

The STORC Project

solutions to obstetrics in rural counties

Perinatal Telemedicine From Concept to Reality

Deborah A. Lance, Director

The STORC Story...

- *Why begin a telemedicine program, and where do we start?*
- *Implementing a telemedicine program.*
- *The growth, development and results.*

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solutions to obstetrics in rural counties

*Why begin a telemedicine program
and where do we start?*



NEEDS ASSESSMENT

According to 2006 Tennessee Department of
Health Data...

Tennessee's infant mortality rate (8.7)
exceeded the provisional national rate
of 6.6 by 31.8%, ranking our state **48th**
in the nation.



*Why begin a telemedicine program
and where do we start?*



NEEDS ASSESSMENT

According to 2006 Tennessee Department of
Health Data...

Low birth weight babies (less than 5
pounds 8 ounces) were **19 times as**
likely to die in the first year as
normal birth weight babies.



*Why begin a telemedicine program
and where do we start?*



NEEDS ASSESSMENT

According to 2006 Tennessee Department of
Health Data...

Infants born to women who waited until
the 7th month or later to start prenatal care
or who received no care **were twice as
likely to die** as infants of women who
started care in the first trimester.



*Why begin a telemedicine program
and where do we start?*



NEEDS ASSESSMENT

According to 2006 Tennessee Department of
Health Data...

The **second leading cause of infant
mortality** is the category of fatal
conditions resulting from a **short
gestation period** and/or **low birth
weight**.



Why begin a telemedicine program and where do we start?

TARGET AREA

- ***Focused Approach***

- Circle of Concern = Southern Appalachia
- Circle of Influence = Chattanooga and Knoxville Perinatal Regions (*Tennessee Perinatal Care System, Guidelines for Regionalization, Hospital Care Levels, Staffing and Facilities, Fifth Edition, 2004*)
- Strategy = Begin in the Circle of Influence, ultimately expand to the Circle of Concern & beyond



Implementing a telemedicine program.

S.W.O.T. ANALYSIS

- **Strengths:**
 - Strong, established perinatal practice with MFM coverage available from both Chattanooga and Knoxville
- **Weaknesses:**
 - Unable to reach all patients within the perinatal region via traditional practice methods
- **Opportunities:**
 - To improve outcomes for mothers and babies through a non-traditional care delivery system
 - To become the first project of this kind in the state
- **Threats:**
 - No experience in telemedicine
 - Inadequate funding for a project of this magnitude
 - Unknown reaction from patients in the target regions
 - Relatively new concept = reimbursement issues



Implementing a telemedicine program.

S.W.O.T. ANALYSIS:

Overcoming Weaknesses

○ **Geographic Barrier** – Rugged terrain/weather conditions often make it impossible for a pregnant mother to travel to an urban area for treatment

○ **Financial Barrier** – Even if the mother were likely to try the drive, reliable transportation may not be available, or they may not be able to afford the time away from work that the visit would require.

○ **Emotional Barrier** – The thought of traveling to an urban area can be frightening for those not used to traveling outside their comfort zone. Often the patient's family would not be able to spare the time involved for such a trip, so they would be traveling alone.

○ **The answer?** If they cannot reach the care, then let the care reach out to them..... TELEMEDICINE!

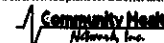


Implementing a telemedicine program.

S.W.O.T. ANALYSIS:

Minimizing Threats

- **Personal Contact/Key Partnerships**
 - Regional Perinatal Centers
 - Tennessee Health Care Partners:
 - Blue Cross Blue Shield of Tennessee Health Foundation
 - Community Health Network
 - OB Physicians and local hospital CEO/Admin staff in rural settings throughout the Southeast – Building relationships and creating network of support
 - ANGELS Program, Little Rock, AR - two visits to learn from this highly successful project.



Implementing a telemedicine program.

S.W.O.T. ANALYSIS:
Minimizing Threats

- ***Addressing Reimbursement Issues Prior to Implementation***
 - *CMS Guidelines*
 - *ATA Data/Conferences*
 - *Experienced Advice from ANGELS program*
- ***Building Relationships – Open Communication***
 - *Inviting various insurance carriers to visit telemedicine sites*
 - *Sharing outcome data*

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SOLUTIONS TO RURAL COMMUNITIES

Implementing a telemedicine program.

