

Project TICKER

Teamwork to Improve Cardiac Kids' End Results

Tina Schade Willis

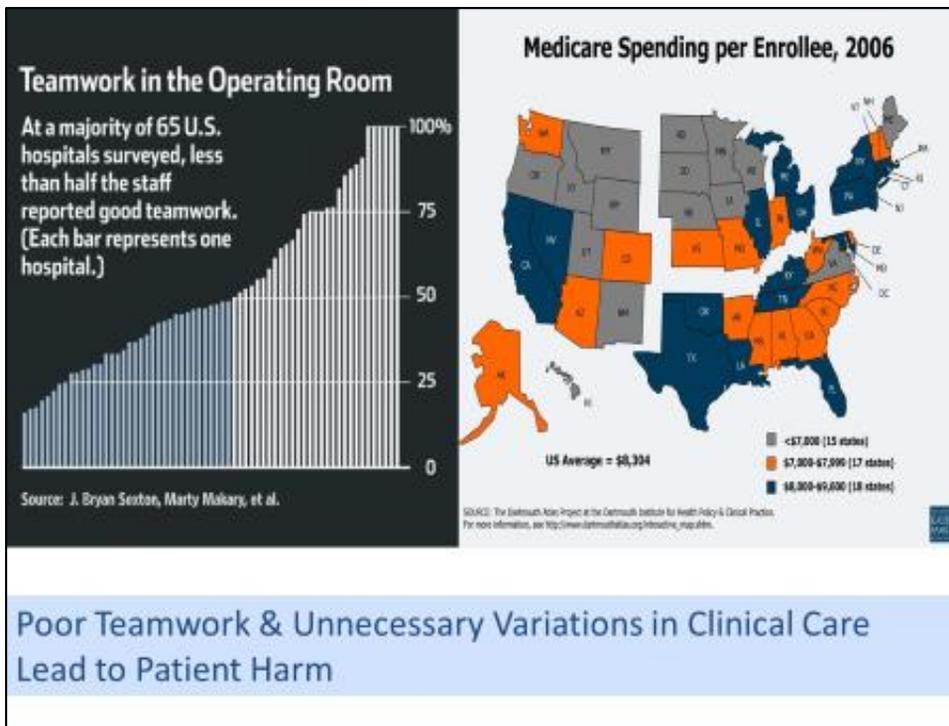


Multidisciplinary Advisory Group Celebration
October 24, 2012

Welcome to Project TICKER's 2 year milestone celebration

This was a project milestone celebration for Project TICKER in our pediatric congenital heart population at UNC back in 2012.

I want to use this as a demonstration of a Pecha Kucha style presentation which is 20 slides 20 seconds per slide and a little over 6 minutes total.



Poor teamwork in the Operating Room is known to lead to poor outcomes. In one study of 65 US hospitals, less than half of the staff reported good teamwork.

In the Dartmouth Atlas Project there are substantial variations in the cost of care for people of similar health

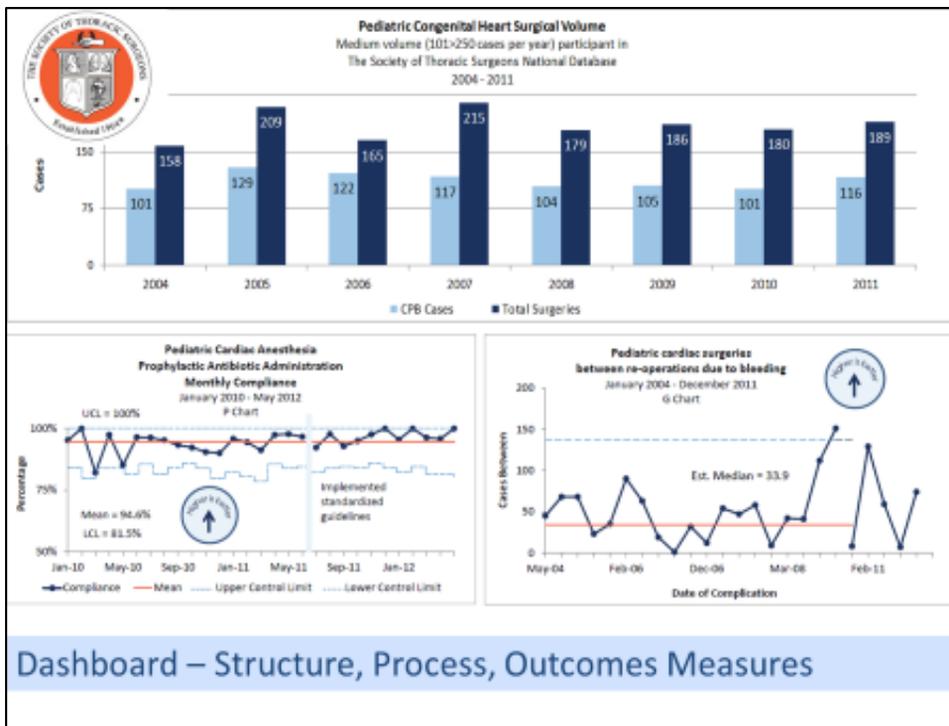
In fact, clinicians with the best results often have lower, not higher, costs than average.



