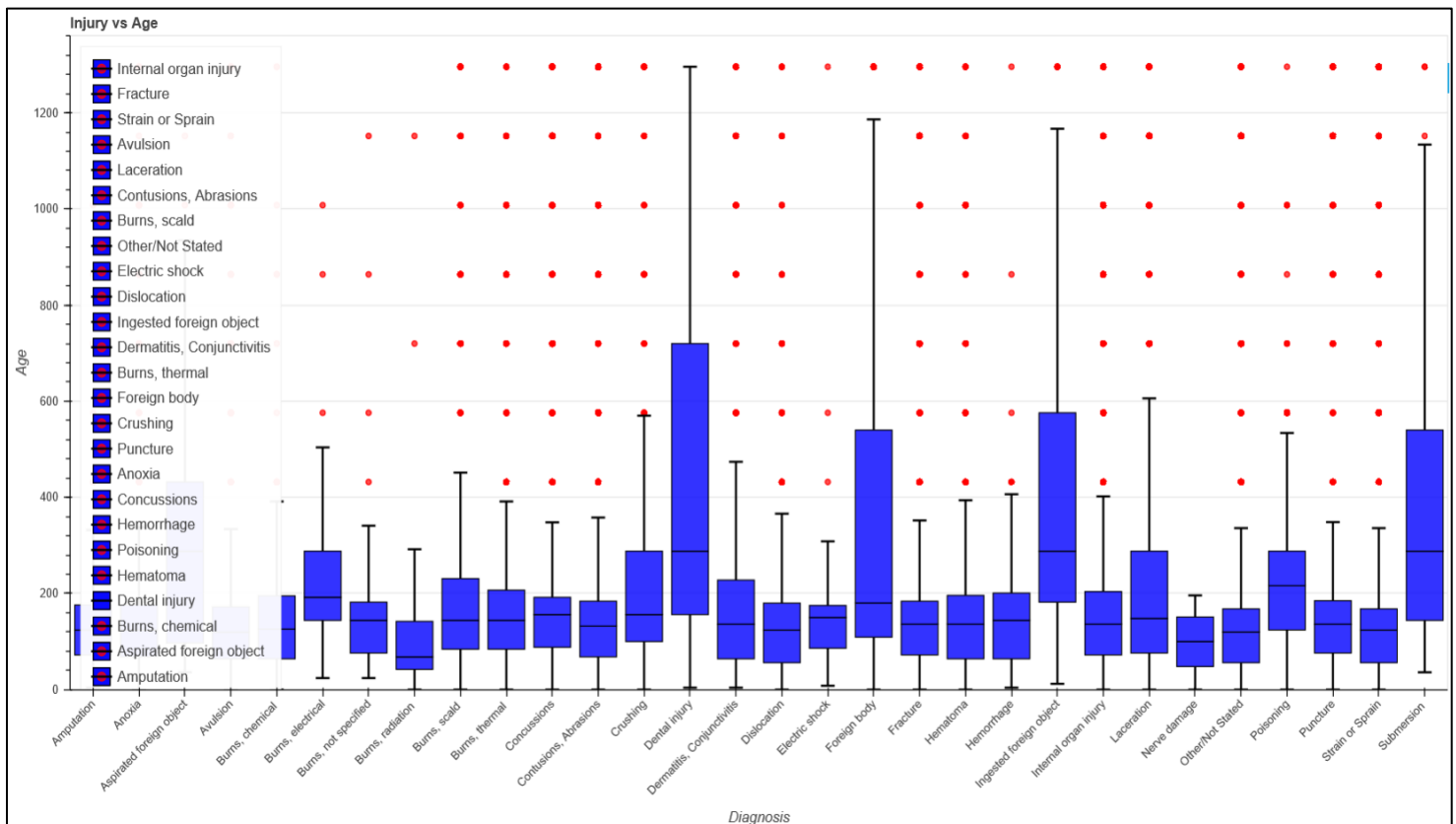


#### Question 4: Visualize any existing relationship between age and reported injuries

Graph to visualize the relationship between age (in months and injuries) is generated from the python “Bokeh” package is shown below

