

# New Health Era coming: Google Health versus Microsoft HealthVault

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## Abstract

*This study compares the recent most focused two personal health online records (PHR): Google Health and Microsoft HealthVault by their usability and discuss about their application and future development.*

*The method is using a virtual case from the website visiting to the data maintenance. This case is a common case: 75 years old lady with diabetes mellitus type 2*

*Result this two PHR could be said as designed for different group, Google Health is more like for those people who are used to use computer; Microsoft is more like for those who are basic computer users. However the convenience of HealthVault is based on the application which might cost user quite a lot. And Google Health needs users' motivation of maintaining their own data. This two PHR have not developed for the foreign users. Their cooperation with hospitals and organizations cannot be tested and seen in the study that is a very important part for the purpose of PHR as a continuity care record.*

*Conclusion: These two systems connect the medical record and personal health record together for a better continuous care. Even though they are often mentioned as competitors, but in this study reveal that they set their customers market in various strategies. The future research can address on how they fit into different countries and user motivation promoting.*

## 1. Introduction

Year 2007 is the new era of web 2.0 in health brought out by Microsoft and Google [1][2]. The concept of Personal Health Record (PHR) is mentioned around 1978[3], and then it developed several platforms such as paper-based, PC-based, and internet-based so on[4]. However in the early age its development is limited, till now with new platform of web 2.0 came out. Recently Google and Microsoft two of the most outstanding website vendors participated in this field. The whole world is focusing on their products so called as HealthVault and Google Health. How these two products make out their own markets and set up their features to catch users' focus.

## 2. Design

This comparison study was conducted on a personal computer with T1 network outside the United States during Dec 2007 to Aug 2008, and no extra health measure devices connected. There are many online PHR vendors from governments such as France Dossier Médical Personnel (DMP), Denmark Sundhed.dk [5], and Canada Infoway; from business such as IBM WebMD [6] [7], Google Google Health, and Microsoft

HealthVault. In this study Google Health and HealthVault are chosen for their high percentage in web market share data.

The test used a virtual case to simulate the user's need, to evaluate how user would feel when they are using the personal health record [8]. This case included chronic disease, using medication, test result followed, and allergy symptom. Those conditions are the most common stipulates which happened to a real person in every day.

## 3. Access

When user is trying to access the websites, there will be proxy-limited problem using HealthVault. Right now the developing version HealthVault is only opened to US proxy user, if uses go abroad that means they need the proxy switch to access in their own health record. However Google users can access into their own health record in the developing version.

## 4. Account registration and safety

Both of the two websites can accept the account from their previous mail service: Gmail and MSN as well. They also recognize the danger of personal data unwillingly release, Google health has the second identification; and HealthVault not only has the second identification, but also require users' password need to obtain letters with capital and without capital, numbers.

## 5. Interface



Figure 1. Interface of HealthVault

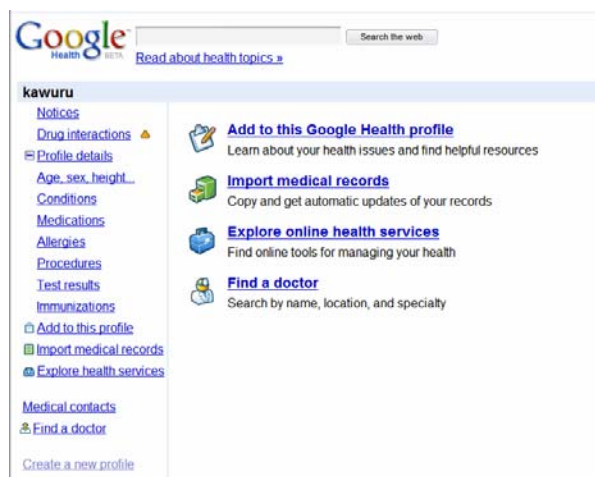


Figure 2. Interface of Google Health

Verbalizer (see Figure 1) and imager (see Figure 2) can be observed in the two health service, for normal computer user the imager interface would be easier for them to understand the information of the concept of website operation. In advanced computer user's viewpoint the imager interface would not be as convenient as the verbalizer one. Because they are more familiar with the verbalizer interface, the imager one may cause them to change their usual practice.