S.W.O.T. ANALYSIS:
Maximizing Strengths & Opportunities

- ***Care Delivery via Telemedicine***
 - Flexibility / Strength in Telemedicine vs. Traditional Practice
 - No Geographic Limitations
- ***Educational Applications***
 - Partnering with UTCOM for continuing medical education presentations utilizing the STORC network.
 - Developing strategies to broaden the scope of both telemedicine and tele-education beyond traditional geographic boundaries to any needed area, nationally and internationally.
 - ✕ Noon Conferences with major speakers; Nursing educational forums; patient educational forums; MFM Coffee & Conversation offerings

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***The growth, development,
and results.***



- Live Demonstration Date 1/26/2009
- First Clinic in Tullahoma opened doors on 4/2/2009
- Current Tennessee Operations:
 - 2 Hub Locations – Chattanooga & Knoxville
 - 6 Rural Sites – Cookeville, Jellico, McMinnville, Newport, Tullahoma, Winchester
- Sites under development:
 - Cleveland, Fayetteville, Livingston, Sweetwater
- Success breeds
 - ROC telemedicine site now open in Murphy, NC and soon to be opened in Blue Ridge, GA as well.

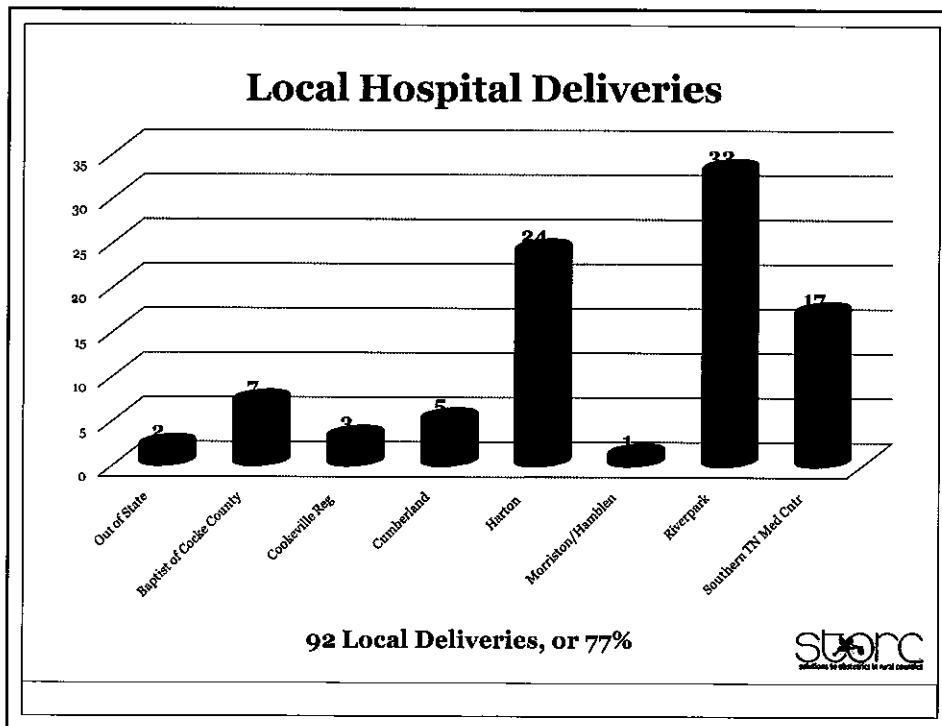
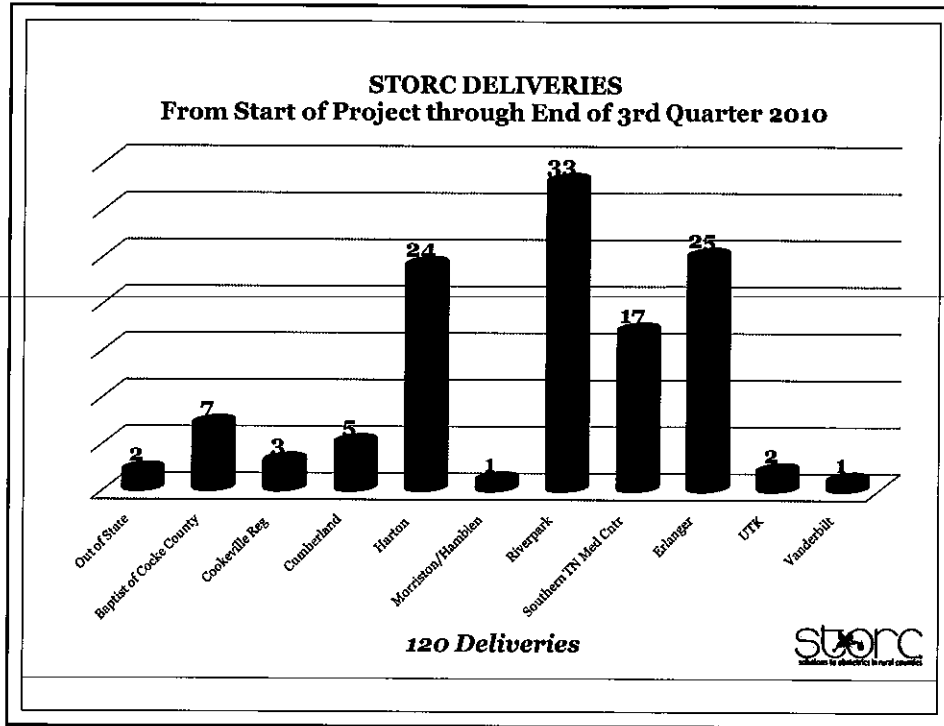


