

## 1. EXECUTIVE SUMMARY

Learning Objectives and Outcomes Achieved

- Understanding Data Analytics Fundamentals
- Mastery of Power BI interface and tools.
- Proficiency in Data Preparation and Transformation
- Expertise in Data Modelling and Relationships
- Proficient Data Visualization Skills
- Advanced Analytics and DAX functions
- Advanced Power BI features and interactivity
- Application in Real-World Scenarios

Intern Organisation :

Apsche Smartinternz

An initiative of Smart Bridge in collaboration with APSHE to build a job-ready talent pool in project-based learning.

The organization helps students build the profile aligned to a job role through hands-on project-based learning under the guidance of industry mentors. It helps students acquire technical and professional competencies while working on real-world challenges and creating innovative solutions. The program encourages

the students to think critically and creatively, designed to provide industry-level training at college level.

### Summary of Activities done by Intern:

- \* Live Instructor-led Training
- \* Self-Paced Learning
- \* Project Development
- \* Productivity Tools
- \* Mentoring
- \* Career Development

### Conclusion -

The internship provides invaluable experience in data analytics with Power BI, enhancing both technical and analytical skills. The skills acquired during this period will be instrumental in pursuing a career in data analytics and contributing to data-driven decision making in any organization.

## 2. OVERVIEW OF THE ORGANIZATION

### A. Introduction of the Organization :

APSHE SmartInternz is an initiative that connects students with industry opportunities to gain hands-on experience and practical skills.

### B. Vision, Mission and Values of the Organization

The organization's vision is to empower students by enhancing their employability. Its mission is to integrate academic knowledge with industry practices. Core values include integrity, innovation, collaboration and excellence.

### C. Organizational Structure :

The structure includes executive leadership, project managers, mentors, administrative staff, ensuring a collaborative environment for interns to learn and grow.

### D. Roles and Responsibilities of the Employees in which the Intern is placed :

Interns are placed in relevant teams where they assist with projects, learn from mentors and develop both technical and soft skills.

### E. Performance of the Organization in Terms of Turnover, profit, Market value :

The organization has shown consistent growth

through successful partnerships and a strong reputation, reflecting its effective market positioning and program demand.

#### F. Future plans of the Organisation :

Future plans include expanding partnerships, introducing new programs in emerging technologies, enhancing digital infrastructure, and building a strong alumni network.

### 3. INTERNSHIP PART

During my virtual internship in Data Analytics with Power BI at APSCHE Smartintern, I was involved in several key activities:

- Data Collection and Cleaning - Gathered and cleaned data from various sources to ensure accuracy for analysis.
- Data transformation - Used Power BI to transform data, including filtering, merging datasets and creating calculated columns.
- Data modeling - Established relationships between datasets within Power BI to build effective data models.
- Data visualization - Created interactive dashboards and reports using Power BI to visualize data trends and insights.
- Report Generation - Developed and shared analytical reports highlighting key findings and recommendation.
- Collaborations - Worked with team members and mentors through virtual meetings to receive feedback and improve project outcomes.

- Learning and Development - Engaged in online learning sessions to improve technical skills in power BI and data analytics.
  - Presenting Findings - Presented analysis results to stakeholders weekly, enhancing communication and presentation skills.
- \* Working Conditions :

The internship was fully virtual, with flexible working hours (10 hrs per week) and required reliable internet, a laptop and familiarity with tools like Microsoft teams.

This internship helped me gain practical experience in data analytics and enhanced my skills in Power BI.

**ACTIVITY LOG FOR THE FIRST WEEK**

<b>Day &amp; Date</b>	<b>Brief description of the daily activity</b>	<b>Learning Outcome</b>	<b>Person In-Charge Signature</b>
Day - 1	Introduction to Data analytics. Orientation, setup of Power BI environment	Familiarity with the Power BI interface	
Day - 2	Introduction to the data sample and explore the datasets	Understanding the stages from data collection to analysis	
Day - 3	Overview of data sources relevant to internship	Identifying and accessing relevant data sources	
Day - 4	Basic data import and exploration in Power BI	Ability to import data and perform initial exploration	
Day - 5	Recap and Q & A	Clarified doubts and reinforced concepts	
Day - 6			

