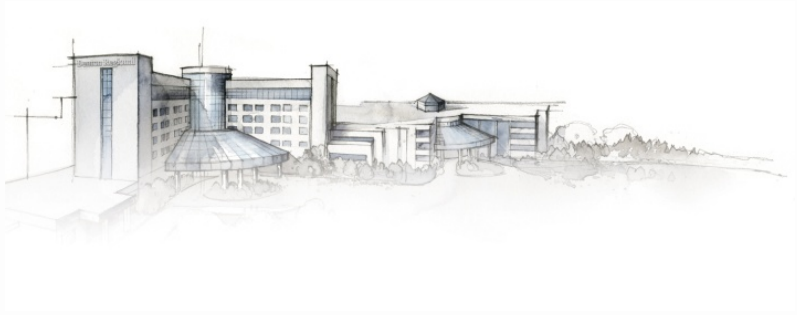
Above PAR Care:
A Failure to Rescue Strategy

Kathleen M. Williams, MSN, RN
Vice President, Clinical Practice



DENTON REGIONAL
MEDICAL CENTER
Care you can trust.

What is PAR?

PAR = **P**atient **A**t **R**isk

- by Goldhill *et al* (1999) descrbed:
  - A patient population with abnormal physiological vital signs
  - With an increased risk for deterioration / potential **Adverse Events** (cardiac or respiratory arrest)

Why the Interest?

Failure To Rescue

- **Definition**:
- The **Healthcare Team** is:
  - Unable to recognize deterioration
  - Unable to the save the life of a patient experiencing a complication that was not present on admission. (McCauley, 2005)

- **Failure to Rescue**
  - indicator of the quality and quantity of nursing care. (Simpson, 2005)

Recognition / Reaction

- Early recognition of complications and
- Implementation of evidence-based management of that complication
- Ultimately improving the quality of care by rescuing the **at risk** patients

(Friese & Aiken, 2008)

Goal: Early Intervention

- Pre-arrest symptom recognition:
  - 10% deviation from patients normal vital signs
  - Change in LOC (level of consciousness)
  - Decreased or no urine output

- Early intervention reduces mortality from **Adverse Events**

88

WBC = 10.0

94%

K+ = 2.3

Output = 450

BUN = 12

K+ = 2.3

T = 102.6

24

Creat = 1.4

B/P = 172/88

PT = 14.2

INR = 1.4

Alb = 2.3

Intake = 1200

Opportunity Exists

- Review of Rapid Response Team (RRT) data:
  - Opportunity exists to intervene earlier in patient deterioration
  - How do you prompt the nursing staff to recognize and react in a more proactive fashion?
  - How do you use the systems in place to prompt action?

Tool Selection

- Rating tools reviewed for relevancy to the pilot study population.

- "MEWS" (Modified Early Warning Score)
  - Physiologic parameters are numerically rated
  - Escalation pathway
    - Higgins *et al* (2008)

- **"PAR"** terminology used instead of "MEWS"

How Does it Work?

