Personal Health Records:

A Helpful Tool for A Healthier You

CALIFORNIA DEPARTMENT OF INSURANCE

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MAY 2008

Executive Summary

A Personal Health Record (PHR) is an evolving consumer tool for health record-keeping that is available to many members of California insurers or Managed Care Organizations (MCOs). Different from Electronic Medical Records (EMRs) which aggregate detailed clinical information, PHRs generally operate like a "calendar of medical events" and have data auto-populated from insurer/MCO claims files with other personal medical information typed in by the consumer. Some versions of PHRs will also include clinical data auto-populated from the insurer/MCO's clinical system or EMR. Because much of the PHR is filled in automatically by the consumer's insurer/MCO, the PHR is likely to be up-to-date (within a month or so) and robust (data entered is likely to be accurate since it was generally used first for claims adjudication). Data from EMR-linked systems may be available much quicker (e.g., within days in many cases).

This survey gathered information from representatives of seven large California insurers or MCOs: Aetna, Blue Shield of California, CIGNA, HealthNet, Kaiser Health Plan, United/Pacificare and WellPoint (Blue Cross of CA). Knowledgeable representatives were made available and were generous with their time and input.

Key findings include:

- All seven insurers/MCOs had PHRs that were either operational or in an operating pilot stage, having made excellent progress in making PHRs available to all members.
- PHRs generally included detailed auto-populated data on hospital admissions, hospital outpatient procedures, physician visits, lab test and prescription drugs. While all insurers/MCOs had plans to incorporate these data, not all types of data were operational at the time of the survey.
- Many of the insurers/MCOs had methods available to fax records, provide the PHR to physicians with appropriate permission or make the PHR/EMR available through its delivery system (Kaiser).
- Awareness of the PHR and use of it by consumers appears to be limited. For some insurers/MCOs, the PHR was in a pilot or beginning phase with very limited use. At the top end of usefulness, one MCO had close to 30% of its members activate a PHR. More commonly, usage by members was under 5%.
- Key applications of PHR by members appeared to be:
    - Tracking services and prescriptions over several years of history
    - Faxing or providing a paper copy of the PHR to a personal physician
    - Having the PHR available to Emergency Room physicians for clinical use
    - Scheduling physician appointment in one MCO
    - Ordering prescription refills or obtaining routine lab test results
    - Managing health care claims cost data
- Data from the PHR was frequently retained and could be re-activated if an individual returned to an insurer/MCO.
- Progress has been made by an industry consortium (America's Health Insurance Plans, AHIP, and the Blue Cross Blue Shield Association) towards establishing a standard for plan-to-plan transfer of records. This would allow an individual to "roll-over" a subset of PHR information to a new insurer/MCO upon changing employer or insurer/MCO in the future but is not operational today.
- The Centers for Medicare and Medicaid (CMS) is conducting a PHR pilot with several Medicare Advantage plans and will be starting a Fee For Service (FFS) Medicare pilot in South Carolina in 2008.
- Various non-insurance company vendors (e.g., Microsoft, Google, Quicken) are working on related applications. WebMD was being used as the PHR "engine" by several of the seven companies.

In short, there has been much progress in establishing PHRs and making them useful and available for consumers. Actual usage at this time appears to be low, but awareness by consumers may be limited and barriers to use are unknown. It may require another three to five years before PHRs are widely recognized as useful and become commonly used by individuals. As PHRs and their uses evolve, consumers are likely to become more adept at using them.

Several insurers/MCOs had working examples of cost savings potentials (e.g., through cost reductions from eliminating duplicate tests in Emergency Room visits) or clinical effectiveness improvements (e.g., by connecting Emergency Room physicians to medical histories in the PHR or by providing complete PHRs to a personal physician). More awareness and usage of the readily available PHR may be possible in the future.

Background

A Personal Health Record (PHR) can be defined as a private, secure web-based tool maintained frequently by an insurer that contains claims and other administrative information. A PHR would normally have data that is "auto-populated" with claims and other information from the administrative records (claim payments) from an insurers/MCOs' database, rather than needing input typed in by an individual. This means that a consumer would have a source of highly reliable data derived from records derived from financial transactions that are very likely to be accurate for most entries.

