication are major reasons for low medication adherence rates.

Education and support through communication are necessary in order to have high quality, high value outcomes. Healthcare providers are the most trusted people in the healthcare delivery model. Physicians continually rank very high at the top of the trust levels. However, not far behind are nurses, nurse practitioners, physician assistants and pharmacists. Since they are trusted people, what they say and how they say things are taken to heart by the healthcare consumer. Other stakeholders such as employers and health plans are not as high in the trusted role model as healthcare providers. However, they do have a very important role.

*Jan Berger, M.D.,
is chief medical
officer of Silverlink
Communications, Inc.*

Polk County's Team-Based Approach

Polk County Florida's team-based approach is an example of how an employer can help to create a successful program with support and communication among health plans, practitioners, providers, healthcare consumers and pharmacists. It is not always possible to cure somebody — for example, a patient with diabetes. Polk County Florida employed a team model that focused on diabetes treatment, adherence and self-management through the use of an onsite clinical pharmacist — a pharmacist spending part of their time on the Polk County Employee campus and setting up meetings with the employees to give them education and support.

In the Asheville Project, some people thought that the diabetics involved just walked into their local retail pharmacy and received support. However, it was not done that way. Realistically, someone utilizing the busy retail pharmacy would not want to have a conversation about their personal health with other people around. There is no privacy at a retail pharmacy. The Asheville Project is set up with a pharmacist who is trained to give education and support in a private place accessible to the healthcare consumer, the employee and the pharmacist on a timely basis. Therefore, they have an onsite clinical pharmacist, but the employee's PCP remains in control. The pharmacist acts as a consultant to the physician, healthcare consumer and the patient. Regarding gaps in care, the physician may have forgotten to order medication or the patient does not fulfill the tests or the medications. Also, there may be contradictions, abnormal lab tests or significant interactions between the patients' existing medications and their over-the-counter medications.

One example is the use of American Diabetes Association guidelines to help consult to physician and patient. In the end, a contract for care was developed between the patient, employer and pharmacist because they were committing to pay for all

of the necessary tests and medications for the diabetic. This contract for care established a concrete agreement between all constituencies to the care that was needed for this patient to optimize their health.

This team-based approach did work and we saw improvements in the long-term blood sugar, hemoglobin A1C. We also saw improvements in blood pressure. People went from being less controlled to significantly more controlled.

Not only were there clinical improvements, but there were also health improvements, cost improvements and hospitalization declined by 30 percent. ER visits declined by 24 percent, patient's out-of-pocket cost went down, absenteeism at work went down and quality of life scores went up. Therefore, by investing a small amount of money into the health of the employees, employers receive significant outcomes.

There are still issues of scalability because it is difficult to reach every person in need of help and support. Placing every diabetic, heart-diseased or chronic patient into a one-on-one program with a pharmacist, nurse or other caregiver is not feasible today. No one healthcare provider can be with the patient at all times. How do you do this in a way that uses actual face-to-face or human contact when necessary, but still give other additional support? Technology amplifies the success of communicating with and supporting the consumer. However, technology must be used correctly and at the appropriate time. Based on the data we receive from the healthcare consumer, we use our technology in a personalized manner. Through segmentation and understanding a person's individual barriers to their own care, communications can be personalized in ways that educate and support the consumer.

Impact on Medication Adherence

No two individuals or populations are exactly the same. With medication adherence, there are certain attributes to a healthcare consumer that can help to segment and personalize their program. Demographics, healthcare behaviors and health status establish how use technology to communicate.

We were able to see improvement in statin medication use for the improvement of high cholesterol by personalizing a message and improving the outcomes. Therefore, when patients were asked, via technology, about the barriers to taking medication, some people said, “No, I am not going to continue to take my medication.” In this case, the number one reason the patients stopped taking medication was they did not know they needed to continue. Either they did not understand their physician, or the pharmacist or physician did not explain the medication. One-third of the people who stopped taking their medications merely did not know they needed to stay on it. What do you do with that information? You must personalize the message and give the patients a barrier-breaking tip or more information and education.

We were able to almost double the number of people who became adherent to their medication through the use of technology as one of the providers to a person's personalized healthcare. It shows the difference that bringing in all providers and technology can make in the outcomes of good health.

