



Client:

University of Maryland Medical Center
www.umm.edu

Location:

Baltimore, Maryland

Size:

- 772 Licensed Beds
- 1,163 Attending Physicians/Faculty
- 929 Resident Physicians
- 8,261 Employees

Customer since:

2007

TeleHealth Solutions:

- Samsung Healthcare Grade LED Televisions
- Curbell Gen4 Direct Access Pillow Speakers
- SmarTigr Interactive Patient Education System
- Multi-lingual Patient Education Videos
- C.A.R.E. Channel with Guided Imagery
- TeleHealth 360° Service

The Client:

Founded in 1823 as the Baltimore Infirmary, the University of Maryland Medical Center is one of the nation’s oldest academic medical centers. Located on the West Side of Downtown Baltimore, UMMC is distinguished by discovery-driven tertiary and quaternary care for the entire state and region and innovative, highly specialized clinical programs.

UMMC is a Magnet designated, 772-bed hospital with 56 inpatient units delivering major tertiary and primary care to more than 30,000 inpatients and 330,000 outpatients annually. It is the nation’s first and only integrated trauma hospital (more than 120 trauma beds) and affiliated with the University of Maryland Baltimore campus and its Nursing, Medical, Pharmacy, Dental, Allied Health (SW, PT, OT, SLP) and Law schools.

The University of Maryland Medical Center

Safe Sleep Initiative: Using Patient Education and SmarTigr to Help Improve Safe Sleep Practice and Reduce Infant Mortality

The Challenge

Despite being the wealthiest country in the world, the United States has a higher infant mortality rate than 25 other developed countries, according to a new report from the Centers for Disease Control¹. Sadly, the US ranks only 56th in low infant mortality out of 224 countries. Although healthcare spending levels are significantly higher than any other country in the world, a baby born in the US is less likely to see his/her first birthday than one born in Serbia, Canada, Cuba, or anywhere in the European Union².

Contributing factors include congenital defect, premature delivery (<37 weeks), low birth weight, Sudden Infant Death (SIDS), pregnancy complications, and preventable injuries such as suffocation. However, new research suggests that the high US infant mortality rates are almost entirely due to socio-economic factors such as low income and low literacy³.



In light of this, states across the US are undertaking initiatives to actively reduce their infant mortality rates. In 2009 Maryland’s infant mortality rates were 7.2% within the state and up to 13.5% within the city of Baltimore⁴. Baltimore City’s “Sleep Safe” campaign through “B’more for Healthy Babies” is part of the health department’s strategy to improve birth outcomes. In 2009, they developed the Sleep Safe video and in 2010, the mayor issued a proclamation to have hospitals show the video, provide education, and have mothers sign a safe sleep commitment. In 2012, the State of Maryland’s Administration set a new goal to reduce infant mortality by an additional 10% by 2017 and undertook programs to engage hospitals to proactively participate in the effort.

The Solution

The University of Maryland Medical Center (UMMC) partnered with the Maryland Department of Health and Mental Hygiene (DHMH), the Baltimore City Health Department, and TeleHealth Services to meet the unique challenges of their inner city hospital and its patient population. Working closely with unit staff and leadership, the team developed an initial strategy to offer standardized video education and messaging in the hopes of achieving a behavioral change, which in turn would help to reduce the infant mortality rates.

The Sleep Safe program is a multi-faceted program consisting of a “Mother Baby-New Moms” curricula, which includes:

- The “Sleep Safe” video
- A post-education comprehension assessment
- A safe sleep commitment process to focus on and encourage behavioral change
- Clinical emphasis and follow up with additional education for parents who cannot recall the best practice recommendations
- Tracking the number of UMMC patients who received prenatal safe sleep education

UMMC needed a solution that was readily available, reliable, and easy to use by patients and staff to consistently deliver the program to patients and family. Understanding the validity and impact that video education can have on patient outcomes and satisfaction⁵, UMMC turned to their SmarTigr solution to deliver their New Mom/Sleep Safe program via SmarTigr's patient-specific **My To-Do List** for all new parents in the Mother/Baby unit. SmarTigr delivers the required curriculum in both English and Spanish, and is available on-demand and at the optimal teachable moment.

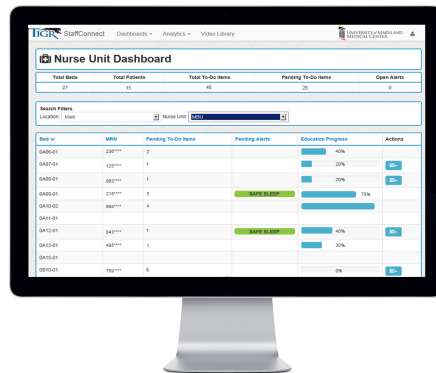
"We are proud of the accomplishment we've made to ensure new UMMC parents understand the importance of 'safe sleep' best practices and the fact that sleep-related infant mortality rates are decreasing in Baltimore."

