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Teaching Case

Coastal Pacific Doctor Associates: Implementation of a Purchased System

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Abstract

Coastal Pacific Doctor Associates (CPDA) is a multi-physician medical practice located along the west coast. CPDA decided to replace their inadequate and outdated medical office system during a time of tremendous restructuring in the medical software industry. In their impatience, CPDA chose an electronic medical record (EMR) and practice management (PM) system that would better accommodate the needs of a hospital rather than a medical clinic. The system that they chose to purchase was under development and had not been fully tested before it was hurriedly installed as CPDA's main system during a cutover implementation.

EMR/PM software representatives failed to live up to their original promises as deadlines passed and the employees were trained in the last days before the go live date. Training took place on a portable network brought in by the sales representatives using manufacturer's test data. After the problems started to escalate, the manufacturer's help line stopped providing assistance and CPDA was left to solve its own problems.

The organization in this case faces a number of project management and technology implementation issues. These issues can be addressed in multiple courses including: enterprise architecture, project management, systems analysis and design as well as systems implementation.

KEYWORDS: acquiring information systems, business and IT strategies, implementation strategies, project management, EMR, practice management systems.

1. INTRODUCTION

Mike Andrews, a MIS student enrolled in the local university's graduate level MIS program, had been working as an intern at Coastal Pacific Doctor Associates (CPDA), a twenty-doctor medical clinic located along the west coast. As part of his graduate research thesis, Mike chose to analyze a local business and evaluate the organization from a managerial and technological perspective. For the past three months, he had been working with the business manager assisting with a "last ditch attempt" to

configure the non-working medical records module of the clinic's main computer system.

As his internship drew to a close, Mike and the business manager had made no significant headway on getting the module to work. While Mike regretted not being able to help the clinic solve their computing problems, he was looking forward to leaving the system and the headaches it had caused. Thinking over the events leading up to their current situation, Mike started wondering what could have been done to prevent the medical clinic's technology problems.

2. HISTORY OF COASTAL PACIFIC DOCTOR ASSOCIATES

Coastal Pacific Doctor Associates (CPDA) was founded in early 2000 by three primary care physicians who combined their independent private practices. Over the years, two additional practices merged into the operations of CPDA. By 2008, CPDA had grown to twelve doctors and over 15,000 patients. With the growing number of doctors and patients came increasing levels of associated paperwork. The practice's growth, coupled with the aging technology purchased in 2000, caused the system to respond slowly during peak operating hours of the day.

John Anderson, the Business Manager of CPDA, had worked for the practice in the role of Business/IT Manager for the past five years. He was familiar with the system as well as processing patient information. Prior to joining the organization, John had worked as the Business Manager in the billing office of a local hospital. Although he had no formal computer training, because CPDA only had one application, John served as the information technology (IT) department as well. Most problems were user errors or could be fixed by working with the vendor's support center. However when larger software issues, updates, or problems with the hardware arose, John contracted the services of one of the area's leading IT support providers. By late 2008, John was seeking their assistance on a regular basis and he was becoming concerned about how much longer the current system would last.

In early 2009, John obtained approval from the board of directors (consisting of the physicians in the practice) to purchase the needed hardware and software to replace CPDA's current billing system. He based his request upon the aging system, the increasing number of practice patients, the increasing number of calls for assistance and the need for better data collection and sharing. John had already been collecting brochures, reading journal reports and visiting vendor booths at health care conventions in anticipation of purchasing a new system.

Unfortunately, changes were taking place among the vendors in the industry. John would go to a vendor's booth at one convention and by the next month, the vendor had gone out of business or had been bought-out by another software developer. This happened multiple times to several different vendors. John had described the software search process as "shooting at a moving target."

By late 2009, John was getting a little anxious to purchase the new billing and patient medical record system. CPDA needed the system installed and running before the current system gave out and John felt that their time was limited.

John was also not very excited about any particular system he had researched. He did, however, find one that he felt could fulfill some of the needs of the organization. The system he found was developed by Xenia Medical Systems for hospital records and administration and had a nice patient medical records side which allowed the doctors and nurses to record extensive notes about their patients and their visits. Unfortunately, he did not like the billing side of the system. This, however, appeared to be the best system he could find after all his research and searching. Xenia was still working on their product but was willing to install the software at CPDA for a reduced price if they were willing to serve as a "Beta" test site and provide their input to enhance the system and work out the bugs.

