

Background:

Sepsis is a major cause of hospitalization with estimated mortality of about 18% .

Recently, the incidence of septic shock increased to 44% Mortality rate of patients admitted to Al-Wakra hospital with sepsis or septic shock was 25.6% (extrapolated from 6-months data).

Therefore, we decided to establish a project called **SEPSIS CODE** to achieve the best morbidity and mortality outcome among patients admitted with sepsis.



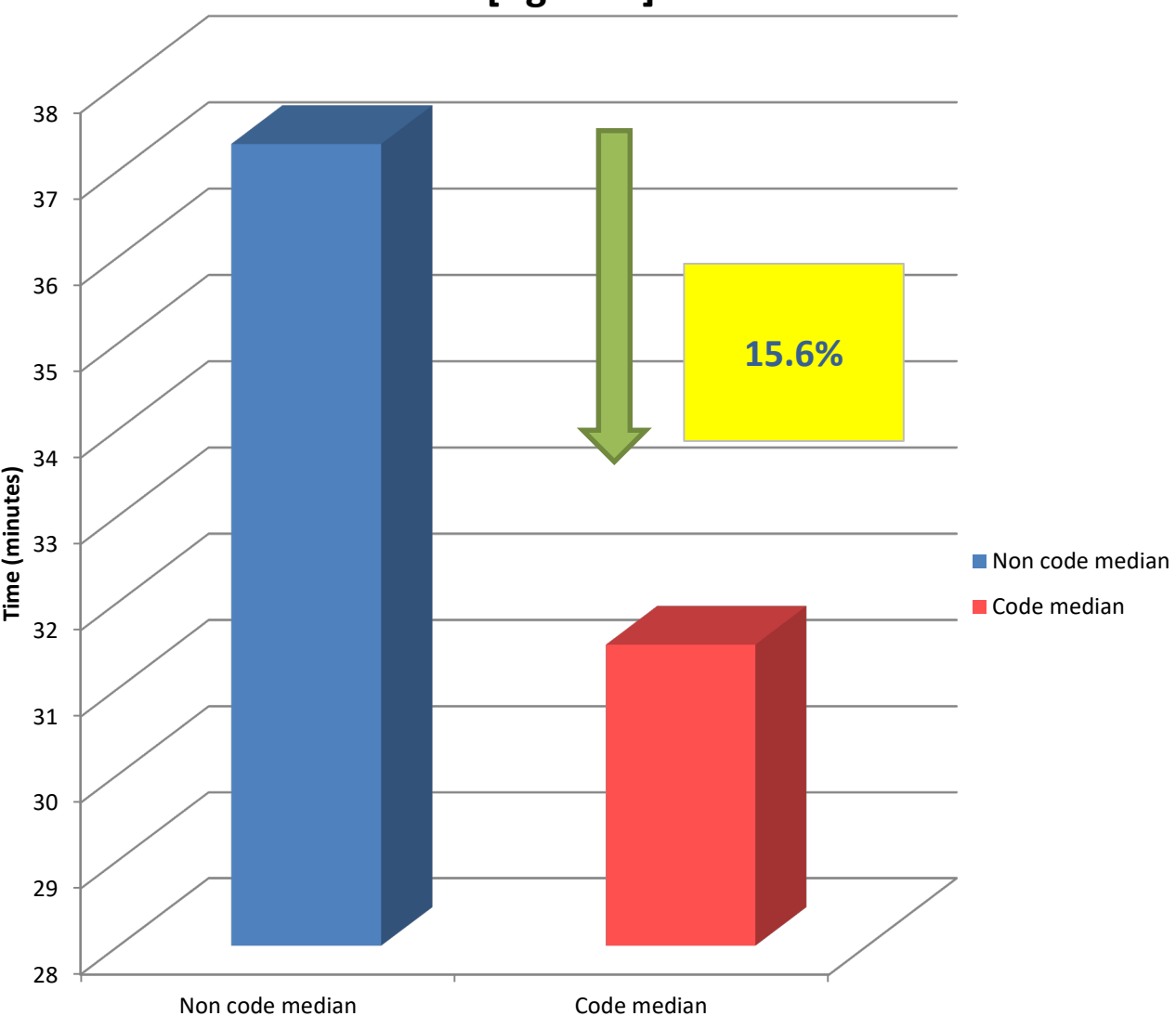
Methods (Sepsis code protocol):