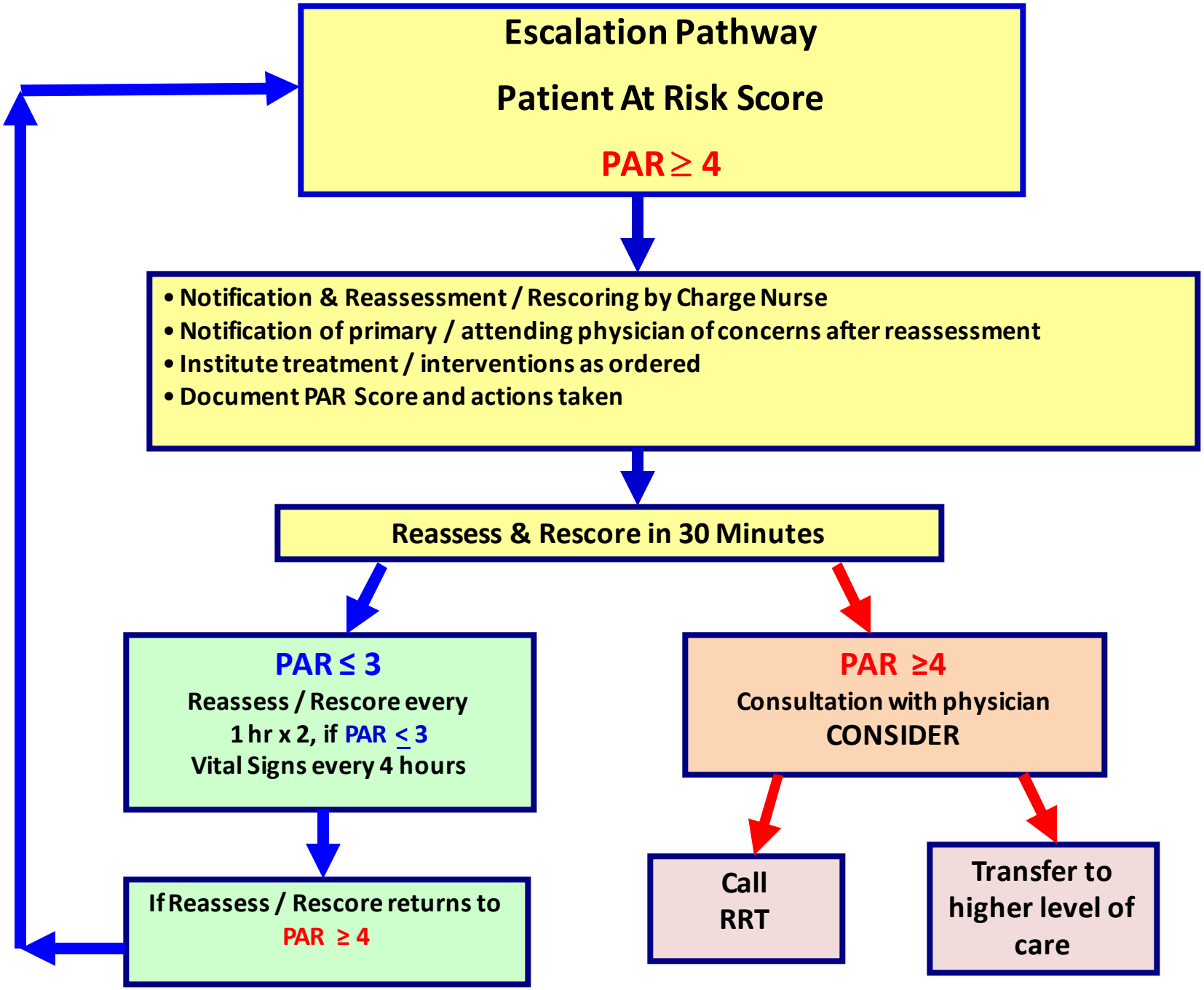
- An aggregate score is calculated from established baseline physiological parameters
  - Blood Pressure, Pulse, O2 saturation, etc.
  - Level of Consciousness
  - Urine Output

How Does it Work?