SECOND  
ACTIVITY LOG FOR THE   WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Data cleaning and preparation, Introduction to data cleaning and techniques	Understanding the importance of clean data	
Day - 2	Hands-on data cleaning using power Query	Ability to clean and prepare data using power BI	
Day - 3	Handling missing data and outliers	Techniques to manage and mitigate data quality issues.	
Day - 4	Data transformation techniques.	Applying transformations like normalization and aggregation	
Day - 5	Summary of the week's learnings	Consolidated understanding of data preparation	
Day - 6			

THIRD  
ACTIVITY LOG FOR THE WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction to data visualization concepts	Basics of effective data visualization.	
Day - 2	Creating basic visualizations in power BI	Ability to create charts, graphs and visual reports	
Day - 3	Building interactive dashboards.	Developing dashboards for data exploration	
Day - 4	Exploratory Data Analysis (EDA)	Gaining insights through visual data exploration	
Day - 5	Review and feedback on dashboards	Improving visualizations based on feedback	
Day - 6			

## ACTIVITY LOG FOR THE FORTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction to DAX (Data Analysis expressions )	Understanding and applying DAX for advanced calculations	
Day - 2	Statistical Techniques for trend analysis	Ability to analyse trends and patterns in data	
Day - 3	Building predictive models	Basics of predictive analytics in power BI	
Day - 4	Incorporating advanced analytics into dashboards	Enhancing dashboards with predictive insights	
Day - 5	Recap and practise session .	Reinforcing advanced analytical skills	
Day - 6			

**ACTIVITY LOG FOR THE <sup>FIFTH</sup> WEEK**

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction to performance optimization	Understanding factors that impact data model performance	
Day - 2	Performance testing with large data sets	Techniques to handle and optimize large data sets	
Day - 3	Performance tuning in power BI	Reducing query load and optimizing refresh rates	
Day - 4	Streamlining dashboards for better user experience	Creating faster, more responsive dashboards	
Day - 5	Finalizing optimized dashboards	Completed a set of high performance dashboards	
Day - 6			

**ACTIVITY LOG FOR THE SIXTH WEEK**

<b>Day &amp; Date</b>	<b>Brief description of the daily activity</b>	<b>Learning Outcome</b>	<b>Person In-Charge Signature</b>
Day - 1	Introduction to real real-world datasets and challenges	Understanding the complexity of real world data	
Day - 2	Identifying data quality issues.	Techniques to diagnose and address data quality problems	
Day - 3	Hands-on practice with a messy data set	Experience in cleaning and transforming real-world data	
Day - 4	Case study analysis	Applying learned skills to a real-world scenario	
Day - 5	Mini project submission	Practical experience in end-to-end data analysis	
Day - 6			

ACTIVITY LOG FOR THE **SEVENTH** WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction to reporting best practices	Understanding the principles of effective data reporting	
Day - 2	Developing detailed reports in power BI	Ability to create comprehensive and clear reports	
Day - 3	Documenting analysis and findings	Techniques for thorough and clear information documentation	
Day - 4	Data storytelling and presentation skill	Crafting compelling narratives from data	
Day - 5	Finalizing reports and documentation	Completed professional-level reports and documentation	
Day - 6			

**EIGHTH**  
**ACTIVITY LOG FOR THE WEEK**

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Finalizing the end-to-end project	Bringing together all skills in a cohesive project	
Day - 2	Preparing the project presentation.	Effective presentation techniques for showcasing data work	
Day - 3	Dry run of the presentation	Practice delivery of presentation	
Day - 4	Delivering the final presentation	Successfully presenting the project to audience	
Day - 5	Feedback and reflection	Receiving feedback and reflecting on the learning	
Day - 6			

## WEEKLY REPORT

WEEK - 1 (From Dt..... to Dt .....

Objective of the Activity Done: Introduction to Data Analytics

Detailed Report:

The first week was dedicated to laying the foundation for the internship by introducing fundamental concepts in data analytics and familiarizing the team with the Power BI environment. The focus was on understanding the data from collection to analysis, and getting hands-on experience with data import and initial exploration using Power BI.

- Orientation and setup of the Power BI
- Learning about the data, collection, storage and analysis.
- Importing sample datasets into Power BI and performing initial data exploration to understand the structure and content.

By the end of this week, the team had a solid understanding of basic data analytics concepts.

## WEEKLY REPORT

WEEK - 2 (From Dt ..... to Dt .....