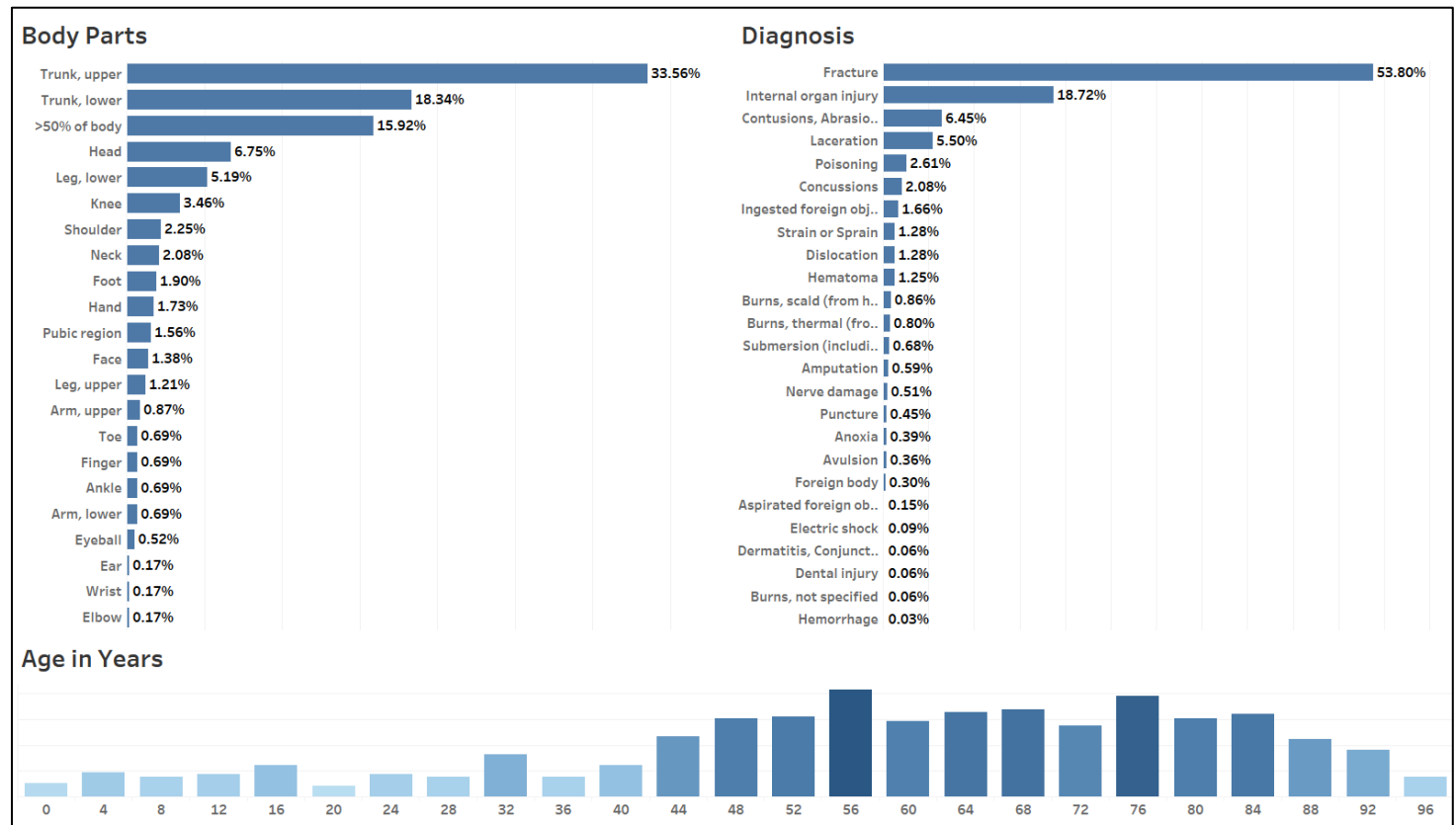
As mentioned in the coding manual, age variable is measured in years for cases between 2 and 115 years. For cases <2 years, the data is encoded in months with an additional code beginning with 2. Therefore, for cases <2 years, the data will have three digits. To bring consistency in the data, all the data is converted into months.



**Question 5+:** Investigate the data however you like and discuss any interesting insights you can find in the data

**Dashboard 1:** Hospitalized Cases

when the disposition is 4 that means “Treated and Admitted for hospitalization”.

