

Direct To Operating Room(OR): A Reevaluation 20 Years After Implementation.

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Direct To Operating Room(OR): A Reevaluation 20 Years After Implementation

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INTRODUCTION:

- Trauma Care begins with the Prehospital emergency medical services (EMPs).
 - Assess patient on physiological, anatomic and mechanisms of injury(MOI) criteria to make a destination decision.
- Secondary Triage begins once the patient arrives to the hospital:
 - 1st level “Trauma Consult”: A member of the Trauma team consults a patient with an injury who is under a non-trauma service.
 - 2nd level “Trauma ED”: Patient is cared for by EMPs in the Emergency Department.
 - 3rd level “Trauma Alert”: Patient is delivered directly to the “Trauma Bay” where a fully active trauma team is ready.
 - Highest level “Code Red”: Patient is delivered directly to an Operating Room (OR).
- In 1985, Rhodes et al conducted a study about Direct to OR at LVHN (Lehigh Valley Health Network).
 - It concluded: Direct to OR reduces errors of omission more than it increases errors of commission and reduces patient suffering through faster delivery of anesthesia.
- Hypothesis: Direct to OR resuscitation improves mortality and decreases complications of hospital stay for critically ill patients compared to evaluation and treatment in standard trauma bay with subsequent upgrade to code red.

METHODS:

- Data will be retrospectively collected from January 1, 2008 until December 31, 2016 using the Trauma Data Base, EMR (Electronic Medical Records), and EPIC (Electronic Privacy Information Center).
 - Patients who arrived as either code reds or upgraded to a code red.
 - 623 patients met the inclusion criteria for Code Red patients.
 - 115 patients met the inclusion criteria for Upgrade Code Red patients.
- Compare mortality, represented by survival to discharge.
- Compare number of ventilator days.
- Compare hospital length of stay.