Objective of the Activity Done: Data cleaning and Preparation

Detailed Report: Week 2 focused on one of the most critical aspects of data analytics - data cleaning and preparation. The team learned how to use Power Query within Power BI to clean, transform, and prepare data for analysis. This involved dealing with missing data, nulls and ensuring that data types were consistent and ready for more advanced analysis.

- Hands-on practice with Power Query for data cleaning.
- Data transformation exercises, such as normalizing data, aggregating information and ensuring consistency across datasets.

By the end of this week the team was proficient in using Power Query to clean and prepare data.

## WEEKLY REPORT

WEEK -3 (From Dt..... to Dt .....

Objective of the Activity Done: Data Visualization and Exploration

Detailed Report: This week was dedicated to learning how to create effective data visualizations and conducting exploratory data analysis. The team focused on building interactive dashboards in Power BI, which allowed them to visually explore data and uncover initial insights. This week was crucial for developing the ability to communicate data-driven insights through visuals.

- Creation of basic visualizations such as bar charts, line graphs and scatter plots.
- Development of interactive dashboards

By the end of week, the team was skilled in creating visually appealing and informative dashboards in Power BI.

## WEEKLY REPORT

WEEK - 4 (From Dt ..... to Dt ..... )

Objective of the Activity Done:

Advanced Analytics Techniques

Detailed Report:

In week 4, the focus shifted to more advanced analytics techniques. The team was introduced to DAX (Data Analysis Expressions) for performing complex calculations and learned about applying statistical methods for trend analysis.

- Learning the fundamentals of DAX
- Applying statistical techniques to analyze trends and patterns in data.
- Introduction to predictive modelling.
- Integration of advanced analytics techniques into existing dashboards.

By the end of this week, the team had a solid grasp of DAX and was able to perform advanced calculations and analyses.

## WEEKLY REPORT

WEEK - 5 (From Dt..... to Dt .....

Objective of the Activity Done:

Performance Optimization

Detailed Report:

Week 5 was all about optimizing the performance of data models and dashboards. The team learned how to handle large datasets efficiently and performed performance tuning on their Power BI dashboards.

- Understanding the factors that impact the performance of data models and dashboards.
- Conducting performance tests on large data sets to identify bottlenecks and optimize data handling.
- Refining dashboards to improve user experience, ensuring they were both powerful and efficient.

By the end of the week, the team had developed a set of optimized dashboards that were fast, responsive and user-friendly.

## WEEKLY REPORT

WEEK - 6 (From Dt ..... to Dt .....)

Objective of the Activity Done:

Real World Data Challenges

Detailed Report:

This week introduced the team to the complexities of working with real world datasets. The focus was on applying the skills they had learned to tackle real-world data challenges, including dealing with messy, incomplete data.

- Hands-on practice with cleaning and transforming messy datasets, applying techniques learned in previous weeks.
- By the end of the week the team was well-versed in handling the real-world data challenges. They gained practical experience in applying their skills to complex data sets, producing valuable insights, despite the inherent difficulties of real-world data.

## WEEKLY REPORT

WEEK - 7 (From Dt..... to Dt.....)

Objective of the Activity Done:

Reporting and Documentation

Detailed Report:

This week was dedicated to the creation of comprehensive reports and proper documentation of analysis processes. The team learned to develop detailed reports in power BI and documenting their analysis in a structured and clear manner. This week emphasized the importance of effective communication in data analytics.

- Developing detailed reports in Power BI that summarized key insights and findings from the data analysis.
- Documentation that would be used for presentations or submissions.

By the end of the week, the team had created polished, professional reports and thorough documentation of their analysis.

## WEEKLY REPORT

WEEK - 8 (From Dt..... to Dt.....)

Objective of the Activity Done: Final Project and Presentation

Detailed Report: The final week was dedicated to bringing together all the skills and knowledge the team had acquired throughout the internship. They finalized their end-to-end project, prepared a presentation to showcase their work, and delivered it to an audience. This week was the culmination of the internship, providing a platform for the team to demonstrate their expertise.

- Finalizing the end to end project.
- Conducting a dry run of the presentation to practice delivery and make any necessary adjustments.
- By the end of this week, the team successfully completed their internship project, demonstrating a comprehensive understanding of data analytics.

## CHAPTER 6: OUTCOMES DESCRIPTION

Describe the work environment you have experienced (in terms of people interactions, facilities available and maintenance, clarity of job roles, protocols, procedures, processes, discipline, time management, harmonious relationships, socialization, mutual support and teamwork, motivation, space and ventilation, etc.)

