Variable of Significance

▶ **Time in Hospital**

▶ It is a clinical metric that measures the length of time elapsed between a patient's hospital admittance and discharge

▶ We conducted exploratory analysis on this variable

	A	B	C	D	E	F	G	H	I	J
1	encounter	patient_nl	race	gender	age	weight	admission	discharge_	admission	time_in_hospital
2	2278392	8222157	Caucasian	Female	[0-10)	?	6	25	1	1
3	149190	55629189	Caucasian	Female	[10-20)	?	1	1	7	3
4	64410	86047875	AfricanAm	Female	[20-30)	?	1	1	7	2
5	500364	82442376	Caucasian	Male	[30-40)	?	1	1	7	2
6	16680	42519267	Caucasian	Male	[40-50)	?	1	1	7	1
7	35754	82637451	Caucasian	Male	[50-60)	?	2	1	2	3
8	55842	84259809	Caucasian	Male	[60-70)	?	3	1	2	4
9	63768	1.15E+08	Caucasian	Male	[70-80)	?	1	1	7	5
10	12522	48330783	Caucasian	Female	[80-90)	?	2	1	4	13
11	15738	63555939	Caucasian	Female	[90-100)	?	3	3	4	12
12	28236	89869032	AfricanAm	Female	[40-50)	?	1	1	7	9
13	36900	77391171	AfricanAm	Male	[60-70)	?	2	1	4	7
14	40926	85504905	Caucasian	Female	[40-50)	?	1	3	7	7
15	42570	77586282	Caucasian	Male	[80-90)	?	1	6	7	10

Factors

▶ **Readmitted:** It is a categorical variable which signifies whether a patient was readmitted in less than 30 days, greater than 30 days or not reported to be readmitted

▶ **Gender:** Male, Female patients in the dataset

|	A	B	C	D	E	F	G	H	I	J	AX
1	encounter	patient_nl	race	gender	age	weight	admission	discharge_	admission	time_in_h	readmitted
2	2278392	8222157	Caucasian	Female	[0-10)	?	6	25	1	1	NO
3	149190	55629189	Caucasian	Female	[10-20)	?	1	1	7	3	>30
4	64410	86047875	AfricanAm	Female	[20-30)	?	1	1	7	2	NO
5	500364	82442376	Caucasian	Male	[30-40)	?	1	1	7	2	NO
6	16680	42519267	Caucasian	Male	[40-50)	?	1	1	7	1	NO
7	35754	82637451	Caucasian	Male	[50-60)	?	2	1	2	3	>30
8	55842	84259809	Caucasian	Male	[60-70)	?	3	1	2	4	NO
9	63768	1.15E+08	Caucasian	Male	[70-80)	?	1	1	7	5	>30
10	12522	48330783	Caucasian	Female	[80-90)	?	2	1	4	13	NO
11	15738	63555939	Caucasian	Female	[90-100)	?	3	3	4	12	NO
12	28236	89869032	AfricanAm	Female	[40-50)	?	1	1	7	9	>30
13	36900	77391171	AfricanAm	Male	[60-70)	?	2	1	4	7	<30
14	40926	85504905	Caucasian	Female	[40-50)	?	1	3	7	7	<30
15	42570	77586282	Caucasian	Male	[80-90)	?	1	6	7	10	NO
16	62256	49726791	AfricanAm	Female	[60-70)	?	3	1	2	1	>30
17	73578	86328819	AfricanAm	Male	[60-70)	?	1	3	7	12	NO
18	77076	92519352	AfricanAm	Male	[50-60)	?	1	1	7	4	<30
19	84222	1.09E+08	Caucasian	Female	[50-60)	?	1	1	7	3	NO

Factor: Readmitted

▶ Data Type: Categorical

▶ Three categories: "<30", ">30" and "NO"

Factor: Gender

▶ Data Type: Categorical

▶ Two categories: "Male", "Female"

