Sprint Delivery Plan II

| Date	16 November 2022
Team ID	PNT2022TMID54325
Project Name	Analytics for Hospital's Health Care Data

Cleaning, Exploring data and creating model of Analytics for Hospitals Health Care Data Using Cognos Analysis:

USN-4,5:

- As an Analyst I can create a Exploratory data analysis to identify the important factors of a patient data set.
- As a Data analyst, I create a predicted model by also preparing story card with using explored data.
- Create an Data Exploration of the dataset of test_data.csv and train_data.csv file to IBM Cognos Analytics first.
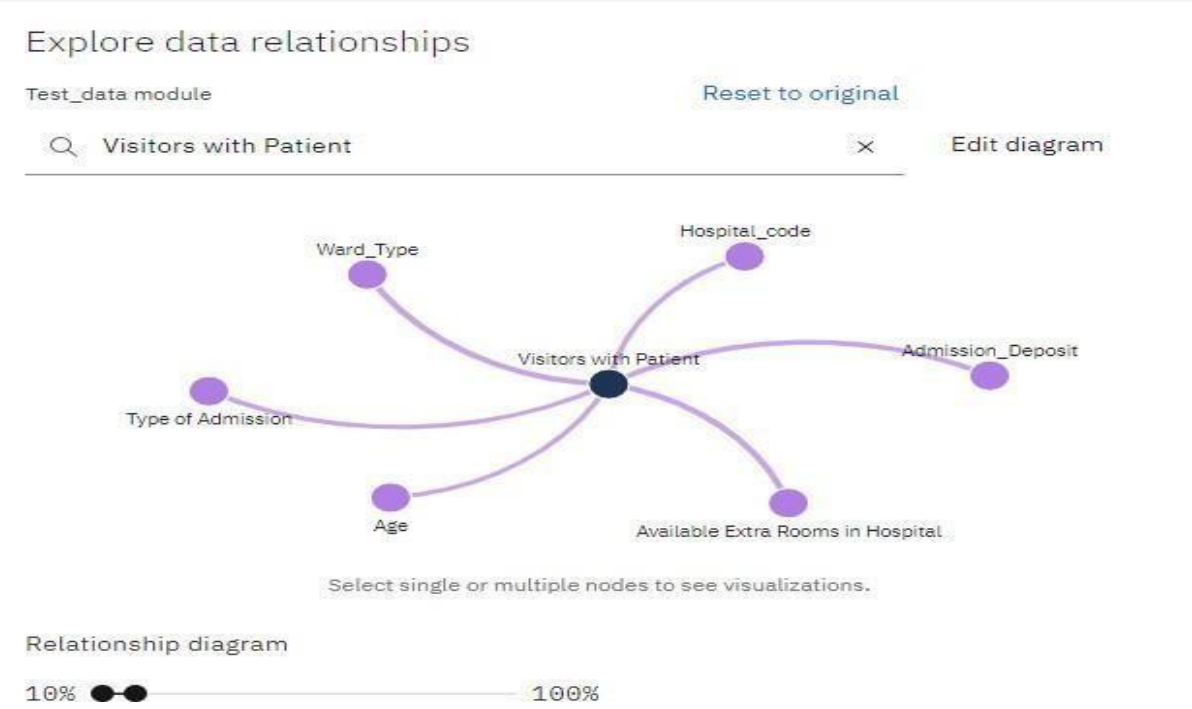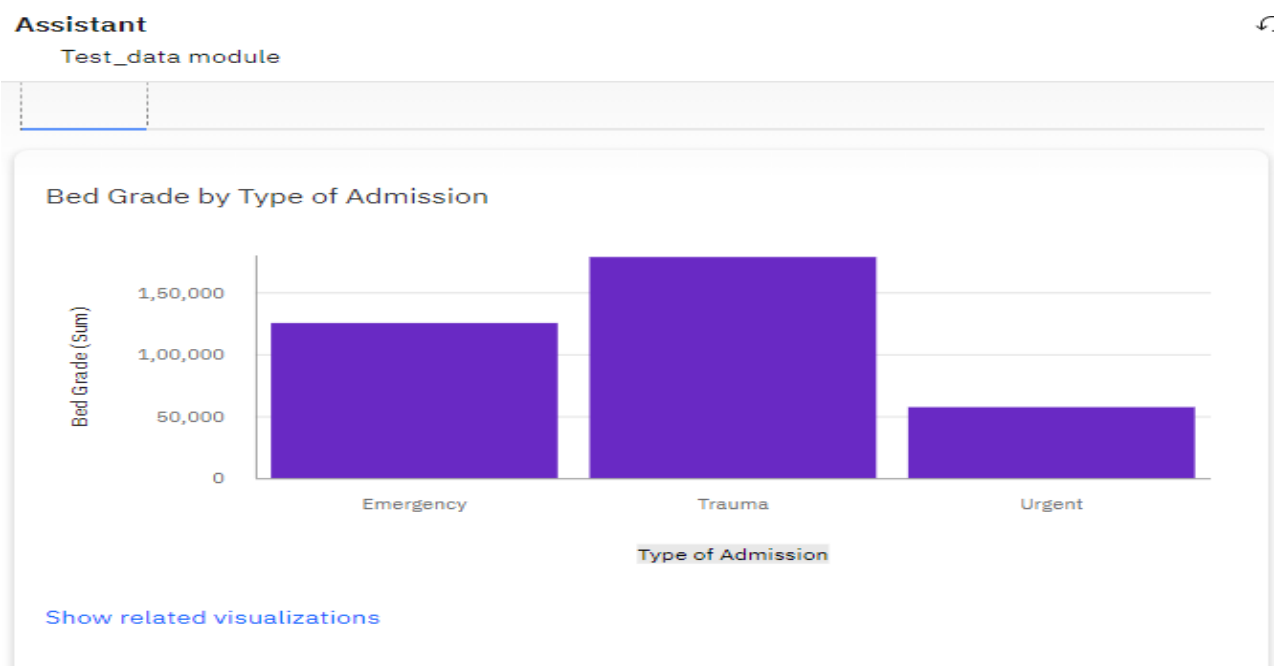
Creating Relationships:

Age:
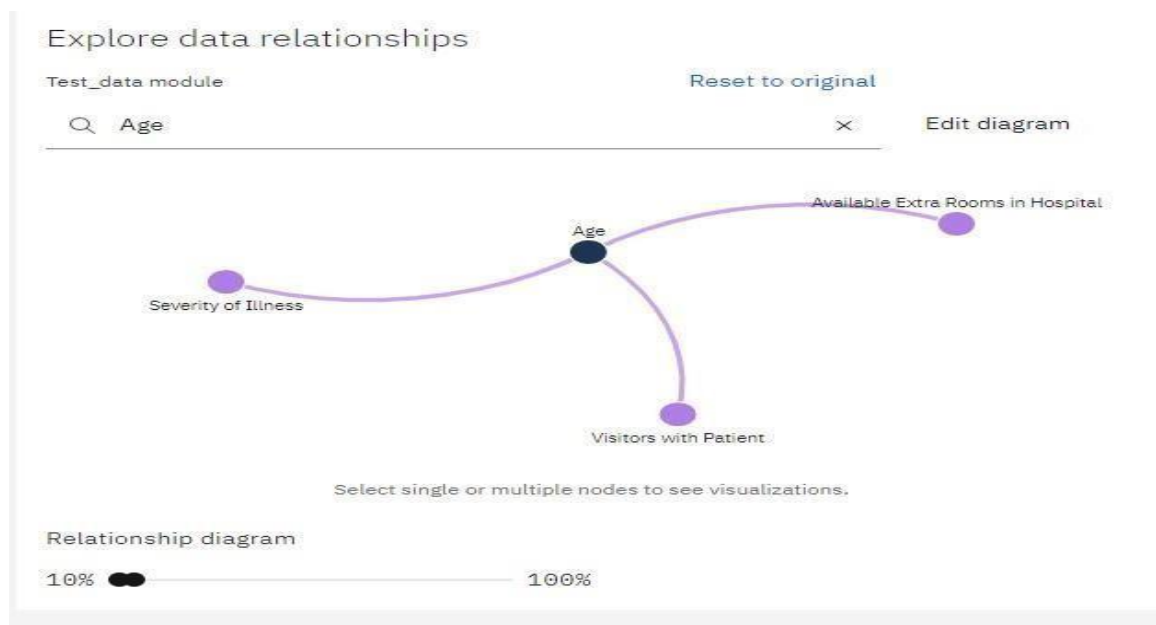
Ward_Type:
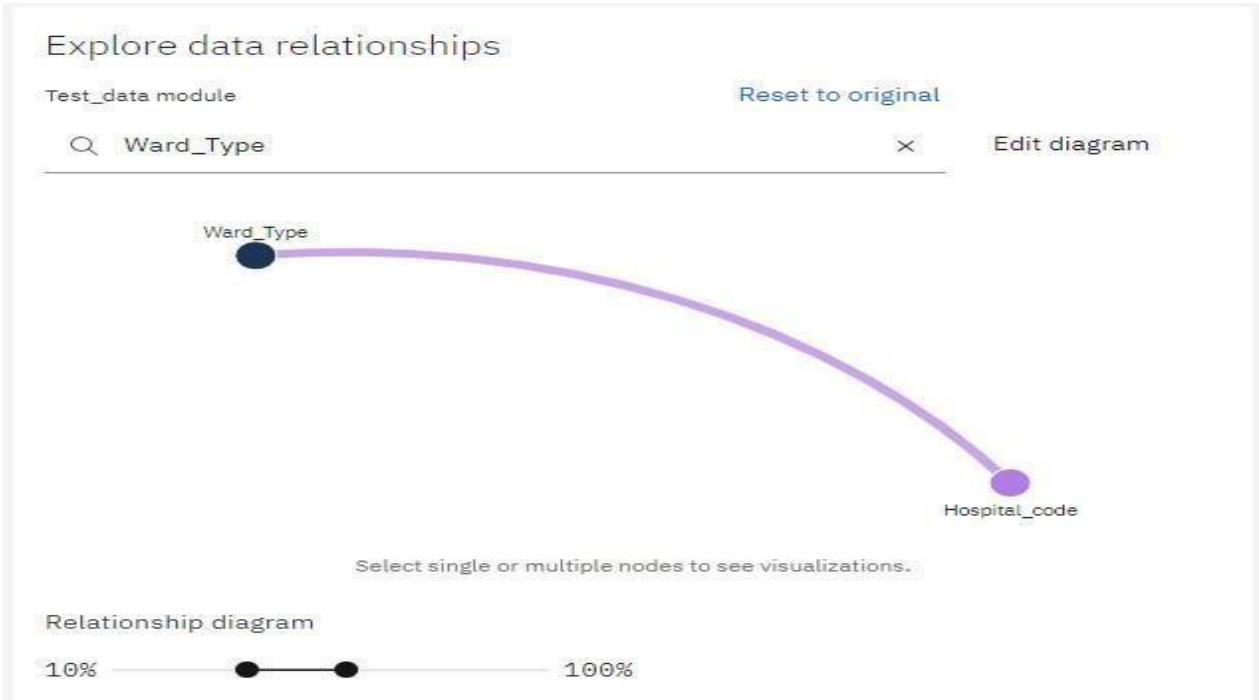
Visitors with patient:

Use of Assistant in IBM Cognos:

Bed Grade by Type of Admission:

Bed Grade by Type of Admission

Show related visualizations

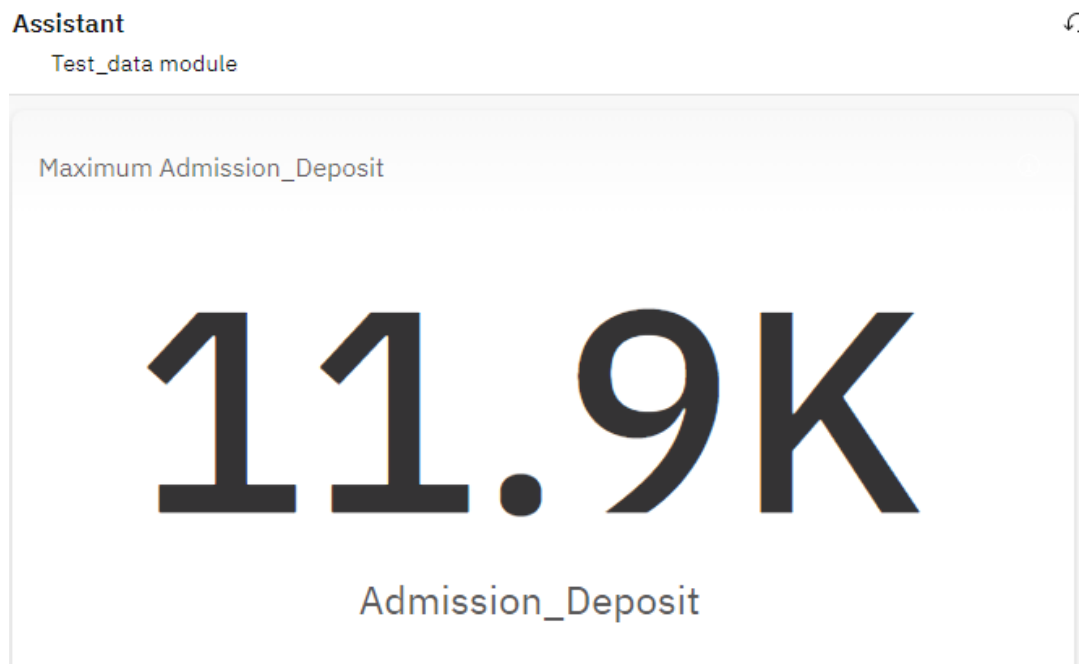## Visitors with Patient by Age:

Visitors with Patient by Age
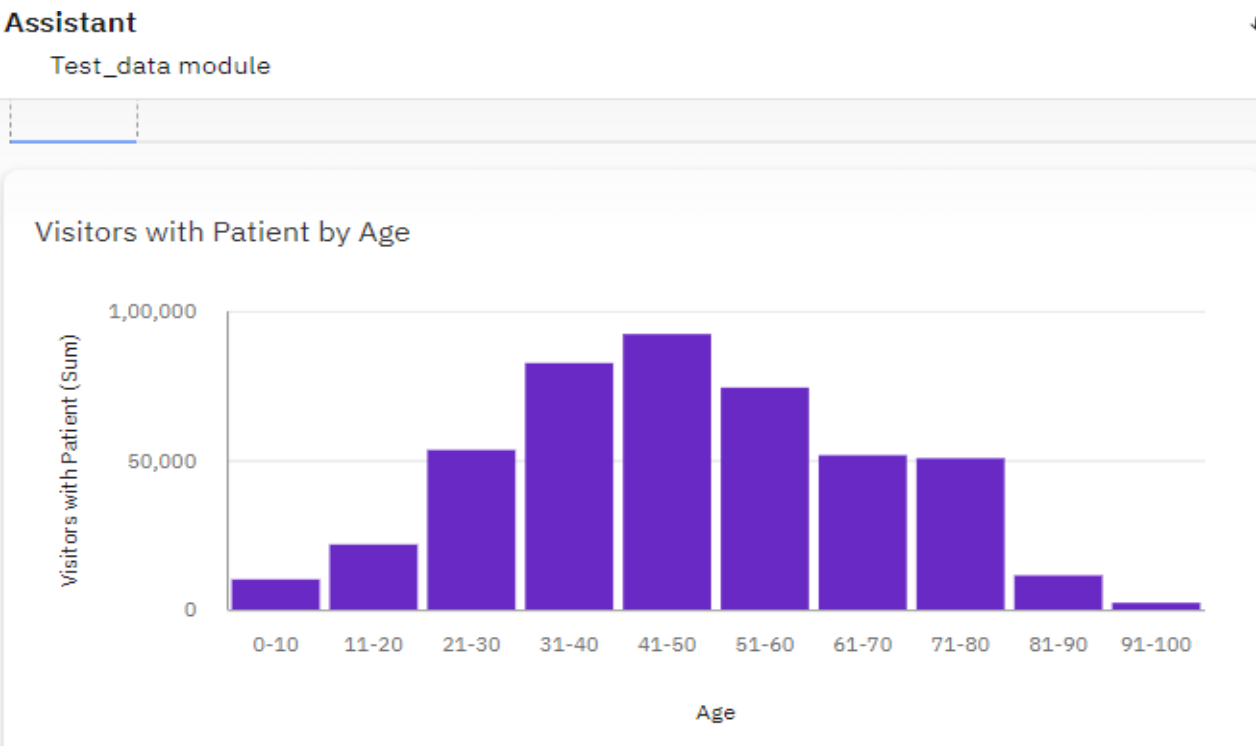
**Admission_Deposit by Visitors with patient:**

Maximum of Admission_Deposit:

**Create a Visualization type using test_data.csv IBM Cognos Analytics:**

Visitors with Patient by Ward_Type colored by Ward_Type:
- ❖ Across all values of **Ward_Type** and **Ward_Type**, the sum of **Visitors with Patient** is over 450 thousand.
- ❖ For **Visitors with Patient**, the most significant values of **Ward_Type** are R, Q, and S, whose respective **Visitors with Patient** values add up to over 438 thousand, or 97.4 % of the total
- ❖ The summed values of **Visitors with Patient** range from 8 to over 171 thousand.
- ❖ **Visitors with Patient** is unusually high when the combinations of **Ward_Type** and **Ward_Type** are R and R and Q and Q.
- ❖ **Visitors with Patient** is unusually high when **Ward_Type** is R and Q
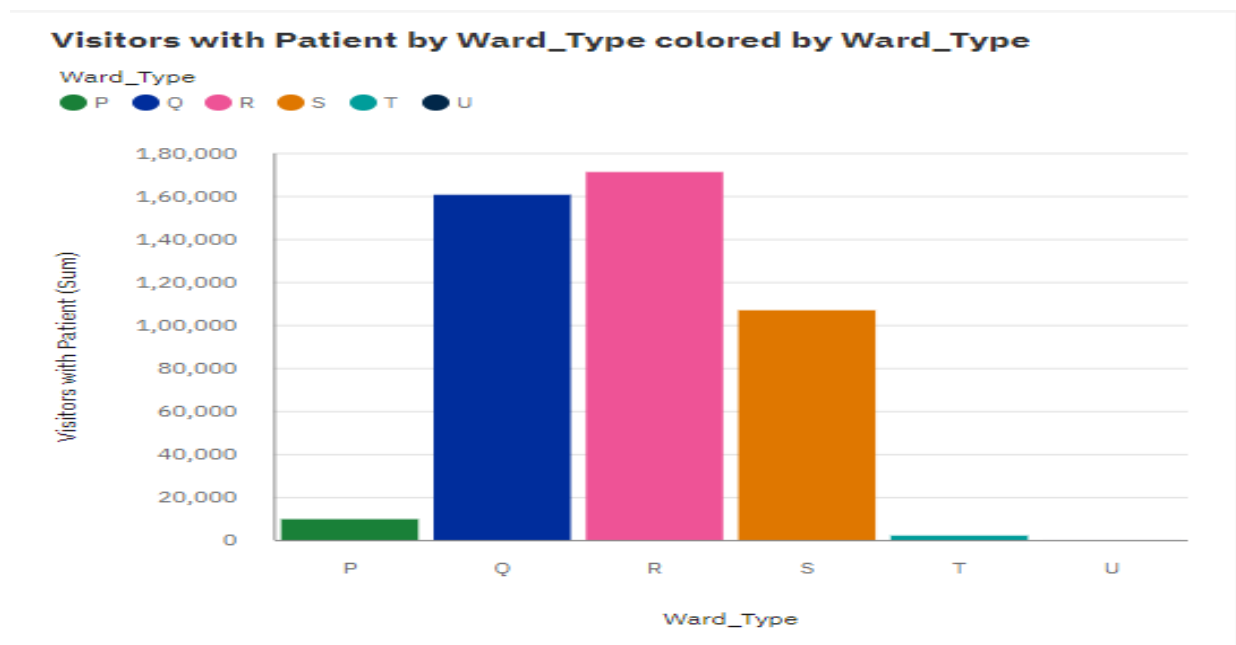
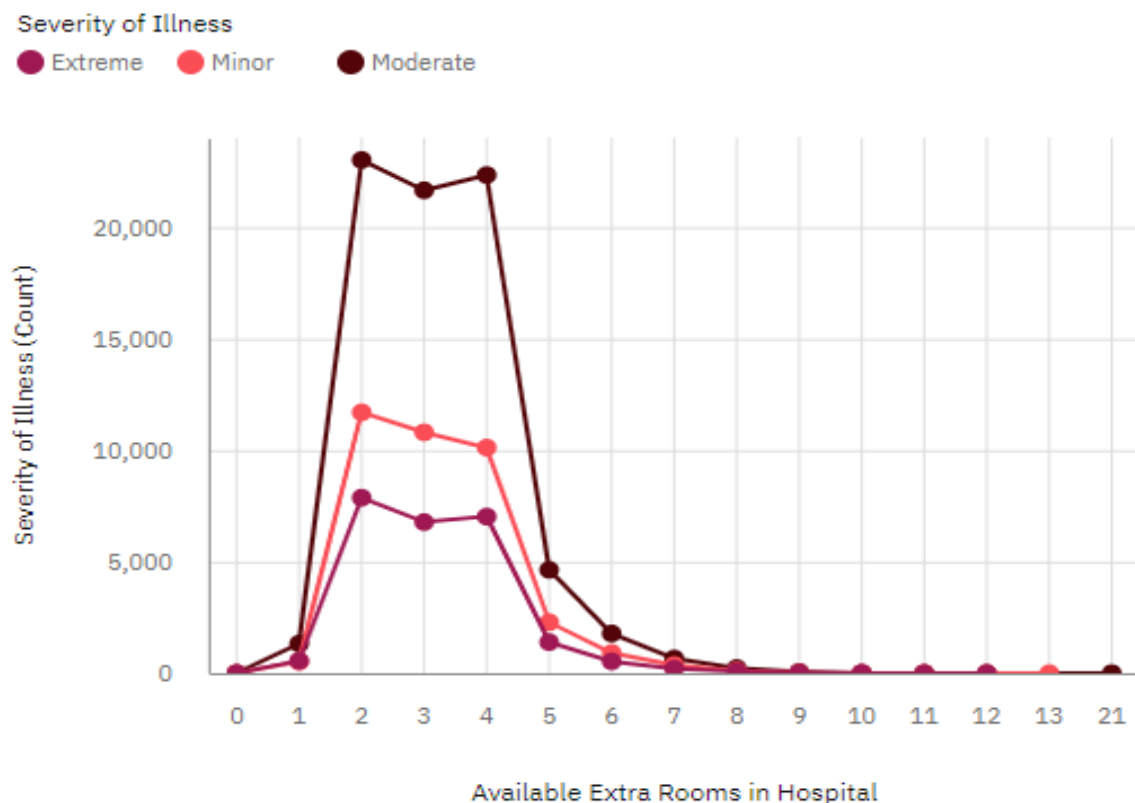**Available Extra Rooms in Hospital by Department colored by Department:**

❖ The most common value of **Department** is gynecology, occurring over 107 thousand times, which is 78.2 % of the total

❖ The total number of results for **Available Extra Rooms in Hospital**, across all **departments**, is over 137 thousand
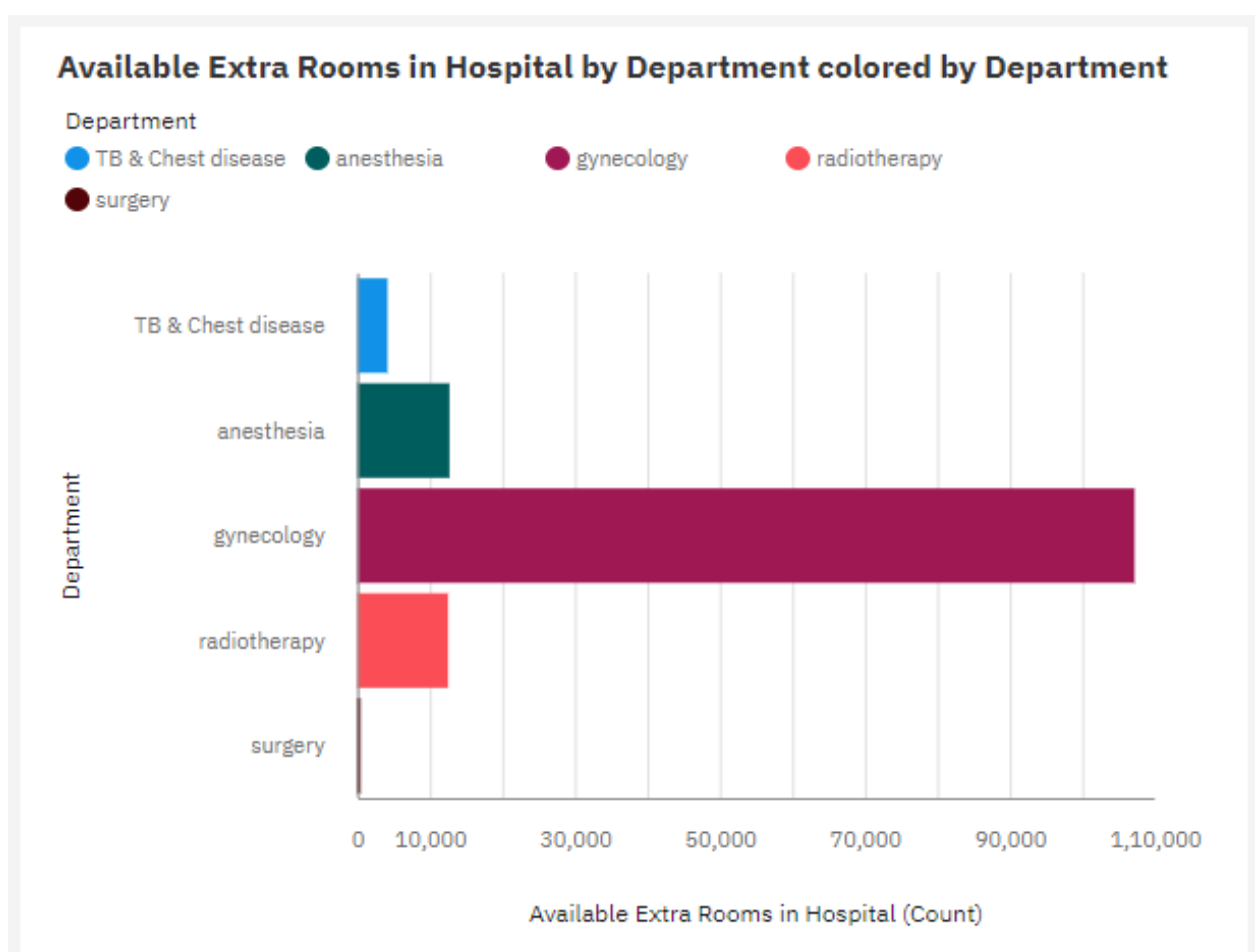
Severity of Illness by Available Extra Rooms in Hospital colored by Severity of Illness:

- ❖ The most common value of **Severity of Illness** is Moderate, occurring nearly 76 thousand times, which is 55.2 % of the total
- ❖ The total number of results for **Severity of Illness**, across all **available extra rooms in hospitals**, is over 137 thousand.
- ❖ The most common values of **Available Extra Rooms in Hospital** are 2 (31.1 %), 4 (28.8 %), and 3 (28.6 %), together occurring over 121 thousand times, which is 88.5 % of the total.

Severity of Illness by Available Extra Rooms in Hospital colored by Severity of Illness

Available Extra Rooms in Hospital by Department:

❖ The total number of results for **Available Extra Rooms in Hospital**, across all **departments**, is over 137 thousand.

❖ The most common value of **Department** is gynecology, occurring over 107 thousand times, which is 78.2 % of the total.

❖ The count is unusually high when **Department** is gynecology.

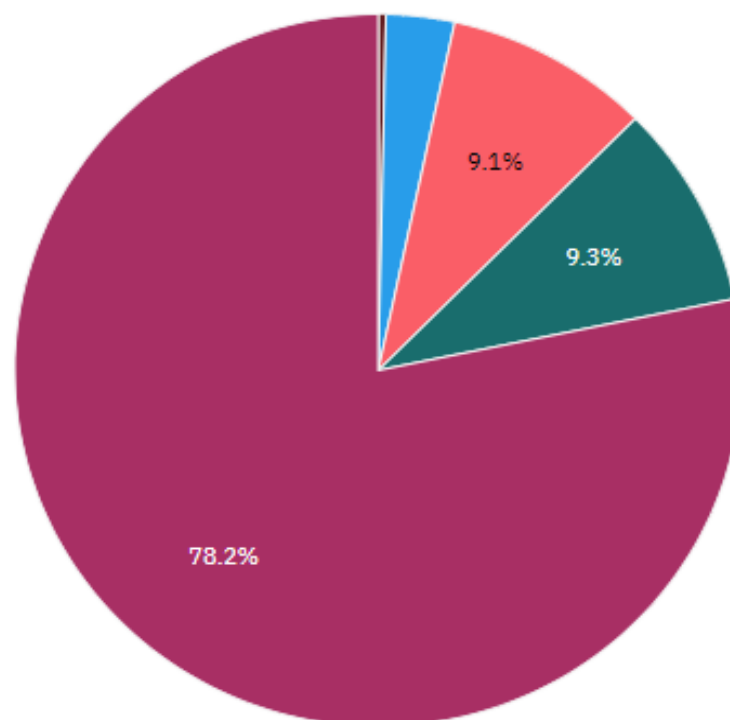## Available Extra Rooms in Hospital by Department

Department
- surgery
- TB & Chest disease
- radiotherapy
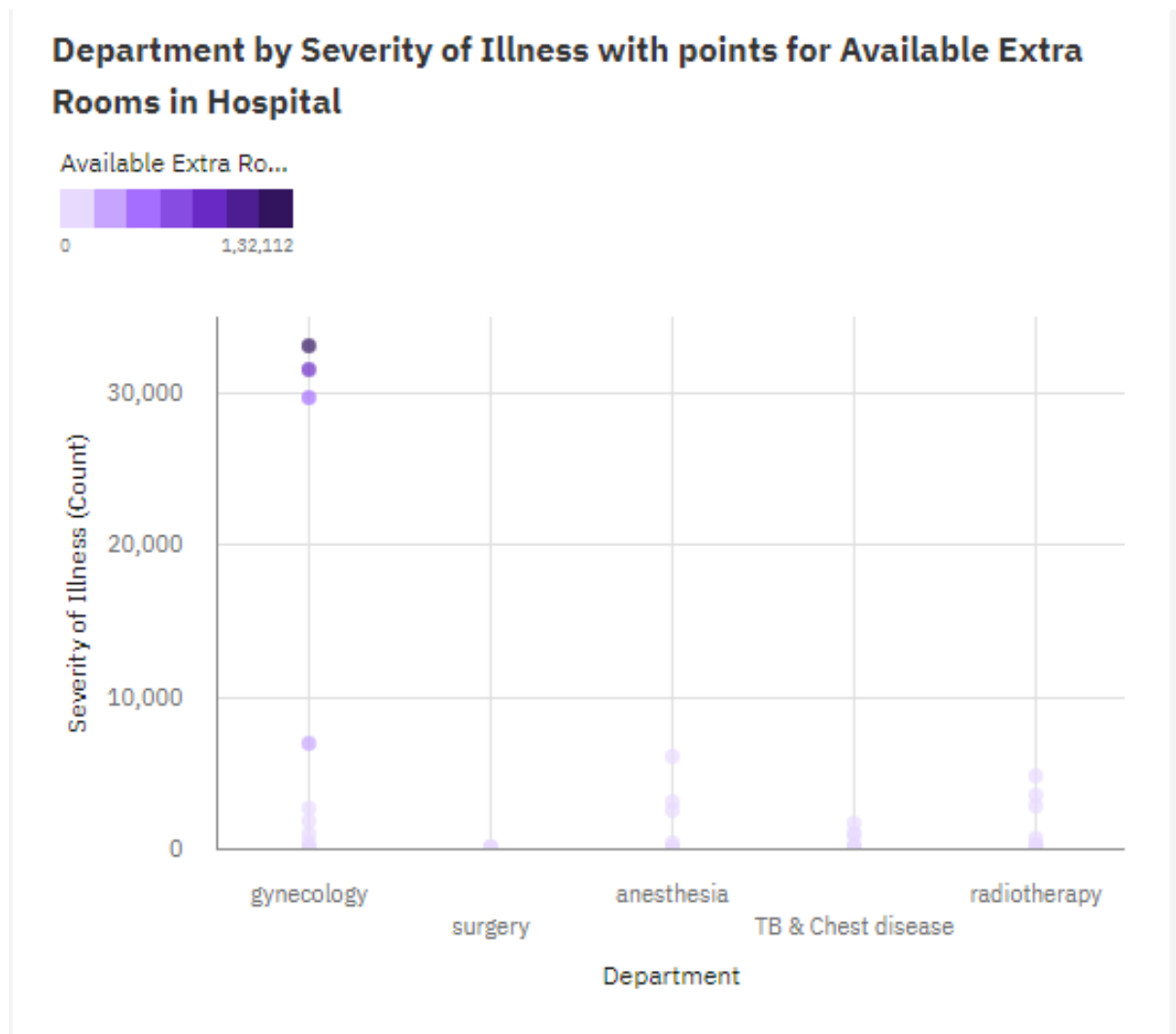- anesthesia
- gynecology

Department by Severity of Illness with points for Available Extra Rooms in Hospital:

❖ The total number of results for **Severity of Illness** is 137,057.
❖ The most common value of **Department** is gynecology, occurring over 107 thousand times, which is 78.2 % of the total

