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ON BEHALF OF KAISER PERMANENTE

I am the co-executive sponsor of Kaiser Permanente HealthConnect, my

organization's multiyear project to create an electronic health record across the

continuum of care for its entire national membership, currently in excess of 8.6 million

people. This project replaces the paper medical record in our more than 430 medical

offices and 31 hospitals nationwide and will be used by the more than 13,000 Permanente

physicians and 140,000 other staff for virtually all of their work. It also includes a web

front end/view of a personal health record for all of our members, and it is tightly linked

to our pharmacies, laboratories, and imaging departments. This project began in the first

quarter of 2003. To date, all 6 of our operating regions outside of California have fully

deployed the entire suite of Kaiser Permanente HealthConnect software[1]. Our two

California regions will complete their deployments on the ambulatory side approximately

12 months from today. They have already completed virtually all of the non-clinical

aspects of the inpatient deployment, including the inpatient pharmacy, and they have each

fully implemented clinical documentation and computerized physician order entry

(CPOE) in 1 hospital (South Sacramento and Baldwin Park). When these initial sites

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[1] This includes all necessary software for an ambulatory health record, order entry and
results reporting, two-way interfaces to all ancillary systems (pharmacy, lab, imaging,
and others), registration, scheduling, web front end for members, web front end for non-
Permanente clinicians, health information management, referral management, and billing.
Where we own and operate hospitals, it also includes all of the above for inpatient and
emergency department services as well as inpatient pharmacy, admission-discharge-
transfer, and medication administration.

have stabilized, the remainder of the inpatient clinical documentation and CPOE deployment will proceed. It is expected to be completed by 2009.

Kaiser Permanente HealthConnect may be the largest current software implementation in the United States, in or out of health care. Sixty percent of large, complex software implementations like Kaiser Permanente HealthConnect fail. I have been asked to explore the lessons we have learned, the mistakes we have made, and the factors we credit for current success. I have also been asked to explain why we are doing it.

First, it is important to recognize that Kaiser Permanente HealthConnect was not begun in a vacuum. Kaiser Permanente has been using computers increasingly to help doctors, nurses, and other health professionals care for our members for more than 30 years, and we have been doing so in an increasingly sophisticated manner. By the end of the 1990s, several of our regions had electronic health records of varying complexity and sophistication, and two (Colorado and the Northwest) had completely automated the ambulatory environment. Second, we are an integrated health care delivery system. It is obvious to all of our staff, professionals and non-professionals, that any undertaking that benefits members in terms of the quality of care and service they receive is important to do, even if it does not benefit that staff member directly. "Resistance" was not an important problem for us.

What lessons have we learned?

1. **Buy, do not build.** When we began to do this work 30 years ago, there was no commercial software that could address the size and complexity of our organization. We were forced to design and build most of the software we

required. Now there is vendor-produced software equal to the task. A few of

these vendors have also developed excellent implementation success track

records. They can build better software faster than we can, and they can make it

flexible enough to deal with our complexity.

2. **Buy suites of software versus "best of breed."** Software engineers will promise

   to be able to integrate disparate systems, but it is far better to have products built

   from the start to work together off the same data model. It is less complex, less

   expensive, and easier to maintain.

3. **The total cost of ownership is roughly triple the initial cost of the**

   software/hardware. In particular, underestimating the training needs of users

   and their loss of productivity while they are learning to use the software, and

   failing to budget adequately to meet these needs, will be fatal to the project.

4. **The project must be lead by clinical operational leaders, not be information**

   technology. Clinical leaders must want and drive the implementation of the tool,

   with IT leaders and experts in full support, rather than the other way around,

   which is too often the case. If it is treated as an IT project, or even viewed as

   such, it will fail.

5. **The organization must commit to funding the project over many budget**

   cycles—at least 5 years and preferably 10. A separate carved out budget for the

   project that is as close to sacrosanct as possible is the ideal.

6. **The most senior leaders of the organization must be visibly, constantly**

   committed to the project. These implementations change how everyone in

   health care does their routine work. It is so painful that people require constant

repetition of the vision and goals. If the only truly visible leaders are the IT "enthusiasts," who want to do it because it is "cool," the project will fail.

7. **Credible physician, nursing, pharmacy, and other <u>practicing</u> professionals must be convinced of the value of the project.** They must be directly engaged in the execution of the project by giving them time and money for their participation. They will be the optimal source of training and support for their peers.

8. To paraphrase the realtors, the answer is **leadership, leadership, leadership.** Electronic health record adoption is difficult, even for the most motivated, computer literate clinical work force. If leadership is not constantly articulating the vision, modeling persistence, using of the system, and problem-solving rather than complaining, as well as sustaining the overt organizational commitment to the success of the project, it will fail.