Improved Teamwork Across and in Healthcare Silos

Our project's aim was to implement teamwork training and standardized clinical pathways. Pathways have been shown to decrease length of stay and lead to better outcomes especially for surgical populations.

Through teamwork training and observations, we did find significantly improved teamwork in all of the areas where it was new and sustained or improved in the areas with previous training.



UNC already participates in a national database through the Society for Thoracic Surgeons. In this project we created a dashboard from the STS and hospital data using process control charts.

Creating a dashboard with the rich amount of data already collected for STS gave us a really unique perspective and we believe should be used at the national level for evaluation of quality at the participating institutions.

Measure		Compliance
Participation in a systematic multi-institutional database (registry) for cardiac surgery	NQF Measure	●
Participation in pre-operative multidisciplinary conference involving cardiology, cardiac surgery, anesthesia, and critical care to plan surgical cases		●
Multidisciplinary rounds involving cardiology, cardiac surgery, and critical care		●
Regularly scheduled peer review quality assurance conference		●
Availability of intraoperative transesophageal echocardiography (TEE)		●
Availability of institutional pediatric ECLS (Extracorporeal Life Support) Program		●
Surgical volume for pediatric and congenital heart surgery (annual)	NQF Measure	●
Teamwork training and coaching infrastructure	Unique to UNC	●
<small>Green is full compliance; yellow is partial; red is non-compliance.</small>		
Infrastructure - Sustain and Continue Improvement Efforts		

The infrastructure created for this project was based on the recommendations from STS to the National Quality Forum for reporting from all pediatric congenital heart surgery programs.

The NQF only adopted 2 of the original recommendations but we continued with all and added our own teamwork training program measure.

By the end of the 2 year project we are in full compliance with all structure measures.



Our family advisors are families who have had children as patients in our program.

They have traveled from all over the state to attend meetings, call in for phone conferences, and work diligently through email and snail mail to partner with us in every aspect of this project.

This was the project that really showed me the importance of working with or families rather than doing things for them.

				Today is: _____ <small>Month</small> <small>Year</small>		UNC North Carolina CHILDREN'S HOSPITAL	
				Room Phone #: _____ RN: _____ RT: _____			
				Case Manager: _____			
				Family Contacts:			
				Name: _____ Number: _____ Name: _____ Number: _____			
				Ronald McDonald House #: <u>(919) 913-2040</u>			
				Family Room #: _____			
				Plan / Goals: _____			
				Family Questions / Notes: _____			
				Family Meeting: _____			
Family Advisors – Partners in Every Aspect of Project							

Examples of how we are changing our unit related to communication are included here.

We post photos in every patient room now of the current on service PICU physicians to better communicate who is working that week.

In addition, we have a family communication dry erase board for each room that was designed by our advisors.

Project TICKER

Teamwork to Improve Critical Care Bed Results



Clinical Pathway: Ventricular Septal Defect (VSD) or Atrial Septal Defect (ASD) Repair

Notes: (1) This pathway is a general outline and does not represent a professional or standard governing practice of any institution. One should consult the individual who needs (2) this is a representative document and should not be used as the patient's medical record.

