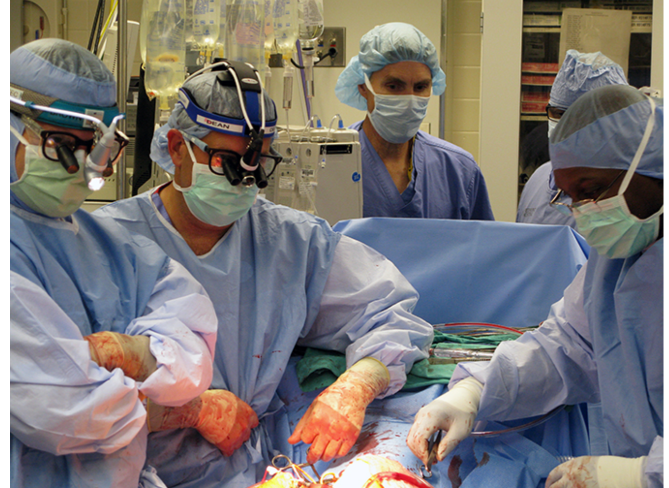
200 to 1,000% Increases in Critical Safety Metrics Prove Quick Results Are Possible

Piedmont Heart committed critical resources to make big culture changes; the results prove that with the right leadership, change can be swift and significant.

Background

Piedmont Heart is part of Piedmont Healthcare, a century-old, six-hospital healthcare system serving the greater Atlanta area and North Georgia. An acknowledged leader in quality cardiac care, it's been cited among the top 5 percent of hospitals in the United States for cardiology care. Piedmont Atlanta, the system's flagship hospital, is where the most complex Piedmont Heart procedures take place. With its 85 cardiology specialists, Piedmont Heart serves a large geographic region with 30 locations in Georgia. It has established an excellent reputation in part because of its unique approach to care: a comprehensive suite of services (including CVOR, CVICU, Cath Lab, EP and Advanced Heart Failure units) that



The heart transplant team at Piedmont Heart.

provide patients with the most innovative preventive, diagnostic and treatment programs. Education and research are the foundations of the Piedmont Heart mission and have positioned the organization on the leading edge of integrated cardiovascular healthcare delivery.

The Problem

In 2010, Piedmont implemented significant staff changes to streamline operations and ensure continued financial viability. Although these changes yielded some positive outcomes, an unintended consequence was a severely fractured staff. The issues led to sinking retention rates and some alarming responses – specifically within Piedmont Heart—on an AHRQ Safety Climate Survey (SCS), which was conducted through a third-party vendor as part of the LifeWings implementation. Some of the most troubling results were from the CVICU,

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where staff provided negative feedback on every question in the Overall Perception of Safety section of the survey. For Piedmont Heart, the survey revealed that a formerly high-functioning organization had devolved into a group beset with poor retention, disparate skill sets and fractured employee relationships. The suboptimal culture was affecting patient care, with an average of 9.5 significant safety events over two years.

Charlie Brown, M.D., chief of specialty services for Piedmont Healthcare's physician enterprise, said of the situation, "Culture always affects care. We knew that if we could change our culture and then were able to combine that great culture with our exceptional clinical expertise, we would always get great results for our patients." With that vision for how to achieve success, and mobilized by the negative trend in patient safety and culture, leaders took decisive steps to improve.

Improvement Plan

As senior leaders at Piedmont Heart plotted the way forward, David Dean, M.D., a cardiothoracic surgeon and surgical director for heart transplant and device therapy, recalled the success of a LifeWings program at another facility and invited hospital leadership to consider the LifeWings patient safety changes.

The heart transplant team in action.

Dr. Dean explained to his colleagues how the LifeWings patient safety system implements best practices from high-reliability organizations like aviation, nuclear power and the U.S. military, for hospitals and clinics. The LifeWings program involves a customized series of assessments, leadership development, teamwork training, safety tool building and metrics. Their program was developed by a team of pilots, astronauts, physicians, nurses and Toyota-trained Lean experts, and has been proven to work in more than 160 hospitals around the world.

"I knew that the quickest route to implementing the type of change we needed here was going to be working with experts in culture change," stated Dr. Dean. "Given what I had heard about LifeWings and what they had accomplished in

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other hospitals, I thought they would be the perfect partner for us."

Senior leaders agreed, and in October 2014, the LifeWings implementation began. Pete Caulk, LifeWings executive safety coach and project lead, conducted a site assessment by spending two days interviewing personnel and leaders, reviewing metrics and observing processes of care. Caulk immediately saw opportunities for significant, specific and measurable improvements, and with full commitment from hospital leaders, embarked on the customized LifeWings six-step process to help Piedmont Heart transform its culture and improve key performance indicators (KPIs).

Step. 1 Site Assessment

In this first step, the LifeWings coach observed personnel and events in the Pre-op, CVOR and ICU Red departments. Because the hospital deals with a large and consistent volume of acute cardiac cases—the most intense cardiac care environment outside of academic medical centers—Caulk quickly identified the gaps in best practices.

