Introduction:
The air medical rescue unit of the Rio de Janeiro Military Fire Department is a public funded service that covers the Rio de Janeiro State, Brazil since 1988. The Air Operations Division (GOA) manages a unit with 2 Eurocopter AS 350B2 air ambulances, 6 physicians and 6 nurses. Since 1988 more than 7,000 medical missions were performed, in 3 main categories: Air Medical Evacuation (EVAM), Inter-Hospital Transfers (TIH) and Neonatal Transfers (NEO). Knowledge of most frequent events and conditions allows better management of human and technical resources.

Methods:
Descriptive analysis of GOA mission registries from October 2011 to October 2017.

Results:
Flying 2023 hours, 1,606 missions were accomplished. EVAM accounted for 784 missions (49%), with a median mission time of 39 (interquartile range=28) min, followed by TIH with 552 flights (34%) and median time of 65 (IQR=70) min, and 270 (17%) were NEO missions with median time of 120 (IQR=92) min. Total time of aircraft usage was higher for TIH (39%), followed by NEO (32%). EVAM was the most frequent mission, however it accounted for 29% of aircraft utilization time, where most victims had traumatic brain injury (TBI) followed by other traumatic injuries (216 and 187 cases respectively). TBI victims were predominantly males (83%) with a median age of 30(IQR=23) years. Most commonly, TBI is a consequence of transportation accident (75%), where a motorcycle was involved in 31%, car collision in 24% and pedestrian run over 24% of the cases.

Conclusion:
GOA utilizes the air ambulance helicopter as a first response tool in 49% of total missions, where respect for the Trauma Golden Hour is paramount. Traumatic brain injury is the most prevalent diagnosis at the scene of event. Therefore, GOA training and equipment must be tailored to meet this demand, which translates in stabilization of critical patients outside hospital environment with limited resources.