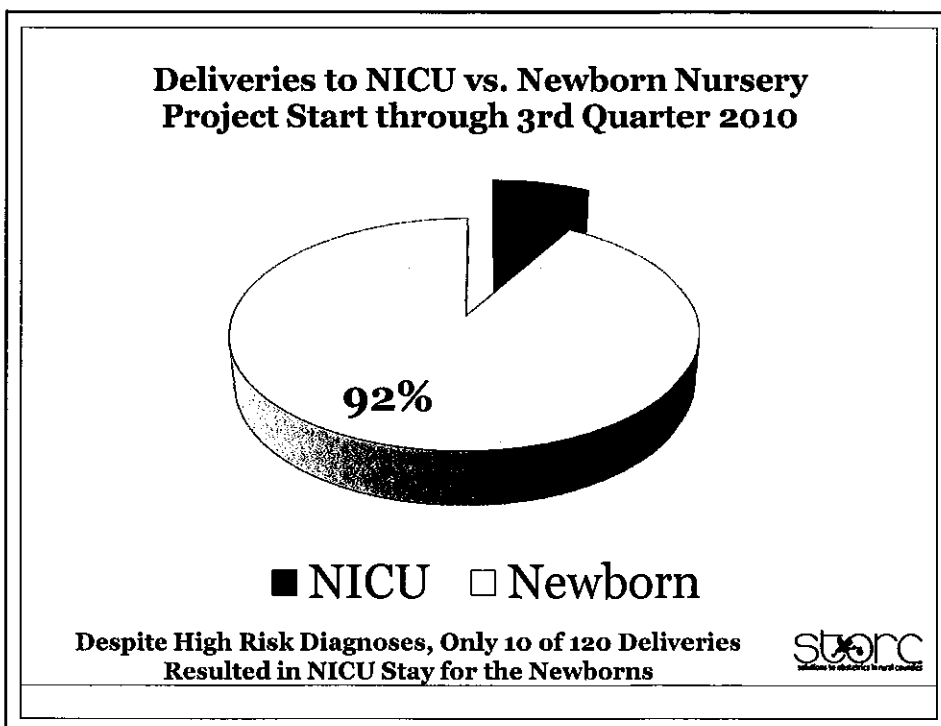
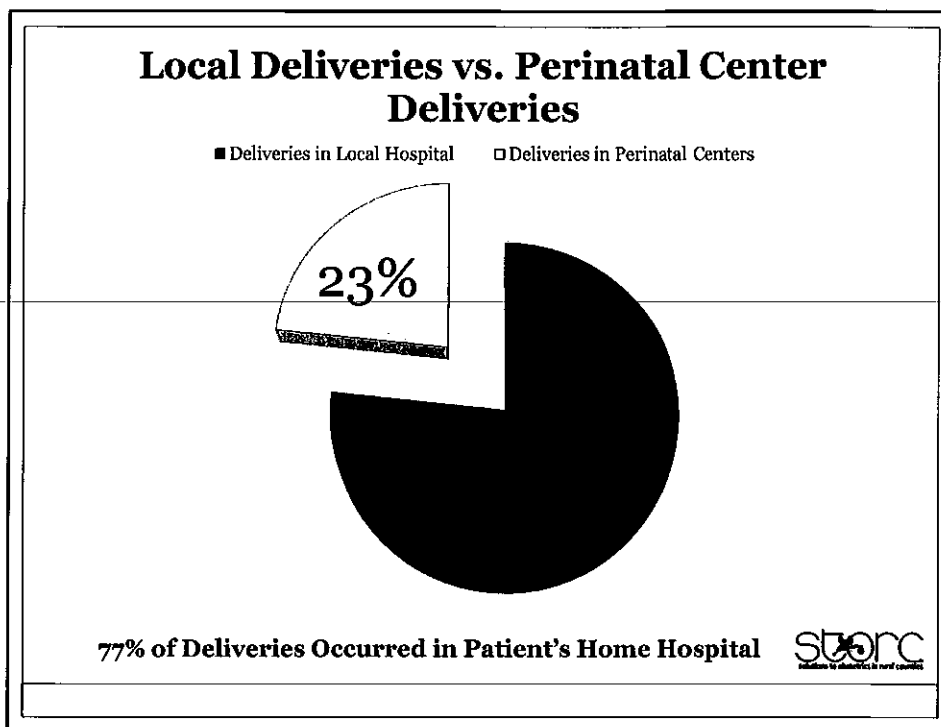
***The growth, development,
and results.***