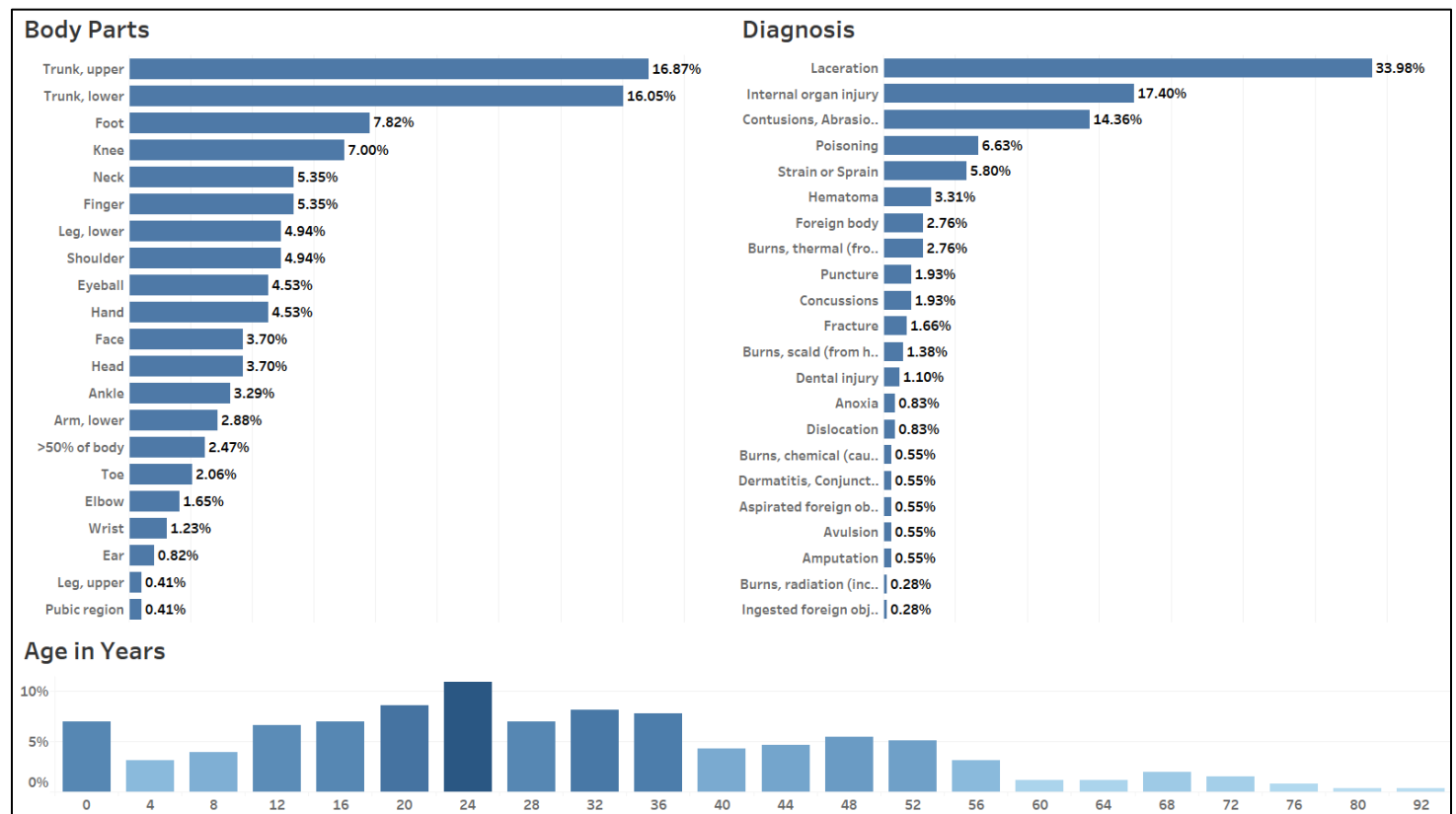


**Insights:**

1. Senior citizens are more probable to get hospitalized. Children, Teenagers, and young adults are less likely to get hospitalized.
2. More than 65% of the hospitalized cases are due to injuries on the head, lower and upper trunk, >50% of the body
3. About 70% of the hospitalized cases are due to fracture and internal organ injuries
4. Therefore, it is advisable to improve the infrastructure to diagnose fracture, internal organ injuries, abrasion, laceration and poisoning

## Dashboard 2: Cases left without being seen/left against medical advice.

when the disposition is 6 that means “Left without being seen/Left against medical advice”