PHRs may also include information that is entered by consumers themselves (such as family histories, immunization records or corrections to the auto-populated data), as well as data from other sources such as clinical values from pharmacies, labs, and care providers. PHRs enable individual patients and their designated caregivers and physicians to view and manage health information and play a greater role in their own health care. PHRs are distinct from electronic health records, which providers use to store and manage detailed clinical information.

As one example of PHR usefulness, several newspapers report that PHRs were used in the aftermath of Hurricanes Katrina and Rita, when survivors lost or were unable to access physical copies of health records or in California where Kaiser's combined PHR/EMR was available during recent Southern California fires. PHRs with detailed claims and some clinical data were still available from various web-based datasets.

Survey Methodology

Representatives from seven major health insurers or Managed Care Organizations (MCOs) were interviewed for the purpose of determining the current status and near-term plans for PHRs offered by them for California subscribers and dependents ("members"). These organizations included:

- Aetna
- Blue Shield
- CIGNA
- HealthNet
- Kaiser
- United/Pacificare
- WellPoint/Blue Cross of California

In each case, a list of standard questions and issues was used and open-ended questions were added to solicit any new approaches to use of PHRs. [See Appendix A for the list of questions and issues.] All representatives were very forthcoming and helpful in scheduling interviews and providing key personnel familiar with the details of that company's PHR. Interviews were conducted during late November and early December 2007 and provided publicly disclosed information about the status of PHRs at that time.

Responses were compared across companies and with the author's experience to determine the need for further questions. However, the responses were not audited or checked against actual records. In general, the company representatives were candid about capabilities, describing current limitations in some instances and approximate timetables for future roll-outs and expansions. The author was pleased with the quality of the responses and the expertise of the representatives contacted.

Type and Extent of Data Collected and Available

In general, all of the surveyed companies are collecting and making available very similar types of PHR data. Nearly all data from claims submitted for insurer/MCO payment can be used and "auto-populated" into the PHR. The survey has confirmed that this data generally includes the following information for California consumers:

- Hospital inpatient admissions
  - Dates of admission and discharge
  - Diagnoses from Diagnostic Related Groups (DRGs), an industry standard
  - Name of hospital
- Hospital outpatient service
  - Emergency room visit, if applicable
  - Procedure (CPT-4 or HCPC)
  - Name of hospital/facility
- Physicians*
  - Date of service
  - Diagnosis
  - Procedure (from CPT-4, an industry standard)
  - Physician name or group or Tax ID number
- Lab tests
  - Name of test
  - Date of test
  - (For some companies and labs) Clinical values of results
  - Provider name
- Imaging
  - Type of image
  - Date of image
  - Provider name
- Prescription drugs
  - Name of drug and NDC code
  - Strength
  - Form
  - Number of pills

*Physician data may be limited for some PHRs due to the presence of capitation contracts with MCOs for which a varying level of detail is available. Capitation contracts generally provide a fixed per capita payment without requirements for submitting full fee for service individual claims for adjudication. Encounter data (not a claim) is collected but may include only partial details.

Similar information is also frequently available for Durable Medical Equipment (DME) and sub-acute inpatient care as well as other ancillary services.
Kaiser Health Plan (Kaiser) is something of an exception when compared with the other six insurers/MCOs in that it has a much more complete Electronic Medical Record (EMR) serving its California physicians and members but has more limits on what is currently available and visible in the member's PHR. For example, hospital inpatient admission data is collected in the EMR but is not

yet available on the PHR. (This data is planned to be made available in the 2008/09 timeframe.) Similarly, non-Kaiser hospital data, e.g., for emergency care, is not available at this time. In constrast again to some of the other PHRs, Kaiser's PHR has other features for use by consumers, such as the ability in an "Appointment" feature to schedule physician appointments online, use secure email to contact physicians, see of a list of personal diagnoses or problem areas, or for imaging visits, to click on a test and obtain a medical education view of the procedure.