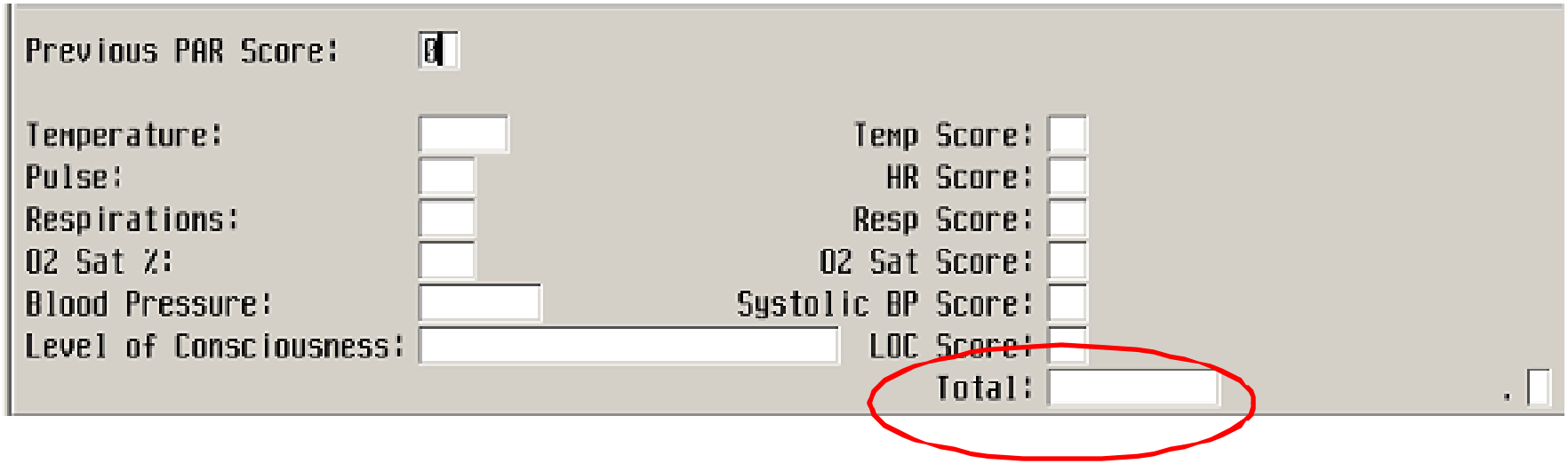
- The ‘best’ or healthiest score is “0”
- Scores increasing from “0” = indicate possible deterioration
- A threshold number (in this case **“4”**) prompts the nurse to use the established escalation pathway

DRMC PAR SCORE GRID

Parameter	0	1	2	3	4	Score
Temperature (ºF)	97 – 100.4	95.1 – 96.8 OR 100.5 – 101.3	< 95 OR > 101.4	> 101.5		
Heart Rate	51 – 100	41 – 50 OR 101 – 110	<40 OR 111 – 119	≥ 130		
Respiratory Rate	15-20	09-14	21 – 29	< 9 OR ≥ 30		***Red circles indicate DRMC modification
O2 Saturation	> 92%	90% – 92%	86% – 89%	<85%		
Systolic BP	101 – 199	81 – 100	≥ 180 OR 71 – 80	< 70		
Mental Status	Alert Full Consciousness	New onset Agitation / Confusion OR Lethargy	Obtundation	Stupor OR Coma OR Sedated	Acute Neurological Change	
Urine Output (ml)	> 420 ml / 12 hr OR Excess	< 35 ml / hr OR ≤420 ml / 12 hr OR Dialysis	< 20 ml / hr OR < 240 / 12 hr	0 OR None		Total Score = _____