1. People interactions - Collaborated with team members to execute the project allotted.
2. Facilities and Maintenance - Utilized modern data analytics tools and software provided.
3. Job Roles, Protocols and procedure - Followed a structured approach to data analysis, adhering to protocols and standard operating procedures for data collection, processing and reporting.
4. Processes - Engaged in data cleaning, transformation and visualization processes to ensure the integrity and clarity of data insights.
5. Time management and discipline - Managed multiple tasks with tight deadlines demonstrating effective time management and organizational skills.
6. Harmonious relationships & Socialization - Fostered a positive work environment; actively participated in team meetings and brainstorming sessions.
7. Teamwork and Motivation - Worked collaboratively on projects receiving feedback to enhance data models.
8. Space and Ventilation - Worked in a well-ventilated, open office environment conducive to collaboration and focus.

**Describe the real time technical skills you have acquired (in terms of the job-related skills and hands on experience)**

1. Data Cleaning and Preprocessing :- Gained proficiency in cleaning and preprocessing raw data using tools like Python.
2. Data Analysis and Interpretation :- Developed strong analytical skills.
3. Data Visualisation :- Learned to create insightful visualizations using tools like Power BI.
4. SQL and Database management :- Acquired hands-on experience with SQL for querying databases.
5. Machine Learning and Predictive Analytics :- Gained exposure to machine learning algorithms and predictive modelling.
6. Big Data Tools :- Worked with Big Data tools
7. Automating Data Workflows :- Learned to automate repetitive data tasks using scripts and tools, improving workflow efficiency.
8. ETL processes, Cloud computing and Data storage
9. Problem solving in Real-time scenarios :- Developed ability to troubleshoot and resolve technical issues quickly.
10. Version Control Systems :- Familiarized with version control systems like Git to manage code and collaborate with team members effectively.

Describe the managerial skills you have acquired (in terms of planning, leadership, team work, behaviour, workmanship, productive use of time, weekly improvement in competencies, goal setting, decision making, performance analysis, etc.

1. Planning - Developed the ability to plan and organize tasks effectively, setting timelines and milestones for project completion.
2. Leadership and team work - Took initiative in leading small project teams, collaborated closely with diverse team members.
3. Behaviour and Professionalism - Maintained a professional attitude in all interactions.
4. Workmanship - Ensured high-quality work by paying attention to detail in data analysis.
5. Productive use of time - Learned to manage time
6. Weekly improvement in Competencies - Engaged in continuous learning by setting weekly goals for skill improvement.
7. Goal setting - Set clear, achievable goals for projects and personal development.
8. Decision making - Gained experience in making informed decisions based on data insights.
9. Performance Analysis - Regularly analyzed personal and team performance, identifying areas for improvement.

Describe how you could improve your communication skills (in terms of improvement in oral communication, written communication, conversational abilities, confidence levels while communicating, anxiety management, understanding others, getting understood by others, extempore speech, ability to articulate the key points, closing the conversation, maintaining niceties and protocols, greeting, thanking and appreciating others, etc.)

1. Oral communication - Participate in group discussions and presentations to practice speaking clearly.
2. Written communication and Conversational Abilities - Work on writing skills by drafting concise and clear emails; engage in more casual conversation with peers to improve your ability to maintain engaging.
3. Confidence levels while communicating - Build confidence by preparing thoroughly for presentations.
4. Anxiety management - Learn to manage anxiety through relaxation techniques like deep breathing.
5. Understanding and getting understood - Develop active listening skills, practice using clear and simple language to convey your points.
6. Ability to Articulate key points - Work on structuring your thoughts logically before speaking.
7. Closing the conversation & Maintaining Niceties - Use polite closing statements to end conversations.
8. Greeting and Thanking, and Appreciating others - Make a conscious effort to greet colleagues warmly.

Describe how could you enhance your abilities in group discussions, participation in teams, contribution as a team member, leading a team/activity.