- The physician identifies patient with sepsis/septic shock based on predefined criteria as in sepsis pathway.
- The physician activates SEPSIS CODE alert .
- Two nurses will respond to the alert (in-charge nurse and bedside nurse).
- The physician orders recommended antimicrobial therapy (based on stewardship and local guidelines), laboratory and radiological workup.
- The in-charge nurse brings sepsis kit, fluids and antimicrobial drugs to bedside nurse while the bedside nurse inserts catheter for fluid and antimicrobial administration.
- The bedside nurse collects specimens for requested investigations.
- The nurse in-charge calls the clinical pharmacist to evaluate drug therapy
- Laboratory and radiology departments respond the code by prioritizing the orders.
- Once informed, critical care physicians respond to SEPSIS CODE to evaluate the patient for admission.

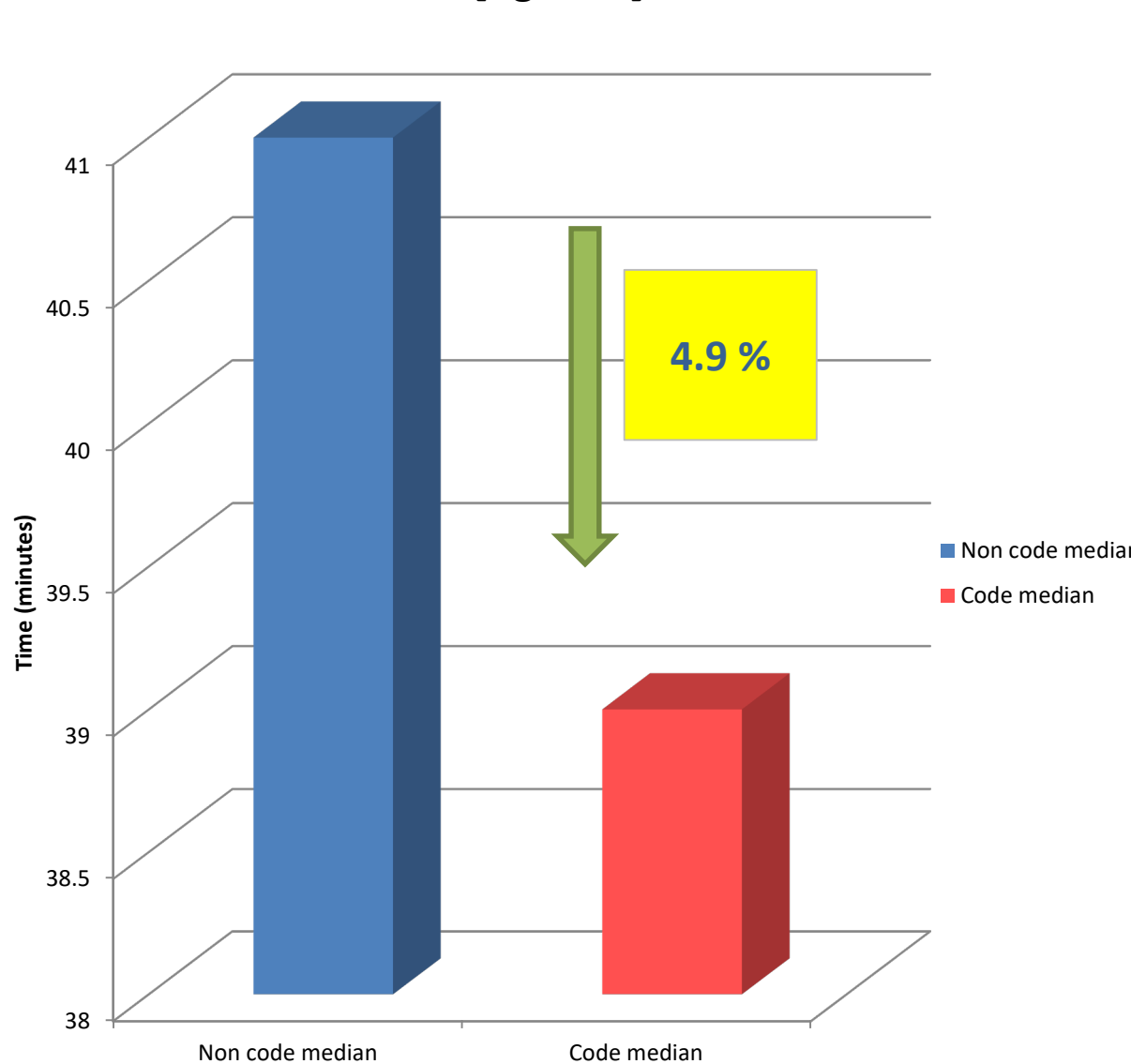
Results & discussion :