Frequency of Updates and Amount of Time for Data to be Included

Perhaps because these companies are developing PHR tools that "auto-populate" the PHRs, their administrative operations from paying claims generally add new information automatically into the company's data warehouses. Then, on a frequent basis (weekly or monthly), the actual PHR is updated with new data. In some cases, EMR-based data from clinical systems is available much more quickly (within days). Thus, a consumer will automatically have available his/her recent medical and prescription drug activity from claims data. While some claims data takes time to "go through the pipeline" (e.g., a hospital may submit an Emergency Room claim on a weekly basis and the claim may require two weeks to adjudicate and enter the data warehouse), most companies are reporting that their "Days of Claims Payable" average around 50-60 days at most – meaning that data is generally completely loaded and available within two months. Because some companies use electronic claims submissions from hospitals and physicians, some claims will be received and processed in much shorter time periods.

The insurers/MCOs interviewed noted that many of the PHRs are relatively new – from still being in pilot phase to approximately two years of full operation. As a result, data in the PHR may be just beginning to be used and today may have only a few months of clinical services history. Other companies have similar data in their claims data warehouses and have used this data to auto-populate the PHR with historical data, frequently going back 24 months (or more). Again, in contrast to other companies, the Kaiser representatives indicated that their PHRs have data that may go back as much as 20 years for some types of records due to the nature of their combined provider-health plan MCO system.

Several companies remarked that on a "go forward" basis, they intend to capture, populate and continue making available all data without any time constraints on how many months of data is displayed. Since much of this data is derived from key claims data needed by actuaries and financial analysts to operate these insurers/MCOs successfully, there is the high likelihood that the PHRs will have robust data sets.

Data Retention and PHR Re-activation

The survey asked whether companies would retain PHR data in the event that a subscriber was no longer a member and then returned. Most companies responded that this was too new to have developed a policy but that it was likely that a subscriber's record could be "re-activated" if he or she returned within 24 months. Because many individuals may change jobs but then sign up for the same insurer/MCO again, it is likely that re-activation will become a common occurrence.

Kaiser representatives stated that a much longer time period for record retention is used. If a member re-enrolls, then the system "pings" the membership system and can obtain and connect names to records, even over a long period of time – perhaps in excess of five years. One of the representatives had personal experience with returning to the Kaiser system after an extended absence and re-establishing his member records.

Industry Collaboration Project

America's Health Insurance Plans (AHIP) working together with the Blue Cross Blue Shield Association (BCBSA) have developed a position paper and proposed standard data formats for use with participating company PHRs. These standards are meant to facilitate a future ability to transfer a subset of PHR data ("rollover" PHR information) when an individual changes insurer or MCO, either by taking a new job, if he or she changes enrollment option or if his/her company switches to a new insurer/MCO. While not operational at this time, the ability to "rollover" historic PHR data represents an opportunity for individuals to easily maintain historic records of their treatment, clinical values and providers.

A chart showing the types of data in a model PHR developed by AHIP/BCBSA is included in this report.

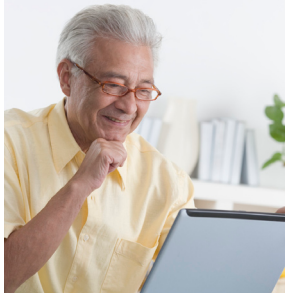
Medicare's Initiatives with PHRs

Over the last few years, the Centers for Medicare and Medicaid (CMS) has conducted feasibility testing and is working on pilots for providing PHRs to Medicare beneficiaries. In 2005, CMS solicited feedback on PHRs and received over 50 responses. In 2006, CMS conducted a successful feasibility test for transfering Medicare Fee For Service data (from the traditional Medicare program) into PHRs.

A pilot PHR program with four Medicare Advantage plans (Kaiser, HIP, Humana and UPMC) was launched in June 2007 and was expanded to include three additional plans in October 2007. More may be added in 2008. The content and the approach are similar to those reported above for under-65 populations. An evaluation will be performed through June 2008 by AHRQ regarding utilization by beneficiaries and a survey for use of features with a final report expected in December 2008.

A separate pilot for FFS Medicare will be conducted in South Carolina targeting 100,000 beneficiaries. Claims data will be obtained from the South Carolina Fiscal Intermediary (claim adjudicator), Palmetto (a Blue Cross of S. Carolina company) and will use an existing PHR from HealthTrio. The one-year evaluation will be conducted by the HHS Assistant Secretary for Planning and Evaluation (ASPE).

