

ONC – Health IT

Move Health Data Forward Challenge

Smart Health Exchange

Emergency Exchange Product

Carol Anne Washburn, Johanson Washburn Consulting
925-768-3334

EMAIL carol.washburn@sbcglobal.net

LinkedIn URL www.linkedin.com/in/carol-washburn-869203

Professional website <http://www.johansonwashburn.com/>

With Jans Aasman CEO, Franz Inc.

and Linda Radler, Senior Director Quality Analytics and Health Information Technology at
Kaiser Permanete advising

Focusing on interoperability by patient functional need

Business Case

Executive Summary

Smart Health Exchange Emergency Exchange product solves one major piece of the interoperability issues. One issue that is solved by interoperability is ensuring that patients' information is available for other health care institutions, if there is an emergency. This needs to be done while maintaining HIPAA requirements and needs to be executed in a way that the information is usable.

Smart Health Exchange (SHE) provides an Emergency Exchange product that is HIPAA compliant and provides information that is usable and not overwhelming. The product does this with a minimal upgrade, cost and time for the health care institutions. It is anticipated to cost under \$50,000 to produce a functioning pilot product to test and show value.

It is anticipated to cost hospitals approx. \$5,000 - \$10,000 to implement the product and less than \$3,000 a year to maintain the product – much less than the more than \$9 billion that has already been committed on creating operability.

It will cost the company (SHE, that will be created to support this product) an anticipated at \$1 million to set up and \$7 annually to run. If half the hospitals in the country sign up the first year, the product will break even the first year.

SHE will be a woman owned organization. It will be led by Carol Washburn, who has created many electronic products and services for Wells Fargo and led the banking industry with new products and processes. Carol is well connected in the health care industry and has connections within the Department of Defense area that awarded the Cerner contract last summer, and has connections with Congresswoman Blackburn's office which writes initiatives for the subcommittee on healthcare, and has several personal friendships with many currently working doctors.

Carol is supported by Jans Aasman, CEO of Franz Inc. He has successfully led technical staff for many years. SHE will be a US based company, out of San Francisco bay area, hiring employees from the US.

Background

Banking has been sharing information for over 50 years even though banks are fragmented and do not share the same file layouts and data protocols. The reason they can share information is they have created many exchanges that have strict formats and secure ways of data exchange and they only exchange relevant data. The reason it works is because they are not sharing ALL the banks' records. They are only sharing a portion that is needed for a specific transaction (whether it is for wholesale banking, lending, check cashing, etc.). Each of the major reasons for exchange has its own exchange. As a successful Product Manager in several banks, I have personally been associated with these data exchanges and understand, first hand, how to make these exchanges work.

If the health care industry considered a data exchange, specific to the need for the exchange, they would not be trying to exchange the entire history of the patient (with every office visit and every broken arm, etc.); they would be focused on why the exchange is needed.

One main reason for interoperability is to allow someone to receive safe, emergency services when they are not at their home location. For example, a patient went skiing and broke their head open on a tree and needed emergency surgery. What that patient would need to be able to provide the hosting emergency room would be in the exchange. It would NOT include information such as when their next routine exam is due.

A Smart Card can carry thousand of pieces of information. The solution for the health care industry is to provide a Smart Card to its patients. Provide a reader for every emergency room admittance desk. Create an exchange (using SHE). Create a formal protocol for how the data can be sent and received (to be directed by Health IT).

It is known that smart card access has been tried before. According to the SmartCard Alliance, “despite successful healthcare smart card implementation in Germany and France and multiple pilot programs by the Department of Veterans Affairs (VA), the General Services Administration (GSA), and the armed services, the U.S. has been slow to embrace this technology, largely because the healthcare delivery infrastructure in the United States is so fragmented.”

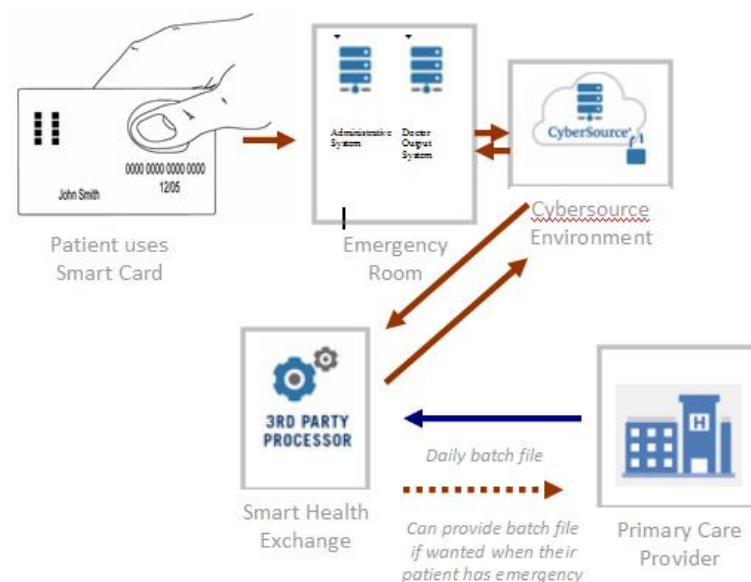
It is believed that these attempts have failed because they didn’t provide the information needed in a way that could easily be used and exchanged. The programs that have been tested have focused on the whole health record and not the useful information needed for an emergency.

