



# Colorado 100k

## *Lives Campaign*

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# The Colorado Trust

*has a longstanding commitment to advancing the health and well-being of the people of Colorado. This commitment has included funding efforts to improve the quality of health care in Colorado.*

The Colorado 100k Lives Campaign was an initiative of The Colorado Trust to help strengthen existing patient safety efforts in Colorado hospitals through implementation of six standards in care designed to reduce medical errors and infections, and improve patient outcomes.

The 2005-06 campaign was part of a nationwide effort of the Massachusetts-based Institute for Healthcare Improvement (IHI) to reduce mortality rates in American hospitals and save 100,000 lives across the United States over 18 months. IHI set the 100,000 lives-saved goal after a 2001 report by the Institute of Medicine estimated that as many as 98,000 patients die each year in U.S. hospitals due to medical injuries, and that many more acquire infections in hospitals.

The campaign was well received — more than 3,100 hospitals nationwide participated, representing three-quarters of all hospital beds in the U.S.

Sixty-two of Colorado's 71 acute care hospitals participated in the \$3.8 million, 18-month Trust-funded

campaign, representing 96% of all hospital beds in the state. The hospitals were from communities large and small, urban and rural, each receiving a grant of \$35,000 from The Colorado Trust to help put the evidence-based improvements in place. There was no prescribed approach to implementation; each hospital was encouraged to tailor interventions to best match its unique needs and the patient population it serves.

The Colorado Trust also contracted with the Colorado Foundation for Medical Care, a leading state health care quality improvement organization, to provide technical support to participating hospitals. Numerous health care organizations also endorsed the campaign, including the Colorado Medical Society, Colorado Nurses Association, Colorado Rural Health Association and Colorado Hospital Association.

*At the end of the 18-month 100k Lives Campaign, the Institute for Healthcare Improvement's 100,000 goal was surpassed, with an estimated 122,300 lives saved nationwide.*



*“As a result of the campaign, hospitals have begun to institutionalize new standards of care that will continue to save lives and improve health outcomes into the future.”*

*Irene M. Ibarra, President and CEO, The Colorado Trust*

# The Six Interventions: Colo

*The six interventions under the 100k Lives Campaign are widely accepted as evidence-based standards already implementing some or all of the interventions prior to the campaign. However, many of the 100k Lives Campaign gave hospitals the tools to ensure 100% compliance on the part of all hospitals.*

## 1 Deploying Rapid Response Teams

A Rapid Response Team is a group of nurses and doctors trained to rapidly assess patients whose condition appears to be worsening. The teams operate in non-critical care settings, such as post-surgery, during medical tests or when a patient is recovering from an illness.

Immediate assessment of a patient showing either a sudden or gradual worsening in their condition can reduce codes (patients who stop breathing or experience cardiac arrest) in non-intensive care settings and intervene in what could otherwise be serious health events.

While a few Colorado hospitals had implemented some form of a patient rapid response system prior to the start of the 100k Lives Campaign, a majority implemented a team as a result of the campaign.

Hospitals indicated this intervention made a significant impact in preventing avoidable deaths. Centura Health, which instituted Rapid Response Teams in all of its 12 Colorado facilities concurrently, measured a 22% reduction in “code blues” during the first six months the team was in place, which equates to 75 lives saved during that time. Parkview Medical Center in Pueblo reported a 50% reduction in floor codes (outside of the Intensive Care Unit) after implementation of the teams, as well as an increase in their code survival rate of more than 100%.

## 2 Preventing Medication Errors

One of the most common types of medical mistakes is when patients take too many, too few or the wrong medication in the hospital or after discharge. Medication errors can lead to serious complications, or even death, and often occur at transition points in care, such as when patients enter the hospital, move from one room to another or leave the hospital to go home.

Medication reconciliation ensures that patients receive all intended and no unintended medications, requiring a rigorous cataloging of every medication the patient is taking at admission, decisions about every medication during and after the hospital stay, and thorough communication at every transition point during care.

A majority of Colorado hospitals indicated that this was the most challenging of all interventions to implement and sustain, citing difficulties in educating patients and family members about the importance of a detailed and thorough medication history and in coordinating medication reports with other health care facilities.