Current Utilization of PHRs by Eligible Members



Since PHRs are new services provided by insurers and MCOs, many members are either not yet aware of their existence or have not used or registered for use. In order to minimize the work to respond to the survey, the author asked for rough estimates of the number of unique members currently using or having visited their PHR and the total membership base. It appears that generally under 5% of members have made use of a PHR, with the exception of one company (Kaiser) that has had over 30% registration. Kaiser, perhaps because of its longer experience with its EMR/PHR system, stated that over 22.1% of its members had activated accounts.

Further study might be useful to determine the familiarity of members with PHRs and any barriers to usage.

New Developments

Several insurers/MCOs had noteworthy projects or pilots underway to further expand the usefulness of PHRs. Many of the companies are now able to have a PHR faxed (at a member's explicit direction) to a personal physician. Because several companies use WebMD™ as their PHR data engine, they make use of the WebMD™ faxing capability. Several of the companies are also investigating allowing family members to be enabled to print or view PHRs. For example, Kaiser has in place the ability for parents to designated as a "proxy" for their children and will have adult-to-adult proxy permission available by the end of January 2008.

Several company-specific initatives or pilots are worth mentioning. In alphabetical order, a few of these initatives include:

Aetna has a Historic Health Record (HHR) available to all of its members which is equivalent to the PHR definition of this report. For an additional fee for self-insured employers at this time, the Aetna Personal Health Record provides additional information and feedback to members through use of the Care Engine™ developed by Aetna subsidiary Active Health Management (AHM). According to the Aetna representative, the Care Engine™-augmented PHR will provide specific detailed advice emails to members that may include notes on drug interactions, and other clinical messaging developed by AHM algorithms. This kind of "push email" may be able to assist in active management of certain chronic conditions.

CIGNA is working with QuickenHealth to be able to auto-populate the Quicken application, targeting the fourth quarter of 2008.

Kaiser has established and managed a system, the Emergency Prospective Review Program (EPRP), that provides a telephonic link between a dedicated team of Kaiser emergency physicians and their colleagues in the 400 Emergency Departments at hospital facilities throughout California. Using this system, the community physicians are able to access the complete medical records of Kaiser members by direct live consultation or faxed records if preferable. The outcome of this interaction is improved quality of care for Kaiser members, avoidance of unnecessary and duplicative testing and appropriate disposition of these patients after their emergent episode.

United/Pacificare provides a "Health A-to-Z" feature that continues in operation for former members. While there is no further auto-population of claims (the individual is no longer a member), the individual can self-enter claims and other health information. If the person returns as a member, then the account is updated and auto-population re-starts. United also offers the ability for employers to populate claims for their entire population for multiple carriers. In addition to beginning to load some clinical lab data, United is collecting biometric data from on-site health fairs and loading the information directly into the PHR. Additional biometric data is being collected from a Disease Management vendor (weight from an electronic scale) and will begin loading in 2008. Other biometric data (e.g., glucometry or blood pressure) may follow.

WellPoint has begun several pilots for allowing Emergency Room physicians to be pre-approved for viewing most fields in a Blue Cross member's PHR. [According to the interview, certain sensitive conditions and treatments are not viewable, although a physician be able to see that there are hidden values and entries.] A pilot is underway at several St. Louis area hospitals, the University of Kentucky, and potentially Cedar-Sinai hospital in Los Angeles and holds the potential for improving urgent clinical care by providing immediate access to past history, such as drug interactions, as well as possibly reducing costs by helping eliminate the need to test again for previously completed lab tests or imaging. In a study completed by WellPoint's Outcome Research Subsidiary HealthCore, a Delaware hospital was able to reduce costs by an average of over $400 per emergency room visit

through access to a health plan based PHR. All of the cost reduction came from lower costs for the subset of patients who had a subsequent hospital admission. Also, WellPoint offers use of a physician-specific PHR that can allow a personal physician to view data (when permission is granted) that is integrated with a customized reminder and alerting service which sends out messages to members when their clinical care varies from certain quality measures or they are receiving prescriptions or other services which make sub-optimal use of their benefit package. Other pilots include a regional data sharing initative in Dayton Ohio which provides a complete E-HR and P-HR from a synthesis of existing clinical and administrative data streams. This pilot is testing whether the benefits of a RHIO can be obtained within the existing health plan and administrative infrastructure.