The reason SHE will succeed is because it will use a known model that already works in the banking industry (requiring privacy protocols and is managed by compliance). And, it is solving the interoperability issue that is associated with someone needing to share records for an emergency only. Once this is set up, it can be expanded for further uses and more exchanges can be set up with the same smart cards. This first step will solve the interoperability problem quickly and will provide a valuable, needed service. And it will do this at a reasonable cost.

How Smart Health Exchange works – Methods and Technologies Used to Develop Solution

1. All hospitals have the needed information. They would create a data text file to send to an exchange and will update the information on a daily basis for their patient base. It would be supplied with their current systems. The information would include things such as: name, address, date of birth, medical record number for primary provider, primary provider, next of kin, primary care doctor, whether there is a Health Care Proxy, name and policy number of insurance, medical conditions, past surgeries, allergies, current medications and dosages, vitamins and herbal supplements. (We will work with several Emergency Room doctors and surgeons to obtain information that they will need exactly),
2. Use existing processing systems, such as First Data or Elan as an exchange. (They are already connected to major smart card reader processors.)

3. Replace current magnetic stripe cards with a smart card that already has the patients' name and medical record number on the card. Give them a disclosure stating that when they use that card, they are agreeing to share their information with any organization that they give the card to.
4. When the patient needs to use the card for an emergency, the smart card is inserted into the reader, the reader sends a message to the exchange provider and the exchange provider provides the reader with the information from their card.
5. The card is read by the card reader and the reader requests the data from a Smart Health Exchange (SHE) cyber source environment. SHE uses a standard, provided by Health IT file format standard for that specific exchange (that we build with this product). SHE sends the information received from the Primary caregiver based on the medical record number.
6. The information is received with the standard, provided by Health IT file format standard for that specific exchange (that we build with this product). And the provider can create an output display that works best for their current systems. (The file will work with all systems because it will be a basic text file.)



The exchange will use a flat, text file that is easy to create and automate (by existing platforms) by the hospital.

It will be sent via secure protocols to Smart Health Exchange.

The exchange will provide a flat, text file that is easy to load into a standard report or program (by existing platforms) for doctors to review.

When this program is fully functioning the program is anticipated to have an ROI of over 200%

With a 1 year return on investment (once the program is past pilot stage)

Financial Overview

Pilot Costs

To test this, it will likely cost well under \$50,000:

- about \$200 per reader
- about \$100 for test cards
- about \$10,000 for the programmer

Hospital costs

It is estimated to cost \$5,000 set up and \$3,000 per year

- approx. \$3,000 per year (estimate based on known costs for banking transactions with large processing contractor – if they charge similar amounts for similar amounts of data transfer, that should be a close estimate).
- cost of setting up the new files. These files should be relatively easy to set up. It should cost approx. \$5,000 (two weeks) to set up the data files and to test the files.

Smart Health Exchange costs

It is estimated to be \$1 million to set up and \$7 million annually

- Credential provider Service \$2,000 - \$5,000
- SSL Certificates \$500 / certificate
- Network costs \$24,000 / year
- Processor costs \$1,200,000
- Security Consultant approx. \$300,000 per year
- Security Software approx. \$500,000
- Insurance Costs \$50,000
 - General Liability \$1MM/\$3MM
 - Cyber policy
 - Board Member
- Servers can be rented at beginning – not sending information that can be traced to individual without someone having medical record ID list from hospital. Cost approx. \$10,000 / month
- Facility approx. \$50,000 - 100,000/ month (facility needs will change as company grows)
- Staff for managing first year approx. \$3,500,000/year – this may increase if Customer Service needs are higher than anticipated.

Revenue will come from operations costs to hospitals \$17 million (\$3000 per hospital per year.)

Sources used for above estimates:

There are 5,724 hospitals in US (American Hospital Association. "AHA Hospital Statistics, 2013 Edition.")