For More Information

This section provides more detail on resources mentioned in this report. A listing here does not constitute an endorsement by the Healthcare Intelligence Network of a company, product or organization.

Healthcare Intelligence Network

<http://www.hin.com>

Medication Reconciliation Strategies to Reduce Hospital Adverse Drug Events provides the inside details on a medical center's medication management program, which has a goal of eliminating adverse drug events. For more information, please visit:

<http://store.hin.com/product.asp?itemid=3765>

In Motivating Resistant Patients: Influencing Behaviors to Improve Outcomes, experts describe how their organizations meet the challenges of motivating patients who are resistant to change. For more information, please visit:

<http://store.hin.com/product.asp?itemid=3550>

In *Patient-Centered Models in Medication Adherence: Reducing Costs and Non-Compliance through Health Behavior Change*, two industry experts examine common barriers to medication adherence and present the initiatives that have increased patient compliance with medication regimes for their organizations. For more information, please visit:

<http://store.hin.com/product.asp?itemid=3863>

2011 Benchmarks in Improving Medication Adherence provides actionable information from 162 healthcare organizations on their efforts to improve medication adherence and compliance in their populations. This second annual analysis of medication adherence programs documents the impact of these programs on adherence levels, medication costs, ER visits, hospital and nursing home admissions, risk of death and other areas of concern. For more information, please visit:

<http://store.hin.com/product.asp?itemid=4277>

American Heart Association

<http://www.americanheart.org>

The American Heart Association is a national voluntary health agency to help reduce disability and death from cardiovascular diseases and stroke.

Asheville Project

<http://www.ncpharmacists.org/displaycommon.cfm?an=1&subarticlenbr=41>

Two employers, the City of Asheville and Mission-St. Joseph's Health System, participated in two initiatives targeting asthma and diabetes. A total of 194 employees met the criteria for participation in the diabetes program. The study assessed both clinical and economic outcomes for up to five years.

Ask Me 3

http://www.npsf.org/askme3/PCHC/what_is_ask.php

Ask Me 3 is a quick, effective tool designed to improve health communication between patients and providers. Through patient and provider education materials developed by leading health literacy experts, Ask Me 3 promotes three simple but essential questions that patients should ask their providers in every healthcare interaction: What is my main problem, what do I need to do and why is it important for me to do this?

Case Management Adherence Guidelines (CMAG)

<http://www.cmsa.org/Individual/Education/CaseManagementAdherenceGuidelines>

CMAG addresses the national epidemic of non-adherence to medication therapies. Now in its second version, CMAG is an enhancement of its original material with expanded tools and intervention techniques and additional recommendations for hospital care settings.

Case Management Society of America (CMSA)

<http://www.cmsa.org>

The CMSA's mission is to positively impact and improve patient wellbeing and healthcare outcomes. They do this by supporting the professional development of care managers from a variety of disciplines, practice settings and skill levels.

Clear Health Communication

<http://www.clearhealthcommunication.com/physicians-providers/what-is-health-literacy.html>

Clear health communication is an important part of a patient's ability to understand and act upon health information. This can include a patient's ability to follow instructions after a doctor's visit, to manage a chronic illness, or to take a medication properly. For healthcare practitioners, clear health communication guides which words are used, how directions are given, and what materials are presented when communicating with patients.

Duke-University of North Carolina (UNC) Functional Social Support Questionnaire

<http://www.ncbi.nlm.nih.gov/pubmed/3393031>

The Duke-UNC Functional Social Support Questionnaire was devised and evaluated on 401 patients attending a family medicine clinic. The population examined was predominantly white, married females under the age of 45. Following much analysis, the final questionnaire is a brief, easily completed, two-scale, eight-item functional social support instrument.

Galbraith, John Kenneth

http://plus.aol.com/aol/reference/Galbraith/John_Kenneth_Galbraith?flv=1

John Kenneth Galbraith (1908-2006) was a renowned economist, scholar, author and public official. Of his many accomplishments, he may be most prominently known for acting as a Democratic adviser to President John F. Kennedy. Galbraith, a celebrated liberal, supported the use of more of the nation's wealth for public services and less for private consumption.

Modified Morisky Scale

<http://www.theannals.com/cgi/content/abstract/38/9/1363>

The Morisky Medication Adherence Scale is a commonly used adherence screening tool. It is composed of four yes/no questions about past medication use patterns and is quick and simple to use during drug history interviews.

