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Kaiser Permanente, information, and the integrated health care policy

Michael Quarterly 2011;8:490–8.

Kaiser Permanente, one of the largest health programmes in the United States, has 8.9 million members. As a prepaid system, it has many similarities to the Scandinavian health systems. The scope of the article is to look into how Kaiser Permanente brings information to their employees and their members. It focuses on the creation of a common electronic patient record, KP HealthConnect, for all Kaiser Permanente regions, and for their programmes directed towards members with heart failure. KP HealthConnect was created from 2003-2008 with the aim of contributing to a new way of working throughout the organization. The care should be integrated and given as early as possible, resulting in better patient outcomes and more cost effectiveness. The conclusion is that KP HealthConnect is a success. The second theme is a description and evaluation of a programme to Prevent Heart Attacks and Stroke Everyday (PHASE). This is a programme mobilizing patients to achieve a better outcome for their health, which Kaiser Permanente can document is successful. The Norwegian health service is working on how to reduce the unwanted differences in services given to patients, how to integrate specialist services with preventive medicine for large disease groups such as diabetes and heart failure, as well as the nationwide electronic patient record, which is still not in sight. Kaiser Permanente is working with the same problems, and claim they have come a long way on the road towards solving it.

Kaiser Permanente health programme

Being an organization quite similar to the Scandinavian health systems, it is meaningful to look into how Kaiser Permanente has taken on the problems common to our health services.

Kaiser Permanente is one of the largest health plans in the US, with a membership of 8.9 million. A total of 78% are connected through their

employer, while 17% are also covered by Medicare. Different from most other health plans and insurance systems, it is both an insurance company and a service provider. Kaiser Permanente operates in nine states, though California is where it is most dominant. It owns and runs hospitals, medical offices (outpatient clinics) and pharmacies (1, 2). The staff is employed by the firm, as are the physicians, who are on fixed salaries with the possibility of getting bonuses. The total number of employees is 164,000, including 15,000 physicians.

Kaiser Permanente is financially organized as a prepaid system. The individual member, or the company where she or he works, pays a premium in advance, which then entitles them to the services covered by that premium. The members have to pay a smaller sum for each service given known as a co-payment, which has a ceiling for every fiscal year. The premium varies according to the overall health status of the group of employees who are covered by the different member firms, and is renegotiated at various intervals. Therefore, Kaiser Permanente and its member firms have a common interest in preventing illness and helping its individual members achieve a healthier lifestyle. They regard the physicians as their most important employees, thus underscoring that Kaiser Permanente is a physician-led health programme.

Communication and care

Kaiser Permanente presents itself as giving integrated care. They help their members live a healthier life, and use primary and secondary methods of prevention to achieve a better and less expensive service for their members. In order to achieve this, they are concerned about how to communicate information, both to their members and to their professional employees: How do they work on reducing the diversity among physicians on patient treatment? How do they educate their members to live a healthier life and enable them to help themselves? How do these actions result in a better health service for the patients and a sounder economic situation for Kaiser Permanente?

Data

The data for this article was gathered through an introductory course organized by the Global Health Leadership Forum, a section of the Department for Public Health of the University of California, Berkeley and Kaiser Permanente International, in April 2011. The course included lectures, discussions and visits to a Kaiser Permanente hospital, in addition to the Garfield Innovation Center, which is part of the organization. The topics

included delivery of the best health services in a cost-effective manner, presenting different experiences from different countries, particularly from the US.

The course was followed by a two-week stay in Berkeley, which included interviews with academics and experts on health and social services, visits to relevant health institutions to verify and add information through health statistics for California, including additional statistics from Kaiser Permanente, as well as additional information from articles on the internet and the study of federal programmes such as Medicare and Medicaid, and agencies such as the National Committee for Quality Assurance (3), the Agency for Healthcare Research and Quality and the National Guideline Clearinghouse (4). The documentation used included books, articles, lectures and personal information.

How to achieve a better patient outcome and cost-effective service?