- We piloted a total of **36 sepsis patients**, 18 patients before the implementation of CODE SEPSIS and 18 patients after the implementation of the code.
- The implementation of sepsis code in the ED showed positive results. This was evident in:
 - 15.6% reduction in time to intravenous catheter and fluid administration
 - 63.7% reduction in time to request blood cultures
 - 4.3% reduction in time to 1st lactate level (from 69 to 66 min)
 - 52% reduction in time to antimicrobial prescription
 - 47.7% reduction in time to Abx administration(from 88 to 46 min)
 - 8.2% reduction in time to patient transfer from ED [figure 7].
- hospital length of stay decreased by 1 day (from 8.5 to 7.5 days) [figure 8]
- After implementation of SEPSIS CODE in our hospital we’ve become able to achieve the surrogate end points for decreasing the mortality in sepsis patients admitted to our facility.

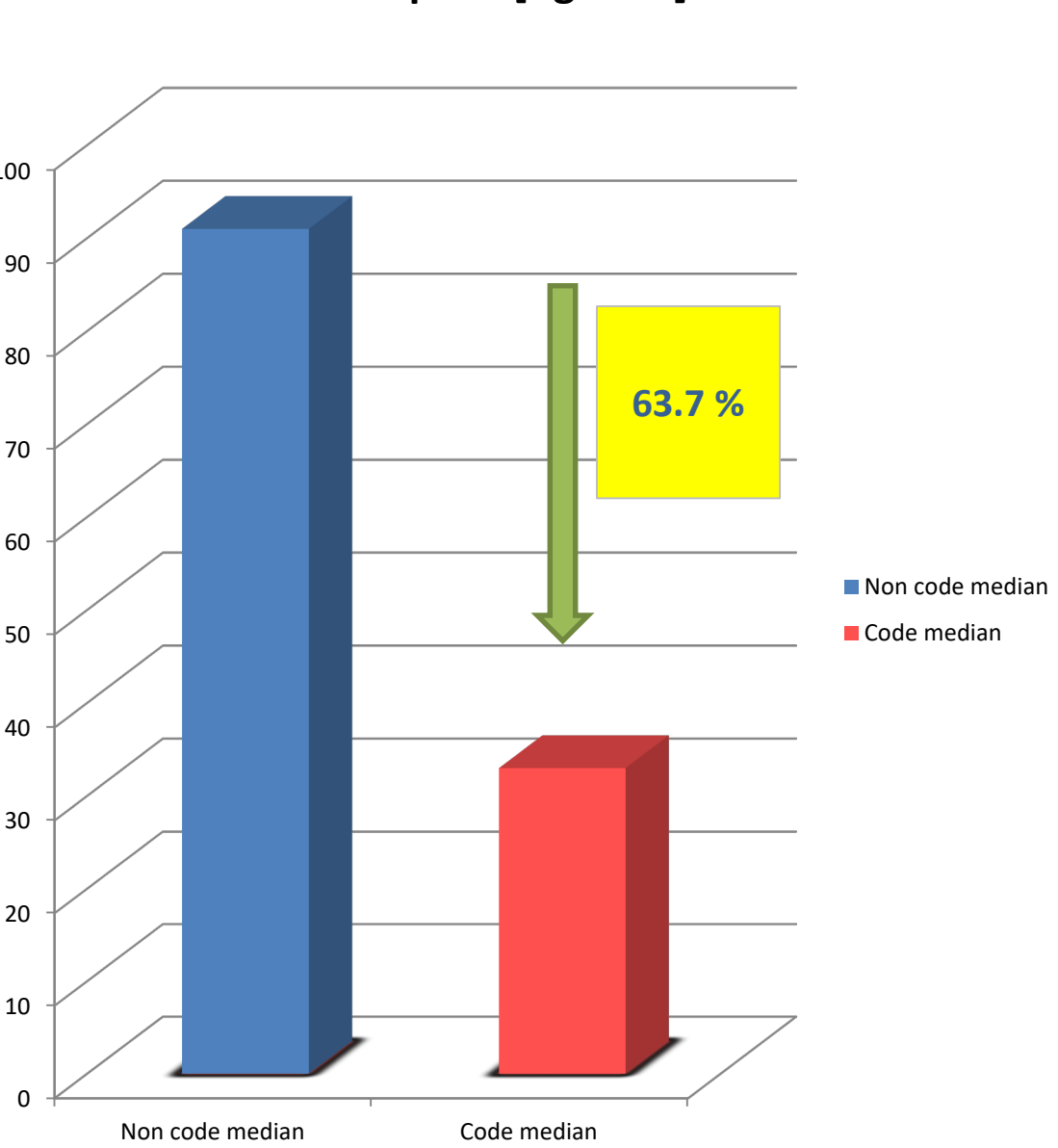
Time from ED presentation to intravenous catheter insertion [figure 1]