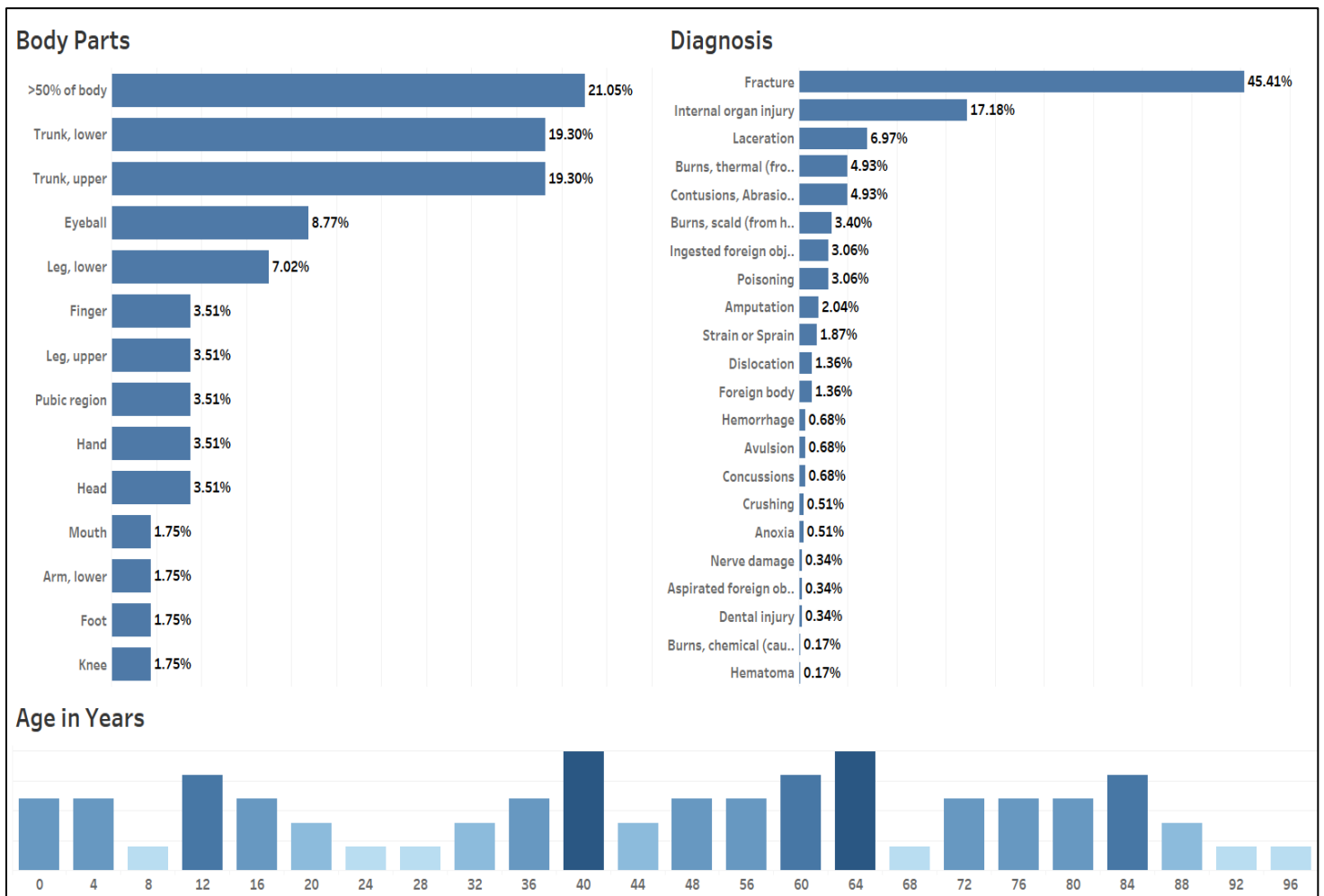


### Insights:

1. Infants and young adults are more likely to be against medical advice
2. More than 60% of the “left against medical advice” cases are for laceration, internal organ injuries and abrasions
3. More than 50% of the “left against medical advice” cases are for body parts head, finger, face, lower trunk, upper trunk, hand and 50% of the body