## 1. Enhancing Abilities in Group Discussions -:

- Active listening
- Clear communication
- Respectful engagement
- Preparation
- Summarization skills

## 2. Enhancing Participation in Teams -:

- Understand team dynamics
- Be Proactive
- Communicate Openly
- Stay engaged

## 3. Enhancing Contribution as a Team Member - :

- Be reliable and accountable
- Provide Constructive feedback
- Collaborate effectively
- Be a positive influence

## 4. Enhancing Leadership Abilities in Teams or Activities -:

- Set clear goals and expectations
- Delegate Effectively
- Encourage collaboration
- Provide support and Guidance
- Evaluate and Adapt

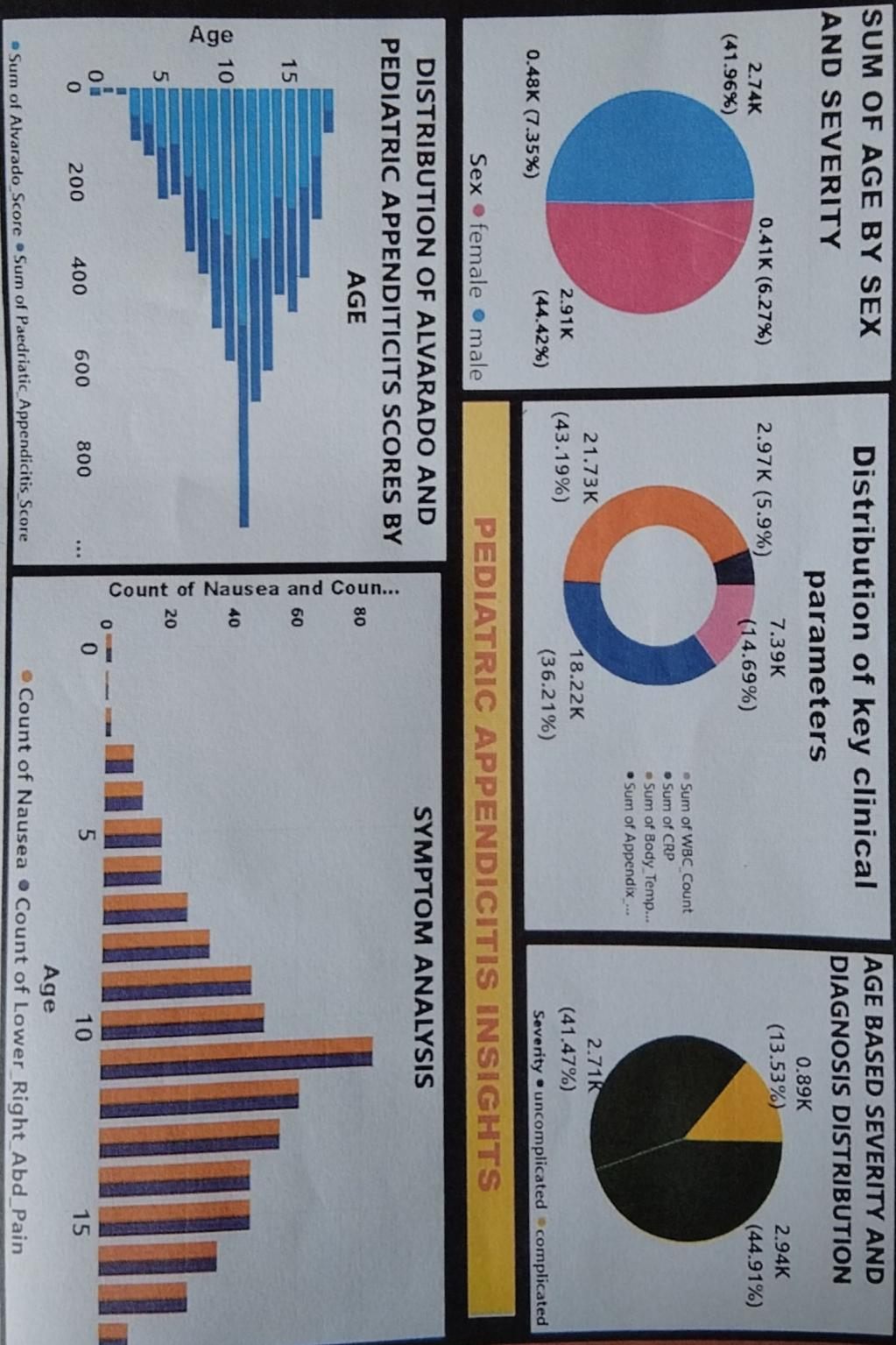
Describe the technological developments you have observed and relevant to the subject area of training (focus on digital technologies relevant to your job role)