To achieve a cheaper and more cost-effective service that yields a better health service and outcome for the patients, Kaiser Permanente is working on the following seven areas:

- their data system "KP HealthConnect", which also is an electronic patient record (5);
- voluntary screening of the members to enable them to obtain advice and treatment in the early stages of their illness (6);
- developing their own treatment guidelines (7);
- the establishment of the Garfield Innovation Center (8);
- establishing a department to evaluate and develop the organization (9);
- an organization in which the different departments and clinics are led by physicians (7);
- setting up various programmes aimed at patient groups (10).

The creation and use of KP HealthConnect

The beginning of the 21st century was financially difficult for the health care industry in the US. Kaiser Permanente was no exception, and was losing market share (11, 12, 13). On top of that, there were published reports documenting that health care quality and safety were lagging behind other developed countries, even though the United States spends far more money on health care than other countries (14).

In 2002, Kaiser Permanente hired George C. Halvorson as its new CEO. His main vision for overcoming the crisis was to end the different regions' development of isolated data systems, creating one electronic medical record

for the entire Kaiser Permanente organization. This work started in 2003, and the new KP HealthConnect was in use in all regions by 2008.

The vision was that KP HealthConnect should not only provide electronic help for the ongoing practice, but also contribute to a new way of working, helping the integration of care between different specialties and levels of services, bringing the patients closer to the service and raising the quality of care. Additionally, the system was designed to be consumer oriented, and had as its slogan to create the "Home as the Hub" (15, 16). The United States' health programmes are evaluated each year by The National Committee of Quality Assessment (NCQA) according to their Healthcare Effectiveness Data and Information Set (HEDIS).

Halvorson wanted the system to help Kaiser Permanente to achieve a score of better than 90% on all HEDIS parameters. It was, and still is, compulsory to use the system for all employees in Kaiser Permanente.

The system is an all-inclusive system incorporating scheduling, registration and billing alongside health and clinical information, while working together with ancillary systems for pharmacies, laboratories and radiology.

- With the information given, it is a fair conclusion that KP HealthConnect has achieved the following: Better quality, because it is possible to monitor what the various doctors do, and how they follow the treatment guidelines established by the organization, as well as the standards used by HEDIS, and Kaiser Permanente does use this opportunity.
- Having close to 9 million persons in the system is a great source for research activities, which makes it possible to:

  Register how various patient categories respond to treatment and develop better health programmes for population groups.

  Gather important information for specialty groups such as the hip register, which is the greatest private hip register in the United States.

  Creating smart systems for different specialties, helping them deliver higher quality care by learning about the effect they have.
- Patient safety will be better ensured, as the system can use different methods of "flagging" when suggested procedures and/or medication are outliers from what should be expected.
- The system is available for the members who can access part of their medical record, check their laboratory results, e-mail their doctor, schedule visits to a hospital or outpatient clinic and obtain information about illnesses, healthy living and how to help themselves. This part of the system is called, My Health Manager.

Kaiser Permanente claims that by using KP HealthConnect, it has been possible to reduce the variance among doctors in relation to how they treat

patients, saving as many as 12,206 lives per decade and being able to follow up patients in a better way, while saving approximately USD 68.9 million in operational costs. Their total revenue in 2010 was USD 44 billion.

Prevent Heart Attacks and Stroke Everyday (PHASE)

PHASE was established in order to create a close link between the patient and the services, making prevention and specialist service part of a common treatment programme.

A total of 300,000 persons, or 11% of the members in Kaiser Permanente, are enrolled in PHASE (3, 4). It is open for all members to join, but it is those who have had a treatment related to heart disease that are asked to join. One of the theses put forth by Kaiser Permanente is that 80% of the treatment of a patient is done by the patient themselves. This coincides with findings in Norway, where 80% of the people who say they have some form of sickness on a particular day are not in contact with the health services (17). Sixty-eight percent of the PHASE population is registered with diabetes, and 43% have either had a stroke or are registered with cardiac disease. PHASE is a follow-up and addition to the ALL programme (Aspirin, Lisinopril and Lipid-Lowering Medication).