Department by Severity of Illness with points for Available Extra Rooms in Hospital

Severity of Illness by Bed Grade colored by Bed Grade:

- ❖ The total number of results for **Severity of Illness** is 137,057.
- ❖ The most common values of **Bed Grade** are 2 (38.5 %) and 3 (35.3 %), together occurring over 101 thousand times, which is 73.8 % of the total
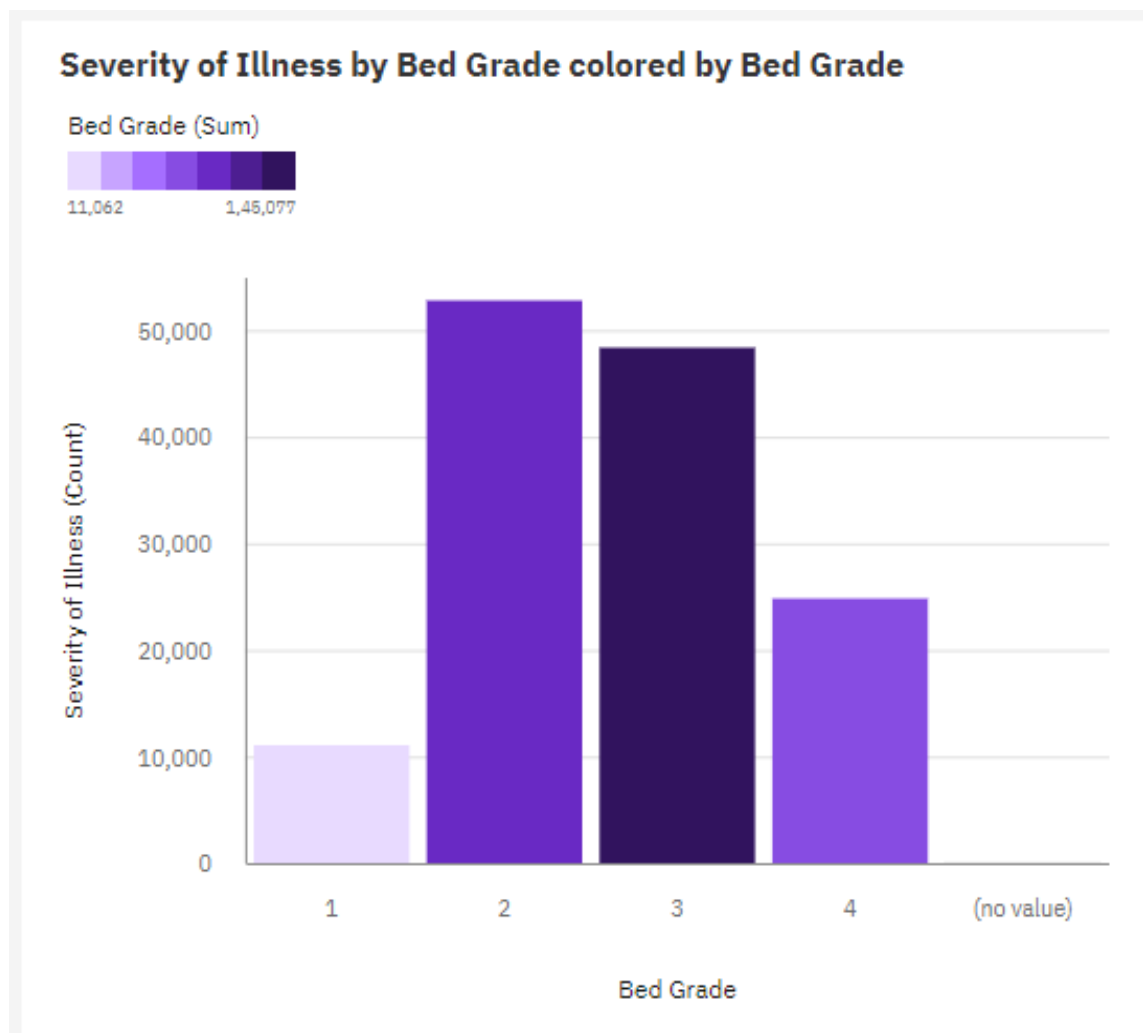
case_id for Department and City_Code_Patient

- ❖ The total number of results for **case_id** is 154.
- ❖ The most common values
  of **Department** are gynecology (24 %), radiotherapy (22.7 %), anesthesia (22.1 %), and TB & Chest disease (20.1 %), together occurring 137 times, which is 89 % of the total
- ❖ The most common values
  of **City_Code_Patient** are 23.0 (3.2 %), 20.0 (3.2 %), 16.0 (3.2 %), 15.0 (3.2 %), and 14.0 (3.2 %), together occurring 25 times, which is 16.2 % of the total.

case_id for Department and City_Code_Patient

case_id	TB & Chest disease	anesthesia	gynecology	radiot
1.0	353	1,238	8,876	
2.0	513	1,683	13,501	
3.0	72	243	1,207	
4.0	197	775	7,086	
5.0	281	777	6,925	
6.0	73	219	2,203	
7.0	425	972	7,690	
8.0	1,568	4,527	40,898	
9.0	156	398	3,870	
10.0	75	349	2,946	
11.0	7	23	229	
12.0				

**Severity of Illness by Type of Admission colored by Severity of Illness:**

❖ The most common values of **Type of Admission** are Trauma (47.7 %) and Emergency (37 %), together occurring over 116 thousand times, which is 84.7 % of the total.

❖ The most common value of **Severity of Illness** is Moderate, occurring nearly 76 thousand times, which is 55.2 % of the total.

❖ The total number of results for **Severity of Illness**, across all **type of admissions**, is over 137 thousand.
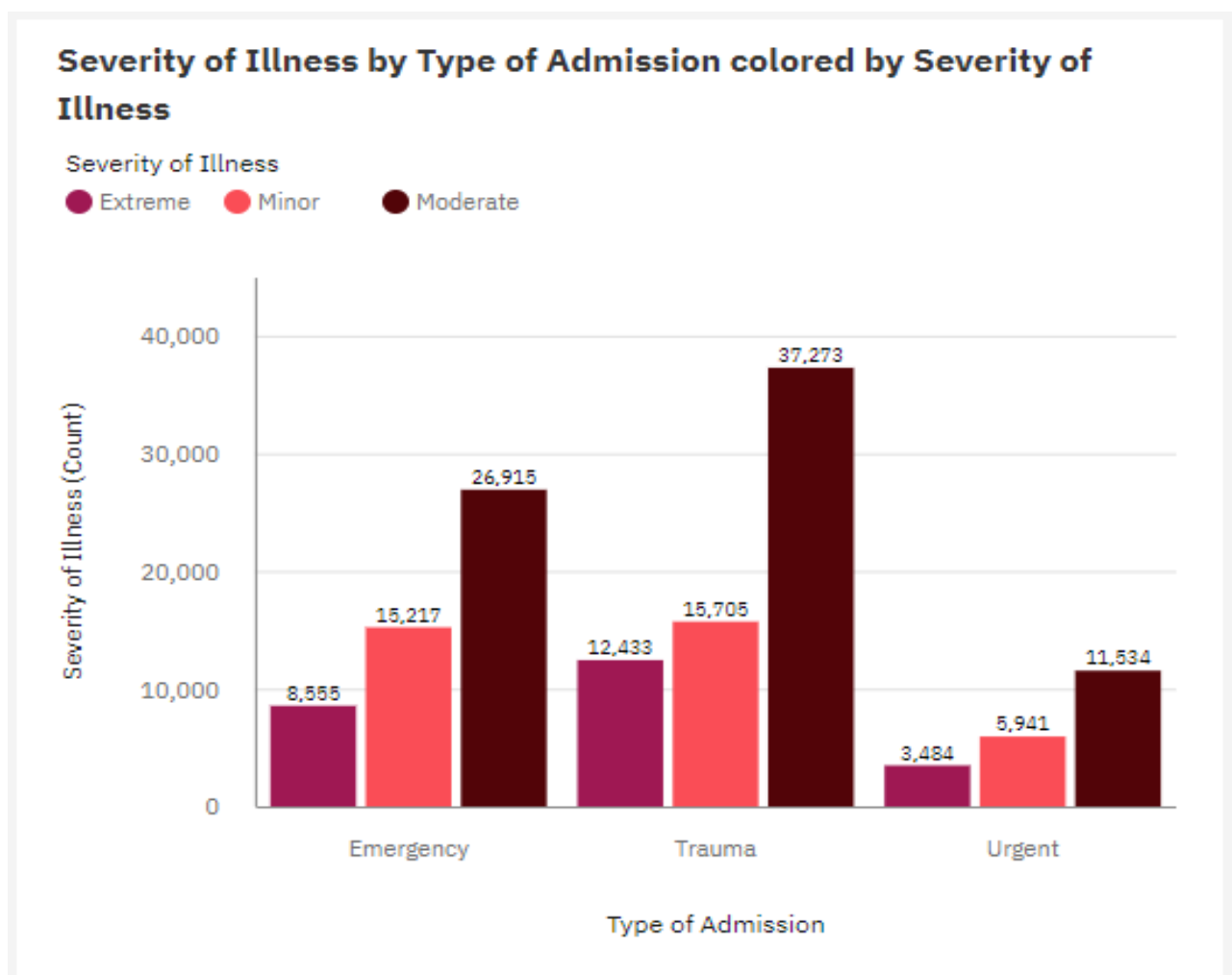
Severity of Illness by Type of Admission colored by Severity of Illness