▶ Observation: no null values exist for these variables

▶ Analysis carried out on 101766 observations

Six groups

- ▶ G1: Female patients readmitted within (less than) 30 days
- ▶ G2: Female patients readmitted after 30 days
- ▶ G3: Female patients who were not reported as readmitted
- ▶ G4: Male patients readmitted within (less than) 30 days
- ▶ G5: Male patients readmitted after 30 days
- ▶ G6: Male patients who were not reported as readmitted
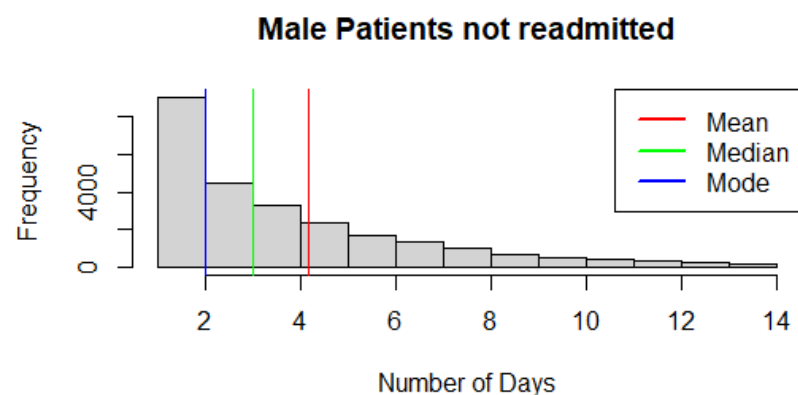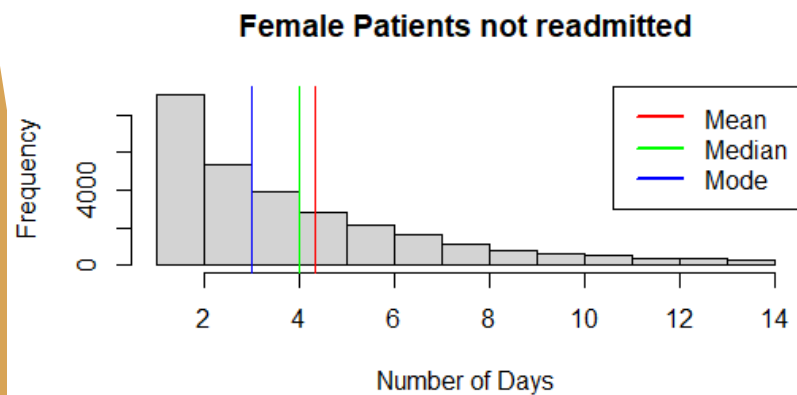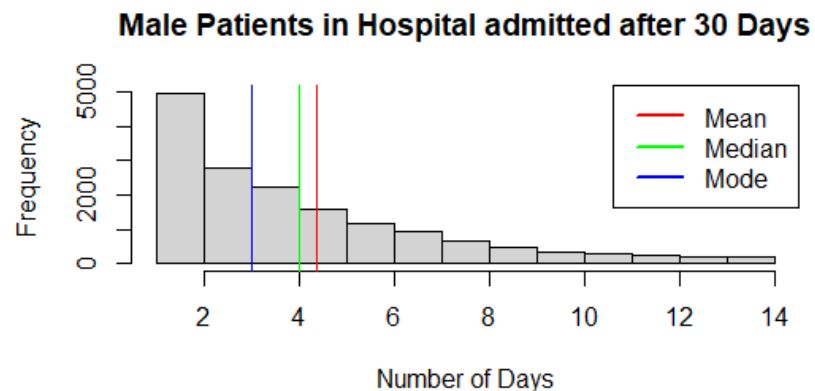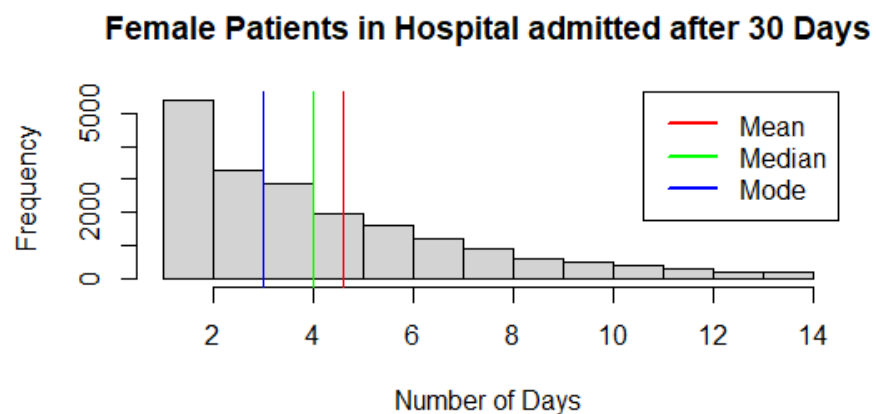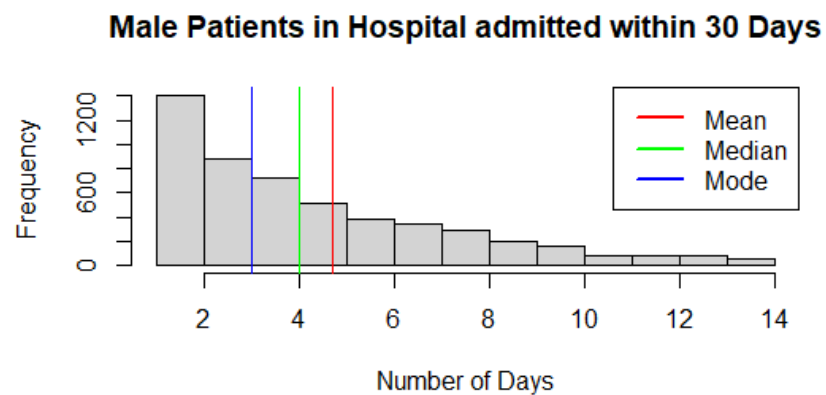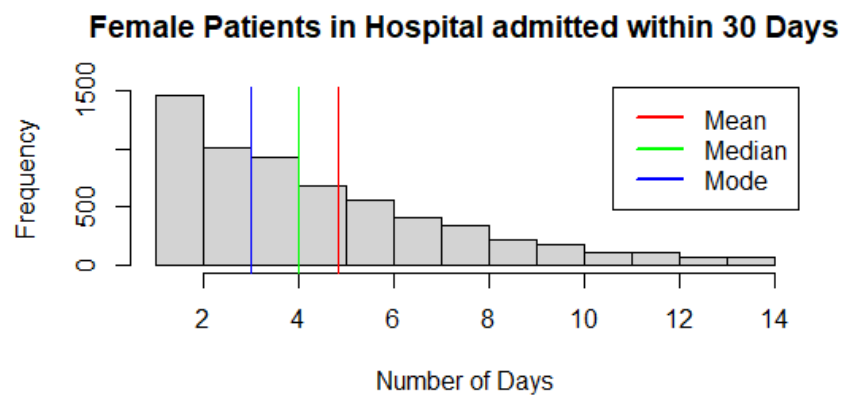
Comparison of the entire distrbution of values
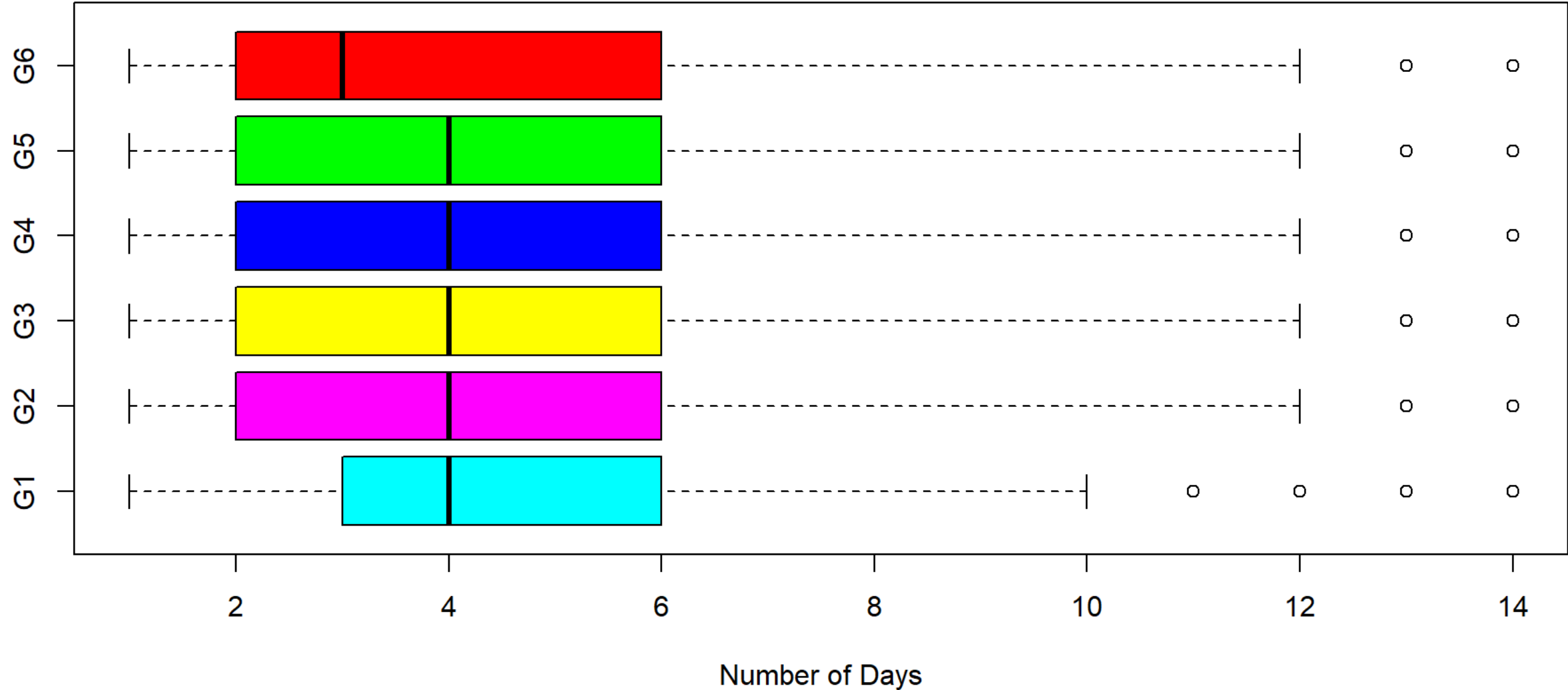
Point estimates – sample mean values