Nonetheless, most hospitals participating in the campaign noted positive results in medication reconciliation. Some used basic systems changes, while others invested in technological advances to further prevent medication errors. Parkview Medical Center’s new software allows them to input a patient’s name upon admission and within minutes get back all medications prescribed to that patient from a majority of Colorado pharmacies over the last year.

The numbers seem to indicate that medication reconciliation is working. North Colorado Medical Center increased its rate of reconciled cases from 78% to 91% and Yampa Valley reported an average of 95% reconciliation on admission. Some hospitals noted even more dramatic changes: McKee Medical Center increased its number of reconciled cases at admission from 31.6% to 90% over the course of the campaign.

## 3 Heart Attack Prevention

This intervention is designed to help hospitals deliver reliable, evidence-based care to prevent deaths from heart attack. Overall, Colorado hospitals already adhered

# Colorado Hospital Successes

*standards of care that reduce hospital mortality and complications. Many Colorado hospitals were the measures were employed only partially or inconsistently in the hospital setting. The Colorado hospital staff, providing for the best possible outcomes for every patient.*

to standards of care for heart attack patients, such as administration of aspirin and beta-blockers early and at the time of discharge from the hospital.

However, many noted marked improvements during the campaign including a reduction in time to administer lifesaving medications and perform procedures to reduce further damage or prevent death from heart attacks. San Luis Valley Regional Medical Center showed dramatic improvements in the time it takes to administer heart attack care, as did The Medical Center of Aurora.

## 4 Preventing Ventilator-Associated Pneumonia

Ventilator-associated pneumonia (VAP) is a lung infection that can occur in patients who are on ventilators to help them breathe. The infection is very serious — about 15% of patients on ventilators get ventilator-associated pneumonia, and about half of them die from it. Many of the organisms that cause these types of pneumonias are resistant to antibiotics, making them difficult to fight after an infection has set in.

Hospitals can implement simple steps to reduce the risk of ventilator-associated pneumonia such as raising the head of the patient's bed to between 30 and 40 degrees, giving the patient medication to prevent stomach ulcers, preventing blood clots when patients are lying very still and seeing if patients can breathe on their own when waking up after surgery. The goal is to get patients off of the ventilator and prevent an infection from setting in.

Hospitals that worked to apply these conditions consistently during the Colorado 100k Lives Campaign reported success that continues. Exempla Saint Joseph Hospital went eight months without a VAP case, while Sky Ridge Medical Center reported three consecutive quarters without a VAP.

## 5 Preventing Central Line Infections

Patients who need a lot of blood tests and get intravenous medications in a hospital may have a central venous catheter, or “line,” put into one of their veins. Lines can stay in place for days or weeks, and sometimes can cause infection when bacteria spread to the patient's bloodstream — a dangerous complication.

Doctors and nurses can help prevent these infections by using proper hand hygiene, wearing sterile clothing, cleaning the patient's skin when the line is put in and checking the line for infection each day.

At the end of the 100k Lives Campaign, Colorado hospitals reported they were having success preventing central line infections. Exempla Lutheran Medical Center showed a 62% reduction from 2005 to 2006, North Colorado Medical Center has had zero infections for more than two years and Valley View Hospital has gone 33 months without a central line infection.

## 6 Preventing Infections After Surgery

Most patients who have surgery do well, but about three out of 100 patients get infections. Infections after surgery can be serious, leading to other problems or even death. Hospitals can prevent surgical site infections by reliably implementing ideal care for all surgical patients including the use of appropriate antibiotics, appropriate hair removal (such as clipping vs. shaving) and other actions.

Following the campaign, hospitals noted success in reducing infections at surgical sites. Parkview Medical Center reduced its rate to less than 1%, The Medical Center of Aurora decreased its rate to 0.05% and Heart of the Rockies Regional Medical Center reduced its surgical site infection rate to less than 1%.

*Baby Grace Hassell is surrounded by her family: mom Sarah, dad John, brother Nate and sister Erin.*



## Baby Grace

### One of more than 100,000 lives saved

When Glenwood Springs resident Sarah Hassell went in for a routine pre-operative appointment with her obstetrician, she was feeling happy and confident about the upcoming birth of her third child. Already 37 weeks into her pregnancy, Sarah was scheduled for a cesarean a week later. She had no complaints and was feeling good.

