

TABLEAU PROJECT

Empowering ACOF with Analytical Insights for Veteran Care

Computer Information Systems, Cal State LA

CIS 5270 - Business Intelligence

Dr. Shilpa Balan

Presented By

Kajal Bhandare

Latika Kapoor

Zalak Patel

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DATASET SOURCE URL

Additional Dataset Link and Screenshots

<https://catalog.data.gov/dataset/veteran-peer-coordinator-vpc-program-moves>

#	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Record#	Intake Date	Service Request Category	Service Request Sub Category	Date of Service Request	Affiliation	Branch of Service	City	State	Zip Code	Actual Move Out Date	Homelessness Status	Referred to	Service Request Resolution	Service Request Resolution Date
2	2018_HSS_0610	7/3/2018	Housing	Homelessness Assistance	7/3/2018	Veteran	Army	Bronx	New York	10462	10/26/2018	Stably Housed	DVS HSS VPC Program	Resolved	10/26/2018
3	2018_HSS_0611	7/11/2018	Housing	Homelessness Assistance	7/11/2018	Veteran	Army	New York	New York	10010	6/28/2019	Stably Housed	DVS HSS VPC Program	Resolved	6/28/2019
4	2018_HSS_0612	7/13/2018	Housing	Homelessness Assistance	7/13/2018	Veteran	Army	New York	New York	10026	8/12/2018	Stably Housed	DVS HSS VPC Program	Resolved	8/12/2018
5	2018_HSS_0613	7/18/2018	Housing	Homelessness Assistance	7/18/2018	Veteran	Air Force	New York	New York	10036	8/17/2018	Stably Housed	DVS HSS VPC Program	Resolved	8/17/2018
6	2018_HSS_0614	7/18/2018	Housing	Homelessness Assistance	7/18/2018	Veteran	Undisclosed	New York	New York	10032	10/15/2018	Stably Housed	DVS HSS VPC Program	Resolved	10/15/2018
7	2018_HSS_0615	7/18/2018	Housing	Homelessness Assistance	7/18/2018	Veteran	Army	Bronx	New York	10467	7/9/2019	Stably Housed	DVS HSS VPC Program	Resolved	7/9/2019
8	2018_HSS_0616	7/18/2018	Housing	Homelessness Assistance	7/18/2018	Veteran	Army	Far Rockaway	New York	11691	8/28/2018	Stably Housed	DVS HSS VPC Program	Resolved	8/28/2018
9	2018_HSS_0617	7/19/2018	Housing	Homelessness Assistance	7/19/2018	Veteran	Army	Brooklyn	New York	11207	10/19/2018	Stably Housed	DVS HSS VPC Program	Resolved	10/19/2018
10	2018_HSS_0618	7/25/2018	Housing	Homelessness Assistance	7/25/2018	Veteran	Army	Saint Albans	New York	11412	10/2/2018	Stably Housed	DVS HSS VPC Program	Resolved	10/2/2018
11	2018_HSS_0619	7/26/2018	Housing	Homelessness Assistance	7/26/2018	Veteran	Marine Corps	New York	New York	10016	9/14/2018	Stably Housed	DVS HSS VPC Program	Resolved	9/14/2018
12	2018_HSS_0620	7/27/2018	Housing	Homelessness Assistance	7/27/2018	Veteran	Navy	Staten Island	New York	10301	9/19/2018	Stably Housed	DVS HSS VPC Program	Resolved	9/19/2018
13	2018_HSS_0621	7/27/2018	Housing	Homelessness Assistance	7/27/2018	Veteran	Army	Staten Island	New York	10304	11/16/2018	Stably Housed	DVS HSS VPC Program	Resolved	11/16/2018
14	2018_HSS_0622	8/1/2018	Housing	Homelessness Assistance	8/1/2018	Veteran	Air Force	New York	New York	10010	1/24/2019	Stably Housed	DVS HSS VPC Program	Resolved	1/24/2019
15	2018_HSS_0623	8/1/2018	Housing	Homelessness Assistance	8/1/2018	Veteran	Army	New York	New York	10016	10/14/2018	Stably Housed	DVS HSS VPC Program	Resolved	10/14/2018