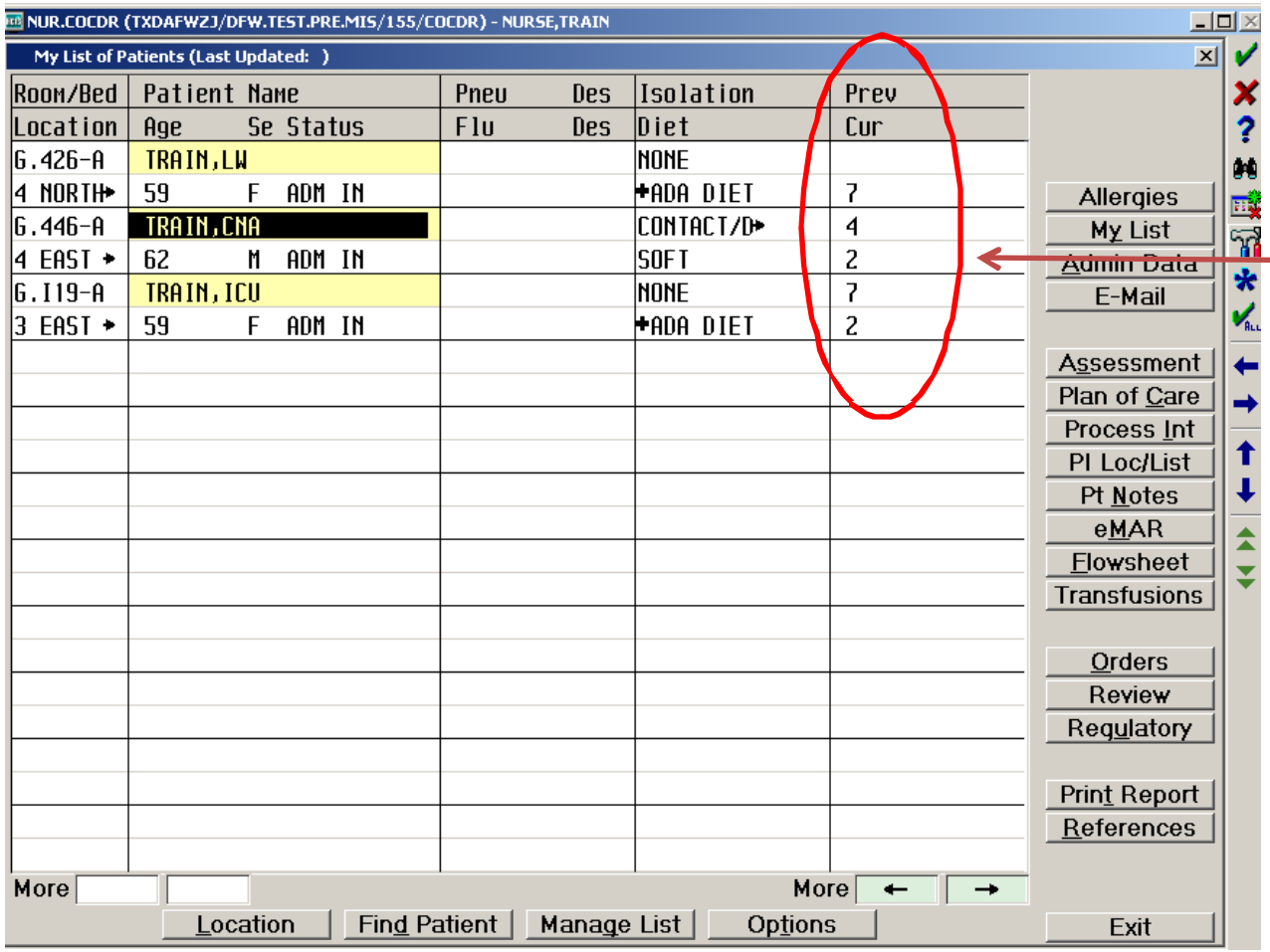


Using the Electronic Health Record



Nursing intervention that automatically totals PAR Score

Using the Electronic Health Record



Previous and Current PAR scores automatically available at all times to primary nurse

