

# Pediatric Rapid Response Teams: Meeting Quality Goals Through Telemedicine

Kathleen Webster MD

Director, Division of Pediatric Critical Care  
Ronald McDonald Children's Hospital of Loyola Medicine



# Disclosure

- No financial or other interests to disclose  
.....sadly



# My Perspective



- Division Director of Critical Care
- Medical Director of PCCU
- Departmental Quality Improvement Officer
- Faculty Director of PALS program

# My Interests

- **Quality Improvement**
  - **Morbidity and Mortality**
  - **Event Review**
  - **Process Improvement**
  - **Quality Projects**
  - **Quality Plan**
- **Telemedicine**
  - **PICU Consults to ED**
  - **Building referral base**
  - **Improving Communication**

# Sounds great, but.....

- Quality Improvement
  - No time
  - Limited Faculty
  - “Just one more project”
  - “Nothing New”
- Telemedicine
  - No money
  - Needs tech support
  - “Just a toy”

# Attempted Solutions

- Quality Improvement
  - Quality Projects
  - Weekly, monthly, quarterly meetings
  - Quality Plans
  - M&M: Matrix
- Telemedicine
  - Administrative Buy-in
  - Business Plans
  - Cost/Benefit Analysis
  - MBA

## Healthcare Matrix: Care of Patient with \_\_\_\_\_

AIMS Competencies	SAFE (Avoiding injury from care intended to help)	TIMELY (Reducing delays for pts and providers)	EFFECTIVE (Evidence-based medicine, avoiding underuse and overuse)	EFFICIENT (Avoiding waste of equipment, supplies, ideas, and energy)	EQUITABLE (Care does not vary based on race, ethnicity, gender, SES)	PATIENT-CENTERED (Care with respect for preference, needs, values)
<b>Assessment of Care</b>						
<b>PATIENT CARE</b> (Overall Assessment) Yes/No						
<b>MEDICAL KNOWLEDGE and SKILLS</b> (What must we know?)	<b>Matrix interfaces core competencies with quality aims</b>					
<b>INTERPERSONAL AND COMMUNICATION SKILLS</b> (What must we say?)						
<b>PROFESSIONALISM</b> (How must we behave?)						
<b>SYSTEM-BASED PRACTICE</b> (What is the process? On whom do we depend? Who depends on us?)						
<b>Improvement</b>						
<b>PRACTICE-BASED LEARNING AND IMPROVEMENT</b> (What have we learned? What will we improve?)						

# Quality Improvement 101

- Safe
- Timely
- Efficient
- Equitable
- Effective
- Patient Centered

# Quality Improvement 101

- **Safe: avoid harm**
- **Timely: reduce pt and provider delays**
- **Efficient: avoid waste of supplies/ideas**
- **Equitable: avoid bias**
- **Effective: evidence based**
- **Patient Centered**

# Building the Quality Case for Telemedicine

- PDSA
- Review Existing Data and Events
- Apply the quality aims
- Determine the ~~problem~~
- Implement Solution
- Track Data

*opportunity for improvement*



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# Review Events and Data

- **Infant with misdiagnosis by resident**
  - RCA: attending input needed
  - Mandate to see all infants prior to treatment
- **Our question: what are other high risk groups?**
  - Unplanned transfers to ICU
  - Admissions at night

# Apply the Quality Aims

- Safe: issues with infants, unplanned tx
- Timely: need for immediate evaluation
- Efficient: use of attending time
- Effective: Evidence Based Care
  - Leapfrog Standards
  - JCAHO Safety Goals

# ~~Identify the Problem~~

*Opportunity*

- Increase attending presence
- Evaluate infants
- Evaluate ward transfers
- Implement RRT

# Problem

- Increase intensivist presence
- Evaluate Infants
- Evaluate Ward Transfers
- Implement RRT