Parenteral Drug Association (PDA)

<http://www.pda.org/SecNav/AboutPDA.aspx>

PDA was founded in 1946 by a small group of pharmaceutical manufacturers who recognized the need for an organization to disseminate technical information within the industry. Today, PDA volunteers worldwide carry out its mission of promoting the exchange of rapidly evolving information on the latest technology and regulations concerning pharmaceutical production.

Rapid Estimate of Adult Literacy in Medicine, Revised

(REALM-R) **http://www.adultmeducation.com/AssessmentTools_1.html**

The REALM-R is a word recognition test. It consists of 11 words used to identify people at risk for poor literacy skills.

Readiness Ruler

http://www.adultmeducation.com/AssessmentTools_3.html

The Readiness Ruler is a tool that can assist a provider in assessing a patient's "willingness or readiness to change." The Ruler is a simple, straight line drawn on paper that represents a continuum from the left — not prepared to change, to the right — already changing. Patients are asked to mark on the line their current position in the change process. Providers should then question patients about why they did not place the mark further to the left (which helps to determine what motivates their behavior), and what it would take to move the line further to the right (which helps to determine their perceived barriers). Providers can ask patients for suggestions about ways to overcome an identified barrier and actions that might be taken before the next visit.

Short Form (SF) Quality of Life Assessments

<http://www.sf-36.org/>

The SF quality of life assessments (SF-36®, SF-12® and SF-8®) assess the health of general and specific populations, comparing the relative burden of diseases, differentiating the health benefits produced by a wide range of treatments, and screening individual patients.

World Health Organization (WHO)

<http://www.who.int/about/en/>

WHO is the directing and coordinating authority for health within the United Nations system. It is responsible for providing leadership on global health matters, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries and monitoring and assessing health trends.

Wyoming PharmAssist Program

<http://www.health.wyo.gov/healthcarefin/pharmacy/pharmacy.html>

Wyoming PharmAssist is a state-funded program providing any Wyoming citizen, regardless of age or income, with an opportunity to meet with a Wyoming-registered pharmacist for a one-on-one medication consultation. A Wyoming-registered pharmacist meets with individuals to discuss their current medical picture, any concerns regarding their drug regimen, appropriate possible cost-saving alternatives, and pharmaceutical manufacturer drug assistance programs, as well as other community resources.

Glossary

HIN	Healthcare Intelligence Network
ADE	Adverse Drug Event
CAD	Coronary Artery Disease
CDC	Centers for Disease Control and Prevention
CMAG	Case Management Adherence Guidelines
CMS	Centers for Medicare and Medicaid Services
CMSA	Case Management Society of America
DM	Disease Management
DME	Durable Medical Equipment
ED	Emergency Department
EMD	Electronic Monitoring Device
EMR	Electronic Medical Record
ER	Emergency Room
FTE	Full-Time Equivalents
HEDIS	Healthcare Employer Data and Information Set
HgA1C	Hemoglobin A1C
HMO	Health Maintenance Organization
IQ	Intelligence Quotient
IT	Information Technology
LDL	Low Density Lipoprotein
LPN	Licensed Practical Nurse
MTM	Medication Therapy Management
NCQA	National Committee for Quality Assurance
PCCPS	Primary Care Clinical Pharmacy Specialist
PCMH	Patient-Centered Medical Home
PCPs	Primary Care Physicians
PDA	Parenteral Drug Association
PVD	Peripheral Vascular Disease
REALM-R	Rapid Estimate to Adult Literacy in Medicine - Revised
RN	Registered Nurse
SF	Short Form
UNC	University of North Carolina
WHO	World Health Organization

About MTS - Medication Technologies

MTS - Medication Technologies (www.mts-mt.com) is a leading provider of pharmaceutical adherence packaging solutions focused on the long-term care, retail and nutraceutical markets. MTS designs, develops and manufactures proprietary adherence packaging punch cards along with a complete line of highly specialized automated equipment to assist pharmacies with packaging and pharmaceutical dispensing, and long term care facilities with medication inventory management, dispensing, and storage. The company serves approximately 9,000 pharmacies worldwide.

About The Healthcare Intelligence Network

The Healthcare Intelligence Network (HIN) is an electronic publishing company providing high-quality information on the business of healthcare.

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