He noted that the pervasive issue—at the root of all of the other challenges—was the hierarchical culture in which people were not comfortable speaking up if they perceived a problem with patient care. Additionally, the culture for new personnel was "sink or swim." New staff were not receiving the training they needed to succeed, yet were being held accountable for high performance. This corrosive and disrespectful culture led to high staff turnover and low morale.

Step 2. Leadership Development Institute (LDI)

The purpose of the leadership development training was to equip leaders with the skills and tools they needed to lead a successful culture change initiative and close the gaps identified in the site assessment. LifeWings has identified 16 high-leverage activities that senior leaders must do effectively to sustainably change culture and improve organizational performance.

These high-leverage activities include:

- Creating clarity and alignment around the desired results
- Identifying the areas of resistance to change and establishing cohesive policies on how to deal with the inevitable behaviors and conflict all organizations experience in a change initiative of this magnitude
- Coaching low performers
- Conducting leadership safety rounding
- Establishing the data collection and analysis program to document results
- Creating a leadership change team

Josh Roberts, senior director for invasive services, said of the leadership training,

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"Leadership training was the key to ensuring this didn't become just the next 'flavor-of-the-month' program. Our LifeWings coaches invested a lot of time with leaders, helping us put the tools in place we would need to hold people accountable for implementing this program well and reach our desired results. Ultimately, it established such a high level of accountability that the program ran itself."

Step 3. Team Skills Workshop

To change the culture and achieve the team's goals, physicians and staff had to act differently toward each other during daily work life. To act differently required a new set of teamwork and communication skills. The team learned these new skills in a series of interactive, experiential, interdisciplinary training sessions based on the AHRQ TeamSTEPPS® curriculum.

Because cultural issues were so central to the gaps in best practices, the LifeWings team adapted the TeamSTEPPS® courseware to specifically address culture. It focused on teamwork and communication tools that fostered mutual respect, and that created an environment where mistakes were viewed as opportunities to learn and improve—as opposed to events that generated criticism and negative consequences. In a unique but effective twist, the training also included discussions on what actions staff should expect from leadership, and how leaders would be held accountable for fostering the new culture.

More than 150 staff members from several departments attended the training sessions in January 2015. The training was extremely well received by all participants. One physician said, "It was an excellent workshop and well worth my time. I learned valuable techniques on how to communicate with staff and encourage their input."

Step 4. Hardwired Safety Tools

To ensure the newly acquired teamwork and communication skills were hardwired into daily practice, LifeWings convened a team of 12 subject matter experts from the CVOR and CVICU to create safety tools such as checklists, handoffs, processes and protocols. Although checklists and safety tools are pervasive in healthcare, their efficacy has been highly variable.

The LifeWings hardwiring methodology is unique in that it gets staff buy-in by using front-line staff to build customized, unit-specific safety tools. LifeWings has learned in multiple projects that a significant investment by staff in the tool-building process ensures better compliance and engagement with the final tools.

The CVOR team produced the following unit-specific customized tools:

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- A modified version of the Surgical Safety Checklist customized to address the unique requirements of highly complex cardiac procedures ranging from CABG and LVAD to heart transplant
- A CV "Passport" tool to document the surgeon handoff to CVICU and to ensure providers fully understand patient care needs
- Several surgeon-specific "Surgical Plans" utilized by CVOR staff to completely meet surgical needs for highly complex surgical procedures

The CVICU team produced the following new tools:

- A standardized handoff process utilizing Epic and SBAR
- A new Invasive Procedure Time Out process designed for shorter procedures that do not require the more extensive CVOR Surgical Safety Checklist
- An improved and customized Central Line Insertion Checklist aligned with the checklist developed by Peter Pronovost, M.D., during the Michigan Keystone ICU Project

Extensive training on the tools was included in this phase of the implementation. All the tools have been successfully implemented and are constantly being revised and improved as needed to reflect lessons learned by front-line users. Caulk, who led the tools workshops, said, "We strongly believe that the people best-equipped to determine the standards for how work gets done are the people who actually do the work. That's why these tools were so successful; they were created by the physicians and staff to address their specific issues. Compliance with protocols is always a direct result of ownership."

Step 5. Measurement Plan

A cornerstone of the LifeWings program is establishing KPIs so progress can be tracked and documented. Clarity and alignment around the program's KPIs were initially developed during leadership training, and three were chosen to prove the effectiveness of the initiative:

1. Reduce staff turnover by 50 percent.
2. Achieve zero significant events (including serious safety events, sentinel events or any event-generating root cause analysis).
3. Significantly improve SCS results in 2015.

Step. 6 Train-The-Trainer (TTT)

This step of the LifeWings programs ensures hospitals are not dependent on consultants for continuous optimization and sustainability. Three members of the management team attended TTT sessions at LifeWings' training academy in Memphis, Tenn. The training prepared them to be world-class facilitators and

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certified as TeamSTEPPS Master Trainers. LifeWings safety coaches then worked with the hospital Master Trainers, mentoring and coaching them as they learned to conduct all steps of the LifeWings implementation process.

