

# ASP ECOSYSTEM HELPS SANFORD HEALTH BISMARCK REACH NEW HEIGHTS

Tracing a heritage back over 119 years to Sioux Falls Hospital,<sup>1</sup> Sanford Health has become an institution known for its stability and health care excellence to Dakotans. Its facilities experienced unprecedented growth in recent years, and with that growth came increased demands on its staff and physicians.

This cresting wave of procedure volume propagated to new highs in reprocessing and sterilization work, pushing its current perioperative staff to their limits. To find relief from these mushrooming sterilization and associated administrative tasks, Sanford Medical Center Bismarck (Sanford) turned to the ASP Ecosystem, consisting of STERRAD™ Systems with ALLClear™ Technology, the STERRAD VELOCITY™ BI System, and ASP ACCESS™ Technology, **as a source of leverage to streamline their low temperature sterilization operation through its powerful workflow automation.**

## The paper-based recordkeeping at Sanford represented an outdated process that required daily manual interventions, which increased opportunities for error.

In the period of time following the explosive growth, Perioperative Services Management at the Sanford Bismarck Sterile Processing Department (SPD) began a committed, concerted effort to remove steps, tasks, and processes that had the potential for productivity-draining errors. The genesis of this concrete effort was a decision to institute an instrument tracking system that enabled the standardization of instrument reprocessing recordkeeping; through scanning of barcodes or marks through a terminal or mobile interface, a substantial source of errors was eliminated.

The instrument tracking system, however, only eliminated some of the opportunities for manual entry errors. With the automation available through Sanford's installation of the ASP Ecosystem, manual recordkeeping for its low temperature sterilizers was eliminated.

### Highlight

- Explosive procedure growth at Sanford Medical Center Bismarck motivated their Perioperative Services Management Team to remove steps, tasks, and processes that held the potential for productivity-draining errors.
- Today, through their use of the ASP Ecosystem, manual recordkeeping for low temperature sterilizer load clearance and BI tasks has been eliminated.<sup>a</sup>

## Missing Data and Manual Recordkeeping: It Happens to Everyone

Before the arrival of the ASP Ecosystem at Sanford, manual logging activity was frequently noted to have mixed results. Ms. Everding recounts the logging activities and their challenges: “I can tell you that, before the ASP Ecosystem was in place, I noticed not all the logging information was entered. It was missing one thing or the other, whether that be the lot number, the load number, the start time of the BI, or something else. That definitely caused some frustration and it was something we constantly had to bring up with our staff. And [with the ASP Ecosystem], that has improved 100 percent.”

With a busy low temperature sterilization schedule, Ms. Everding says, “We run a lot of low temp loads, for a facility our size. We moved a number of scopes out of HLD and into sterilization.”<sup>b</sup> This change resulted in the department running an average of 25 low temperature sterilization loads per day.

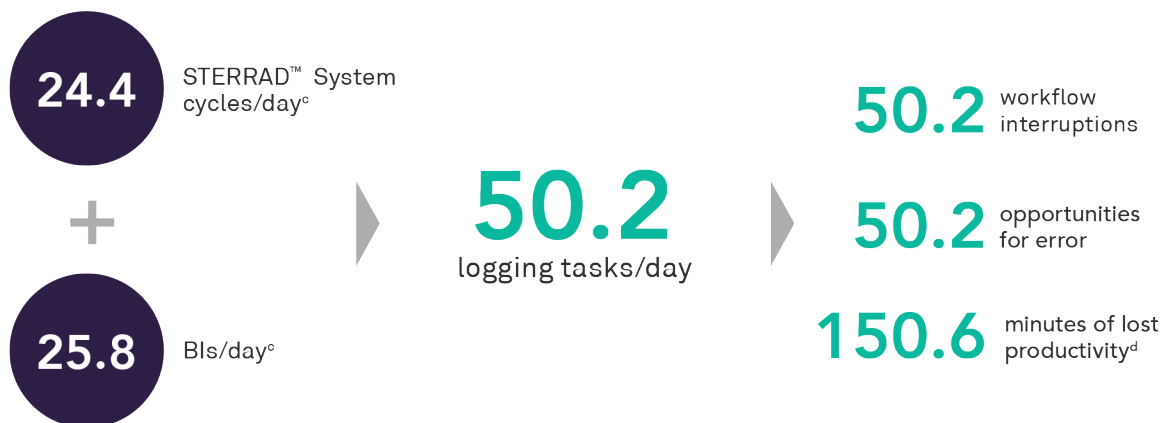
Since the department includes a BI with every sterilizer load, 25 BIs have to be run each day as well. This generated as many as 50 low-temperature sterilization load logging tasks each day, representing 50 interruptions, 50 opportunities for error and 150.6 minutes of lost productivity.



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**Brandi Everding,**  
SPD Manager Sanford Medical Center Bismarck

### Typical Day at Sanford of Logging Sterilizer Runs and BI Tasks Before the ASP Ecosystem



<sup>c</sup> Based on actual March 2019 data provided by Sanford

<sup>d</sup> Assuming it takes 3 minutes to perform 1 logging task

**Figure 1.**

Prior to using the ASP Ecosystem, the SPD staff would have had to handle fifty manual logging interruptions on an average day.

