

Enhancing the Personal Health Record with Krames Patient Education

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Krames Patient Education



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Enhancing the Personal Health Record with Patient Education

In the last year alone, great strides have been made toward the adoption of a personal health record (PHR). Health plans in particular have realized that the PHR is a major advance in putting consumers in charge of their own healthcare. Indeed, the Institute of Medicine and the Institute of Healthcare Improvement in a study found that PHRs could reduce the U.S. mortality rate by 25%.

But health literacy will likely be a significant barrier to the further adoption of PHRs among groups with low health literacy rates. According to Cynthia Baur, an e-health advisor at HHS, 30 million adults do not have a basic level of health literacy.¹ The Institute of Health's statistics are higher—50% of U.S. adults or 90 million Americans have difficulty understanding health information.²

All individuals should be able to readily access, understand and use their personal health information. That is why it is important that the PHR contain not only health record data but also the patient education individuals need to understand this data and its implications for good healthcare decisions. Patient education is an interpretive service for each owner of a PHR.

Patient education is most effective when it is personally relevant and made available at the right time to help the individual make better health decisions, which can improve care and lower costs. The PHR is a personal health information infrastructure that enables the personal and proactive push of patient education that can significantly improve outcomes.

The Data-driven PHR: Making the Health Record More Meaningful

In the past, PHRs have required extensive manual data entry and assumed that individuals possess knowledge of particular details of their medical history. Today, however, PHRs are routinely being made available to individuals pre-populated with data from the electronic medical record (EMR) and, when sponsored by health plans, from processed medical and pharmacy claims data and laboratory results. Given access to comprehensive health information rather than being asked to assemble it, individuals can bypass the administrative tasks of data input and concentrate on understanding and controlling their care. But for many Americans, having access to personal medical information and understanding that information are not one and the same.

The information in the PHR has great value to clinicians when the individual presents it. It reduces errors and avoids unnecessary expenses for redundant care. It has value to the patient as well, because the PHR follows the patient from setting to setting and obviates

the need to create and recreate registration summaries and medical histories at each care delivery site. This is value measured in convenience. But the PHR that is enhanced with patient education creates additional value that is measured in comprehension and empowerment.

Patient education provides interpretive services for each PHR owner.

There is little value in an individual knowing her HDL and LDL levels if she doesn't know the difference between "good" and "bad" cholesterol or how to control high lipid levels. Patient education that is built-in to the PHR facilitates retrieval of information specific to the individual's medical condition. In this case, the individual needs information to understand how the numbers on her lab report relate to her risks and lifestyle. This underscores the importance of her involvement in her care and promotes a greater sense of personal responsibility for her own health status.

The screenshot shows a web-based PHR interface for 'John Doe'. The main content area is titled 'Complete Medical History' and contains several data tables:

- Conditions and Medications:** A table with columns for Description, Date, and Att. It lists conditions like 'Anesthetic Reaction' (02/24/99), 'Pulmonary embolism' (10/15/98), 'Disc, ruptured lumbar' (09/23/98), 'Seizure disorder' (04/25/83), and 'Aneurysm, intracranial, r' (04/25/83). The Medications table lists 'Coumadin (5mg by' (10/15/98) and 'Coumadin (100 mg ca' (04/25/83).
- Screening Recommendations:** A table with columns for Description, Date, Con, and Att. It lists tests like 'Arterial blood Gase' (10/15/98), 'X-Ray, Chest' (10/15/98), 'Lung Scan' (10/15/98), 'MRI, Lumbar' (09/23/98), 'EKG' (04/25/83), and 'EEG' (04/25/83).
- Immunizations:** A table with columns for Description, Date, and Att.
- Treatments and Preventive/Miscellaneous:** Tables listing treatments like 'Lung perfusion' (09/30/98) and 'Aneurysm clipping' (04/25/93), and preventive measures like 'Diet and nutrition ex' (04/25/99) and 'Exercise program:' (10/25/98).

Yellow callout boxes provide additional context:

- A callout points to the 'Conditions and Medications' table, stating: 'Hot links to patient education on patient's conditions, tests, treatments, and medications'.
- A callout points to the 'Screening Recommendations' table, stating: 'Alerts, e.g., • Tips when taking Coumadin • You are overdue for a mammogram • You are overdue for a flu shot'.
- A callout points to the 'Immunizations' table, stating: 'Recommendations on preventive measures'.

An example of a personal health record enhanced with patient education specific to the individual's own medical circumstances.

Overcoming the Health Literacy Barrier with Krames Patient Education

Data from the PHR can be used cost-effectively to trigger information specific to an individual's health status. This helps the individual make a better health decision or behavior change. Patient education covers the full range of health care, from preventive services to decision support for specific treatments to lifestyle change counseling. It is imperative that patient education be health literacy focused, evidence-based, and intelligently structured for integration.