2.1 Xenia Medical System

John presented his dilemma to the board of directors and received their approval to "purchase what he thought was best." He then contacted Xenia and accepted the offer, purchased the required hardware and settled on dates for installation and training. Prior to installation of the new hardware, the medical and billing staffs were called together to announce the upcoming technology change and anticipated timeline. Many of the employees

were upset with the surprise announcement of the replacement of the current system and could not understand why management would want to change something they were comfortable using. Others were angered that the company had made decisions for purchasing the new technology without any input from the people who would ultimately use the system. Several employees threatened to quit, and eventually did, when the new system was installed.

3. HARDWARE AND SOFTWARE INSTALLATION

On August 1, 2010, the new computer stations were installed so that employees could become acquainted with the hardware before they switched to the new system. Xenia was scheduled to install the new EMR/PM system as well as train the employees on test data during the last two weeks of August. The actual conversion would take place over Labor Day weekend. As Labor Day weekend approached, representatives from Xenia were not to be found. They finally appeared on the Monday preceding Labor Day and hurriedly set up a network of laptops containing manufacturer's test data in order to provide the promised training sessions throughout the week. On Labor Day weekend, the patient information would be uploaded and CPDA would cut over to the new system on the Tuesday after Labor Day.

At 9:00 a.m. on Friday morning, the representative began to install the entire application on CPDA's new server. Complications arose during the installation process and several of the modules would either not work at all or not interoperate with other modules in the system. Employees were partially trained on test data in the working modules, but the actual working data had never been tried in the system. Representatives from Xenia assured John that the billing modules were working and that the patient information would upload without any problems. As they quickly fell behind their installation schedule, John decided to proceed with the patient information upload and follow-up later on the nonworking modules.

At 9:30 p.m. on Friday night, John watched the Xenia technicians start the upload. Half way through the process, the system froze. Although the Xenia technicians repeatedly tried to upload the patient information all day Saturday and into Sunday, by Sunday afternoon the technicians told John that there were compatibility issues between the new server and the data upload module of the application and the data would have to be entered manually if he wanted the system to be up and running by Tuesday morning. In the process of uploading the data, they had corrupted both the patient records as well as the old system rendering both the new and old systems unusable. There were no backups that could be used to restore the old system since Xenia's representatives had not had time to back up the system and had assured John that backups would not be necessary.

3.1 Data Entry

Sunday evening, John gathered family, friends and employees to begin entering the 15,000 patient records. Xenia representatives had already returned home and refused to answer John's repeated attempts to contact them for assistance via phone calls, texts, and e-mail messages. The system was a mess on Tuesday morning and patient information had to be processed manually. Rather than trying to enter patient information for all patients, John decided the billing clerks would enter only the patients having office visits each day on a daily basis.

Later that day, John asked his office staff to work extra hours in order to get all of the patients entered into the system as quickly as possible. The response he received from the already unenthusiastic office personnel was dismal as only a few employees volunteered to take on the extra hours. He then went to some local community colleges, business schools and temporary employment agencies in order to round up some data entry operators.

Once John had his data entry staffing situation under control, he was able to start concentrating on getting the rest of the application modules to work. The configuration for each module was a series of trials and errors. Calls placed to the Xenia's help line were never returned leaving John and his IT support person (outsourced from a local private PC support group) to configure the application on their own. They were able to get several modules running; however only a few were stable and ran satisfactorily. Eleven months after the new system was installed in CPDA's central office, Xenia discontinued development of the non-working modules that were provided in the original beta system. The product they brought to market offered a

significantly scaled down version of the original system.

As for CPDA, it took John and his staff almost a year to finish data entry of all of their patient information entering patients on an "as needed basis" and with temporary staff. Although they continued to tweak the configuration of the unstable and non-working modules, they eventually gave up and devised a set of business process workarounds in order to use the portions of the application that would work. Unfortunately, they could never get the medical record module of the system to work which was especially disappointing since it was the main reason that Xenia's system had been purchased in the first place. The board of directors was preparing to meet to discuss what to do next about the patient medical record system.

4. QUESTIONS

1. What were the key IT organizational issues that contributed to CPDA's current problem?

2. What were some of the problems associated with the purchase process?

3. What could have been done to prevent the implementation problems?

4. What could have been done to prevent the support problems that CPDA encountered?

5. Mentally place yourself in John Anderson's position after implementing the Xenia system. What actions would you take to "cut your losses" or minimize the negative results of your decisions?

Note: Teaching Notes and Case Supplements are available by contacting the authors