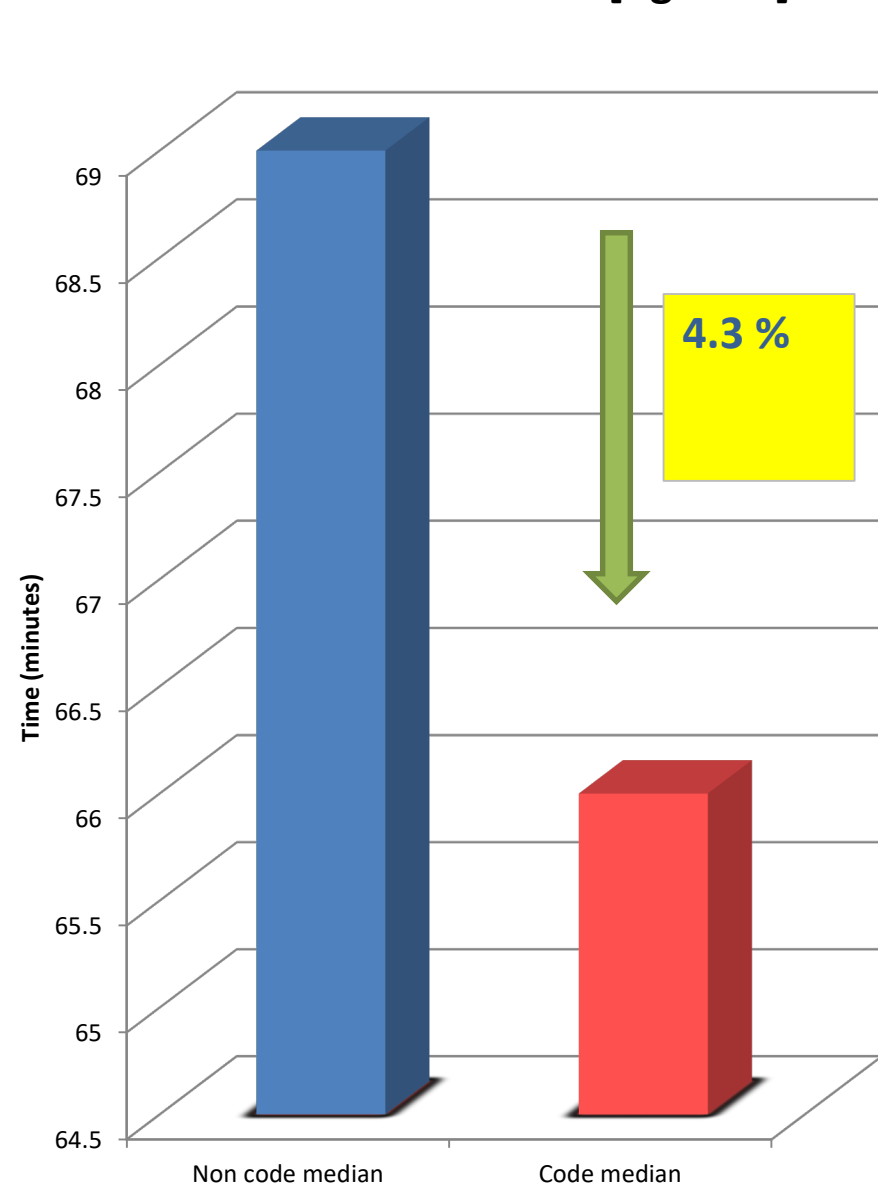
Time from ED presentation to fluid administration [figure 2]