Eligibility Criteria

- No significant co-morbidities
- Expected length of stay 2-5 days

Consult with others when a patient should cover all pathway (i.e. complex, not an elective case)

- Expected length of stay longer than 5 days (i.e., patient has cardiac chest, infection, HUS, ET, or other clinical problem)

Pathway Process



Notes to PICU clinicians from us. This checklist pathway sheets should be fully completed each day, including the family members and family access into the unit. Avoid any the checklist check, but post-up, 2 per 2. The patient check, from the start of the family checklist, communication checks and should also be the patient down notes and below checklist.

Instructions for HUCs

- Obtain most recent version of pathway packet here: <http://www.med.unc.edu/ncchs/for-access/information>
- When making copies of the packets, copy on up (day 1) and 1 double only
- Enter pathway packet should be stapled together
- Copies of packets are kept in the file drawer of every day and in high med
- When pulling packet for a patient, include a date stamp on the top of supply sheet
- Make note of each TICKER patient on the daily in-house sign-out sheet
- Make sure the pathway packet accompanies patient through transfer to OR

PICU MD – please complete for family

At the end of rounds – include the main goals to be communicated with the family for the day – even if they are already on rounds.

Examples:

Up and walking, turning down the ventilator, taking out chest tubes, tolerate feeds.

RN PLEASE TRANSCRIBE TO WHITE BOARD

1

2

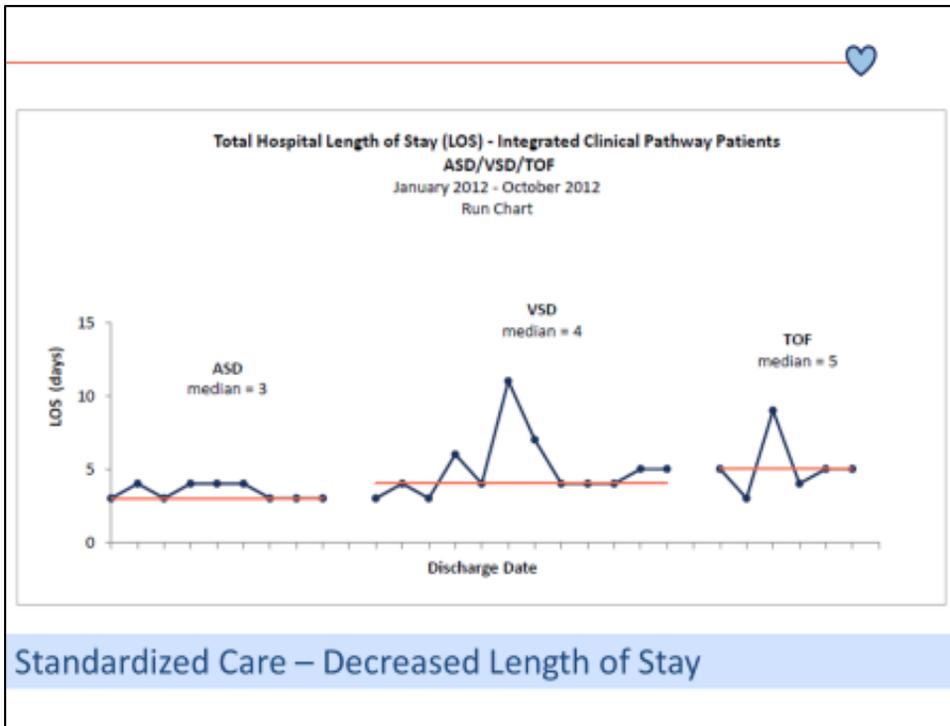
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Clinical Pathways – Evidenced Based Standardized Care Plans

The clinical pathways that we have implemented are for some of our most common procedures.

These are evidenced based standard guidelines that follow a patient from admission to discharge with set goals for each stage of their care.

Our family advisors included a prompt area for the primary days goals to be shared with the families for the day that we all know the direction we are going for the day.



We have established goal total hospital length of stay for each of our pathway patient populations.

We aimed to decrease our VSD patient LOS from a baseline of 8 days and our TOF LOS from a baseline of 13 days.

