Scope Reprocessing and Tracking System (ScoRe)

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Project Overview

Scopes used in Endoscopy and GI procedures need to follow detailed and regulated cleaning procedures. Currently, the cleaning steps are documented manually. This leads to gaps in required information and uncertainty about whether steps were completed in time or not. This can lead to clinical errors. Lack of

complete information can become a problem when cases go to court and cause UCLA Health to lose due to missing documentation even if no actual errors happened. The goal of this project is to develop an electronic system to accurately document each step in the Scope Cleaning process through an easy to use and intuitive system that avoids paper documentation and speeds up the workflow.

Build vs Buy

The only vendor able to provide a solution to do this was going to cost about $1.3M upfront with significant hosting and renewal costs after 3 years and still have a 6 month implementation timeframe. The Operative Services team asked ISS Application Development to evaluate if we can build such a solution in hours at much lower cost, with all the desired features and in comparable timeframe. After understanding the requirements, impact on UCLA Health and possible use to other UCs, the team decided to create ScoRe solution and implement it within an 8-12 month timeframe.

Solution Overview

The Scope Reprocessing and Tracking System (ScoRe) is a software solution designed to run on iPads and Windows Desktops. It runs on WOWs in the surgery and patient care areas and on iPads in the Scope Cleaning and storage areas.

Clinical users access the system by logging in once per shift with username/password and then by simply scanning their badge via the barcode scanner which is part of the system and wirelessly connected. This saves time. They then scan the individual scope and log the different steps performed as part of the Scope Reprocessing process. System does not allow for skipping of steps and ensures that no steps are forgotten due to strict enforcement of workflow. Any exceptions are logged and need signoff from administrators.

System connects with Epic to pull in patient information on the back end so that when a scope is checked out and about to be used, the clinician scans patient name barcode along with the scope barcode and this connects the particular scope to the patient usage event.

System has the ability to point to users which scopes to use next to minimize repeat cleanings due to time expiry. It ensures that scopes get uniform usage so they don’t wear out too fast and also tracks when a scope has reached end of life due to number of uses. It tracks scopes on loan to other units, and ones that are out for service.

Admin tools allow super users to run reports on the usage of each scope by patient, clinician or room. For each case, a detailed report with every timestamp can be produced so that any legal requirements are fully met. Super users can also keep track of the location, age, cleaning status and availability of each scope through the reporting features.

iPads were chosen as the platform of choice for the large screen size, existing management tools that UCLA Health has as well as saving space in clinical areas. Wireless barcode scanners were chosen along with specific types of mounts like Rolling carts, articulating arms for wall mount and desk mount stands

per the requirement of each room. In patient areas, existing workstations and scanners are used to minimize additional hardware. Finding and deploying all the hardware has been a challenge due to the supply chain issues but the design of the system is very flexible and allows it to be deployed in any area that needs it. Using OKTA for single sign-on, latest Bluetooth barcode scanners to keep system wireless and clean and latest tools in deployment on iPads were some of the recent innovations leveraged to build this solution.

Outcomes

The project team has finished development and is in final stages of testing with a planned go-live date within the next 30 days. The system is expected to close the gap in reporting and reduce or entirely eliminate liability due to not having detailed reporting information in each patient care lawsuit involving scopes. It ensures complete documentation, avoids errors due to paper records and allows data analysis and reporting. The expected benefit is a cost savings of about $6M/year at UCLA Health along with minimization of infection risk due to strict adherence to protocol. The improved health outcomes and reduction of wasted cost helps make healthcare more affordable and efficient.

Future: Deployment to other UCs and Product licensing

This scope tracking need is present at all UC Health centers. It can be easily deployed across other UCs with minimal modifications and very low cost due to similarity in setup. The overall impact across UCs is potentially 10s of millions of dollars. The system has been designed in a modular fashion so that it can easily accommodate different workflows and environments as well as non-Epic EHRs. The team will work on turning this into a commercial product that could be licensed to other Health systems outside of UC to bring a much lower cost solution to market.