

A CASE STUDY

Northern Colorado Anesthesia Professionals

Medical Practice Management & Analytics: A Custom Web Application



Down-to-earth people.
Out-of-this-world programming.

As the organization grew, and with it, the demands for more accurate, timely, and actionable data, it became obvious that it was time for a new system.

NCAP's successful custom web application revolutionized their scheduling, invoicing, and provider payment processes. They went from an outdated Access database and well over 75 hours of manual data entry each month to a highly customized software tool that allowed extensive automation of business tasks and allowed them to look at practice data in ways they never thought possible.

BACKGROUND

Northern Colorado Anesthesia Professionals PLLC (NCAP) is a longstanding Fort Collins anesthesia practice founded in 1998 by three local anesthesiologists to serve the growing anesthesia needs of the Front Range community. Today, NCAP is comprised of over 80 board-certified physician anesthesiologists and Certified Registered Nurse Anesthetists, who together provide the highest quality of medical care to four hospitals and eight surgery centers in the Northern Colorado region.

REALIZING THE NEED FOR NEW SOFTWARE

Because the providers are compensated based on production, which can vary greatly from one shift to another, NCAP early on developed a simple database program to manage the equitable distribution of work among its providers. Through laborious manual data entry, this Access-based routine generated a report of daily assigned workload for each provider, averaged over the preceding 12 months. The resulting bar graph was used as a rough tool for allocating workload as evenly as possible. The short coming of this approach was that assigned workload was not necessarily reflective of the work the provider actually ended up performing, since the surgical schedule is very dynamic and changes many times daily. This was a source of confusion for many providers, who begged for a report that would show the work they actually did, rather than what they were theoretically supposed to have done.

As the organization grew, and with it, the demands for more accurate, timely, and actionable data, it became obvious that it was time for a new system. NCAP needed a true practice management platform that could be interfaced with the abundant data coming from the practice's new billing platform, and the recently updated accounting and credentialing platforms. This system would allow them to more accurately report individual production, since the input would come from billing data, rather than prospective assignments that were manually entered from a surgical schedule.

More importantly, NCAP's leaders realized that a custom practice management platform would allow them to collect data from multiple systems and provide a valuable tool for managing and querying that data. It could also automate many of the manual reporting processes that were consuming valuable resources at an ever-increasing pace. The management of payroll and invoicing were two critical functions that were consuming many hours of manual labor and presenting a barrier to profitability. According to Luke Wagner, Director of Financial Management Analytics,

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“Month-end had become so overwhelming. We just knew that with so many hands touching the process, it was bound to break or fail miserably.” The payroll and invoice run had become a complex, almost unmanageable process that required over 40 hours of labor between four departments each month, with data needing to be copied and pasted to Excel spreadsheets and moved between departments. It was another function ripe for automation through a custom practice management platform.

GOALS

After reviewing vendor options, NCAP decided on Rocket Jones to build a custom web application for them. Because the complexity of this project was so massive, they needed a vendor with a hands-on approach and a consistent project team. As Rocket met with NCAP’s project lead, Brett Preston (Director of Information Technology), they defined three main goals for the project.

- 1. More reliable system and data. The whole system needed to be consistent, professional, and accurate.**
- 2. Rebuild the scheduling graph.**
- 3. Automate provider pay packets.**

STAGE 1: EXPLORE + IMAGINE

Stage 1 was especially important for this project because it involved such complexity. NCAP and Rocket Jones jumped right in and started defining workflow and logic. Rocket Jones had to learn a lot of domain knowledge from NCAP, how medical payment works, how providers work in the field, and how they get compensated for it. Then we had to decide the best way for the data to be entered into the software for the pay calculations to occur.

STAGE 2: PLAN + SKETCH

After gathering foundational knowledge, Rocket Jones began creating wireframes (blueprints). The wireframes became a great tool for collaboration between Rocket Jones and NCAP, especially for members of NCAP’s team who had no experience implementing or supporting software. It helped them understand what types of questions need to be answered for the development to be successful. Wireframes brought together all the departments in a visual way that was easy to understand. Because of the complex logic involved in compensation, Stage 2 also involved detailed logic documentation along with the wireframes.

STAGE 3: BUILD + TEST

Planning and designing in Stage 2 gave Rocket Jones a solid foundation to begin development, but the process continued to be iterative. Weekly meetings kept NCAP and Rocket on the same page as we worked through logic together. NCAP was also closely involved in the testing process; they submitted actual data sets and helped validate the graph. Through extensive testing, we found places that needed changes and improvement.

ABOUT ROCKET JONES

INTERACTIVE:

Founded in 2001 by Jeff Bristol, Rocket Jones Interactive specializes in web application and mobile app development—from internal company software to public-facing apps. Our team is made up of nine dedicated people who not only deliver technical prowess and elegant interfaces, but also strong communication, timely turnarounds, and met deadlines. Rocket Jones is located in Old Town Fort Collins, Colorado.

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STAGE 4: SUPPORT + SCALE

With the logic and functionality built and thoroughly tested, the new web application, called Intelligent Practice Analytics (IPA) launched. In just a few months after launch, providers and staff have transitioned to the new system and seen the results. Luke Wagner described, “People are feeling and seeing the capabilities of IPA, and a lot of confusion about [the data] is trailing off.” Rocket Jones continues to work with NCAP through an ongoing support contract to maintain the application and plan for new reports and functionality.

RESULTS

The providers and staff at NCAP love IPA’s intuitive user interface, and more importantly, the results have been impressive. Month-end provider pay reporting that used to take 40 hours each month now runs automatically with just a click of a button, alleviating tedious and error-prone manual data entry from multiple departments. That alone has allowed departments to comfortably step out of that process. Staff members can focus on what they do best because they feel comfortable with IPA and the product it’s producing. Building custom software allowed NCAP to integrate multiple existing software systems, giving them efficient and comprehensive data in one place. IPA is robust and scalable for the future as NCAP continues to grow and improve their processes.

IPA has allowed NCAP to look ahead and plan for the future with solid data. Brett Preston said, “Now that we’ve got reliable data, we have trust in the system. Now we’re starting to feel the ability to ask more questions.”