Value of PHRs for Consumers and Physicians

PHRs hold the promise for consumers of having their medical events and costs better organized to allow better and less expensive coordination of care. In today's mostly fee-for-service world, there is no single physician or entity with overall responsibility for monitoring and managing care. (Kaiser Health Plan and some of the largest medical groups, like the Palo Alto Medical Group, are notable exceptions.) Using insurer/MCO PHRs, consumers could present their personal physicians or emergency room doctors with comprehensive administrative records of recent "medical events" even though clinical data is not available. The WellPoint pilot discussed above indicates the magnitude of possible savings from reduction in duplicate tests, drugs, etc.

For physicians, until Electronic Medical Records are widely used (sometime in the long term future), PHRs offer assistance in care coordination. While many smaller physician practices will have good records for personal care, the PHR can be a secondary source and "all-care-summary" that can be used to improve clinical care. Active consumers bringing in or faxing medical histories will allow more shared decision-making about current conditions and diagnoses. Kaiser's combined EMR/PHR illustrates the usefulness to physicians, once they are aware of and trained in its usage.

Future Issues

The most important practical issue to increase the usefulness of PHRs for consumers would be an ability to "rollover" PHR data upon the subscriber changing insurer or MCO. For the longer term management of clinical conditions and reductions in unneccesary or redundant costs, subscribers should be able to auto-populate a new insurer/MCO PHR with old data without the need to type in prior history, especially in the case of patients with extensive treatment. From the survey discussions, it appears that all or nearly all of the seven insurers/MCOs are either monitoring, supporting or actively working on the AHIP/BCBSA intiative for data transfer.

Privacy protection was mentioned repeatedly by every respondent. Companies appear to fully recognize the sensitive nature of much of the PHR data and report that they take an appropriate level of precautions to protect member privacy. At the same time, PHR information may have the most value when it can be enabled for viewing and use by appropriate physicians, family members in the case of emergency care and other clinicians. As noted above, companies are proceeding to determine how this might be done within the guidelines of HIPAA. In one case, a respondent noted that under California law, there are certain clinical laboratory test results (for HIV antibodies, hepatitis antigens, drug abuse, or several malignancy tests) that cannot be posted to Internet sites, in spite of demand from this plan's members.

Summary of Current Status of PHRs

Insurer/ MCO	Current Status of PHR	Extent of Auto-populated Data	Length of Time for Data in PHR	Ability to Reactivate Member Record	Fax Capability	Clinical Data	Delegation to Family or Physician	Other Features
Aetna	Operational for all members	All claims data, plus lab data from large national labs	2 years for HHR*; no limit for PHR	Data is retained	Available in 2008	Lab test values from major lab firms	Early 2008	Additional reminder or warning messaging from AHM
Blue Shield of CA	Piloted for Blue Shield employees (not including dependents)	All claims data for employees	18 months	Likely, but to be determined	Not currently	Member can add data	Unknown	
CIGNA	Operational for lab results; medical claims to be provided in 2008 for all members	Lab data from large national labs today; all claims data starting in 2008	1/1/07 likely start for auto-populated data	Future development in conjunction with WebMD	Yes, using WebMD feature	3 lab tests from network labs	Next generation of PHR tool may allow access	
HealthNet	Operational for all members	All claims data	Launched data 12/06; no limit going forward	WebMD feature to access data by end of 2008	Yes, using WebMD feature	None yet; discussions are underway	Sharing a printed copy or through a fax	
Kaiser	Operational for all members	Most data is availaable in an internal EMR; subsets of data available in PHR "views"	EMR data is retained indefinitely	Yes - MCO searches membership database for returning member	No, but Kaiser physicians all have access to EMR	Clinical data is available in the EMR; most test resutls, diagnoses, health conditions, medications and office visits are in the PHR	Parents as proxy now; adult-to-adult proxy in 2008	Make, view and cancel appointments; send secure emails to MDs, refill prescriptions; integrated HRA and health reminder features
United/ Pacificare	Operational since late 2005	Two years of claims were populated when the PHR was launched in 2005; episode grouped diagnoses; most Rx data, except if PBM is "carved out" by large self-insured employer. United offers the employers the avility to populate the PHR with claims from other carriers	Datate will remain populated indefinitely and accessible through the "Health A-to-Z" feature	Yes - update on claims feed upon return; use of "Health A-to-Z" tool while non-member	No	Lab results from national labs in 2008; all new smaller lab cntractcs will also submit lab data	Proxy permission by age and spouse currently; United network physicians have access to PHR view of claims through online physicians portal, pilot program underway extending access to self-entered data	Biometricc data feeds from onsite health fairs in palce today, will add additional sources of biometric data for PHR in 2008; now only electronic scale. Reminder Messaging in operation
WellPoint/ Blue Cross	Operational for all members	All claims data	Up to 3 years	Available	Possibly through WebMD	Two large labs starting 1Q08	Physicians persmission through WebMD portal	Personalized messaging comparing tereatment with evidence base. Also notes sub optimal benefit use.