Using the Electronic Health Record

Charge Nurse Report – Prints Automatically every 6 hours

	Denton Regional Hospital Admissions Patient At Risk Scoring System							
Patient 's Name Location	TEMPERATURE	HEART RATE Pulse	RESP RATE	02 SAT	SYSTOLIC B/P	MENTAL STATUS	URINE OUTPUT	TOTAL SCORE
	97 -100.4 = 0 95.1 – 96.8 = 1 100.5 – 101.3 = 1 <95 OR >101.4 = 2 >101.5 = 3	51 – 100 = 0 41 – 50 = 1 101 – 110 = 1 <40 = 2 111 – 129 = 2 >129 = 3	9 – 14 = 1 15 – 20 = 0 21 – 29 = 2 <9 – 3 >29 = 3	>92 = 0 90 – 92 = 1 86 – 89 = 2 <85 = 3	101 = 170 = 0 81 – 100 = 1 >170 = 2 71 – 80 = 2 >70 = 3	1 = 0 2 = 1 3 = 2 4.5.6 = 3	>420 = 0 >35ml/hr = 1 >02ml/hr = 2 0 or None = 3	
Smith **Prev Par 0**	97.2 0	56 0	18 0	95 0	119.67 0	1 0	750 0	0
Jones **Prev Par 2**	96.6 1	87 0	18 0	94 0	116/75 0	1 0	400 1	2
Obama **Prev Par 2**	98.9 0	100 0	18 0	97 0	134/96 0	1 0	950 0	0
Clinton **Prev Par 2**	101.0 1	104 1	22 2	89 2	104/54 0	2 1	450 0	7

