

Stromberg Enterprise Time and Attendance for Healthcare

Return on Investment Study for Hospitals



Overview

Research indicates that staff and labor expenses encompass more than 60% of a healthcare organization's operating costs. To better manage an organization's most important business asset — its employees — an accurate time and attendance system is critical.

Healthcare facilities have unique and challenging needs for time and attendance tracking. In most settings:

- Doctors, nurses and other personnel work 24/7
- Staffing and shifts require flexibility
- Pay levels vary by departments, skill level and shift worked
- Shift differentials exist within job titles
- Union and non-union employees work in the same place

How to keep it all straight? Fortunately, while the healthcare industry is taking care of people, Stromberg Enterprise is taking care of business operations. In this Return on Investment (ROI) study, we'll explain how Stromberg's time and attendance system reduces labor costs in a hospital. The data is real, although for purposes of this study, the hospital name is changed to Universal Hospital.

Here are a few facts you'll need to understand about Universal Hospital:

- Total employees: 2,700
- Pay periods: 52 per year
- Hours worked per week: 40 (this study does not take into account overtime pay)

Reducing nursing staff supervision

According to an American Payroll Association study, it takes a nurse supervisor seven minutes to manually calculate timecard data for each employee during each pay period. For Universal Hospital, we're using three minutes as a conservative estimate for its 2,700 hospital employees.

Here's how the numbers look hospital-wide:

With Manual Calculations	Result
Total minutes for timecard calculation	2700 employees x 3 minutes = 8,100 minutes
Total hours for timecard calculation	8100 minutes / 60 minutes = 135 hours
Labor cost for timecard calculation	135 hours x 30.00* per hour = \$4,050.00

* \$30.00 is the average hourly rate earned by managers. In our research, we found that nurse supervisors earned \$43.58 per hour, but we're using \$30.00 per hour as an average for various hospital employees who may perform this function. Managers typically are department heads, not payroll personnel.

Our study showed that using Stromberg Enterprise eliminated 90% of the labor costs at Universal Hospital by eliminating timesheets and automating time and attendance calculations. Since Universal has 52 pay periods per year, a whole new set of numbers emerges:

- \$4,050 labor cost x .90 = **\$3,645 cost savings per pay period**
- \$3,645 cost savings per pay period x 52 pay periods = **\$189,540 cost savings per year**

Remember that these numbers cover only the time required to manually calculate timecards. It does not include data collection, timecard distribution or the time it takes to generate nurse sign-in sheets, all of which was automated with Stromberg.

Additional "behind the scenes" benefits of an automated system include:

- Biometric time clocks that make "punch card jamming" and "buddy punching" impossible
- Accurate time collection data that doesn't rely on a pen and paper "honor system" to sign in
- Daily labor data available from manager computers
- Daily Hours Reports that can be emailed to supervisors who need to view the daily hours worked

Eliminating human errors

With a manual system, human error results in miscalculation. This can occur when timecard hours are calculated incorrectly or numbers are transposed during manual data entry. The American Payroll Association found an error rate of 1 to 8% by humans doing manual calculations similar to those done at Universal Hospital. For this study, we used a conservative 1% error rate.

Let's look at the numbers again:

Manual System	Result
Weekly payroll for one employee	15.00* per hour x 40 hours worked per week = \$600.00
Weekly payroll for all employees (comprehensive)	600.00 payroll per employee x 2700 employees = \$1,620,000.00
1% human error rate applied	1,620,000 comprehensive payroll x .01 = \$16,200.00 error cost per week

* \$15.00 is the average hourly rate earned by employees, not managers. In our research, we found that nurses earned \$27.75 per hour, but we're using \$15.00 per hour as an average for various hospital employees, such as nurses, security and maintenance, who may perform this function.

With Stromberg Time and Attendance, timecard data is captured electronically, thus eliminating human error and the error correction that results from it. Our study showed that using Stromberg Time and Attendance eliminated 1% of human error costs at Universal Hospital by automating time and attendance calculations. With 52 pay periods per week, the numbers are formidable:

- \$16,200 in errors saved per week x 52 pay periods = **\$842,400 error cost savings per year**

That's nearly a *million dollars* saved just by eliminating human error!

Remember, Universal Hospital's error rate is conservative. Consider that if the error rate is 5% rather than 1%, the weekly savings grow to \$81,000 (1,620,000 x .05).

Monitoring employee productivity

Like many facilities, Universal Hospital had no way of examining employee productivity with its manual system. With Stromberg, the hospital immediately realized these benefits:

- **The ability to monitor employee productivity.** With an automated system, managers could quickly identify late check-ins and long lunches.
- **Reliance on technology rather than the honor system.** With Stromberg’s Biometric time clocks, fingerprints are recognized as employees clock in.
- **Rounding miscalculations.** An automated system can be configured to capture precise check-in times and round according to defined rules.

All of these problems can lead to overpayment. By the numbers, this plays out as follows:

Manual System	Result
Weekly overpaid time per employee	15.00* per hour x .167 hour overpaid per week = \$2.50 (.167 is one-sixth of an hour, or ten minutes)
Weekly overpaid for all employees (comprehensive)	2.50 overpaid x 2700 employees = \$6,750.00

* \$15.00 is the average hourly rate earned by employees, not managers. In our research, we found that nurses earned \$27.75 per hour, but we’re using \$15.00 per hour as an average for various hospital employees, such as nurses, security and maintenance, who may perform this function.

The Stromberg system was able to reduce the amount overpaid through manual data collection for significant cost savings:

- \$6,750 weekly overpaid x 52 pay periods = **\$351,000 cost savings in overpay per year**

ROI Summary

The table below summarizes the ROI for Universal Hospital's investment in Stromberg's Time and Attendance System.

This Stromberg task...	Eliminates...	Weekly Savings	Annual Savings
Automatically calculating timecards	Time required for manual calculation by Nurse Supervisors	\$3,645	\$189,540
Automatic data capture	Human keying errors and miscalculations (1% error rate)	\$16,200	\$842,400
Monitoring employee productivity	Lost time	\$6,750	\$351,000
Total Savings		\$26,595.00	\$1,382,940.00