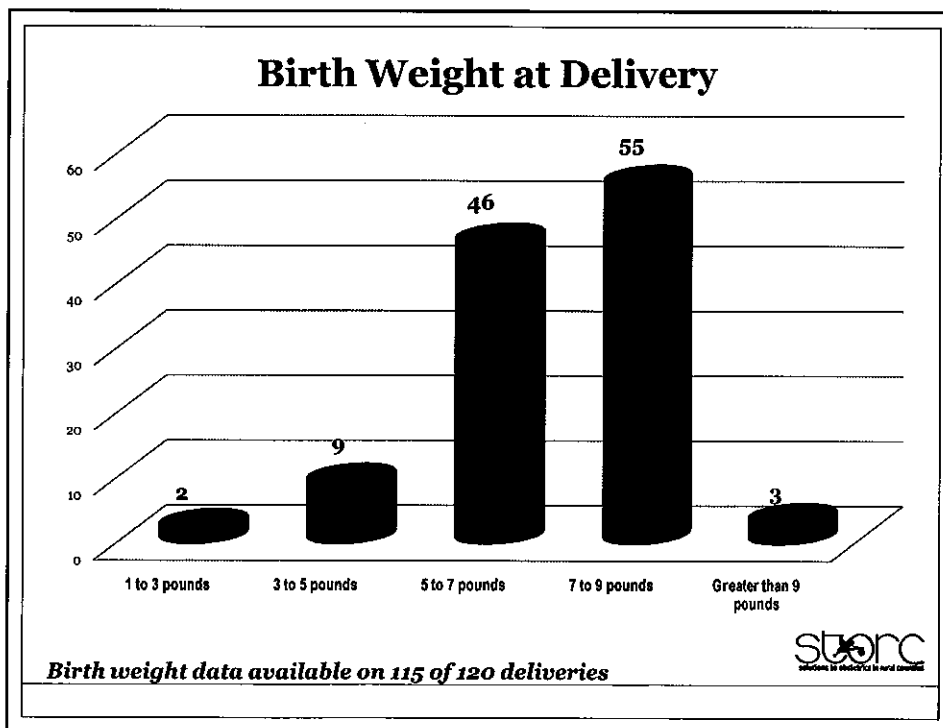
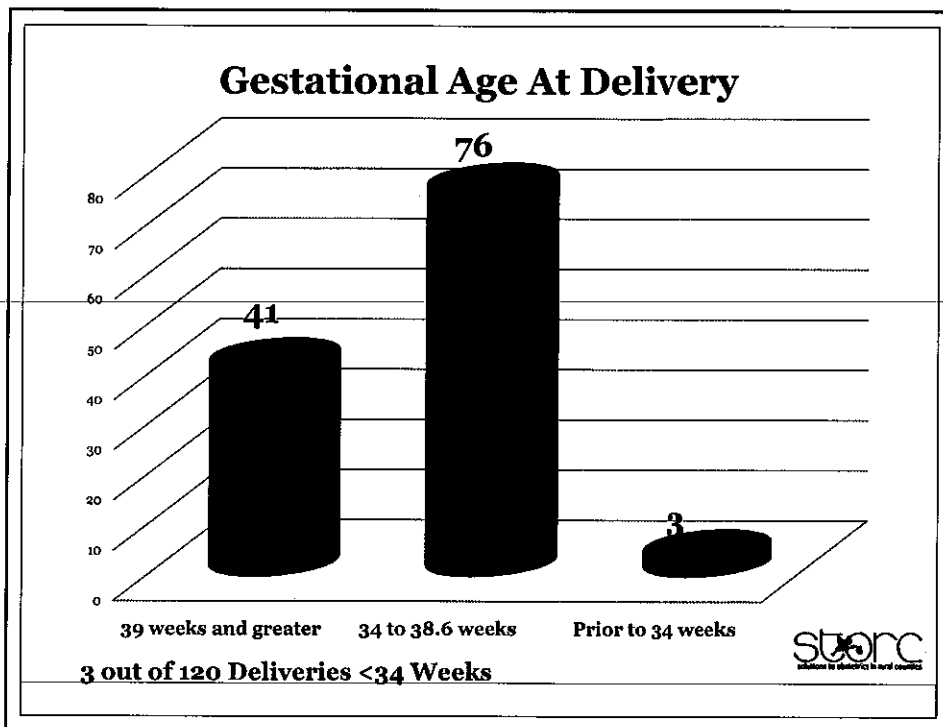