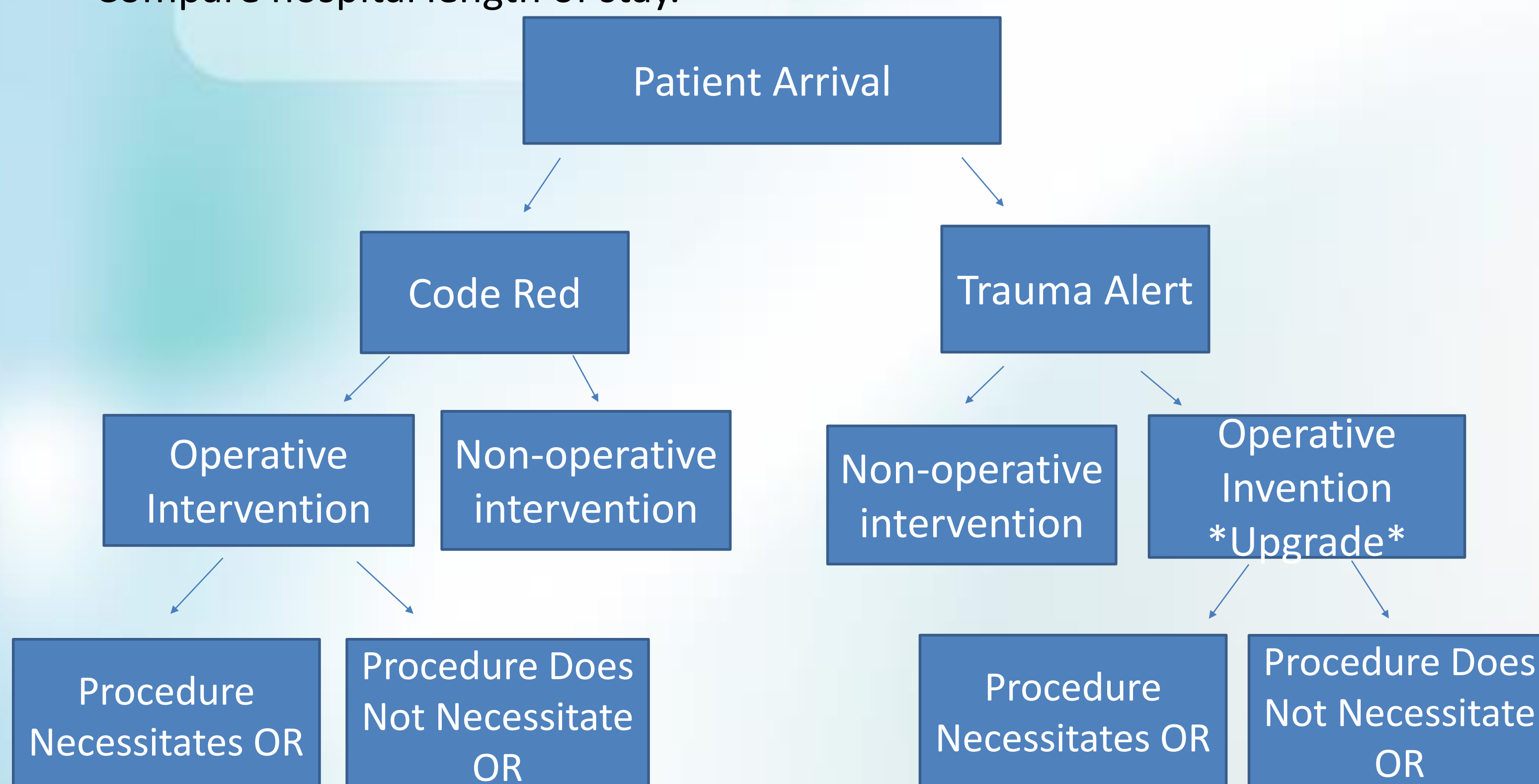


Figure 1. Flowchart of patient arrival if a Code Red or Trauma Alert.

RESULTS:

Percent Mortality in Code Red Patients (n=623)

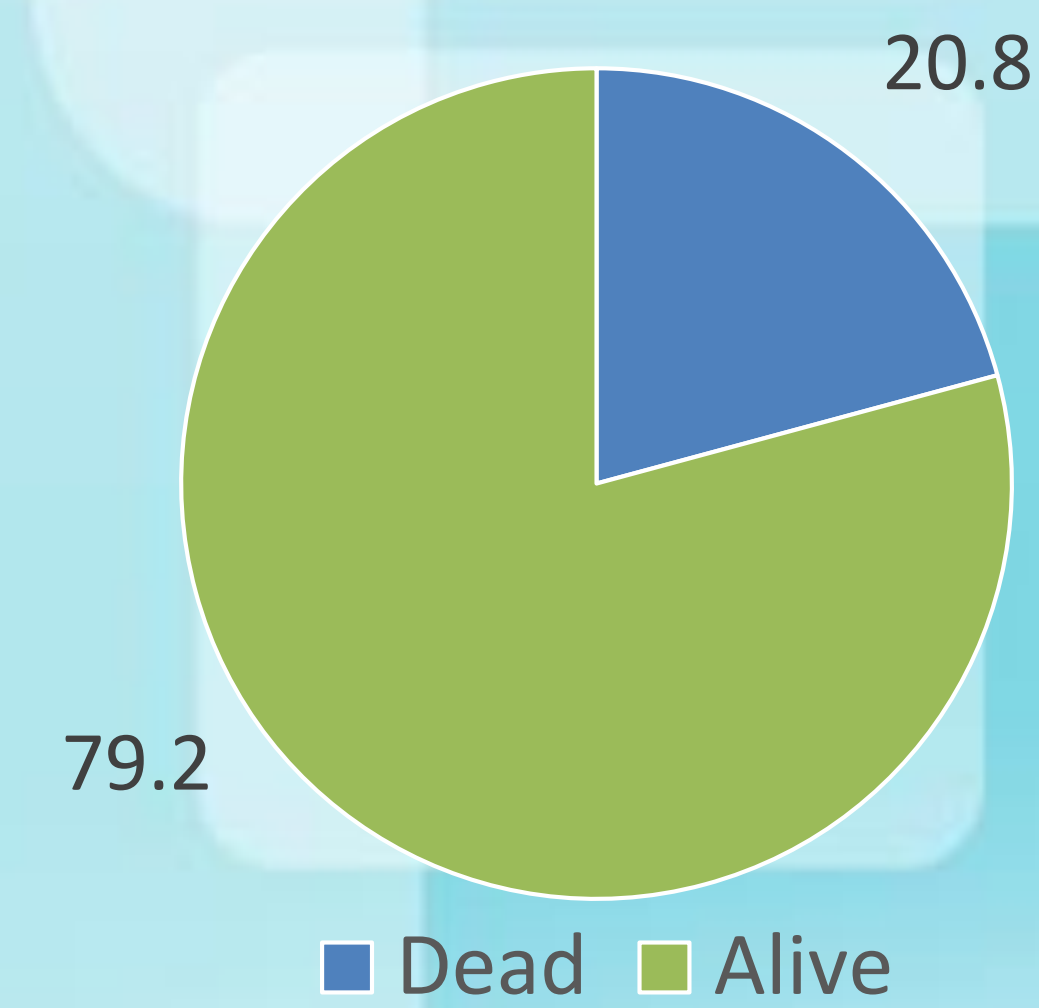


Figure 2. Mortality in Code Red patients.