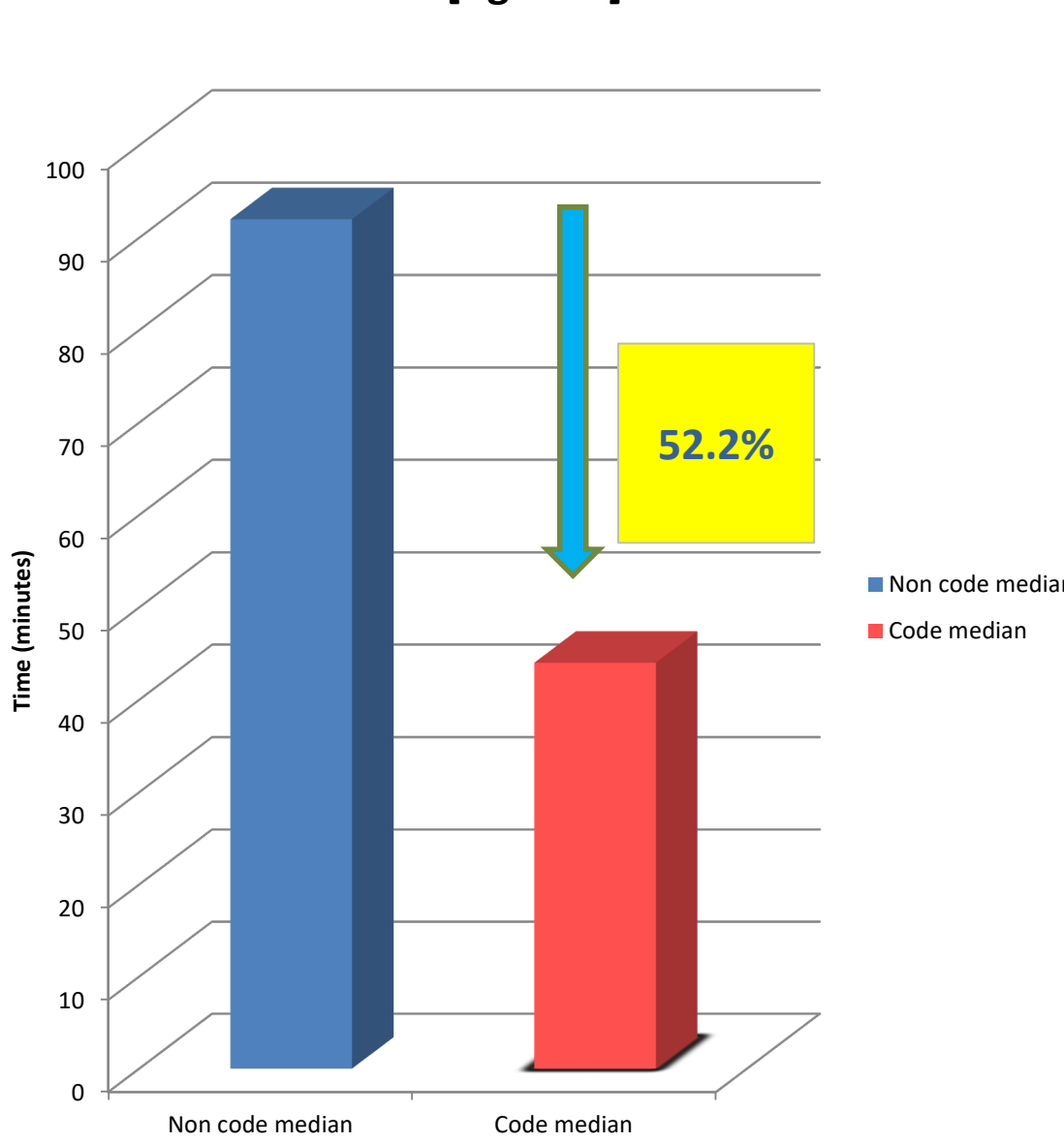
Time from ED presentation to blood culture request [figure 3]