## 6. Operation

- Basic Demographic Information
- File
- Personal Contact Information
- Personal Demographic Information

Figure 3. the operation of HealthVault

HealthVault seems not yet finished while the study, with simple columns: personal contact information, the upload space for documents. However this website looks like that they are going to have some change in the end of August.

Google Health is with more parts for all kinds of the health related condition entries such as allergy, medication, condition than HealthVault.

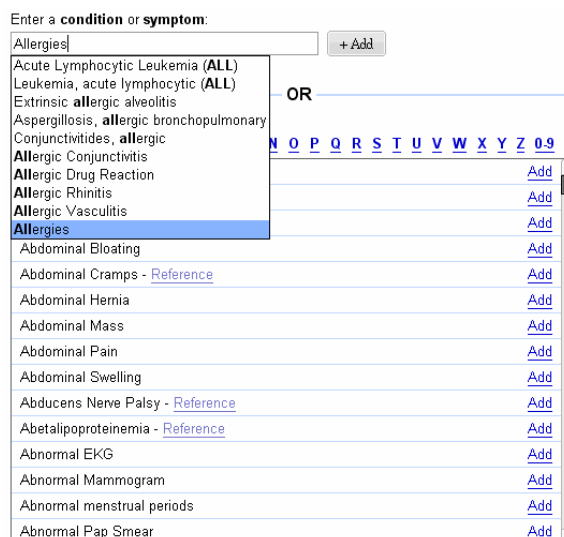


Figure 4. the google keystroke.

While entering the keystroke will pop out for user to select or just enter a new condition. That could be very helpful hints for people who are unfamiliar to medical vocabulary.

In this case we also found that when we enter some medication like ativan, the system can combine the data from personal information part and medication part and suggest the medication need to use cautiously in elders, more it can also offer a conference by clicking the hyperlink. It's not only an interface for data keeping but also act as patient support system.

## 7. Cooperation organizations

These two online systems cooperate with many well known medical centers. But their strategies work in two distinct ways. Health organizations do not occupy a very essential percentage in HealthVault cooperation; they also collaborate with other online PHR platforms, hardware companies. In contrast with Health Vaults Google Health mainly focus on the relationship with medical organizations, and they also open their collaboration format online for any company or interested independent to participate.

## 8. The further development tool

Personal health record platform requires the professional knowledge supported, well designed data warehouse, updating medical format and more [9] [10]. All the factors are not possible to be completed only by vendor, and that mean the personal health record development not only rely on vendors but also the outside assistance like physician, independent programmer, user. Team of Microsoft build a software development kit (SDK) for those who are interesting in to program more relative application for HealthVault.

Application programming interface (API) is well known for all the tools developed by Google; with no exception Google Health also has the API and blog for the application developing discussion.

The application developing tools display the foresight of these two companies.

Table 1. Google Health Vs HealthVault

Product	HealthVault	Google Health
Company	Microsoft	Google
platform	web 2.0	web 2.0
access(Aug 2008)	USA proxy only	global
security	Password examination	Second account entering
interface	imager	Verbalizer
cooperated organizations number	34	8
health data present type	file upload, corporation import	corporation import, self keyin
Device support	yes	No
Development	SDK	API

### 9. Conclusion

Personal Health Record became a significant issue from year 2004[11]. It is excited to witness two of the most powerful vendors involved in this field. They based on the same concept but acted out different outcome. User can have more choices from them or even more company. The web platforms are still developing there will always create some new equipment to upgrade the usability of the entire environment.

This study however practiced abroad, Medical record transforming one of the essential parts of PHR is not able to test. If there would develop an appropriate Chinese version of PHR, it may accelerate the E-medical environment in Taiwan. Especially the high rate of internet users[12] and the law of giving the ownership to person[13] empower the self-medical management and knowledge to person. Awake the person spontaneity to their own health[14].

Making PHR possible is not only depended on vendors, but also the medical organizations and user-self.

How to keep the user's motivation and convince medical organization releasing partial data could be great challenges in the future. The future may extend the focus to the react of vendors when receiving more user's response and feedback, the application building by using the development tools or the globalization of PHR in non-English use countries.

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