# Opportunity

- Telemedicine
- Telemedicine
- Telemedicine
- Telemedicine

# Telemedicine Solution



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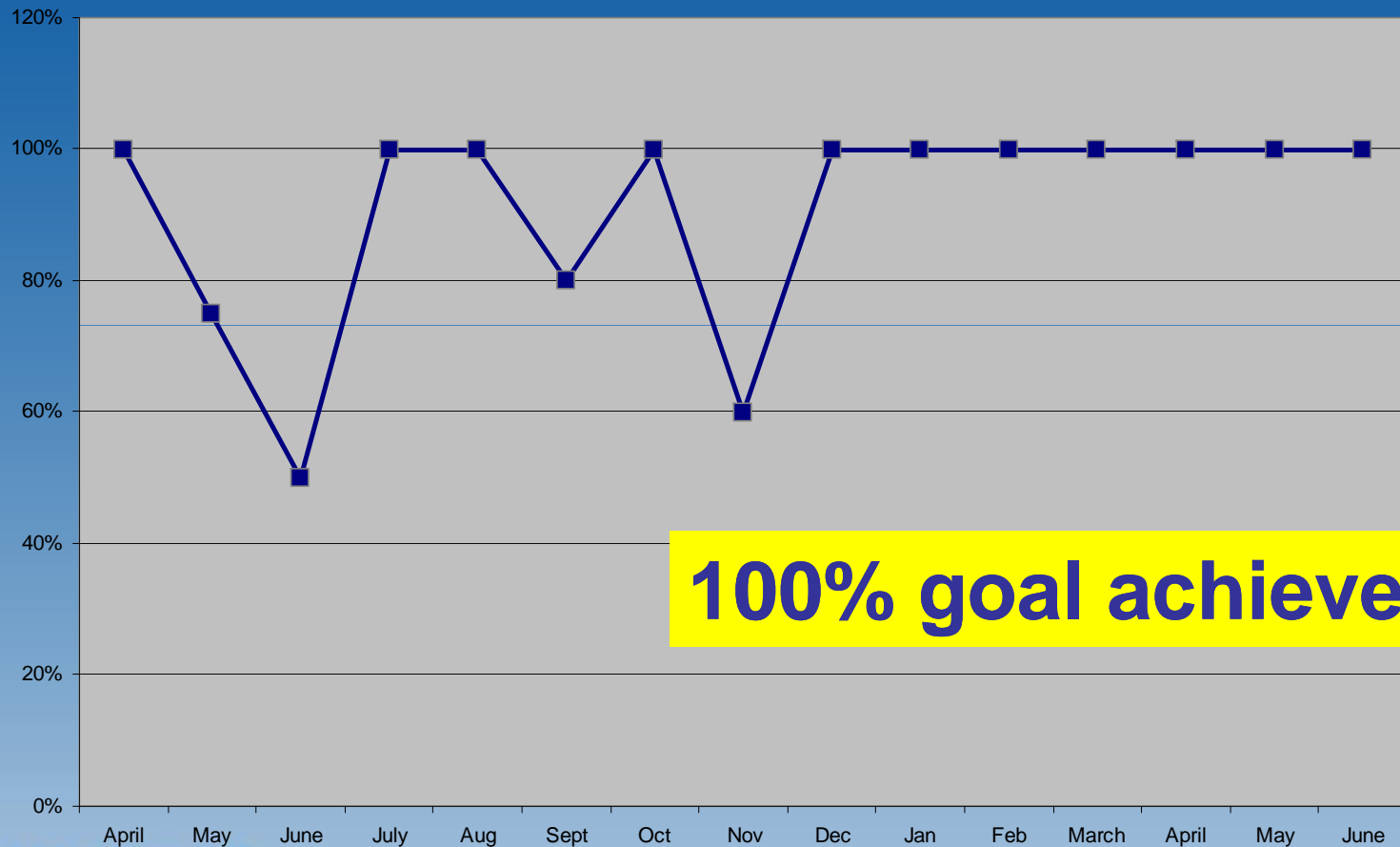
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# Data Tracking

- Project Goal: patient evaluation
- How did telemed help meet that goal?
- What benefit comes from meeting the goal?