G1: Female patients readmitted within (less than) 30 days – 4.82 days

G2: Female patients readmitted after 30 days – 4.59 days

G3: Female patients who were not reported as readmitted – 4.32 days

G4: Male patients readmitted within (less than) 30 days – 4.70 days

G5: Male patients readmitted after 30 days – 4.37 days

G6: Male patients who were not reported as readmitted – 4.17 days

Interval of mean of length of stay for each group

Group 1	Group 2	Group 3
95 percent confidence interval: 4.750470 4.900051 sample estimates: 4.82526	95 percent confidence interval: 4.553174 4.637112 sample estimates: 4.595143	95 percent confidence interval: 4.293136 4.361248 sample estimates: 4.327192
Group 4	Group 5	Group 6
95 percent confidence interval: 4.617475 4.784254 sample estimates: 4.700865	95 percent confidence interval: 4.328110 4.420377 sample estimates: 4.374243	95 percent confidence interval: 4.136519 4.208910 sample estimates: 4.172714

Interval for difference in means of length of stay for each group

Patients readmitted within 30 days	Patients readmitted after 30 days	Patients not reported as readmitted
95 percent confidence interval: 0.01239246 0.23639859	95 percent confidence interval: 0.1585342 0.2832648	95 percent confidence interval: 0.1047804 0.2041750
sample estimates: 4.825260 4.700865	sample estimates: 4.595143 4.374243	sample estimates: 4.327192 4.172714

Thank you