Results

Piedmont Heart's goals for its KPIs were met or exceeded. Specifically:

- The number of significant safety events (which had averaged 9.5 per year in 2013-2014) was **reduced to zero** in 2015 (Figure 1).

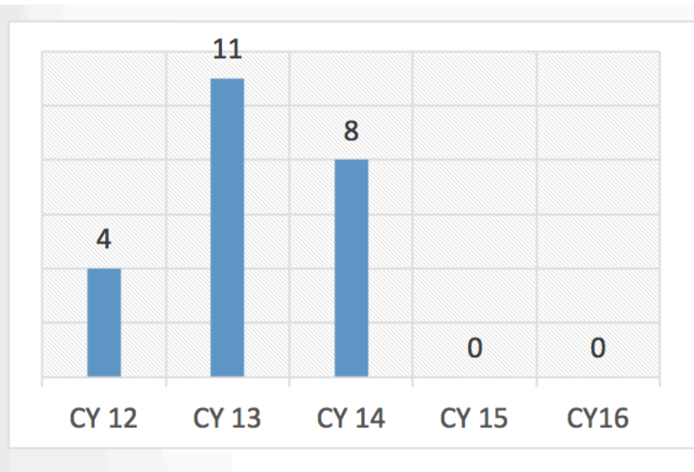

Figure 1: Reduction in Significant Safety Events

- The staff turnover rate was reduced from 12 percent (not including change to PRN status and change to other hospital employment) in 2014 to 3 percent in 2015 (Figure 2). The goal was to cut the turnover rate in half.

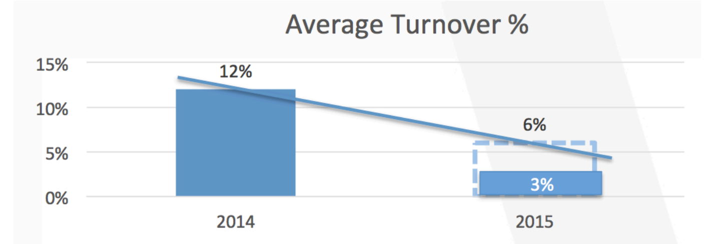

Figure 2: Reduction in Staff Turnover

Significant improvements were made in the Safety Climate Survey scores. These include:

- **A 445 percent improvement** in "Good at preventing errors from happening."
- **A 564 percent improvement** in "We have patient safety problems in this unit."
- **A 688 percent improvement** in "Actively doing things to improve patient safety."
- **From 0 percent to 82 percent improvement** in "My supervisor/manager seriously considers staff suggestions for improving patient safety."

In addition to the statistical improvements, staff articulated their observations of the changes, including these:

- "I have seen outstanding improvement in overall patient safety with the LifeWings movement. I am now able to provide much safer patient care and improve patient outcomes. Teamwork in the CVICU is superior. The enhancement of our education for new hires and existing employees has improved to promote higher quality care."

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- "Our managers and charge nurses do a great job installing overall safety for our patients. Great communication and safety huddles during shift changes are always discussed in staff meetings."

Caulk noted that a committed and nimble leadership enabled the significant success of the program. "A successful implementation is the result of a real partnership between LifeWings and the hospital leadership. LifeWings can show hospital leaders what to do and how to do it, but in the end, leaders must lead. They have to take the recommended actions. Piedmont's leaders did exactly that," said Caulk.

Within two months, leaders instituted retention bonuses, implemented an enhanced training program and started an extensive leadership-rounding program.

Caulk also stated, "These fast actions helped prove to the staff that leaders were serious about improving the work environment. We don't often see this level of commitment and willingness to act decisively from leaders across the country, but it's what directly led to the dramatic change here."

Tammy Prosch-Allred, a nurse at Piedmont Heart, added, "After being a bedside CVICU RN for 28 years I have seen different consulting firms come and go without any positive impact on patient care outcomes. With the LifeWings involvement here I've recognized a noticeable difference in safety awareness, educational resources and management engagement. Culture shifts are never easy but working with LifeWings has made a difference."

Richard Tanzella, vice president of Operations at Piedmont Heart, summarized the LifeWings initiative: "Our results to date have been remarkable. We have met all of our goals, and it is sustaining. The net result is that our patients are safer and our employees are happier and more engaged. We would absolutely do this program again, and actually, we are in the process of expanding the program systemwide in all six Piedmont facilities."

About LifeWings

LifeWings Partners, LLC is a team of physicians, nurses, Toyota-trained Lean experts, health risk managers, astronauts, military surgeons and flight crews. The team was the first in the United States to study the best practices of organizations with high reliability, and successfully adapt their strategies for use in healthcare. They have distilled the methodology used in commercial aviation, military aircraft carriers, nuclear submarines and cutting-edge manufacturing to help healthcare organizations create safe, efficient, high-quality hospitals and clinics.

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