- Thanks to the generous funding of the Blue Cross Healthcare Foundation, **312** pregnant mothers in rural locations have been able to receive high risk pregnancy care close to home since STORC took flight on 4/2/2009.
- Our first clinic session consisted of 3 patient encounters. As of the end of the 3rd quarter 2010, STORC had logged **671** patient encounters.
- Although there are still well over 100 patients who have not yet reached their due date, we have been able to collect comprehensive delivery data on 120 of those who had delivered as of 9/30/2010.










< 34 Week Deliveries

Patient Location	Diagnosis	EDC	Date of Delivery	Delivery Location	Reason for delivery/type	GA @ delivery	Birth Wt	NBN/ NICU
Tulahoma	VB, previous pregnancy with poor outcome	12/3/2010	9/7/2010	Erlanger	C/hyst-abruption	27	1#	NICU
Cookeville	Twins, decreased CL	10/17/2010	8/7/2010	Erlanger	Preterm labor unresponsive to tx	29.6	2#9/3#11	NICU
Tulahoma	Abn quad, T21, CHTN	9/22/2010	7/15/2010	Erlanger	vag-abruption	30.1	3#6	NICU

What about the “threat” of the unknown patient reaction?

- 195 completed surveys have been collected since the start of the project. Of these 195 patients responding to the survey, only 3 indicated they had experienced telemedicine services prior to their visit with STORC.
- 100% of the patients responding to the survey were satisfied with the explanation of telemedicine they received during their visit.