Percent Mortality in Upgraded Code Red Patients (n=115)

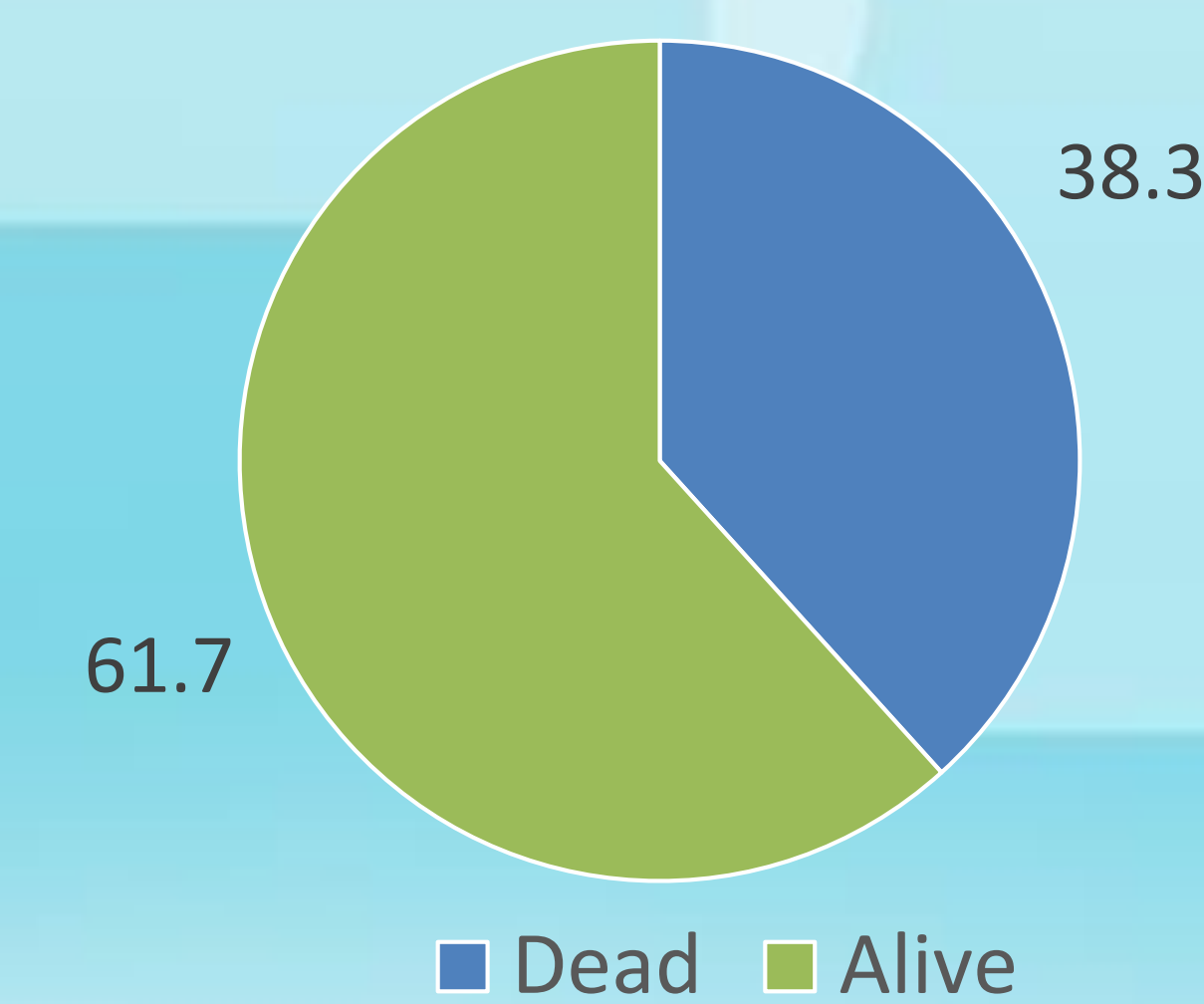


Figure 3. Mortality in Upgraded Code Red patients.

	Code Red Patients:	Upgraded Code Red Patients:
Average age:	36.4 Range:15-95	48.7 Range:15-92
Average days on a ventilator:	4.6 Range: 0-90	6.9 Range:0-55
Average hospital length of stay:	9.9 Range:0-209	11.9 Range: 0-70

Table 1. Other Variables that affect patient outcome.

CONCLUSION/RECOMMENDATIONS:

- Conclusions:
 - Mortality rate is higher in upgraded Code Reds than in patients who were initially Code Reds.
 - The average number of days on a ventilator and average hospital length of stay were also higher in upgraded Code Reds than in patients who were initially Code Reds.
 - The most common MOI was car crashes.
 - Although the data is not significantly tested yet, that data seems to support the hypothesis that Direct to OR improves mortality and decreases complications of hospital stay for those who are critically ill. From this, it can be hypothesized that the criteria for secondary triage at LVHN-CC does not need to be adjusted.
- Recommendations:
 - Future research should look into the cost of care, complication, number of operative interventions, and the number of negative laparotomies performed should be statistically looked at.

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