### Dashboard 3: Cases transferred to other hospitals after preliminary treatment.

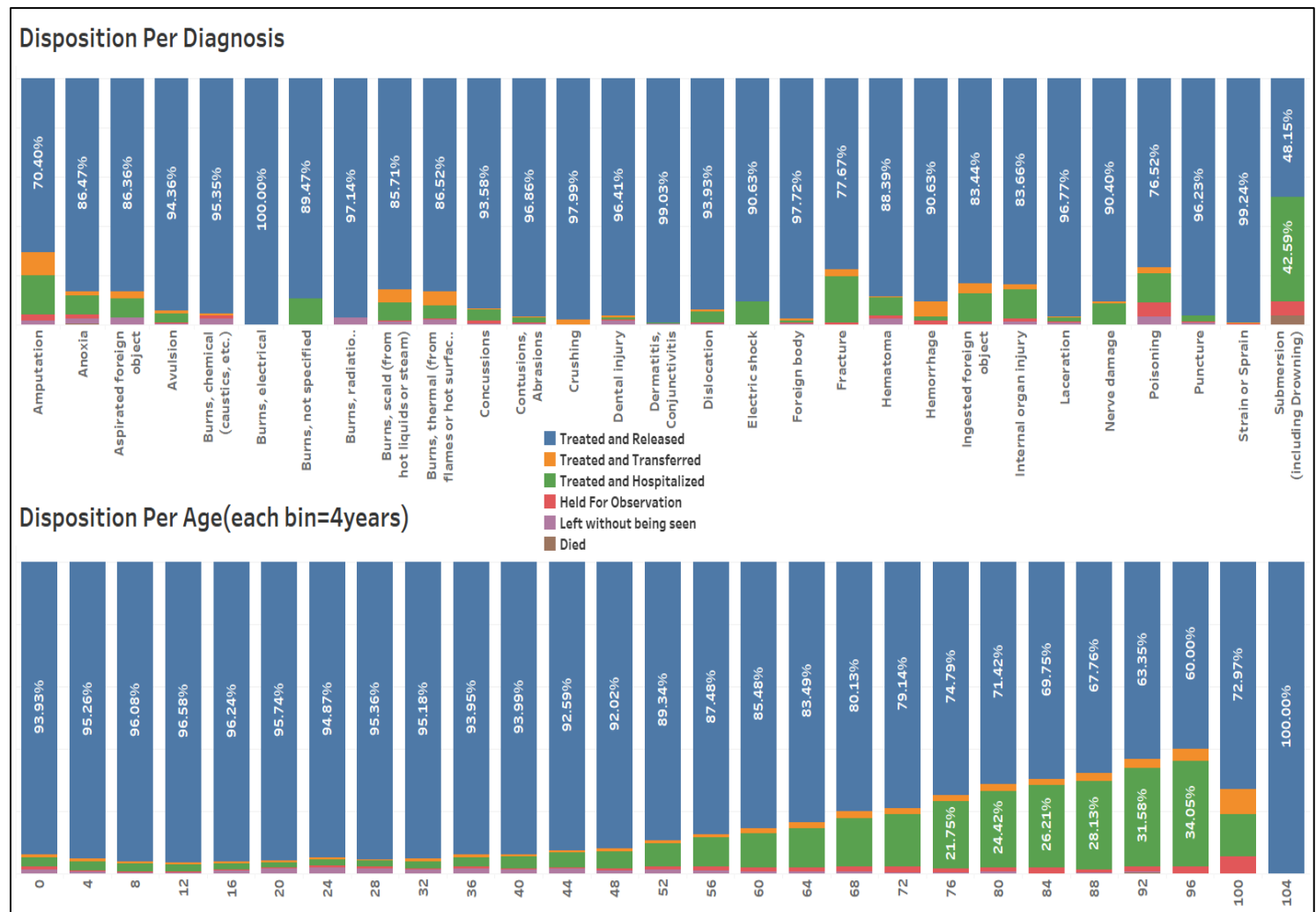
When the disposition is 2 that means “Treated and Transferred to another hospital”



#### Insights:

1. Children with ages less than 15 are more probable to be transferred to other hospitals after preliminary treatment
2. 45% of the transferred cases are due to fractures. It is recommended for the hospitals to improve the infrastructure and service for fractures
3. About 50% of the transferred cases are high severity injuries to lower and upper trunk, and >50% of the body