Using KP HealthConnect, Kaiser Permanente contacts members at risk of heart attack and stroke, and gives them the opportunity to register with the programme. Once this is done, the programme is mainly a close follow-up with tests at certain intervals, in addition to giving advice on taking medication, living a healthier lifestyle and being aware of other illnesses that can affect the risk of having a stroke or heart disease.

The programme has improved the treatment of patients by 30% over 2.5 years, and from 1996 to 2006 the mean low-density lipoprotein (LDL) has fallen from 145 LDL to approximately 95 LDL.[1] Another positive effect has been a lowering in the number of patients in need of a hospital bed. With programmes such as PHASE, Kaiser Permanente claims to have achieved their aim of giving better service with lower costs. A study from Kaiser Permanente in Northern California found a reduction of heart attacks by 24% since the year 2000 (18), whereas another study revealed that more than 40% of very high-risk patients were able to reach national cholesterol guidelines (19). Both studies claim that they were made possible because Kaiser Permanente is a large and integrated health programme that has a common electronic patient record and runs programmes such as PHASE.

1 1 LDL is approximately 0.0259 SI units.

Discussion

From a situation in which they struggled to survive as an independent health care provider, Kaiser Permanente now has a healthy economic situation, with all of the organization's representatives demonstrating great enthusiasm about how they have attained this goal by delivering better health services.

With KP HealthConnect, they have created a tool to help in standardizing procedures, thereby bringing the patient closer to medical decisions and monitoring the physicians' practices in a better way.

Kaiser Permanente has succeeded in helping their organization understand that a good system means a good standardization of vocabulary and procedures. During this process, they developed their Convergent Medical Terminology based on the Systematized Nomenclature of Medicine. In the autumn of 2010, they donated this to the International Healthcare Terminology Standards Development Organization for distribution through the U.S. Department of Health and Human Services so that all health care providers can benefit from this translation-enabling technology.

With the vision of the "Home as the Hub", Kaiser Permanente focused very early on what could be done outside the hospital by the patients themselves, bringing the members of Kaiser Permanente on board as important users of KP HealthConnect connected through "My Health Manager". At present, Kaiser Permanente has half the number of hospital beds per capita in comparison to Norway, and they think they can reduce this number even more.

KP HealthConnect makes it possible to monitor the practice of their physicians who are striving for a better and more secure health care. When differences are discussed in Norway, it is between regions, and to some extent, between hospitals. How the information in KP HealthConnect is used in evaluating an individual physician's choices, and how this affects the working atmosphere, would be worthy of study.

A side effect of KP HealthConnect is that after some years it will yield a potent set of data for research. In Norway, the personal number (similar to a social security number in the US) of each inhabitant allows a variety of researchers to have the possibility to monitor people over a period of years, which is not the situation in the United States. With 8.9 million members and KP HealthConnect working across its various regions, Kaiser Permanente will have a unique opportunity as a United States company to come up with research results they could not have previously accomplished. In 2008, employees from Kaiser Permanente published 700 articles in peer review journals (20), while Norwegian specialist health services published 3,150 articles over the same year (21). It will be interesting to see whether

the further development of KP HealthConnect will raise the number of published papers.

When it comes to PHASE and the other Kaiser Permanente programmes concerned with teaching their members to handle their illness better and live more healthy lives, they have achieved success when compared with other US health programmes. Kaiser Permanente has family physicians, but is first and foremost a programme that provides specialized services. Compared with the rest of the United States, they do that in a more integrated and coherent way.

In comparison to Norway, they do not cooperate with the municipalities, and do not have a programme for the people most at risk from diabetes, cardiac failures and stroke because these are mostly the people who are not insured (22). While they score high compared to other health programmes in the United States, reducing heart attacks by 24% over the last 10 years (18), figures from the Norwegian Institute of Public Health indicate that the fall in Norway has been approximately 40% over the same period (23).

Conclusions

KP HealthConnect has a success rate that few other health organizations of this size have attained. Kaiser Permanente has a foresight far beyond others by bringing the "Home as the Hub" as its main vision, and has succeeded in using its electronic medical records to change the way it works. It has managed to standardize nomenclature and procedures, while simultaneously involving professionals to contribute to the process of establishing a system that is accepted by the organization. They have dared to bring their members into direct electronic contact with their doctors, experiencing a result that this possibility makes the members more comfortable in handling some of their health problems by themselves, while freeing time for the physicians to attend to more demanding tasks.