Selection of Pilot Study Unit

- A 29 bed Post Critical Care Unit (PCU) was selected since it has the highest number of patient transfers from the Intensive Care Unit (ICU) and the higher patient acuity.

Selection of Pilot Study Unit

Rationale for Selection:

- The higher the patient acuity the more **"At Risk"** is the patient
- **"At Risk"** patients have increase opportunity for undetected deterioration

Selection of Pilot Study Unit

- The computerize documentation system generated the **PAR** score for the primary nurse and printed a unit report every 6 hours for the charge nurse.

Implementation

- Unit practice council embraced the project and were role models for implementation
- Staff education done via on-line learning management system
- 1:1 education done as needed

Implementation

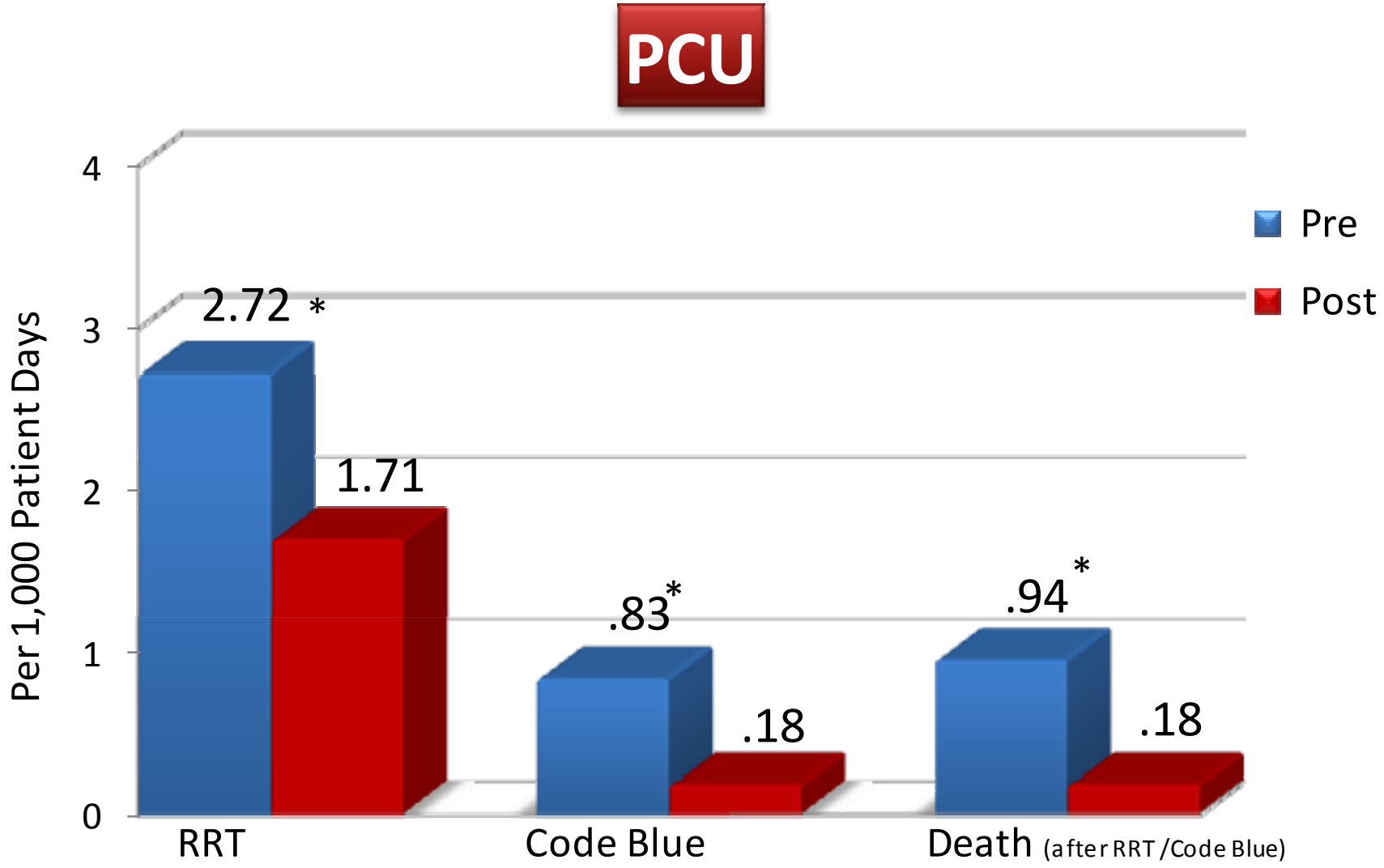
- **PAR** Score was implement on **August 24, 2009** in PCU