We have not had enough patients on pathway to reach statistical significance but we have reached beyond our median goals for the patients thus far.

That is 4 days for VSD patients and 5 days for TOF.

OR to PICU Handoff

Team Member	Activity	Responsibility
1. OR Discharge Nurse	2nd call to PICU is placed *1 hour prior to PICU arrival	OR Discharge nurse - Peroperative Report PICU receiving nurse - CT Surgery OR Nursing Report Sheet
2. OR Circulating Nurse	Rolling call is made to alert PICU of immediate transport status.	
<p>---Announcements provided and a member of the operative team is present and ready to PICU ---</p> <p>Patient is transferred to PICU members</p>		
3. Pediatric Cardiac Anesthesia Provider	All "if all members" are present & ready for receipt of the patient. *Members include anesthesiologist, pediatric surgeon, pediatric nurse, and a pediatric member of the PICU team.	Pediatric Cardiac Transfer Note
4. CT Surgeon/PA	Pre-op surgery report	
5. All team members	Questions, clarifications, and concerns	

Note: The anesthesia team is responsible for patient care until the handoff is complete. After all questions, clarifications, and concerns are addressed, the PICU team accepts responsibility for the patient.

Version: 4/14

Printed/Revised by: [Name]

The Next Accreditation System




Handoffs – Spread outside TICKER and ACGME requirements

We have developed several tools through the project that are used to improve transitions of care.

The first tool in this area developed was the Cardiac OR to PICU standardized handoff. Of note this has already spread as the tool throughout the institution for all OR to ICU handoffs in the institution.

These standardized transitions of care are also newly required ACGME requirements for all of our residency programs and can be shown for accreditation visits as examples.

PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Association of Center Volume With Mortality and Complications in Pediatric Heart Surgery

Sara K. Pasquali, Jennifer S. Li, Danielle S. Burstein, Shubin Sheng, Sean M. O'Brien, Marshall L. Jacobs, Robert D.B. Jaquiss, Eric D. Peterson, J. William Gaynor and Jeffrey P. Jacobs

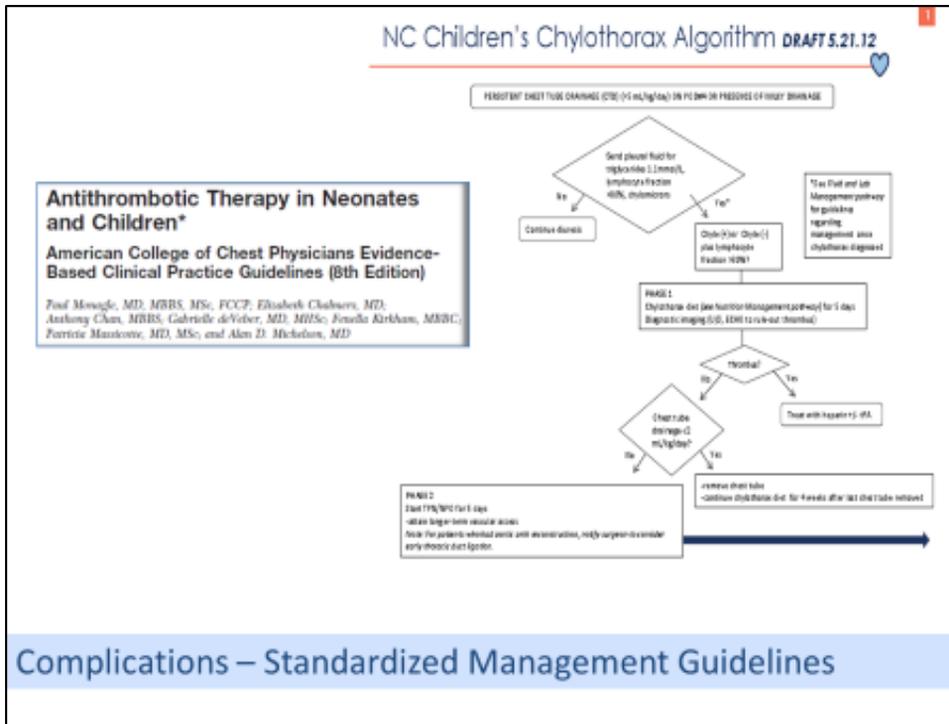
Pediatrics; originally published online January 9, 2012;

"Initiatives aimed at improving outcomes may need to focus on not only reducing complications themselves but also improving recognition and management of complications once they occur"

Complications – Standardized Management Guidelines

Earlier this year, there was a publication in *Pediatrics* describing the association of center volume with mortality and complications in pediatric heart surgery utilizing the STS data from the US centers participating.