KP HealthConnect has been working for just a few years. It will strengthen Kaiser Permanente's struggle for a more integrated care, and continue to be a powerful tool for implementing guidelines and narrowing unwanted variances.

Literature

1. Porter, M. *Kaiser Permanente International Kaiser Permanente: An Integrated Health Care Experience.* Lecture, April 2011.
2. Eytan, T. Another American way. *Economist* April 27, 2010.
3. *www.ncqa.org*
4. http://www.ngc.gov/content.aspx?id=9659
5. Ferguson, J. *Health IT strategy & policy, Kaiser Permanente, Kaiser Permanente's journey and experience in the new era of health IT.* Lecture, April 2011.
6. Sawyer, D. *Chronic conditions management at Kaiser Santa Clara.* Lecture April 2011.
7. Levine, S. *Leveraging integration, partnership, and physician responsibility to deliver performance, A 65-Year Journey. No end in sight.* Lecture, April 2011.
8. McCreary, L. *Kaiser Permanente's innovation on the front lines.* Harvard Business Review. 2010.
9. *McCarthy, C. Infrastructure of design. Lecture April 2001.*
10. Steimle, A. *Improving the quality of cardiovascular care, The Kaiser Permanente Northern California experience.* Personal information, lecture April 2011.
11. Crosson, F.J. & Tollen, L.A. *Partners in Health.* Jossey-Bass, ISBN 978-0-470-55096-0, 2010.
12. Shortell, S.M. *Implementing accountable care organizations: The road ahead.* Lecture Global health leadership forum, Berkeley, California, April 2011.
13. Shortell, S.M., Casalino, L.P., & Fisher, E.S. How the Center for Medicare and Medicaid Innovation should test accountable care organizations. *Health Affairs* July 2010; 29:7.
14. Institute of Medicine. *To Err is Human: Building a Safer Health System for the 21st Century.* Washington, D.C.: National Academy Press, 2000.
15. Liang, L.L. (Ed.) *Connected for Health, Using Electronic Health Records to Transfer Care Delivery.* ISBN: 978-0-4706-3937-5, Kaiser Permanente 2010, Wiley Imprint.
16. Scott, J.T., Rundall, T.G., Vogt, T.M., & Hsu, J. Kaiser Permanente's experience of implementing an electronic medical record: A qualitative study. *BMJ* 2005; 331: 1313-16 doi:10.1136/bmj.38638.497477.68 (Published November 3, 2005).
17. Det kongelige helse- og omsorgsdepartement. *St. prp. nr. 1 2004-2005.* Oslo 2004. page 14.
18. Yeh, R.W., Sidney, S., Chandra, M., Sorel, M., & Selby, J.V., Go AS. Population Trends in the Incidence and Outcomes of Acute Myocardial Infarction. *N Engl J Med* 2010; 362: 2155-65 June 10, 2010.
19. Kauffman, A.B., Olson, K.L.,Youngblood, M.L., Zadvorny, E.B., Delate, T., & Merenich, J.A. Clinical Pharmacy Cardiac Risk Service Study Group, Attainment of low-density lipoprotein cholesterol goals in coronary artery disease. *Journal of Clinical Lipidology.* **2010; 4:**173-80. May 2010. (Presented at the American Heart Association Scientific Sessions, Orlando, FL; November 17, 2009.)
20. Comton-Philips, A. *Creating the Future of Care delivery.* Lecture, April 2011.
21. Kalseth, J., Rohde, T., & Lassemo, E. *The financing of research in the Norwegian regional trusts.* 2010.

22. Gawande, A. Can we lower medical costs by giving the neediest patients better care? *The New Yorker,* January 24, 2011.
23. Norwegian Institute of Public Health. *Heart diseases (I00-I99), The whole country, deaths per 100 000 persons.* Table, 2001-2010.

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