- The **Goal** of the project was:

“O” Code Blues in PCU

Evaluation of Pilot Study

- Evaluation took place during the 6 week pilot study.
- A **statistically significant** reduction in **Code Blues**, **RRT** and **Mortality** occurred.
- In fact, during the Pilot Study
  - **No RRT's**
  - **No Code Blues**



* Significant Pre-Post Difference, $p < .05$.

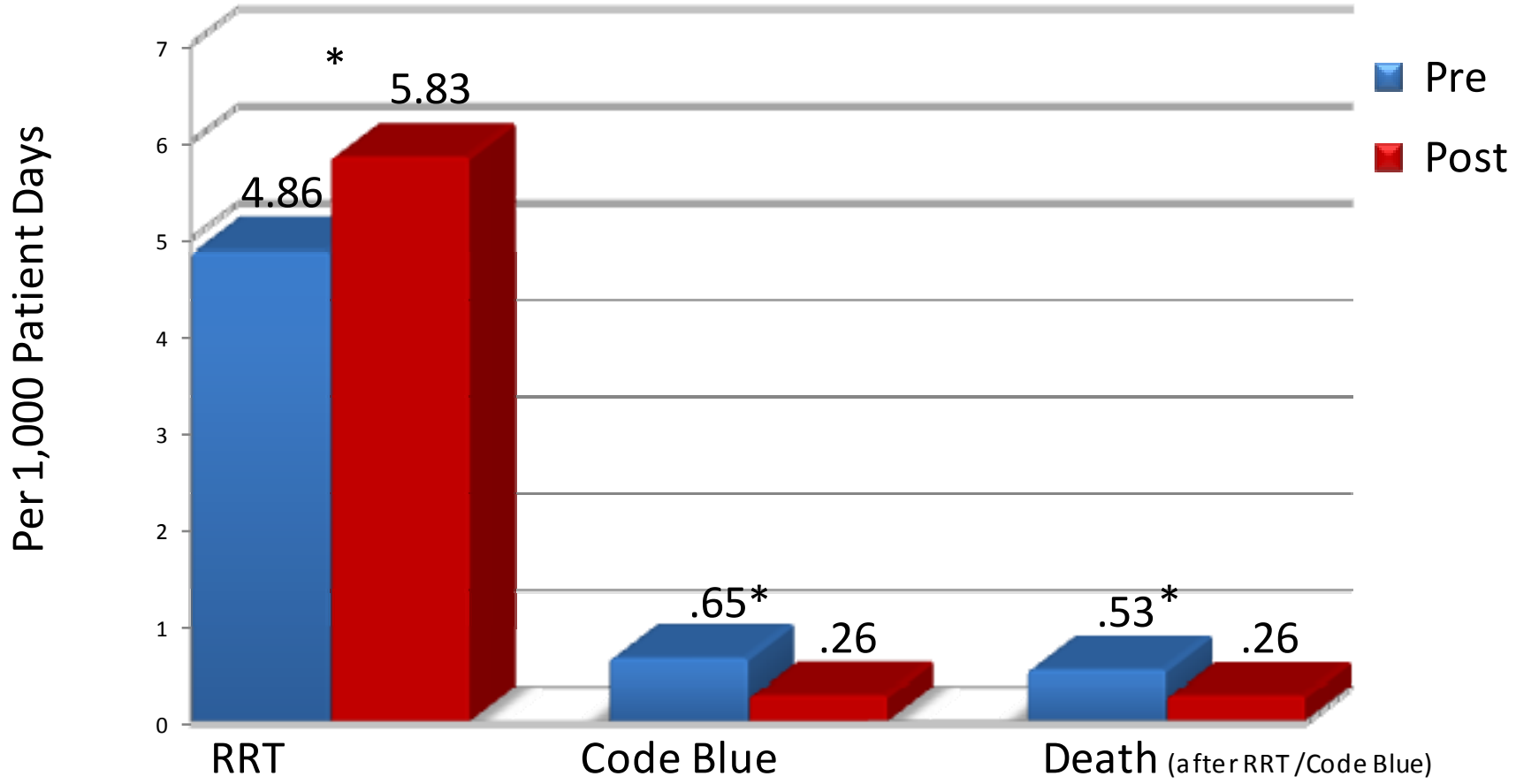
Note: Pretest data runs from Jan. 2009 - Aug. 2009; Posttest data runs from Sept. 2009 - Sept. 2010.

Implemented on Medical Oncology

- The **PAR** score was implemented on 58 bed Medical Oncology unit in **February 2010** with similar results

- In fact during the first month, there was:
  - **Increase in RRT's**
  - **No Code Blues**

Medical



* Significant Pre-Post Difference, $p < .05$.

Note: Pretest data runs from Jan. 2009 - Jan. 2010; Posttest data runs from Feb. 2010 - Sept. 2010**.**

Conclusion

- Utilizing a clinical prediction rule (**PAR** Score)
- Mandating a specific course of action (**Escalation Pathway**)
- Significantly affected the number of **Adverse Events** (RRT, **Code Blue**) & Mortality.

Conclusion

- Computerized documentation system:
  - Automatic generation of **PAR** score for primary nurse
  - Automatic printing of Charge nurse **PAR** reports

