



Preparing for Flu Pandemic: How Healthcare Technology Speeds Vaccination Process

FACTS

Customer: Solano County Public Health was founded in 1872 and became part of Solano County's Health and Social Services Department in 1991.

Challenge: To process and administer vaccines to inhabitants of Solano County and achieve a vaccination rate of approximately 350 patients per hour as established by the Centers for Disease Control and Prevention (CDC). Additionally, the department needed to assess how well it was reaching their target market through geographical tracking and mapping in coordination with Google Maps.

Solution: A customized solution, created to collect patient history and contact details using uniquely patterned patient surveys. The Digital Pen and Paper solution was developed by IS2BE based on Anoto Digital Pen and Paper technology.

Benefits: A way to achieve a vaccination rate of approximately 350 patients per hour. A better understanding of the geographic areas that need better targeting with their marketing messages on health related events.

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Robin Cox,
Solano County Public Health’s MPH, Health Education Manager and PH PIOO.

The Department of Public Health and Social Services for Solano County takes the health and quality of life of its community seriously and is preparing ahead of time to safeguard them from any emerging health threats such as a flu pandemic. They organized a large preparedness drill in the Fall, just prior to the typical flu season, and utilized Digital Pen and Paper technology to streamline the process of

treating thousands of people quickly.

In the event of an actual emerging flu pandemic, the Solano County Public Health and Social Services knew it would need to be able to treat as many of its inhabitants as possible in as short a time as possible. In order to achieve this, they used Digital Pen and Paper technology invented by Anoto Group AB to assist in a practice drill involving 267 volunteer participants from the public where real doses of the year’s seasonal flu vaccine were administered free of charge. The department used this exercise to pilot-test the Anoto Digital Pen and Paper technology, which allowed the general public to utilize the pens themselves while filling out their personal health surveys. The details from each survey determined whether the patient should be seen by a nurse for further screening prior to receiving the vaccine, and the pen was able to capture their information, process it immediately, and alert a nurse if needed. The ultimate goal of the exercise was to achieve a vaccination rate of approximately 350 patients per hour as established by the Centers for Disease Control and Prevention (CDC), which Solano County confirmed was indeed possible based on the rate at which they processed their 267 patients.



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Any size pandemic has the potential of changing our lives, which is why Solano County Health and Social Services has invested in providing the public with free flu shots to realistically simulate dispensing mass numbers of doses of vaccine in a pandemic situation. Using innovative Digital Pen and Paper technology they achieved the speed, ease of use, and efficiency needed to safely process 350 patients an hour.

“Solano County Public Health is constantly working to prepare for public health emergencies, including the very real possibility of a pandemic flu”, said Robin Cox, Health Education Manager for Solano County Public Health. “This technology gave the county healthcare professionals the critical patient information in real time to ensure that they were able to administer the flu vaccine to patients who would not have an adverse reaction. They were also able to assess the geographic locations that need additional communications of the US. Dept. of Health’s message”, Cox continued.

Setting up the system

The Solano County team spent weeks preparing for this flu vaccination event, which utilized the services of 101 county employees, including doctors, nurses, health educators, the Public Information Officer, and numerous county line staff. 267 members of the public participated in the event and were screened, with 265 receiving vaccinations.

Two patients were deemed potentially allergic to the vaccine and therefore were not administered with it. Arthur James, president of IS2BE (the Anoto partner that developed a Digital Pen and Paper solution for the program), provided approximately 100 pens in addition to the development of the survey templates. The survey was formulated to capture a patient’s medical history and contact information as well as guide them in a workflow question and answer process. The

data collected by the Digital Pen and Paper system was critical to the screening process in helping non-medical staff determine whether the patient would need to be seen in a second screening process by a nurse, and in helping to ensure proper protocol was followed prior to administering a vaccine to a patient.

In this landmark trial, the speed in processing patient information very quickly was a paramount component in achieving Solano County’s objective of vaccinating approximately 350 patients per hour, which was proven possible because the Digital Pen and Paper system was able to collect and process the health history and contact details of each



patient immediately.