Gena Stiver Stanek, MS, APRN-CNS, CNS-BC
Clinical Practice Development Coordinator, UMMC

The Process

Upon admission to the mother/baby unit, new parents are introduced to the SmarTigr system during their room orientation process. The UMMC clinical staff then uses SmarTigr's **StaffConnect** dashboard to assign the bundled curricula. The UMMC clinical team also actively uses **StaffConnect's** education tracking feature to monitor education plan progress and identify which patients might need a follow-up reminder to complete their new parent education before discharge. SmarTigr automatically delivers post-education assessments to identify comprehension levels and notifies the clinical staff for additional follow-up education. **StaffConnect** also displays a visible SLEEP SAFE flag for incorrect responses to assessment questions. These flags are color coded (green, yellow, red) by response time, to trigger awareness to the clinical staff for follow up in a timely manner.

The post-education assessment also includes a commitment process designed to focus on and highlight the importance of safe sleep practices and spark behavioral change. Result notifications of assessments completed with incorrect answers are automatically generated and sent via email to the initiative manager and charge nurses. In addition, a complete record of survey results are retained for evaluation against outcomes data.



SmarTigr StaffConnect Dashboard:
Sample View: UMMC Mother/Baby Unit

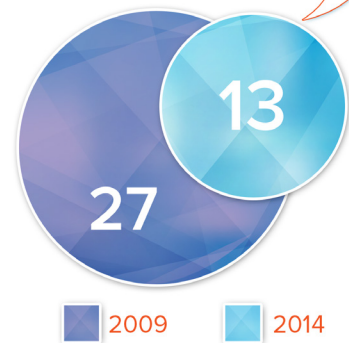
The Results

The SmarTigr system is an essential part of the patient education strategy and philosophy at UMMC, with utilization steadily increasing each year. UMMC's SmarTigr system was identified as a technology partner to deploy their safe sleep initiative with the staff recognition and acceptability to deliver education and information as well as the flexibility to expand their program into its next phase. Each day the clinical staff at UMMC is driving education plan adherence to ensure that this important education and information is reaching their patient population to positively affect patient outcomes.

In order to meet the specific needs of their inner city patient population, UMMC understood they had to develop and deliver a simple and effective strategy for providing on-demand video education through their interactive patient education solution, they can effectively engage and educate new parents and family. During their post-discharge home visit, 93% of the UMMC moms

reported viewing the "Sleep Safe" video. In the first three months after implementation, 94-100% of patients correctly answered the post-education assessment questions and 94% committed to safe sleep practice. Most importantly, thanks to city-wide efforts, total sleep-related infant deaths attributed to the sleep environment are trending down from 27 deaths in 2009 to 13 in 2014.

Lowest Number of Sleep-related Deaths Ever Recorded in Baltimore



2009 2014

Source: "B'more for Healthy Babies: Celebrating 5 Years of Success" Brochure

"We are proud of the accomplishment we've made to ensure new UMMC parents understand the importance of 'safe sleep' best practices and the fact that sleep-related infant mortality rates are decreasing in Baltimore. These are ongoing efforts and we look forward to adding further innovations to our program in the coming months. Our goal for the future is to provide the best care and education for new parents, help to improve safe sleep practice, and contribute to reducing the infant mortality rate for our patient population," said Gena Stiver Stanek, MS, APRN-CNS, CNS-BC, clinical practice development coordinator at the University of Maryland Medical Center.

Acknowledgments:
Chrystal Jefferson, BSN, RN
Caryn Zolotorow, MS, RN

References:

1. MacDorman MF, Mathews TJ, Mohangoo AD, Zeitlin J. International comparisons of infant mortality and related factors: United States and Europe, 2010. National vital statistics reports; vol 63 no 5. Hyattsville, MD: National Center for Health Statistics, 2014.
2. The World Factbook 2013-14. Washington, DC: Central Intelligence Agency, 2013. <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2091rank.html>.
3. Regenold, S.S., Baltimore's Infant Safe Sleep Campaign: the 2014 perspective. Presentation, PowerPoint and Baltimore City Health Department Statistics, Baltimore for Healthy Babies, September 9, 2014.
4. Cohn, M. Baltimore to promote safe sleep practices for babies, August 9, 2010, The Baltimore Sun. http://articles.baltimoresun.com/2010-08-09/health/bs-hs-safe-sleep-campaign-20100809_1_infant-mortality-rate-number-of-sids-deaths-infant-death.
5. Crabtree, MD, FACS, et al. "Outcomes and Perception of Lung Surgery with Implementation of a Patient Video Education Module: A Prospective Cohort Study." Journal of the American College of Surgeons January 2012: 816-820.