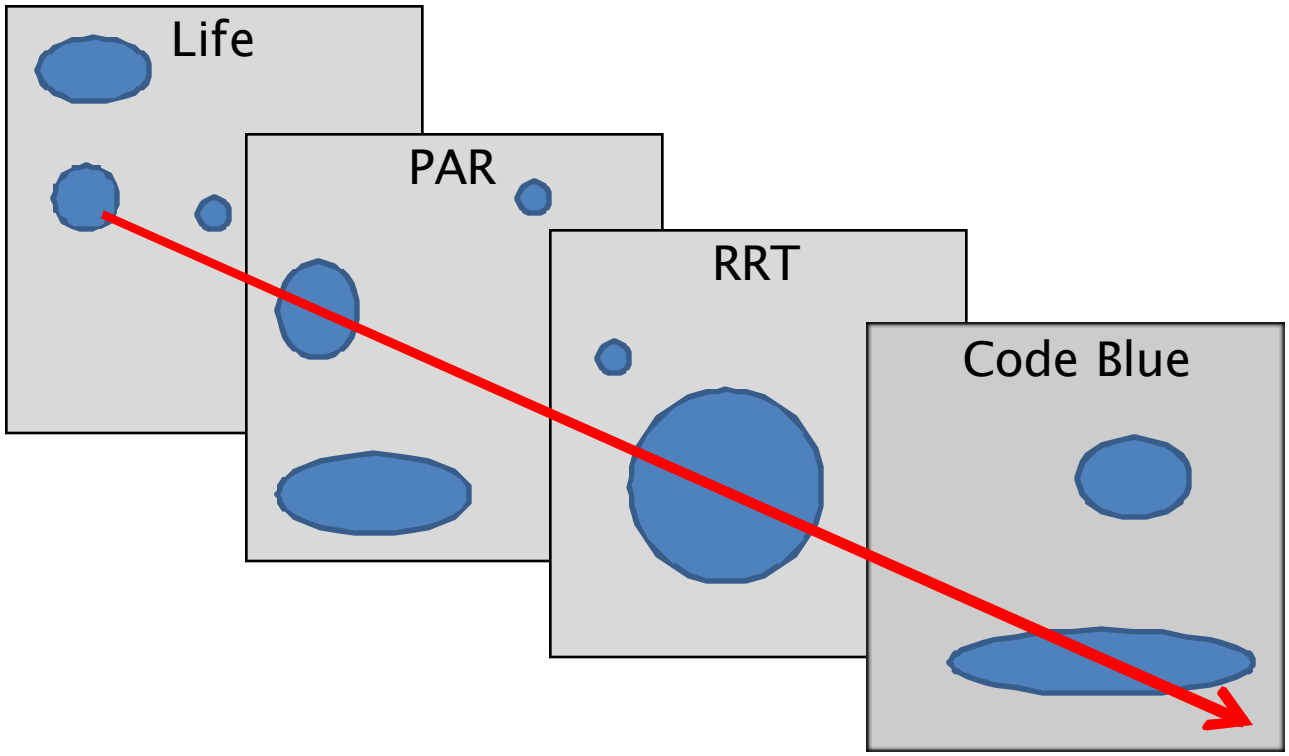
Contributed significantly to the success of the project

Conclusion

- Utilizing systems already in place
- Not increasing the work load of the nurse

Allowed the nurse to work smarter, not harder

AT RISK HOSPITALIZED PATIENTS



Death

References

- Buist, M., Moore, G., Bernard, S., Waxman, B., Anderson, J., & Nguyen, T. (2002). Effects of a medical emergency team on reduction of incidence of and mortality from unexpected cardiac arrests in hospital: Preliminary study. *British Journal of Medicine, 324*,387-390.
- Friese, C., & Aiken, L. (2008). Failure to rescue in the surgical oncology population: Implications for nursing and quality improvement. *Oncology Nursing Forum, 35*(5), 779-785.
- Goldhill, D.R., Worthington, L., Mulcahy, A., Tarling, M. & Sumner, A. (1999). The patient-at-risk team: identifying and managing seriously ill ward patients. *Anaesthesia, 54* (853-860).
- Higgins, Y. et al (2008). Promoting patient safety using an early warning scoring system. *Nursing Standard, 22*(44), 35-40.

DENTON REGIONAL MEDICAL CENTER
Care you can trust.

References

- McCauley, K. (2005). Failure to rescue: A challenging opportunity. *American Association of Critical-Care Nurses. 22*(3), 2.
- Simpson, K. (2005). Failure to rescue: Implications for evaluating quality of care during labor and birth. *Journal of Perinatal Neonatal Nursing, 19*(1), 24-34.

DENTON REGIONAL MEDICAL CENTER
Care you can trust.