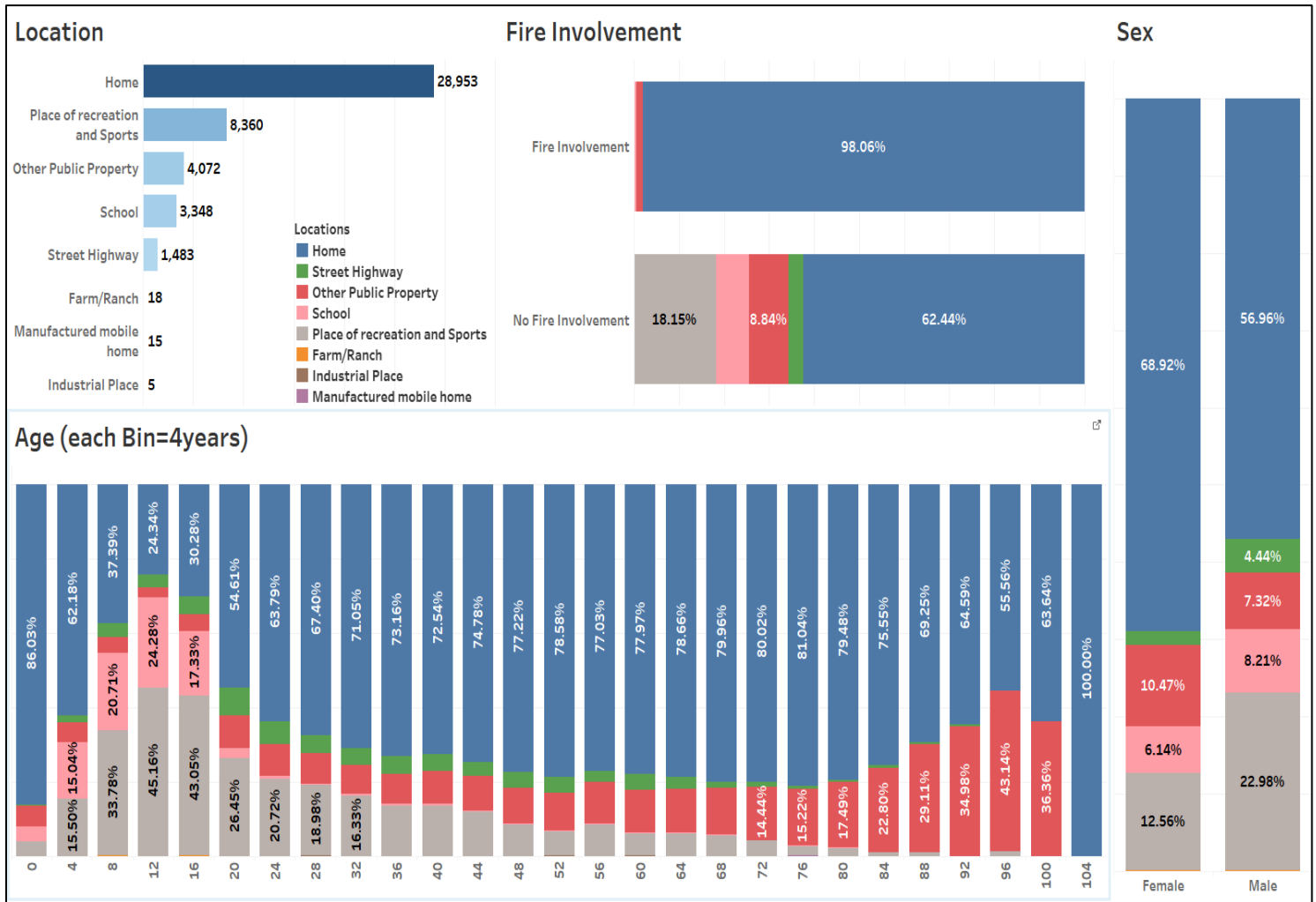
**Dashboard 4:** Disposition per each diagnosis and age groups



### Insights:

1. Probability of getting hospitalized (highlighted in green) is higher in higher age groups
2. There is high probability of getting hospitalized in the cases of submersion, fracture, amputation and poisoning
3. Cases transferred to other hospitals (highlighted in orange) increases with increase in age and is more in the cases on amputation, burns and hemorrhage

## Dashboard 5: Analysis by location of injury



### Insights:

1. Majority of the injuries occur at home and in sports
2. 98% of the cases where fire is involved occurred at home
3. Males are more probable to be injured in sports than females. And Females are more probable to be injured in Home than males.
4. Teenagers and young adults are more likely to be injured in sports and senior citizens are more likely to be injured at home and other public properties.

**Summary of the Analysis:**

- Senior citizens are more prone to get hospitalized by getting injured at home and other public properties.
- Infrastructure for treating internal organ injuries should be improved as most of the patients are either left without advice or transferred to another hospital.
- It is advisable to improve the infrastructure for diagnosing fracture as they contribute 45% of the total transfer cases.
- In spite of more number of patients being admitted with injuries in body parts upper and lower trunk, there were many cases that were non-treated i.e., left against medical advice or transferred to another hospital.
- Young adults are less likely to get hospitalized. However, on the other side, Adults are more likely to be left without medical advice.