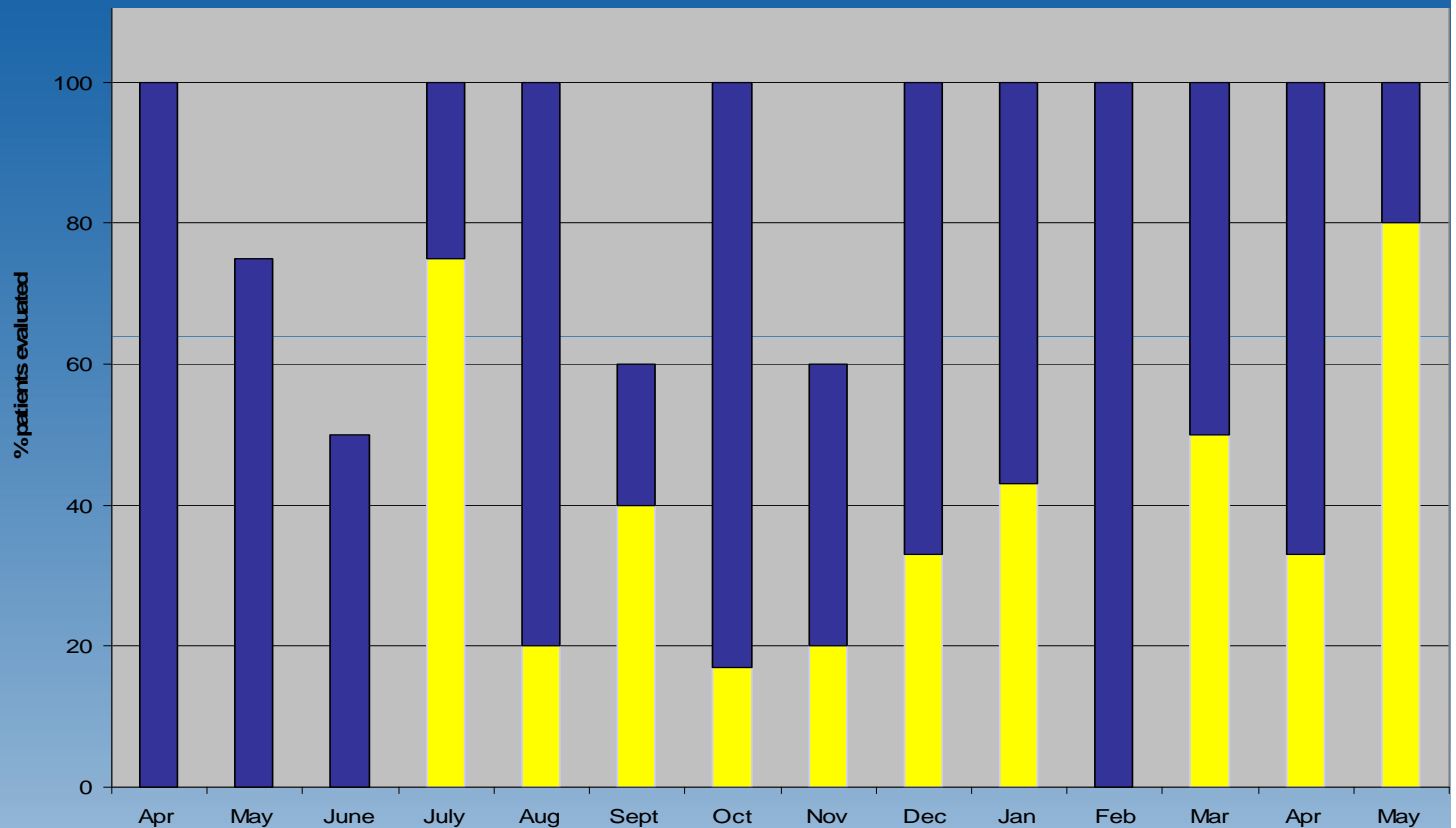
# Infant Evaluation by Intensivist



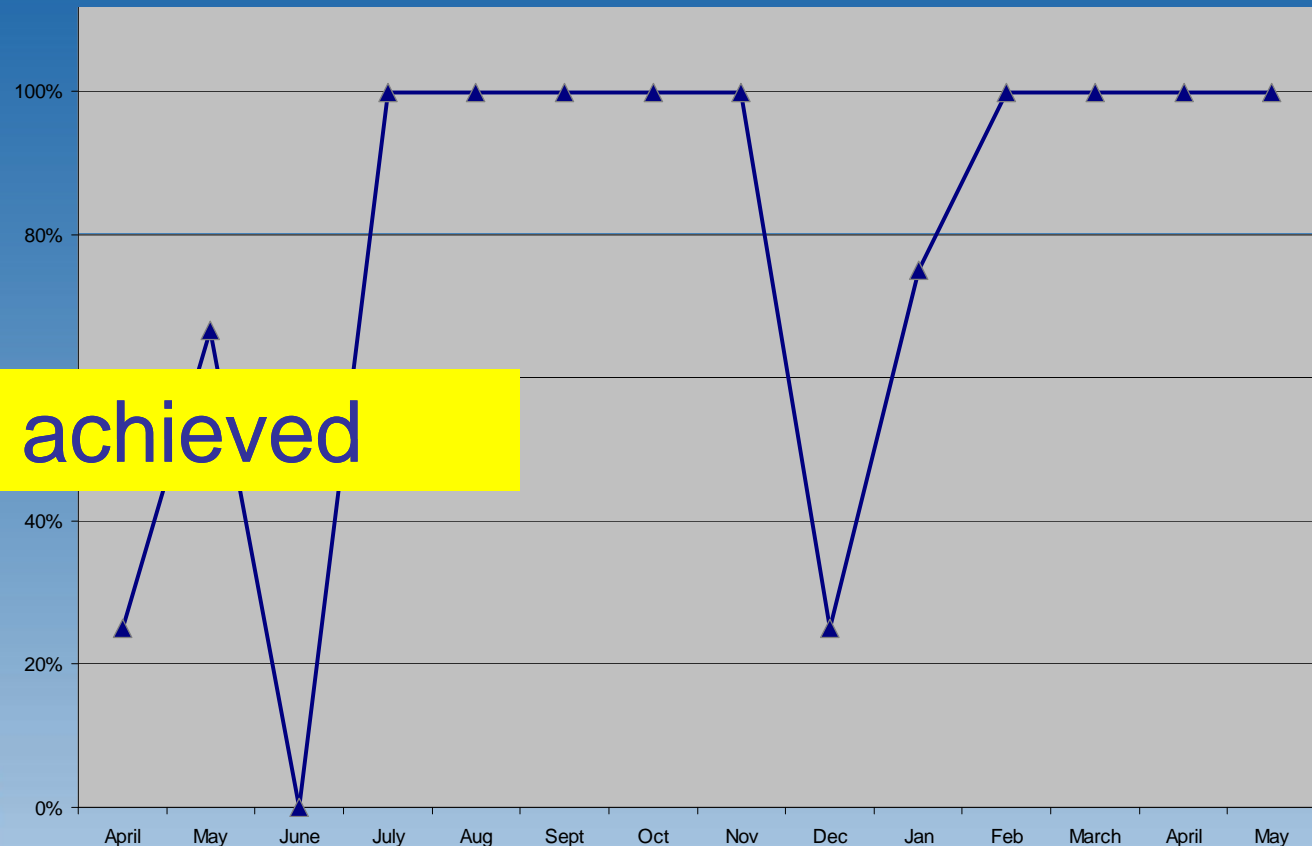
**100% goal achieved**

# Infant Evaluation by Intensivist

33% seen by  
telemed



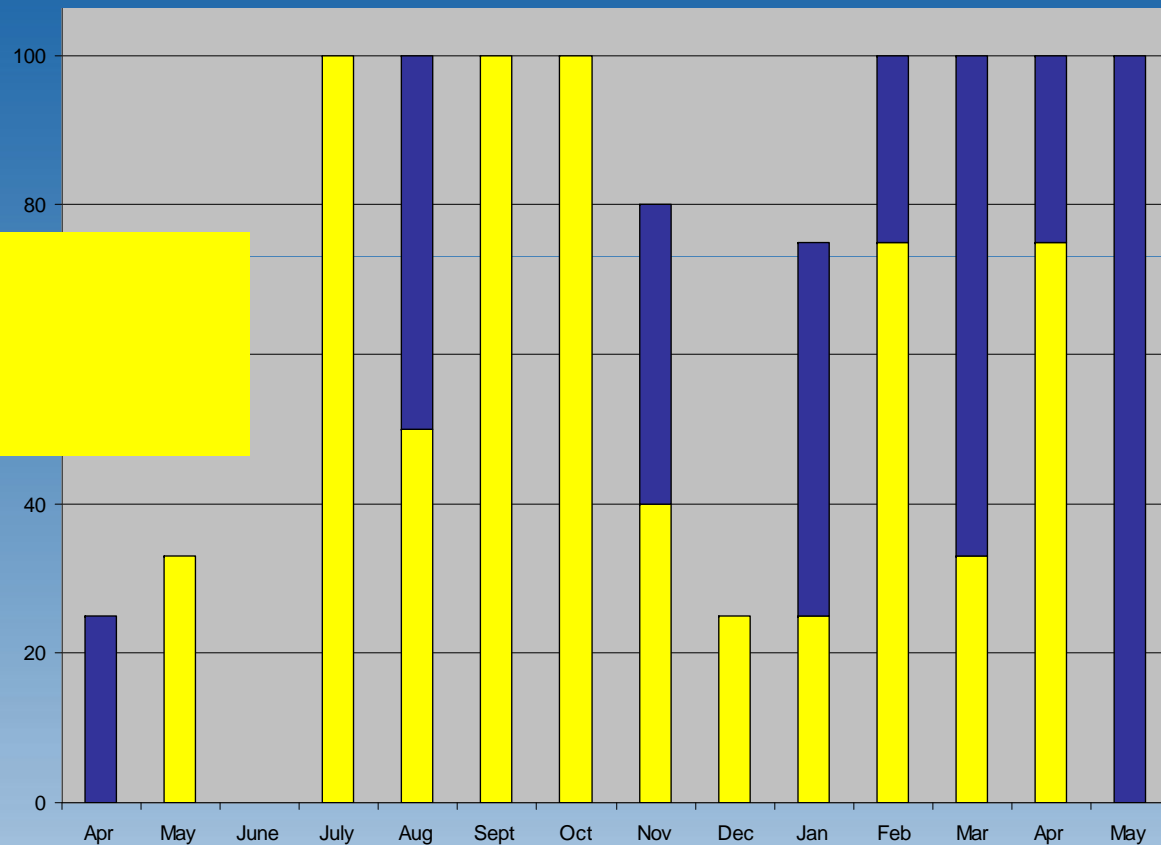
# Ward Transfer Patient Evaluation by Intensivist



100% goal achieved

# Ward Transfer Patient Evaluation by Intensivist

59% seen by telemedicine



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# The Quality Case for Telemedicine

- **Safe: direct attending supervision**
  - **Physician safety**
- **Timely: available in minutes**
- **Efficient: appropriate triage**
- **Equitable**
- **Effective: attending as resource of EBM**
- **Patient Centered: direct communication**



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# Telemedicine at RMCH

- Connect Pediatric Intensivists to ICU
  - Evaluate new admissions
  - Evaluate ward patients
    - Timely plan for transfer
    - Avoid unnecessary transfer
  - Evaluate decompensating ICU patients
  - Supervise procedures/codes
  - Safely handle hand-offs

# Telemedicine at RMCH

- Pediatric Quality Goals
  - Quality Fair: 1<sup>st</sup> Place for Pt Safety
    - Institutional Recognition
    - Administrative Buy-In
    - Program Expansion



# From Pipe Dreams to Project Plans

- Tele-stroke
- Emergency Department
- Outreach
- Pharmacy

# Lessons Learned

- Evaluate the data
- Apply the quality aims
  - Identify the ~~problem~~ opportunity
- Plan the Solution
- Track the data
  - K.I.S.S. --- look for existing measures
  - How are you impacting the quality of care?