Focus on Health Literacy

Independent studies have shown that an educated patient is more likely to achieve better outcomes than the uneducated patient. Yet, the Institute of Health reports that nearly 50% of U.S. adults, or over 90 million Americans, have difficulty understanding health information.

Krames has been the leader in patient education since 1974. We have won dozens of National Health Information Awards, a testimony to Krames quality. Krames patient education materials support newly diagnosed patients with easy-to-understand facts that clearly explain conditions, testing and treatment options. Educational materials also help patients with chronic conditions to better manage their health. Because patients know what to expect, compliance and outcomes are improved.

Krames improves the chances of positive outcomes and better health management by strictly adhering to the principles of health literacy. All Krames content is written to:

1. Reach every reader with accurate, easy-to-understand health information.
2. Motivate readers to make changes to improve their health.
3. Ease readers' fears about health issues while increasing confidence in their self-efficacy regarding personal health management.

Krames content incorporates health literacy principles by targeting sixth- to eighth-grade reading levels using readability scales such as Doak, Doak & Root Suitability Assessment of Materials (SAM) and FOG, SMOG, FRY and

Flesch-Kincaid. Krames signature art/text synergy gives equal weight to words and pictures so readers gain a clear understanding of conditions, procedures and treatments. Our behavior-based education uses many learning models to teach patients how to make lifestyle adjustments and successfully manage their conditions.

Track Record of Quality Content

Krames is the market leader in patient education, with a strong focus on helping individuals understand health issues and improve their lives. Krames products are found in more than 80% of U.S. hospitals and are used by more than 1,000 managed care organizations and employers' groups.

Evidence-based and Peer-reviewed

Content must go through rigorous development and ongoing review to ensure that it is credible, actionable patient education. A team of medical communication experts develops clear, concise content for Krames, based on standards of care, which is both appropriate and easy for patients to understand. The text is powerfully supported by a variety of art styles, including award-winning anatomical illustrations that clarify conditions and treatments. Content is thoroughly reviewed by medical experts who are practicing professionals to ensure scientific accuracy as well as patient appropriateness.

Structured Content

Content must be easy to work with. When you use Krames content, you have access to a comprehensive database of patient education, in XML, tagged to standard medical vocabularies such as ICD-9, CPT, and MeSH, and ready to be easily implemented in the personal health record.

The Technology Supporting Krames Patient Education

- Well-structured XML • Style control •
- Delivery options for different implementation scenarios •

These are the basics that vendors are demanding from leading-edge content providers and the core components of the Krames content solution platform.

Structured XML Content

Krames content is stored as well-formed XML so that customers can manipulate and incorporate it into their PHR schemas.

Our XML specifications, samples, and web services technical documentation are available online at:

<http://external.ws.staywell.com/Documentation/>

Comprehensive Metadata

Every Krames patient education document has searchable, comprehensive metadata tags, including:

- Age and gender
- Keywords
- ICD-9 Codes
- CPT Codes
- MeSH Codes

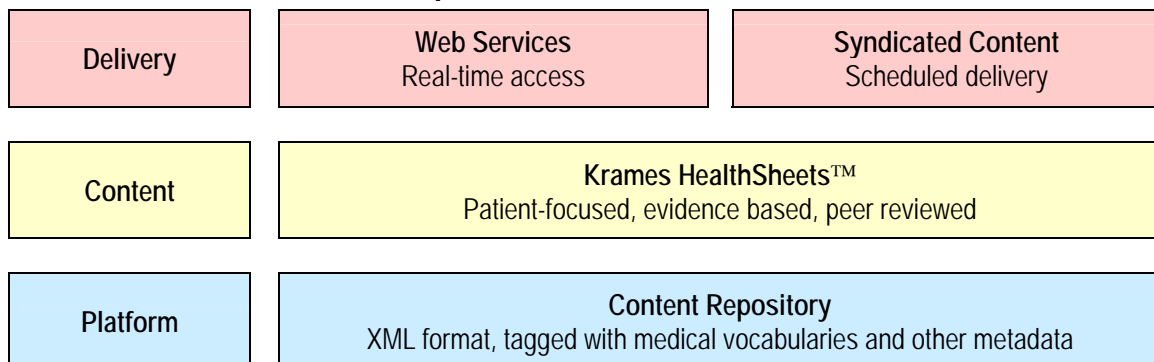
When used in conjunction with health record data, the metadata becomes a powerful tool for filtering and retrieving the right education at the right time to deliver to the patient at the point of care.

Flexible Delivery Architecture

Content is delivered via a Service Oriented Architecture. Web services use either SOAP, HTTP GET, or HTTP POST commands and allow retrieval of individual documents, as well as search using any of the metadata fields.

For customers needing alternate delivery formats, the content can be syndicated and delivered as either XML or HTML. It is recommended that customers make use of the web services for real time access to content additions and updates.