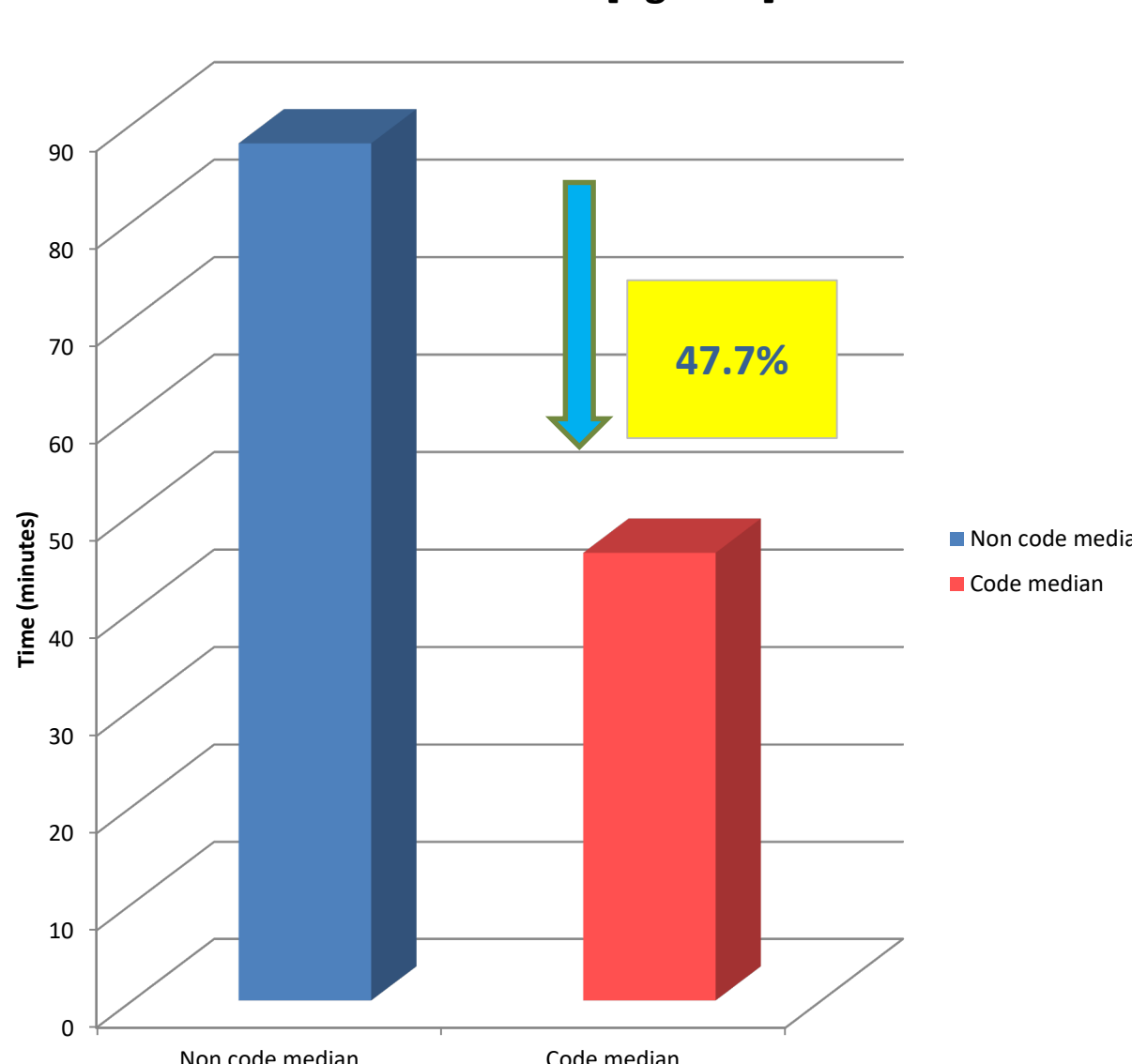
Time from ED presentation to get serum lactate level [figure 4]