<sup>b</sup>In accordance with device instructions for use.

## Distractions and Interruptions may have less than Good Outcomes

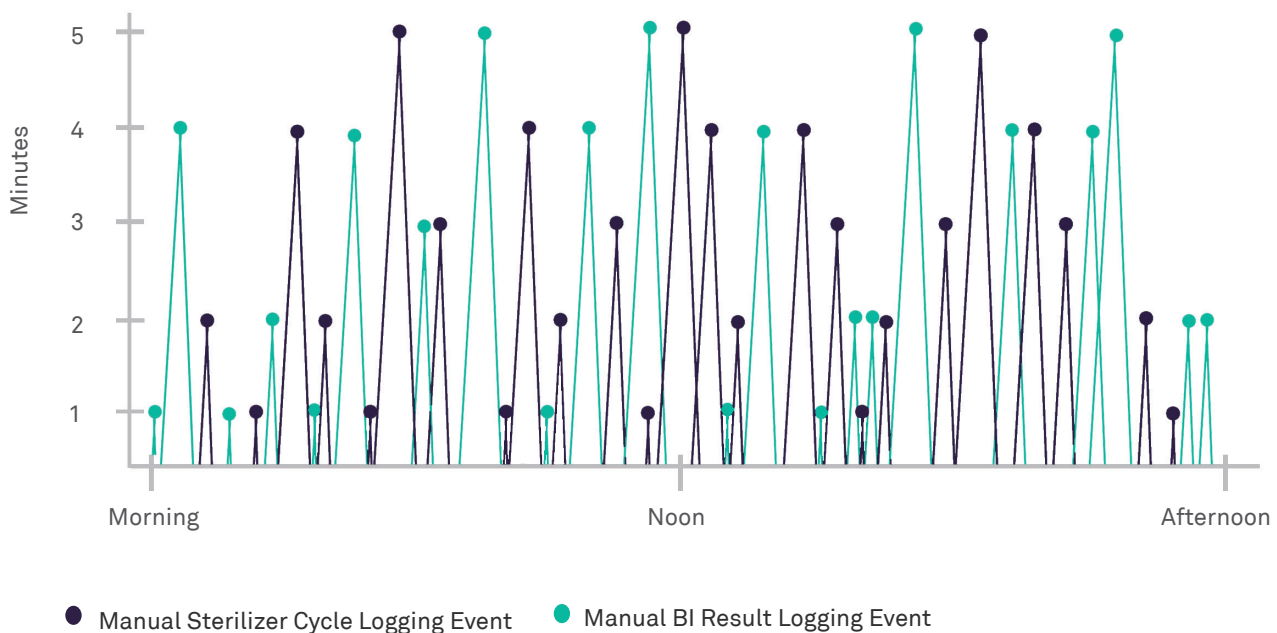
Perhaps more frustrating than missing log information was the non-stop requirement for logging tasks such as the completion of a low-temperature sterilizer load or a BI read. **These logging tasks at Sanford may have been the cause of distractions and interruptions, on average one every 10 minutes or less per 8-hour day shift that can cause problems of their own.**<sup>6</sup> Figure 2 below, is a visual representation of the potential logging interruptions that could have occurred in a typical day at Sanford.

Ironically, while manual recordkeeping tasks were meant to document compliance through mandated logging after each sterilizer run, logging activities at Sanford became new opportunities for errors. Manual recordkeeping in sterile processing is a specific, deliberate task that was an interruption to or a distraction from other reprocessing activities at Sanford.

Regardless of whether a technician gathered the load print outs and recorded a load when it was complete, or performed the logging tasks at the end of the day, recordkeeping required time that can now be better spent on tasks at Sanford.

Distractions and interruptions can have major consequences in healthcare; Brixey et al. (2008) found that after being interrupted, healthcare workers generally resumed the primary task, but only after completing one to eight other tasks.<sup>2</sup> These interruptions and distractions may have a negative effect on working memory while performing other tasks.<sup>3</sup> While the cited literature acknowledges some interruptions and distractions are unavoidable and sometimes necessary,<sup>3</sup> at Sanford, the ASP Ecosystem, through its automation, prevented distractions and interruptions that came with manual low temperature recordkeeping.

### Potential Pre-Ecosystem Logging Interruptions at Sanford<sup>6</sup>



<sup>6</sup>For illustrative purposes only.

**Figure 2.**

A visual representation of the potential logging interruptions that may have occurred during a typical day at Sanford.

<sup>6</sup>Based on actual March 2019 data provided by Sanford

## Standardizing Recordkeeping: Automated is the New Standard

In addition to decreasing distractions and interruptions associated with manual recordkeeping, after implementing the ASP Ecosystem, Sanford had another big intention for the ASP Ecosystem: standardization of its recordkeeping through automation.