Severity of Illness by Available Extra Rooms in Hospital colored by Available Extra Rooms in Hospital:

- ❖ The total number of results for **Severity of Illness** is 137,057.
- ❖ The most common values of **Available Extra Rooms in Hospital** are 2 (31.1 %), 4 (28.8 %), and 3 (28.6 %), together occurring over 121 thousand times, which is 88.5 % of the total.

Severity of Illness by Available Extra Rooms in Hospital colored by Available Extra Rooms in Hospital
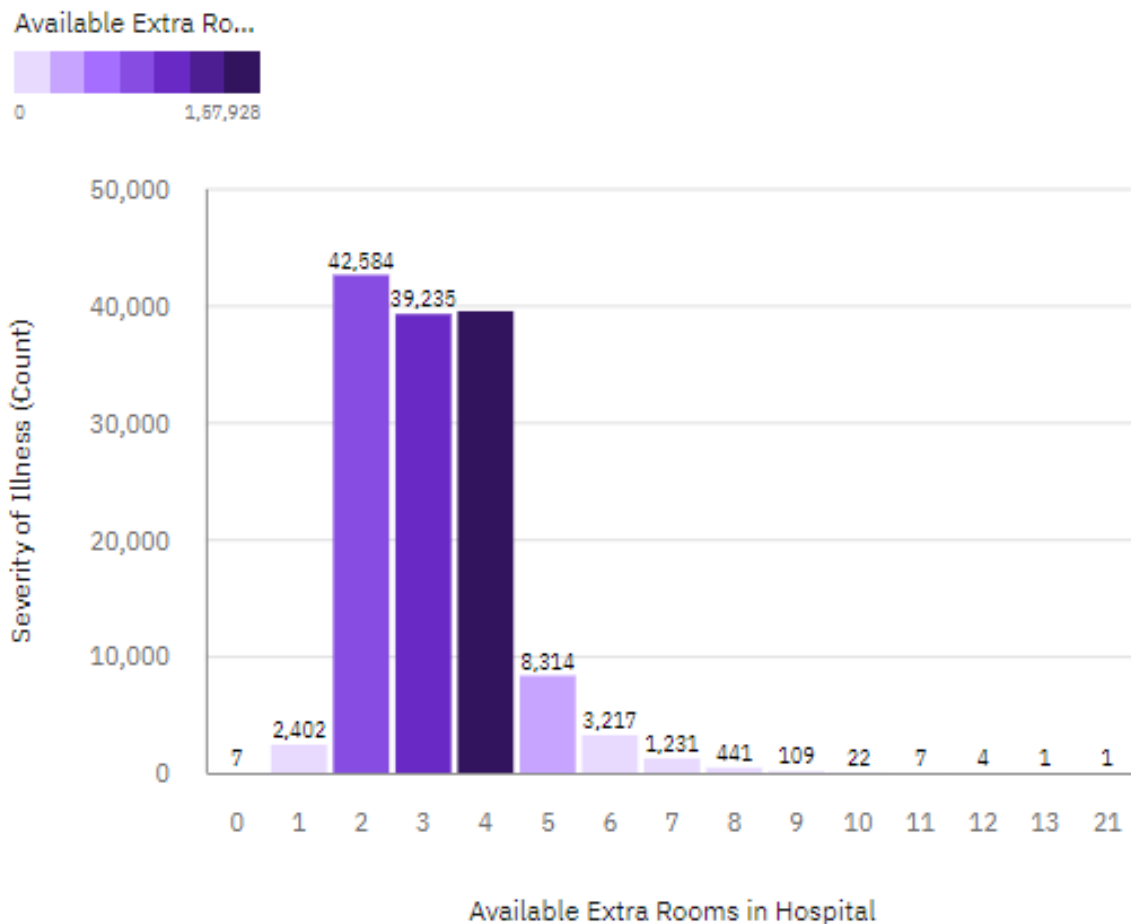
Create a Visualization type of train_data.csv using IBM Cognos Analytics:

**Available Extra Rooms in Hospital by Age colored by Age:**

❖ For **Available Extra Rooms in Hospital**, the most significant values of **Age** are 31-40 and 41-50, whose respective **Available Extra Rooms in Hospital** values add up to over 432 thousand, or 42.4 % of the total

❖ **Available Extra Rooms in Hospital** is most unusual when **Age** is 31-40, 41-50 and 91-100.

❖ Across all **ages** and **ages**, the sum of **Available Extra Rooms in Hospital** is over 1.0 million.

❖ **Available Extra Rooms in Hospital** is most unusual when the combinations of **Age** and **Age** are 31-40 and 31-40, 41-50 and 41-50 and 91-100 and 91-100.

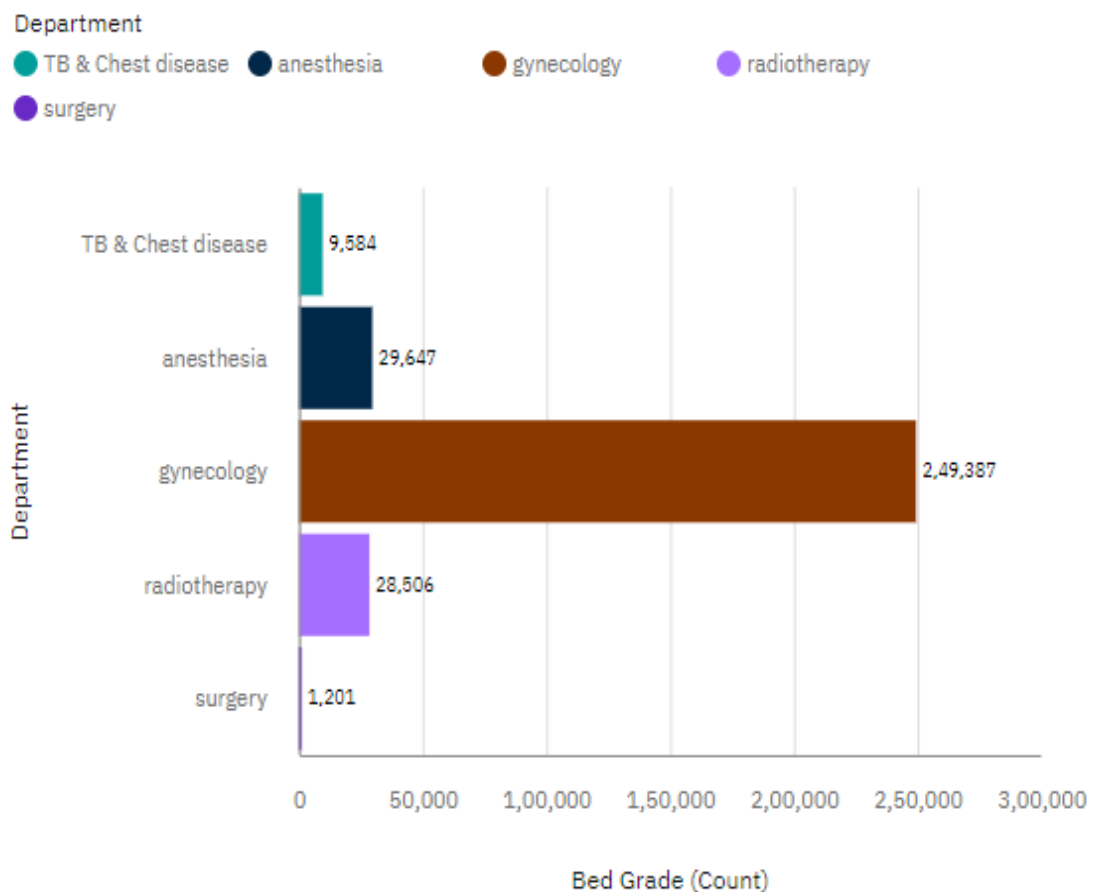
Available Extra Rooms in Hospital by Age colored by Age
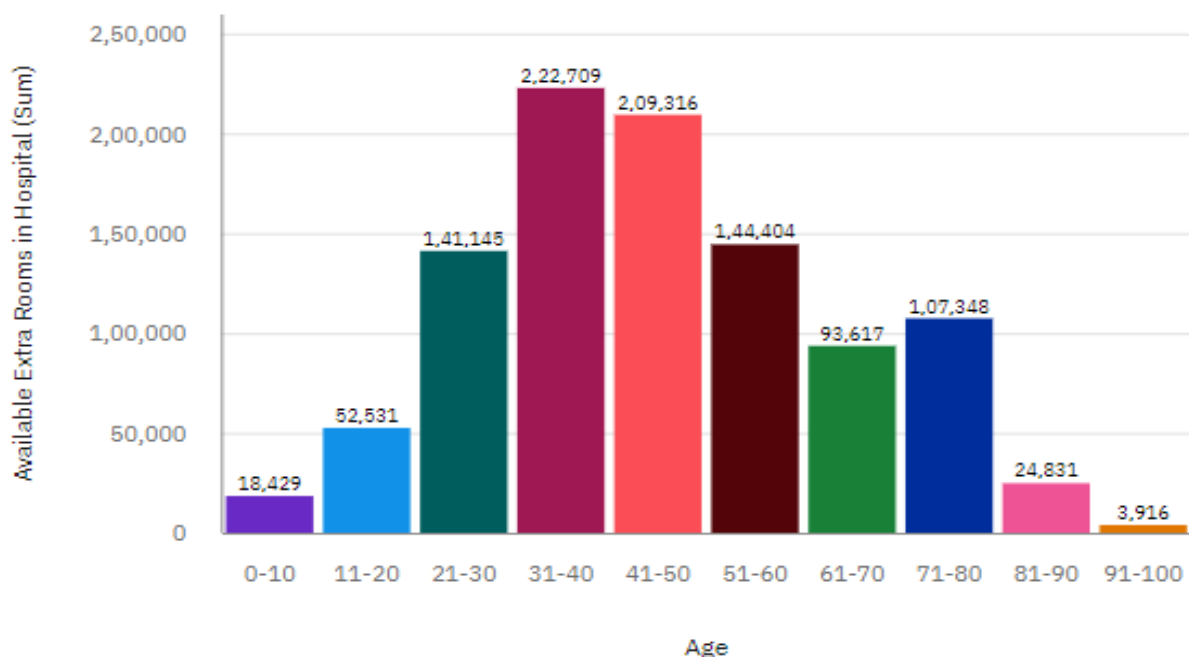
Bed Grade by Department colored by Department:

❖ The most common value of **Department** is gynecology, occurring over 249 thousand times, which is 78.3 % of the total

❖ The total number of results for **Bed Grade**, across all **departments**, is over 318 thousand.

Bed Grade by Department colored by Department

Department
● TB & Chest disease ● anesthesia   ● gynecology   ● radiotherapy
● surgery

Department	Bed Grade (Count)
TB & Chest disease	9,584
anesthesia	29,647
gynecology	2,49,387
radiotherapy	28,506
surgery	1,201

Bed Grade (Count): 0, 50,000, 1,00,000, 1,50,000, 2,00,000, 2,50,000, 3,00,000

Available Extra Rooms in Hospital by Department:

❖ Across all **departments**, the sum of **Available Extra Rooms in Hospital** is over 1.0 million.

❖ **Available Extra Rooms in Hospital** ranges from over 3500, when **Department** is surgery, to over 815 thousand, when **Department** is gynecology.

❖ **Available Extra Rooms in Hospital** is unusually high when **Department** is gynecology.

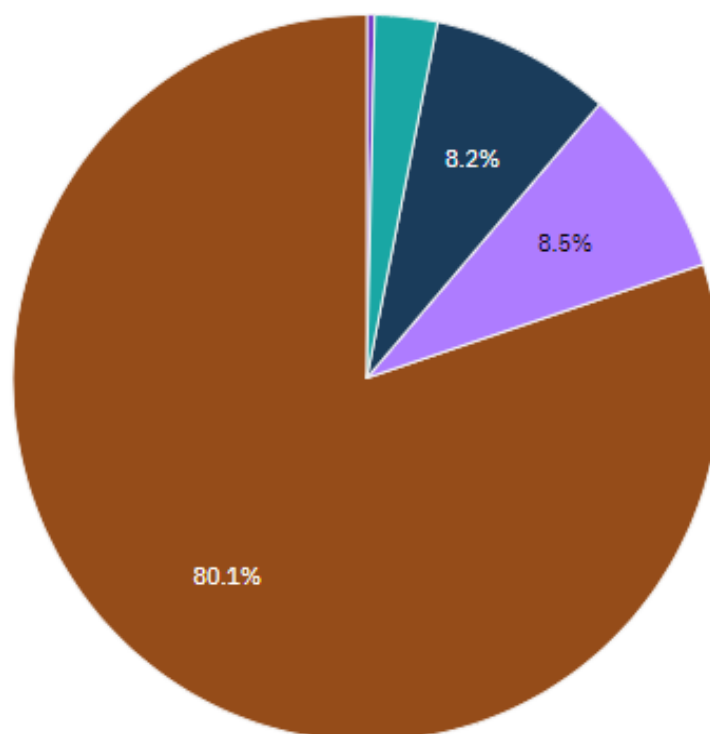**Available Extra Rooms in Hospital by Department**

Department
● surgery   ● TB & Chest disease   ● anesthesia   ● radiotherapy
● gynecology

8.2%
8.5%
80.1%

Department by Bed Grade:

❖ The total number of results for **Department**, across all **bed grades**, is over 318 thousand.

❖ The most common values of **Bed Grade** are 2 (38.8 %) and 3 (34.7 %), together occurring over 234 thousand times, which is 73.6 % of the total.