There are 136.3 million emergency room visits per year. (<http://www.cdc.gov/nchs/fastats/emergency-department.htm>)

Average 23,813 emergency room visits per hospital per year.

smart card infographic

<http://www.smartcardalliance.org/downloads/Healthcare-2.0-infog-FINAL.pdf>

Timeline

Phase 1

October – November 2016 – Award \$10,000

Hire programmer – Risk – programmer may not be available when needed or may not work as quickly as anticipated

Purchase smart cards, reader and server

Create test files

January 2017 – Test program

Prepare for next submission

Phase 2 and Phase 3

January 2017 – Submit proposal for phase 2

Apply for NSF grant

February – March 2017 – Award \$50,000

Sign up 2 hospitals to test product – Risk – cannot get commitment from 2 hospitals – can work with 1 hospital

Survey at least 3 ER surgeons, at least 3 anesthesiologists, at least 3 ER nurses, at least 3 hospital billing professionals, and at least 3 ER administrative receptionists to determine what information is necessary and what information would be good to have but not essential. – Risk that cannot get all these people for surveys. This is an unlikely risk. If the hospital signs up for project, they will likely help with necessary surveys. The surveys are anticipated to be completed within an hour for each participant. If difficult, we will offer to take them to lunch to get through the survey.

Work with hospital team members to create share files and automate. Risk – the IT folks are too busy to fit us in the queue when we want it to be completed. We may need to wait for implementation.

Work with hospital IT team members and doctors to provide output reports and output screen information for doctors. This will have the same queue issue risk as above.

Test systems

February 2018 – Pilot

Metrics for success

Phase 1

Could show real-time process flow of product by January 2017

Show HIPAA compliance

Show HEART implementation specifications were met

Phase 2

Bring product to pilot with two hospitals by 2018

Show HIPAA compliance

Show HEART implementation specifications were met

Phase 3 – create a company in earnest

Background of Owners

Carol Washburn will be primary owner and leader of Smart Health Exchange. She will be advised by Jans Aasman CEO, Franz Inc. and Linda Radler, Senior Director, Quality Analytics and Health Information Technology at Kaiser Permanente. They are discussing partnership.

Carol has over 20 years experience in new product development within the banking industry. She successfully:

- delivered solutions that produced better than expected results throughout her career
- achieved top-tier market share results and revenue growth for the companies she has supported

- created new industry products and standards

- generated best-in-class analytical models

Carol went back to get her Masters in Information Science with an emphasis in Biotechnology and Data Security.

Many of her friends are medical doctors so she has many resources to help obtain survey information from Emergency Room and surgical doctors to understand what is needed for the exchange files. She also has acquaintances with CTOs from 3 large hospitals that can also be resources for best ways to structure the data files from the hospitals. They will provide invaluable information that can help build exchange standards.

Jans is currently CEO of Franz Inc., an early innovator in Artificial Intelligence and provider of Semantic Graph Databases and Analytics. He is a Ph.D. psychologist and expert in the Cognitive Science. As both a scientist and CEO, Dr. Aasman continues to break ground in the areas of Artificial Intelligence and Semantic Databases as he works hand-in-hand with organizations such as Montefiore Medical Center, Blue Cross/Blue Shield, Siemens, Merck, Pfizer, Wells Fargo, BAE Systems as well as US and Foreign governments.

Dr. Aasman is a frequent speaker within the Semantic technology industry and has authored multiple research papers, bylines and is one of 15 CEOs interviewed in a new book, "Startup Best Practices."

Dr. Aasman spent a large part of his professional life in telecommunications research, specializing in applied Artificial Intelligence projects and intelligent user interfaces. He gathered patents in the areas of speech technology, multimodal user interaction, recommendation engines while developing precursor technology for the iPad and Siri from 1995 to 2004. He was also a part-time professor in the Industrial Design department of the Technical University of Delft.

Before joining Franz Inc. in 2004, Dr. Aasman's experience included the following:

KPN Research, the research lab of the major Dutch telecommunication company.

Tenured Professor in Industrial Design at the Technical University of Delft. Title of the chair: Informational Ergonomics of Telematics and Intelligent Products.

Carnegie Mellon University. Visiting Scientist at the Computer Science Department of Prof. Dr. Allan Newell.

Researcher at the Traffic Research Center of the University of Groningen (The Netherlands).

Experimental and cognitive psychology at the University of Groningen, specialization: Psychophysiology, Cognitive Psychology.

Linda Radler has been Senior Director of Information Technology since 1999. She considers herself built from ground up analytic and reporting services, supporting the Permanente Medical Group senior executives, senior quality leaders and specialty physicians. Co-lead interregional specialty care leaders groups that have improved quality of care 20% in Nephrology, resulted in a new Renal Care National Quality Forum measure, established gynecological robotics guidelines, created a data foundation for research of KP's 12,000+ multiple sclerosis. She created infrastructure to share successful clinical best practices and track clinical variation via an interactive dashboard. She is a HIPAA specialist.

Before joining Kaiser, Linda was working as an engineer in the telecom industry. She is a graduate of New York University.