When physician Mary Glode, MD, examined Sarah that morning, everything changed.

“I heard an irregular fetal heart rate that concerned me,” said Dr. Glode, who sent Sarah across the street to Valley View Hospital to have a fetal non-stress test done, just to be sure.

Sarah’s arrival at the hospital set off a series of rapid events. Nurse Irma Starbuck assessed Sarah and discerned that the fetal rate was indeed abnormal.

“This baby was in real trouble,” says Cathy Desautels, RN, Director of Performance Improvement at Valley View. “We were headed toward what could be a catastrophic event.”

Fortunately, a new protocol had recently been put in place at the hospital through the Colorado 100k Lives Campaign, giving nurses authority to activate a Rapid Response Team upon noting any decline in a patient’s condition. Irma called the Rapid Response Team and within minutes, a team of caregivers was around Sarah.

She was wheeled into the operating room within 10 minutes, where doctors found that the umbilical cord was wrapped around the baby’s neck and body.

Thankfully, the rapid response protocol for OB patients at Valley View worked just the way it was intended to that day. Doctors got the baby out in just four minutes. The total time from the decision to give a cesarean to delivery of baby Grace was 12 minutes.

“I couldn’t believe it happened so fast,” says Sarah. “I know it saved her life.”

Sarah said she and her husband, John, had already planned to name their daughter Grace. After this event, she believes they are doubly blessed.

“There is no question that my daughter wouldn’t be here if it weren’t for the rapid response of the hospital,” said Sarah. “I will be eternally grateful for what they did that day.”

Dr. Glode agrees. “I can’t predict what would have happened to this baby had all of the pieces not been in place,” she says, “but I really do believe this was an incredible save.”

Read more stories of the Colorado 100k Lives Campaign online at [www.coloradotrue.org](http://www.coloradotrue.org).

# Lessons Learned: Sustaining Success

Many of the participating hospitals reported that support from The Trust contributed to their success in the Colorado 100k Lives Campaign. Again, while many hospitals had been applying some or all of the interventions prior to the campaign, all types of hospitals — urban and rural, for-profit and nonprofit — noted that a lack of resources and time had been major barriers to comprehensive and sustained implementation of the six interventions. Trust funding provided for staff, purchase of infrastructure equipment and technology, community outreach and education efforts, and networking and education opportunities for hospital staff.

In addition to funding, there were three broad areas that hospitals said contributed to their success in applying the interventions and will help sustain their success moving forward.

## Hospitals Helping Hospitals

One key aspect in the success of hospitals during the campaign was the ability to learn from other hospitals that excelled in one or more of the interventions. Rural hospitals in particular found value in being able to connect and share with other hospitals through regular campaign meetings and intervention-specific telephone calls.

In addition, five Colorado hospitals were identified as “mentor hospitals” by IHI and worked closely with other hospitals in Colorado and other states to spread their knowledge of best practices. They included Exempla Saint Joseph Hospital, North Suburban Medical Center, Parkview Medical Center, St. Mary’s Hospital and Valley View Hospital.

## Commitment of Leadership

Hospitals are often faced with a variety of improvement efforts that compete for staff, infrastructure and technological resources; however, quality improvement generally and patient safety in particular have become leading objectives of Colorado hospital leadership. Increasingly, hospitals have professionals dedicated to identifying and executing practices designed to improve patient safety and outcomes.

Hospitals participating in the campaign indicated that the commitment and involvement of hospital leadership is a critical component of patient safety efforts, and essential for creating sustainable change.

*“Changes at this scale require leadership, not just goodwill in the workforce. In the final analysis, defining the organization’s strategic intent and priorities is the responsibility of those who govern the organization.”*

*Donald Berwick, MD, President and CEO,  
Institute for Healthcare Improvement*

## Changing Hospital Culture

Despite some of the challenges hospitals faced in applying the interventions, a number noted a marked shift in internal hospital culture as a result of the campaign. Some hospitals observed greater team development and engagement around a shared goal, more active leadership support and improved staff recognition. They also noticed an increase in employee satisfaction, particularly among staff nurses, who are empowered to make life-saving decisions about their patients’ care through tools like Rapid Response Teams.

This change in culture is seen as a critical element of keeping caregivers engaged in patient safety efforts and striving toward full compliance of campaign interventions into the future.

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