While the above list is reasonably complete, the treatment of each section is superficial at best. More detail will be developed as a product of a dialogue with the Commission.

Why has Kaiser Permanente embarked on this expensive, difficult project? Why are we doing it now, in a context where, in California at least, lots of precious health care capital is needed for the seismic retrofit of all of our hospitals? The answer is simple, and it may be best expressed by repeating a story about Wayne Gretzky, the most prolific scorer in the history of the National Hockey League. When asked why he was so good at scoring, he replied that he always tried to skate where the puck was going to be.

Kaiser Permanente has a long tradition of imbedding evidence in health care. We have a Care Management Institute that develops evidence and converts it into tools and

support for all of our clinicians. We realized that currently available methods, in the absence of an electronic health record were no longer adequate. If we wanted to make care as high quality, evidence-based, safe and convenient for our members, and efficient as we wanted it to be, we needed and electronic health record. In this, we agreed with the Institute of Medicine's *Crossing the Quality Chasm*—an electronic health record is an essential tool if any improvement in these areas is to be realized.

We took that conclusion a step further. We did not want to design and implement an electronic health record system that supported Kaiser Permanente in the health care world of today. We wanted to skate to where the puck was gong to be—we wanted to try to understand how health care could be transformed over the medium term and how we could design a system that would both help create the transformation and support our members and staff as they worked within the transformed state. In 2002, before we embarked on Kaiser Permanente HealthConnect, we developed what we call our Blue Sky Vision. We assembled a group of expansive thinkers from inside and outside of Kaiser Permanente to help us predict what health care could be like in 2015 (we chose 2015 because it was not so close to 2002 to be useless and not so distant as to be pointless). In this vision for the year 2015, the locus of control of the system shifts from the practitioners to the patients/members. Home or the community or workplace is the hub of care, not clinics or hospitals. Transitions between care sites and between practitioners are secure and seamless for members. Valuable health care professionals are leveraged wisely. Finally, care is customized to meet the needs of each individual. We then convened a second group of people, our practical operational leaders, and asked them to describe the steps that would take us form our then current state to the Blue Sky.

An electronic health record system figured prominently in their conclusions, and they further described a set of requirements for that system. Shortly thereafter, Kaiser Permanente HealthConnect was born.

A graphic representation of the Blue Sky Vision accompanies this statement. Again, each principle can be more fully developed in dialogue with the Commission. In brief, the implementation of an electronic health record, Kaiser Permanente HealthConnect, is <u>not</u> a goal of Kaiser Permanente's. Transformation of health care in certain key dimensions is our goal, and the electronic health record is a necessary (but not sufficient) tool to be used to achieve that goal. Without a compelling vision for the future and a clearly articulated strategy for achieving that vision, it is a tool without purpose. Under the latter conditions, any attempt to implement an electronic will almost certainly be an expensive, demoralizing failure.

Blue Sky Vision Themes

2015: care delivery model is consumer-centric

Home as the Hub
- The home, and other settings, will grow significantly as a locale of choice for some care delivery (diagnostics).
- An individual's care delivery support system has expanded to explicitly include other community and family resources

Integration and Leveraging
- Medical services are integrated with wellness activities; care delivery processes are integrated with health plan operations
- IT functionality enables us to leverage scarce or specialized clinical resources - MDs, RNs and other clinical staff.
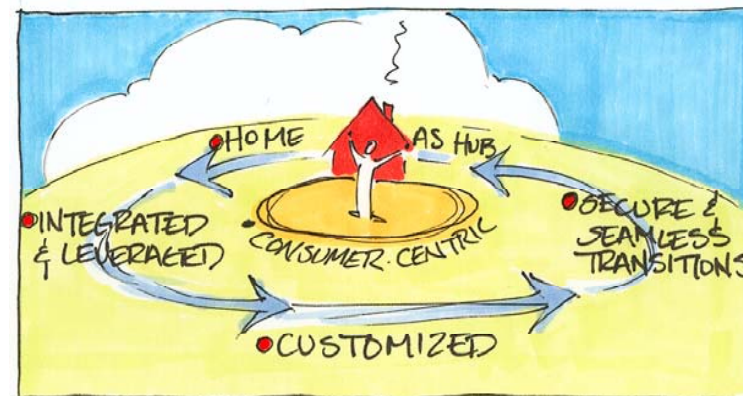
Secure and seamless transitions
- 'Warm Handoffs' - The human skill sets and operational processes to deliver care and service effectively, efficiently, and compassionately.

Customization
- Occurs at any level of the members' journey with KP (choosing health plans, cost sharing, individual care pathways, and communication modalities.)
- The member drives customization and KP responds.