Key Objectives

Solano County Public Health, part of Solano County’s Health and Social Services Department, key objective was to promote the importance of getting a flu vaccine, rally its community to come to an event, and safely offer and administer free vaccines to the county’s inhabitants. This public health sector also wanted to not only evaluate how well it marketed the

event but also determine how well its targeted marketing messages reached the community.

Getting Started:

The event was held at the Solano County fair grounds in order to provide enough room for its elaborate operations and involved a lot of planning, technology and processes. For starters, a proper screening protocol was established that entailed two screening processes. The first involved non-medical screening personnel that would distribute to the public approximately 100 Digital Pens and health surveys printed on digitally encoded paper. The survey was developed in a way that would guide the patient through a series of comprehensive workflow questions and answers which need to be answered and documented prior to anyone being given the vaccine.

Thanks to the Digital Pen and Paper, the participants themselves could supply important details of their own medical history such as allergies as well their addresses and contact details. The staff noted that fewer data errors occurred when participants filled out their own surveys. Additionally, the use of Digital Pen and Paper reduced the need for data entry and hastened the speed at which survey data could be processed. The patient’s data could be immediately downloaded from the Digital Pen and utilized by non-medical screeners in order to decide whether to send the patient for further screening by a nurse. Nurses conduct the second screening

process because they are better qualified to determine whether or not a patient could have an adverse reaction to the vaccine. The final process entailed another check in with the participant before the actual administering of the vaccine, which the nurses also conducted.

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Goals Achieved

The goal to see 350 patients an hour was achieved using the Digital Pen and Paper. The use of Digital Pen and Paper technology allowed for the easy collection of data that could be used and processed immediately.

- The Solano County of Public Health uncovered that the Digital Pen and Paper system caught errors in judgment made by non-medical screeners who should have directed patients to see a nurse. When the Digital Pen's data was downloaded onsite, the nurse was immediately alerted that the patient would need further screening prior to receiving the flu vaccination based on their survey answers. The Solano County Department of Public Health could analyze the data collected immediately and ascertain helpful medical intelligence such as the fact that they learned that approx. 15% of the public would need to go through a secondary screening. Equipped with this knowledge, the health department could staff accordingly because they could expect this result.

- The Dept. of Public Health found it important to be able to emulate the process of giving the vaccine out in a fast and easy manner to 350 patients an hour - so that in the event that the county did experience a flu pandemic, such as bird flu or a tuberculosis outbreak, the department would be able to react fast - And lastly, the Dept. of Public Health found it crucial to be able to seamlessly integrate participant addresses captured from the pen with a Google Maps program to see how effectively they promoted the event in each city and area within their county. They learned which areas would require additional marketing and promotional efforts and were able to map which residents from which areas of the county did or did not show up to receive the free flu vaccine.

Partner profile:

IS2BE was founded in 2001 by the founders of Zoxbox, Inc. (a device vendor & system integrator) & NgnCom, Inc. (a network & system integrator), and incorporated in Nevada, USA in April 2004. The company is headquartered in San Jose, California. The seasoned management team from Vodafone AirTouch, Verizon Wireless, Bank of America, TIAA-CREF and LifeScan successfully made IS2BE the leader in the global digital data market. The company provides Intelligent Pen Solutions™ primarily for the unique worldwide business and professional form automation market segment. IS2BE successfully conducted a first-in-the-market friendly user trial in Silicon Valley, California in Q4 2003.

www.is2be.com

Customer Profile:

The Solano County Health and Social Services Department was created by a Board of Supervisors in 1992. The Department employs over 1,262 employees working in offices throughout Solano County and is organized by seven program service areas. Public Health Services was founded in 1872 and became part of Solano County's Health and Social Services Department in 1991. The mission of Solano County Public Health is to improve the health and quality of life for people in their community. The organization promotes health and safety, and prevents disease, injury, and premature death through individual and population-based services.