❖ The counts are most unusual when the values of **Bed Grade** are (no value) and 2.
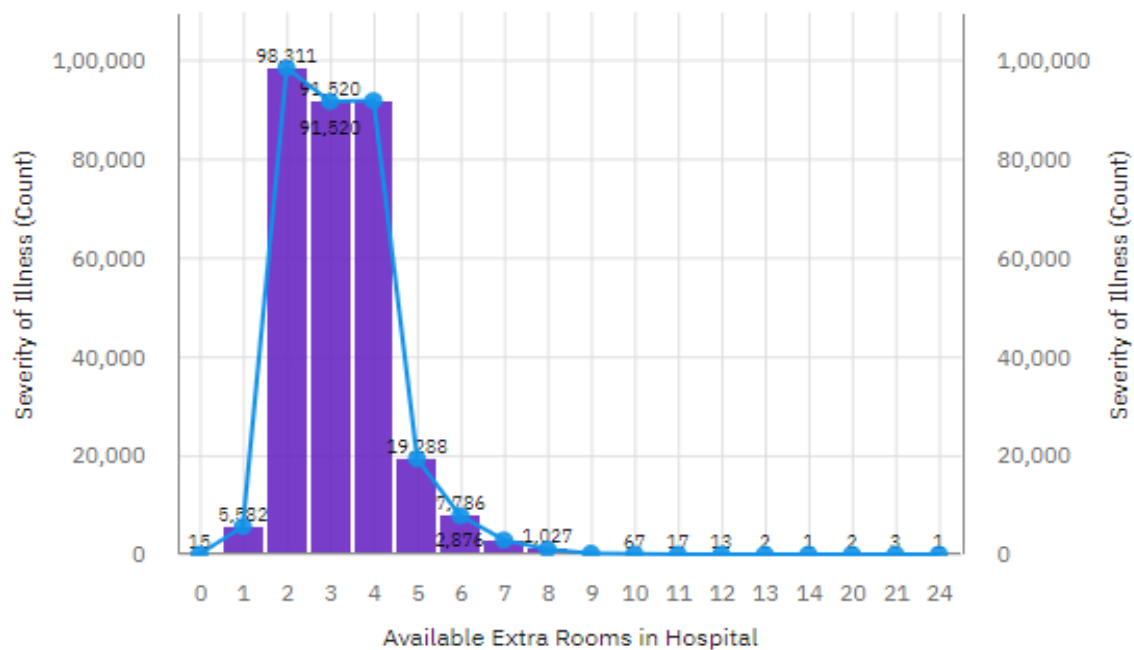
Department by Bed Grade
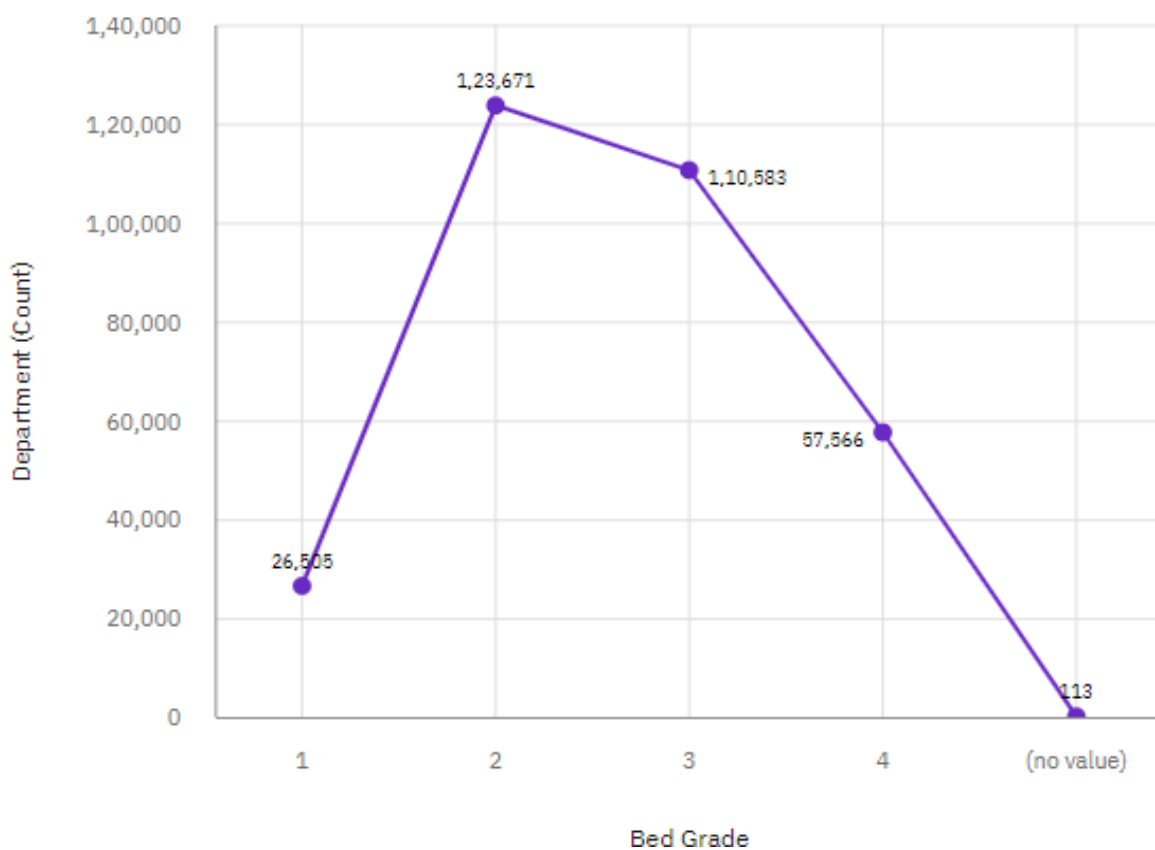
Severity of Illness and Severity of Illness by Available Extra Rooms in Hospital:

❖ The total number of results for **Severity of Illness**, across all **available extra rooms in hospitals**, is over 318 thousand.

❖ The most common values of **Available Extra Rooms in Hospital** are 2 (30.9 %), 4 (28.8 %), and 3 (28.7 %), together occurring nearly 282 thousand times, which is 88.4 % of the total.

❖ The total number of results for **Severity of Illness**, across all **available extra rooms in hospitals**, is over 318 thousand.

❖ The counts are unusually high when the values of **Available Extra Rooms in Hospital** are 2, 4 and 3.

Severity of Illness and Severity of Illness by Available Extra Rooms in Hospital

Age by patientid with points for Severity of Illness:

❖ The total number of results for **patientid**, across all **ages**, is over 318 thousand.

❖ The most common values of **Age** are 41-50 (20 %) and 31-40 (20 %), together occurring over 127 thousand times, which is 40 % of the total.

❖ The most common value of **Severity of Illness** is Moderate, occurring nearly 176 thousand times, which is 55.2 % of the total.
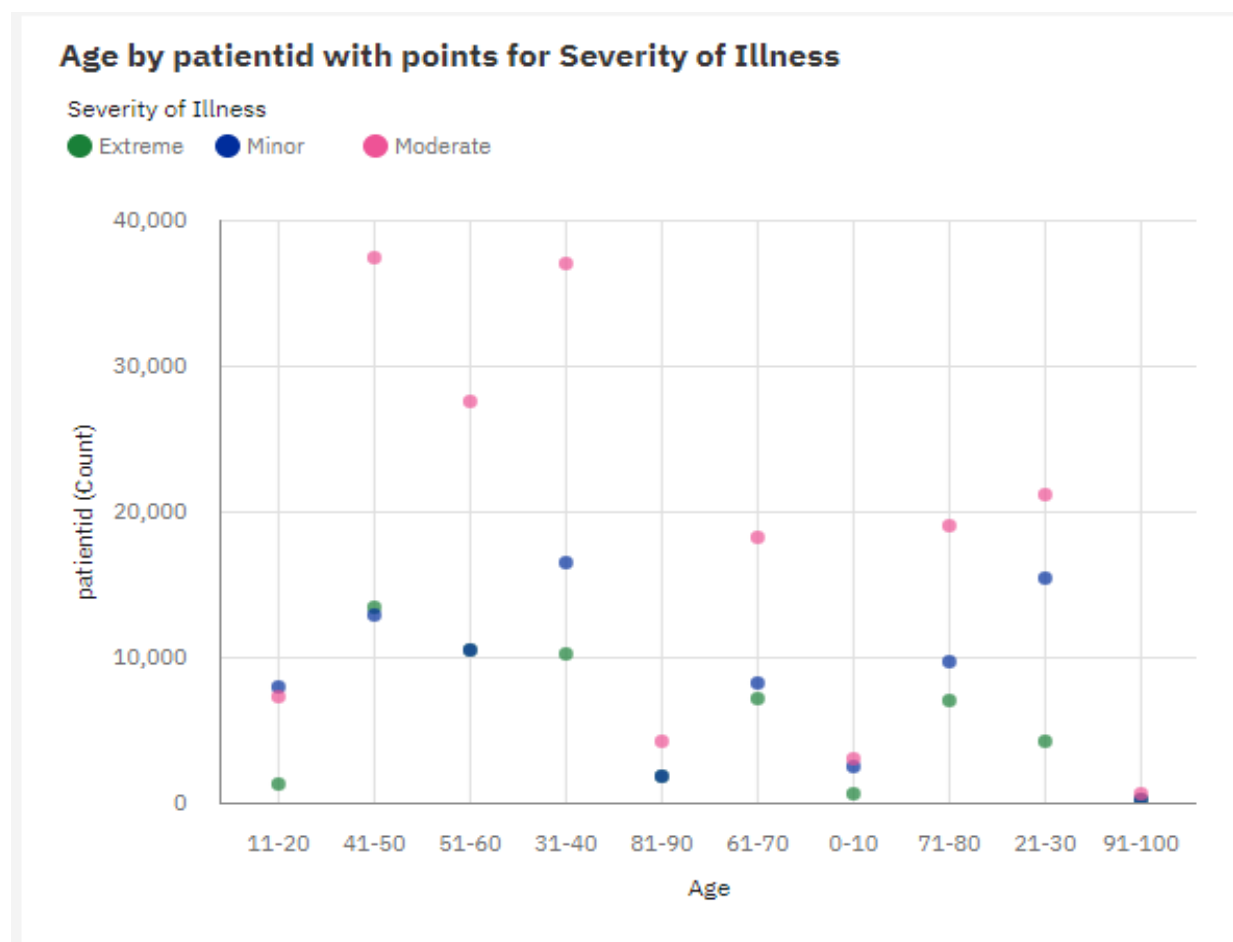
Available Extra Rooms in Hospital by Ward_Facility_Code colored by Ward_Facility_Code:

- ❖ The most common value of **Ward_Facility_Code** is F, occurring nearly 113 thousand times, which is 35.4 % of the total.
- ❖ The total number of results for **Available Extra Rooms in Hospital**, across all **Ward_Facility_Code**, is over 318 thousand.

Available Extra Rooms in Hospital by Ward_Facility_Code colored by Ward_Facility_Code