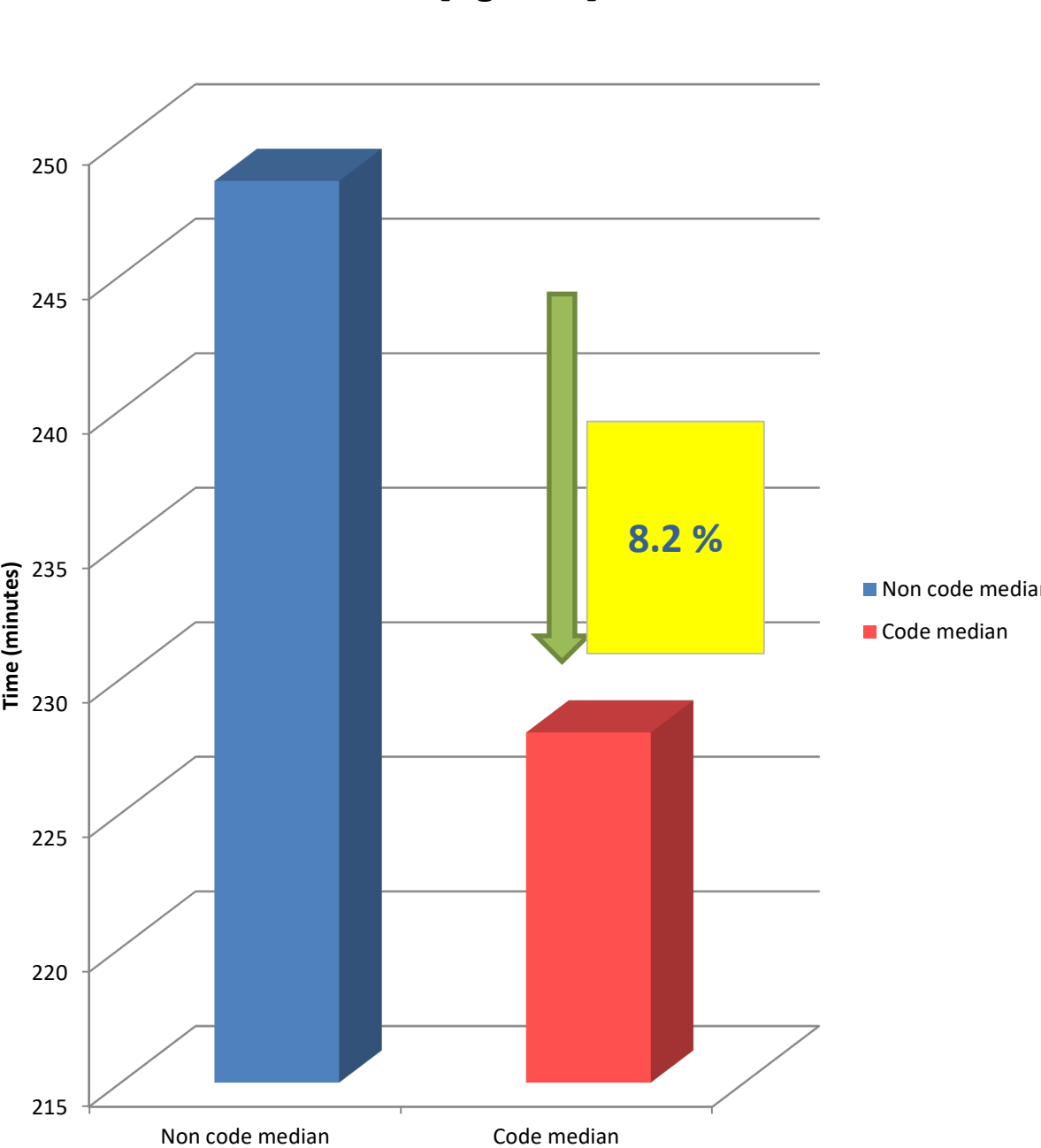
Time from ED presentation to prescription of antibiotics [figure 5]