Appendix A – PHR Interview Instrument

Personal Health Record (PHR) Data Inquiry – Illustrative Questions/Data Sources

1. Extent of availability of PHR
    a. How many members of your company have one?
    b. How many unique members have viewed/used a web PHR?
    c. Are printed copies used?
    d. Other measures of use

2. Amount of data included:
    a. Longitudinal – how long is data kept for ongoing members?
        i. When started – how far back does PHR go?
        ii. Is data retained if member or employer terminates a policy?
        iii. Would a returning subscriber/member be able to reactivate an old PHR?
3. What types of records/fields are maintained?
    a. Claims data
        i. Hospital admissions
            1. DRG
            2. How many diagnoses?
            3. Dates of admission/discharge
            4. Which hospital (if a system)
            5. Other
        ii. Hospital O/P
            1. E/R
            2. Procedures
            3. CPT-4s
            4. HCPCs
            5. Provider
            6. Other
        iii. Sub-acute inpatient
            1. NH
            2. Other step—down facility
            3. Other
        iv. Physician
            1. CPT-4
            2. Diagnoses
            3. Date of service
            4. Provider (individual or group tax ID)
            5. Other
        v. Lab tests
            1. Type of test
            2. Date of test
            3. Provider
            4. Other
        vi. Imaging
            1. Type of imaging
            2. Date of imaging
            3. Provider
            4. Other

vii. DME or other
    1. Equipment
    2. Date of delivery/return
    3. Diagnosis, etc.
    4. Other
viii. Prescription drugs
    1. Which drug?
    2. Strength
    3. Form
    4. Amount in script
    5. Limited supply amount (e.g., 30 days, 90 days, etc.)
    6. Generic or brand equivalents
    7. Other

b. Clinical data
    i. Lab values
        1. What data?
        2. How complete?
    ii. Other data

4. How to access the PHR
    a. Website
        i. By a member
        ii. By a Provider/Physician
    b. Paper summaries
        i. Frequency
        ii. How comprehensive
            1. Quarterly
            2. YTD

Data in the AHIP/BCBSA Model PHR

Patient Information	Demographics and personal information, emergency contacts, PCP name and contact information, etc.
Family History	Possible health threats based on familial risk assessment. Includes the relationship, condition or symptom, status (e.g. active/inactive), and source of the data.
Physiological Info.	Physiological characteristics such as blood type, height, weight, etc.
Subscriber Info.	Information regarding any subscribers associated with the individual (spouse, children).
Encounters	Encounter data in inpatient or outpatient settings for diagnoses, procedures, and prescriptions prescribed in association with the encounter.
Medications	Medication history such as medication name, prescription date, dosage, pharmacy contact information, etc.
Immunizations	Information regarding immunizations such as vaccine name, vaccination date, expiration date, manufacturer, etc.
Benefit Information	Information regarding current insurance benefits such as eligibility status, co-pays, deductibles, etc.
Providers	Information regarding clinicians who have provided services to the individual.
Facilities	Information regarding facilities where individual has received services.
Health Risk Factors	Patient's habits, such as smoking, alcohol consumption, substance abuse, etc.
Advance Directives	Advance directives documented for the patient for intubation, resuscitation, IV fluid, life support, references to power of attorneys or other health care documents, etc.
Alerts - Allergies	Patient's allergy and adverse reaction information.
Health Plan Info.	Used for plan to plan PHR transfer. Information about the sending and receiving plans.
Plans of Care	Any reminder, order, and prescription, etc. recommended by the care management and disease management program for the patient.

White Rows are Self-Reported Information
Yellow Rows are Systems-Populated Information

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