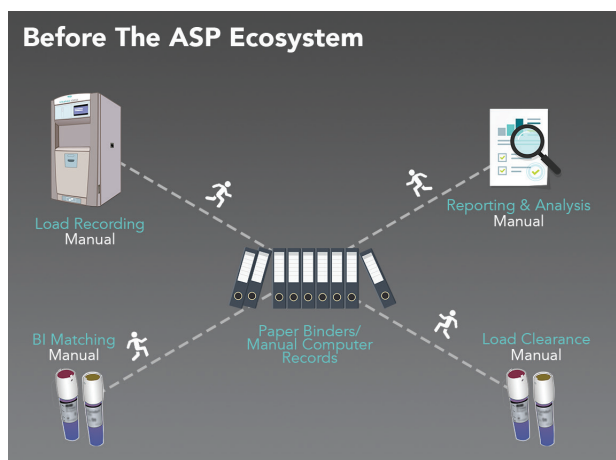
In order to facilitate this standardization, the facility began by interconnecting all their instrument reprocessing systems with their instrument tracking system. This ensured that one logging method was used for reprocessing activities, netting significant savings in time and potential errors. In Figure 3 and Figure 4 below, we see how the ASP Ecosystem automates recordkeeping, removing distractions and opportunities for error.

Having their STERRAD VELOCITY™ Readers connected as part of the ASP Ecosystem has been beneficial to the institution as well. Initiating a new BI is straightforward; the STERRAD VELOCITY™ Reader allows the operator to scan a code on the vial and instantly checks to ensure the correct BI type is being used, the BI is not expired, and that the BI has never been incubated before. The results of all BI reads are reported to the operator

as “Pass” or “Fail”, all complete with pictures, **to reduce the opportunity for misunderstandings or errors.** Ms. Everding notes, “The STERRAD VELOCITY™ Reader literally walks you through, so that’s something that’s **a huge advantage when you look at having travelers or new technicians. Again, it really takes away chances for error.”**

Finally, ASP ACCESS™ Technology provides all of the STERRAD™ Sterilizer with ALLClear™ Technology and STERRAD VELOCITY™ Reader records in report form. While some of the information is also available in their instrument tracking system, ASP ACCESS™ Technology also offers notifications if any system becomes disconnected from the network through its web application. “It even sent me an email when I had unplugged the old [system] and was getting the new ones set up... it’s definitely working to its potential,” says Ms. Everding.

The ASP Ecosystem has become an important component of Sanford Bismarck, enabling it to become a rising star in the Sanford Health constellation.



**Figure 3.**  
Manual recordkeeping events are distractions for the SPD and can be a source of errors.



**Figure 4.**  
The ASP Ecosystem moves recordkeeping to the background through automation.

## Making Paper Recordkeeping a Thing of the Past

Prior to the availability of the ASP Ecosystem, SPDs like Sanford depended on thermal paper-based printed records from their low temperature sterilizer systems or manual data logging to computer-based databases to maintain records of their instrument and device sterilization. The paper-based recordkeeping at Sanford represented an outdated process, which increased opportunities for error.

Brandi Everding, SPD Manager for Sanford, recounts the now-retired process of manually recording low temperature sterilizer loads. “When your load was complete, you took printouts and scanned them and then attached [the image] to that specific load”, said Ms. Everding.

Ms. Everding noted the key issue with this process that always held the potential for error: “When you pulled a printout into a load, [it was possible] you might scan the printout into the wrong load.”

Now that the hospital has implemented the complete the ASP Ecosystem, it has made **manual recordkeeping for compliance an automated activity, resulting in measurable workflow efficiencies.** Says Ms. Everding, “When we found out about the **ASP ACCESS™ Technology and its capabilities, it gave us the consistency to have recordkeeping work the same for every single load that we do.**”



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SPD Manager Sanford Medical Center Bismarck





## A Future of Continuous, Improved Recordkeeping for Sanford Medical Center Bismarck

The new ASP Ecosystem's continual recordkeeping is profound **in its impact at Sanford; according to Ms. Everding, her staff is interrupted far less often and are now able to get more done in a typical day.** "It kind of just ties it all together and avoids manual entry, helping them get their work done more quickly. It's been really nice."

As growth continues for the region and that popular North Dakota facility, the benefits of the ASP Ecosystem has become more pronounced; with the Sanford SPD experiencing fewer interruptions and distractions and the automation of processes which increase staff productivity. This frees staff to perform the work best done by them; communicating with other departments, redesigning processes to even further increase productivity and remove sources of error. For the ASP Ecosystem, however, the future is now, providing improved recordkeeping and enhanced productivity 24 hours a day, 365 days a year.



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SPD Manager Sanford Medical Center Bismarck

Significant contributions from **Brandi Everding, SPD Manager,** Sanford Medical Center Bismarck.

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### References:

1. Renshaw, Eric (2012) Forgotten Sioux Falls. Charleston, South Carolina, Arcadia Pub, pp. 26.
2. Brixey JJ, Tang ZH, Robinson DJ, et al. Interruptions in a level one trauma center: A case study. International Journal of Medical Informatics. 2008;77:235-241
3. Rivera-Rodriguez, A. J., & Karsh, B. T. (2010). Interruptions and distractions in healthcare: review and reappraisal. Quality & safety in health care, 19(4), 204-12.