Krames Content Solution Components



Content Package

Krames content is skills-based and is designed to address a single moment in the continuum of care from diagnosis through recovery and ongoing self-management. Our behavior-based education uses many learning models to teach patients how to make lifestyle adjustments and successfully manage their conditions.

Understanding Asthma

Asthma is a disease that inflames and narrows the airways in your lungs. No one is sure what causes asthma. But with the help of your healthcare team, you can keep your asthma under control. This sheet will tell you more about what happens inside your lungs when you have asthma.

Healthy Lungs
Inside the lungs there are branching airways made of stretchy tissue. Each airway is wrapped with bands of muscle. The airways get smaller as they go deeper into the lungs. The smallest airways end in clusters of tiny balloonlike air sacs (alveoli). These clusters are surrounded by blood vessels. When you inhale (breathe in), air enters the lungs. It travels down through the airways until it reaches the air sacs. When you exhale (breathe out), air travels up through the airways and out of the lungs. The airways produce mucus that traps particles you breathe in. Normally, the mucus is then swept out of the lungs to be swallowed or coughed up.

What the Lungs Do
The air you inhale contains oxygen, a gas your body needs. When this air reaches the air sacs, oxygen passes into the blood vessels surrounding the sacs. Oxygen-rich blood then leaves the lungs and travels to all parts of the body. As the body uses oxygen, carbon dioxide (a waste gas) is produced. The blood carries this back to the lungs. Carbon dioxide leaves the body with the air you exhale. The process of getting oxygen into the body and carbon dioxide out is called gas exchange.

When You Have Asthma: Chronic Inflammation
When you have asthma, your airways are more sensitive than those of other people. This means your airways react to certain things called triggers and become inflamed. Inflammation makes the airways swollen and narrowed. This is a chronic (long-lasting or recurring) problem. The airways may not be narrowed enough for you to notice breathing problems. But the inflammation makes the lungs more sensitive. Inflamed airways react to triggers even more easily, causing a flare-up.

Symptoms of chronic inflammation: You may not notice any symptoms. Or, you may have mild symptoms such as:

- A cough
- Chest tightness
- Shortness of breath
- Wheezing
- Low energy

Effects of chronic inflammation: Over time, chronic mild inflammation can lead to permanent scarring of airways and loss of lung function. This can cause permanent breathing problems. This is one reason asthma needs to be treated even if there are no symptoms.

When You Have Asthma: Moderate Flare-Ups

When sensitive airways are irritated by a trigger, the muscles around the airways tighten (bronchospasm). This squeezes the airways so that they become narrower. The lining of the airways swells. Thick, sticky mucus increases and begins to clog the airways. All of this decreases lung function—that is, it makes emptying the lungs more difficult. You have to work hard to keep breathing and getting needed oxygen into the lungs.

Symptoms of moderate flare-ups: Your symptoms may include the following:

- Coughing, especially at night
- Getting tired or out of breath easily
- Wheezing (a whistling noise, especially when breathing out)
- Chest tightness
- Fast breathing when at rest

When You Have Asthma: Severe Flare-Ups
A life-threatening flare-up is due to severe muscle spasm, severe swelling, and large amounts of thick, sticky mucus. Together, these block the airway. Lung function is severely decreased. Waste gas is trapped in the alveoli, and gas exchange can't occur. The body is not getting enough oxygen. Without oxygen, body tissues, especially brain tissue, begin to die. If this goes on for long, it can lead to brain damage or death.

Symptoms of severe flare-ups: Call 911, or have someone call for you, if you have any of these symptoms:

- Severe difficulty breathing
- Being too short of breath to speak a full sentence or walk across a room
- Lips or fingers turning blue
- Feeling as though you are about to pass out

The Krames content package covers the continuum of care across 37 specialties and includes patient-focused explanations of:

- Diseases and conditions
- Diagnostic tests and procedures
- Medical and surgical treatments
- Medication usage
- Prevention and healthy lifestyle
- Self-care

The content package contains more than 2,000 patient education topics and 2,000 drug information sheets in English and Spanish. The drug sheets explain common indications, drug interactions, adverse reactions, what to do if a dose is missed and how to store medication.

The package also provides *HealthCare Basics* – 10 HealthSheets covering the top health topics in multiple languages, including English, Spanish, Chinese, Armenian, Farsi, Hmong, Korean, Russian, Vietnamese, and Tagalog.

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¹ *Health Literacy as a Factor in the Adoption and Use of Personal Health Records*, Cynthia Baur, Ph.D., Office of Disease Prevention, and Health Promotion, U.S. Department of Health and Human Services, September 18, 2006

http://www.hhs.gov/healthit/ahic/materials/meeting09/ce/b/Cynthia_Baur.ppt

² *Understanding and Promoting Health Literacy (R01)*, Department of Health and Human Services, Agency for Healthcare Research and Quality, National Institutes of Health, June 22, 2004

<http://grants2.nih.gov/grants/guide/pa-files/PAR-04-116.html>