It was found that the higher mortality rates found in different institutions may be related more to how the institution recognizes and manages complications



For this reason we used what we had learned through the project to standardize our approach to the most common complications associated with pediatric congenital heart surgery such as deep venous thrombosis – blood clots - and chylothorax – or the leakage of lymphatic fluid in the space just outside of the lung.

These approaches are evidence based and available for all team members to use on a public access website.

SPECIAL FEATURE

Physician counseling, informed consent and parental decision making for infants with hypoplastic left-heart syndrome

JJ Paris^{1,2}, MP Moore³ and MD Schreiber⁴



Communication – Standardized Parental Counseling

In looking at our data we also found that we have a disproportionate amount of Hypoplastic Left Heart Syndrome patients that are high risk surgical candidates –they have other anomalies that make their chance of survival lower.

We found quite a few publications that describe inconsistent counseling with these families, leaving some surgical options out as well as advanced care planning.

We created a process with our family advisors to better standardize counseling and support these families.



The TICKER project provides quality improvement credit for faculty in 3 of our pediatric divisions in Part 4 maintenance of certification which is a requirement for all board certified physicians to complete to maintain their certification.

We applied for project specific approval from the American Board of Pediatrics and Project TICKER was approved for fulfillment of this requirement.



Patience Leino pictured here was our first formal family advisor in the PICU and is a mother of a heart baby.

She has presented her work with our team in improving communication with families at an international conference and in publication.

She and our wonderful TICKER family advisors have been working on yet another project. We discovered a need for families to educate our medical team members.

This education program has now being spread throughout the institution in both the adult and pediatric patient populations.



Spread – Handoffs OR to ICUs, NICU to PICU, PICU to Wards

As I mentioned earlier – standardized transitions of care or handoffs are an ACGME requirement and we have been able to adapt not only the OR to ICU's tool for other units but also have used the NICU to PICU standardized handoff for non cardiac babies and the PICU to CICC handoff will also be adapted for all PICU to non-ICU transitions over time.

It is also very important to continue to involve patient and family advisors in the handoff process.



Spread – Toolkit on TICKER and AHRQ Websites for Free Use

One of the deliverables for the AHRQ grant is a detailed toolkit that is now complete and available on our TICKER website for any other center in the world to use to implement the same program.

It includes all of the pathways and handoff tools as well as our complication management guidelines in formats that can be edited for use in other environments and institutions.

Just Google Project TICKER and click on toolkit



The most important part of complex system improvement is putting into place a sustainment plan – which thankfully we have budgeted well enough to have an additional year of funding available and were awarded an extension from AHRQ to continue the sustainment portion of the project.

The goal is a sustained infrastructure of creating additional pathways, continuing our measurement and dashboard, and publications.



There are several future directions that this work could lead to.

Examples including continuing to work with the quality subgroup from STS and working on statistical process control chart evaluations of national data, assisting in spread of these quality measures at even larger institutions, as well as the possibility of incorporating a similar program into different patient populations here at UNC.

Acknowledgements



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- **Student interns**
- **AHRQ**
- **Cardiac OR and Children's Hospital Leadership**

I would like to thank all of the people who have worked tirelessly over the past two years on this project.

Our multidisciplinary advisory group and the family advisors have been tremendous in taking this program to a level beyond most quality improvement programs, AHRQ for funding Project TICKER, the participants that have been willing to pilot tools and go through teamwork training, the student interns that observed so many events in and out of the OR and clinical units. And our institutional leaders that gave the thumbs up for setting up this program and covering extra time for training sessions.

We will have time for questions now – thank you all for coming.