Survey Says....

□ Results from the Satisfaction Survey

□ The following shows the overall score after totaling 195 surveys.
(Satisfaction scale shown below.)

1. I was satisfied with the picture quality = 3.8
2. I was satisfied with the sound quality = 3.8
3. I was satisfied with my talk with the provider = 3.9
4. I talked openly about my concerns = 3.9
5. I did not have to wait long to see the provider = 3.8
6. I felt comfortable during the visit = 3.9
7. I have been told when to expect the results of this session = 3.9
8. I know whom to contact with any questions related to my visit = 3.9
9. I was satisfied with the quality of care I received today = 3.9
10. Overall, I was satisfied with today's visit = 3.9
11. After today's visit, I am more willing to use telemedicine = 3.9

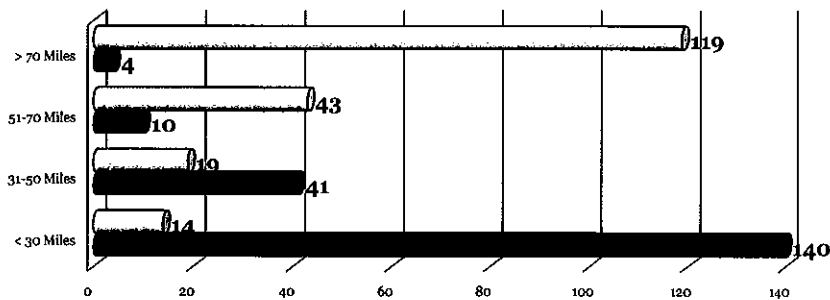
Scale: 1= strongly disagree, 2= Disagree, 3= Agree, 4= Strongly Agree



Survey Says....

Distances Traveled vs. Distances Avoided...

**Distances Estimated for Travel
To Rural Telemedicine Site vs. To Perinatal Center**



□ TO PERINATAL CENTER ■ TO TELEMEDICINE SITE

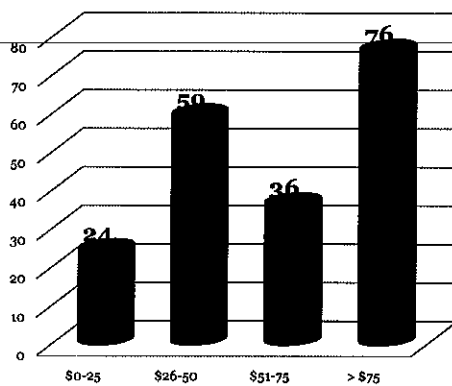
Overwhelming majority would have had to travel more than 70 miles without STORC; Lowest bar shows that STORC allows them to travel less than 30 miles



Survey Says....

If the patient had to travel....

Estimated Costs to Travel to Perinatal Center



➤ Assuming the mid point each of the first 3 ranges, assuming the low point of \$75 on the 4th category, multiplying that amount by the number of respondents per category, the total dollar amount divided by 195 results in a conservative average savings per visit of \$43.44.

➤ Applying this average savings per visit to STORC current patient encounter total of 671, one can conservatively say that the patients have experienced an out of pocket travel savings of equal to or greater than \$29,148.24.

➤ At an average of \$.22 per diaper, this translates to **132,492 diapers!**

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SOLUTIONS TO STORC'S PERINATAL CENTER

Results at a Glance:

- 671 Patient Encounters
- 312 Individual Patients Served
- 120 documented births
- 3/120 deliveries <34 weeks, or 2.5%
- 92% of babies born go to Newborn Nursery (110 out of 120)
- 77% of patients deliver in their local hospital (92 out of 120)

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SOLUTIONS TO STORC'S PERINATAL CENTER

In Closing



On behalf of 312 moms (and counting), in addition to all of the individuals who have worked to make this project a success, Regional Obstetrical Consultants owes thanks to the Blue Cross Health Foundation of Tennessee for their vision and support, and to all the partner organizations who have assisted along the way. Without STORC, those 312+ moms could have been facing significantly different outcomes for their child's future.

Together, we are making a difference.



Contact Information



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