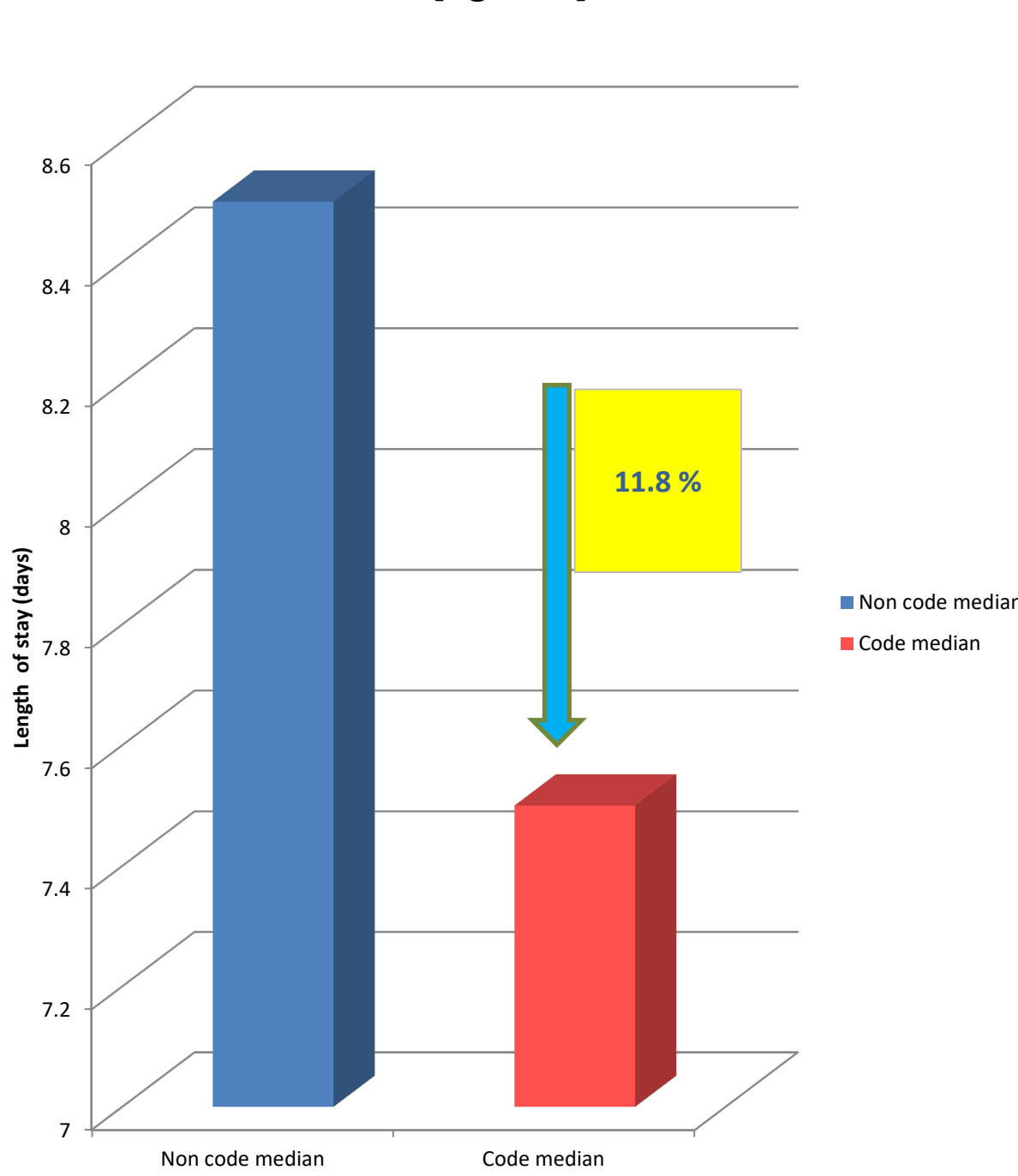
Time from ED presentation to administration of antibiotics [figure 6]



Time from ED presentation to patient transfer to inpatient unit [figure 7]



Length of hospital stay [figure 8]



Conclusion & perspectives :

- These results demonstrated that implementation of SEPSIS CODE is an important project in increasing the compliance in resuscitating and managing sepsis patients according to the international recommendation and in timely manner.
- Application of SEPSIS CODE is an essential project for decreasing mortality and standardization of care within the first golden hour among sepsis patients. In addition, these results may have additional cost-savings in sepsis management.
- Moreover, SEPSIS CODE project could be implemented in any health care facility as it doesn’t need any specific requirements and could be applied in both manual and electronic health systems.