During my data analytics internship, I observed several technological developments in digital technologies that are highly relevant to the field. These advancements have significantly impacted how data is collected, processed and analyzed, improving efficiency and accuracy in decision-making processes. Here are some key technological developments:

1. Advanced Data Analytics Tools and Software
2. Artificial Intelligence and Machine Learning (AI/ML)
3. Data Integration and ETL (Extract, Transform, Load tools)
4. Data Governance and Security
5. Collaboration and Communication platforms
6. Natural Language Processing (NLP)
7. Data Visualization and Storytelling
8. Automated Reporting and Alerting

These technological developments in digital technologies have made data analytics more efficient.

# PHOTOS AND VIDEO LINK



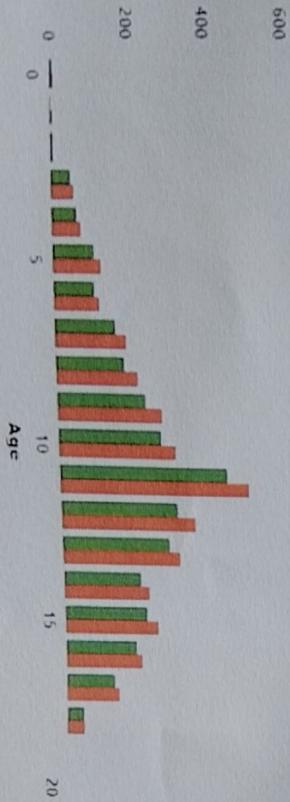
## Age related Symptom distribution

- Count of Nausea
- Count of Lower Right Abd Pain



Count of Nausea and Count of Lower Right Abd Pain by Age

DISTRIBUTION OF ALVARADO AND PEDIATRIC APPENDICITIS SCORES BY AGE



- Sum of Paediatric Appendicitis Score
- Sum of Alvarado Score

Data

Queries

Insert

Measure measures  
Calculations

## Distribution of key clinical parameters

- Sum of ...
- Sum of ...
- Sum of ...
- Sum of ...

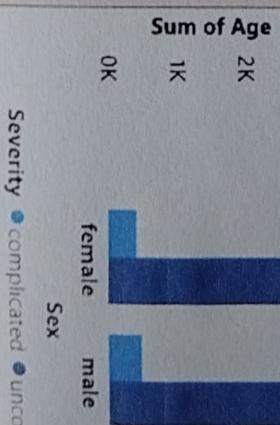
### PEDIATRIC APPENDICITIS INSIGHTS



### SUM OF AGE BY DIAGNOSIS

Sum of WBC Count, Sum...  
20K  
10K  
0K

### Age based analysis of severity and diagnosis

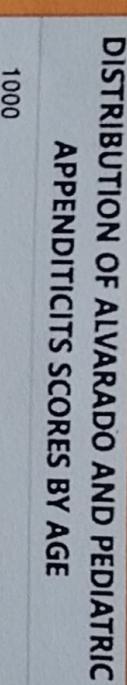
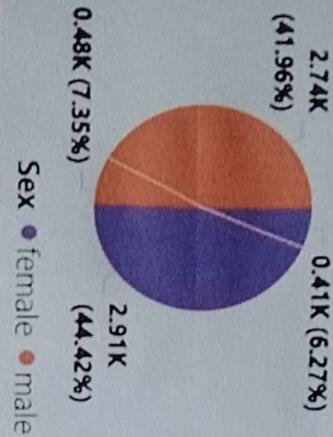


- Diagnosis
- appendicitis
- no appendicitis

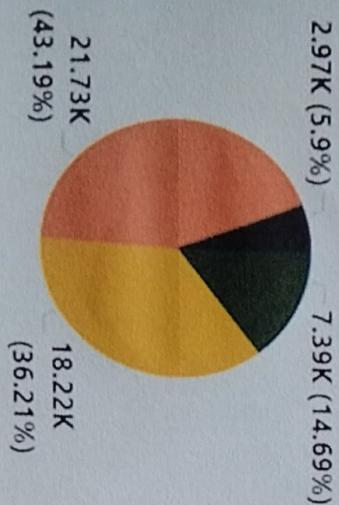
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Measure measures  
Calculations

