

# NEONATAL INTENSIVE CARE UNIT

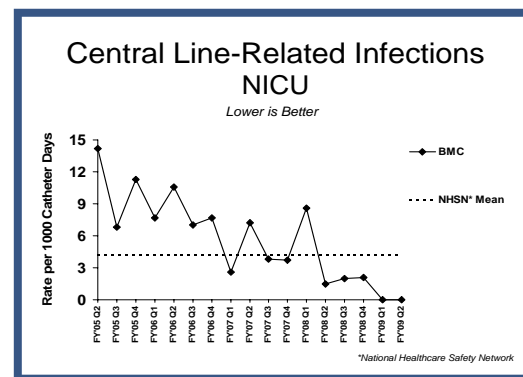
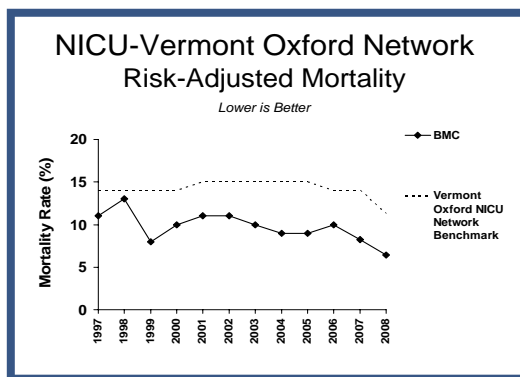
## **Where we've been...**

**B**aystate Children's Hospital (BCH) Neonatal Intensive Care Unit (NICU) is the regional tertiary care facility for newborn infants delivered in western Massachusetts who require highly specialized care. From October 2002 through September 2008, over 4,600 babies were cared for in the BCH NICU. In 1997, as part of ongoing efforts to monitor and improve quality, the Division of Newborn Medicine began participating in the Vermont Oxford Network. Currently, there are 750 neonatal intensive care units throughout the world, with 632 in the United States (including 9 sites in Massachusetts), Canada and other countries, participating in the Network and sharing information related to the care and outcome of very low birth weight infants.

Premature infants are at high risk for complications, including respiratory distress syndrome (RDS), retinopathy of prematurity (ROP), infections, and mortality. RDS is often the most acute problem among preterm infants and accounts for a significant proportion of neonatal deaths. When preterm delivery is imminent, early intervention with antenatal steroids is necessary to enhance fetal lung maturity. After birth, early identification and treatment of ROP by a pediatric ophthalmologist are imperative to prevent progression to more severe ophthalmologic complications.

## **Where we are now...**

**BAYSTATE MEDICAL CENTER** The BCH risk-adjusted mortality value for 2006-2008 is 9%, below the Vermont Oxford Network value for the same period (14%), and in the top 25th percentile of hospitals (10%). For the past nine years, BCH's rate of cranial ultrasound to rule out bleeding and malformation has been high (BMC is 98%, Network is 91%). The 2008 rates of ROP and severe ROP remain low at 15% and 4%, respectively, compared with the Network values of 36% and 8%. The rate of coagulase-negative Staphylococcus infections (those related to invasive catheter use) is 6%, and the rate of nosocomial infections is 10%, both below the Network rates of 8% and 19%, respectively.



## **Where we are going...**

The benchmarked mortality rate and rates of complications of prematurity demonstrate the excellent care provided by the physicians, nurses and staff of the NICU at BCH. Multidepartmental efforts, such as the campaign emphasizing the importance of steroid use for selected patients with preterm labor, will continue. Efforts to ensure that babies are triaged to the appropriate level of care, as well as screening programs and processes to reduce the overall length of stay are in place. Baystate Children's Hospital, in conjunction with Baystate Health Ambulance (BHA), has implemented a rapid transport system using specially-equipped ambulances to allow NICU newborns in outlying areas to receive necessary intensive care as rapidly as possible. Adoption of new technologies, such as the "Cool Cap" for babies who suffer a low level of oxygen or blood supply to the brain (resulting in a condition known as hypoxic-ischemic encephalopathy [HIE]), with its inherent long-term follow-up by the NICU team, reflect the commitment of Baystate Children's Hospital to continuous quality improvement.