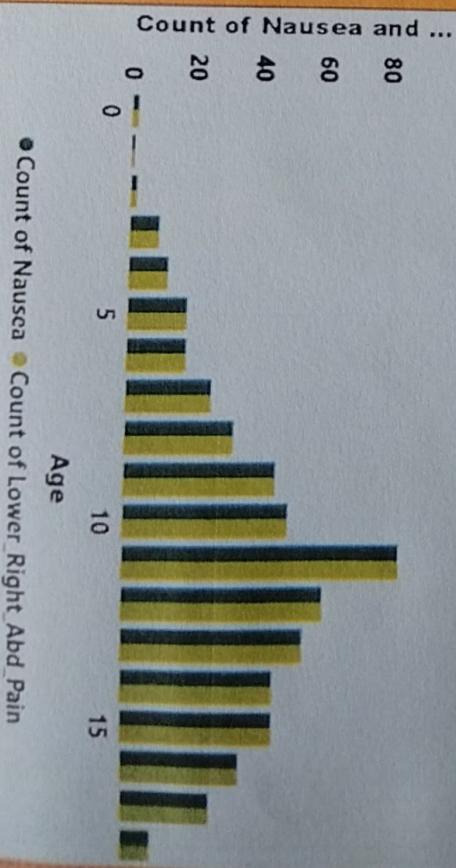
## AGE DISTRIBUTION BY SEX AND SEVERITY



## PEDIATRIC APPENDICITIS TRENDS



## SYMPTOM FREQUENCY BY AGE GROUP

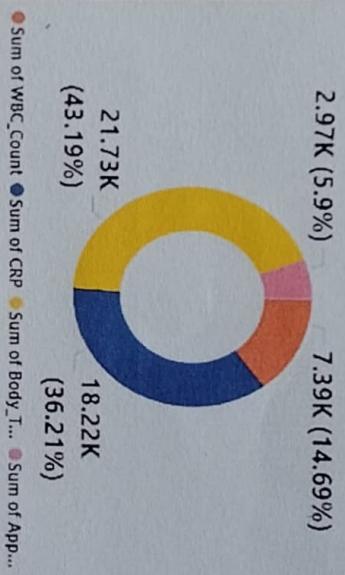


● Sum of WBC\_Count ● Sum of CRP ● Sum of Body\_Temper... ● Sum of Appendicitis\_Score

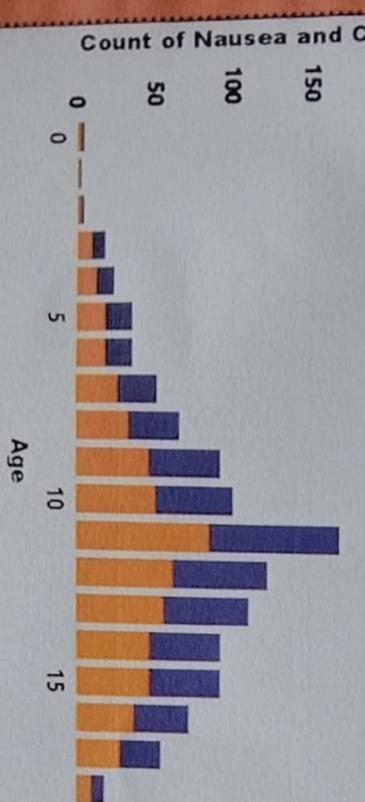
● Count of Nausea ● Count of Lower\_Right\_Abd\_Pain

## SUM OF AGE BY SEX AND SEVERITY

Overview of key clinical metrics



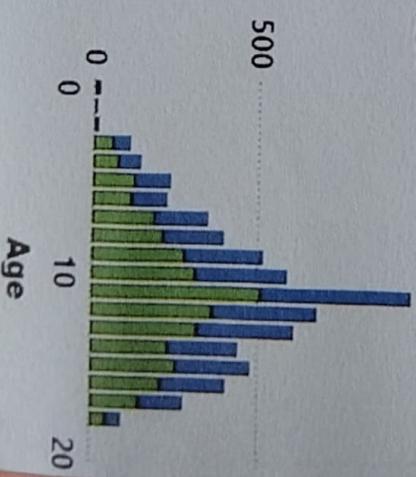
## SYMPTOM ANALYSIS



● Count of Nausea ● Count of Lower\_Right\_Abd\_Pain

## PEDIATRIC APPENDICITIS INSIGHTS

● Sum of Alvarado\_Score ... ● Sum of P...



Queries

Insert

Calculations