16	2018_HSS_0624	8/7/2018	Housing	Homelessness Assistance	8/7/2018	Veteran	Army	New York	New York	10026	8/16/2018	Stably Housed	DVS HSS VPC Program	Resolved	8/16/2018
17	2018_HSS_0625	8/14/2018	Housing	Homelessness Assistance	8/14/2018	Veteran	Navy	Rockaway Park	New York	11694	9/19/2018	Stably Housed	DVS HSS VPC Program	Resolved	9/19/2018
18	2018_HSS_0626	8/16/2018	Housing	Homelessness Assistance	8/16/2018	Veteran	Navy	Saint Albans	New York	11412	12/13/2018	Stably Housed	DVS HSS VPC Program	Resolved	12/13/2018
19	2018_HSS_0627	8/21/2018	Housing	Homelessness Assistance	8/21/2018	Veteran	Army	Staten Island	New York	10303	10/1/2018	Stably Housed	DVS HSS VPC Program	Resolved	10/1/2018
20	2018_HSS_0628	8/22/2018	Housing	Homelessness Assistance	8/22/2018	Veteran	Navy	New York	New York	10026	8/22/2018	Stably Housed	DVS HSS VPC Program	Resolved	8/22/2018
21	2018_HSS_0629	8/22/2018	Housing	Homelessness Assistance	8/22/2018	Veteran	Air Force	Brooklyn	New York	11207	10/16/2018	Stably Housed	DVS HSS VPC Program	Resolved	10/16/2018
22	2018_HSS_0630	8/24/2018	Housing	Homelessness Assistance	8/24/2018	Veteran	Undisclosed	New York	New York	10026	8/24/2018	Stably Housed	DVS HSS VPC Program	Resolved	8/24/2018
23	2018_HSS_0631	8/24/2018	Housing	Homelessness Assistance	8/24/2018	Veteran	Army	New York	New York	10040	10/16/2018	Stably Housed	DVS HSS VPC Program	Resolved	10/16/2018
24	2018_HSS_0632	8/24/2018	Housing	Homelessness Assistance	8/24/2018	Veteran	Navy	Staten Island	New York	10302	8/24/2018	Stably Housed	DVS HSS VPC Program	Resolved	8/24/2018
25	2018_HSS_0633	8/25/2018	Housing	Homelessness Assistance	8/25/2018	Veteran	Army	Bronx	New York	10460	11/3/2018	Stably Housed	DVS HSS VPC Program	Resolved	11/3/2018

Purpose of this Dataset - We have used this dataset to display veteran tenants who have served different branches of the US military and their duration of stay under NYC department of Veterans Services, DVS HSS VPC Program.

INTRODUCTION

A Community of Friends (ACOF) is a regional non-profit housing developer, for populations with special needs. ACOF's mission is to provide affordable, service-enriched, and supportive housing for homeless adults and families with mental and physical disabilities, senior citizens, and other low-income households. It was the first nonprofit to pioneer this model throughout Los Angeles County and likely the second nonprofit in the country. It has completed senior buildings, buildings for transitional age youth, veterans-only projects, and a building for developmentally disabled adults.

For our Tableau project, we aim to provide insights on the veteran-only population of ACOF. Veteran-only population locations include Gower, Las Flores, Las Palomas and Fox Normandie. With the survey responses from 71 tenants, we were able to analyze progress on tenants' health and facility improvements based on building location.

With the dataset provided by ACOF, we decided to display visualization on Body Mass Index (BMI) that will determine if the tenants are / would be at risk for certain diseases such as High BP, cholesterol, diabetes and breathing problems. Knowing if the tenants are satisfied with the accommodation, we display visualization where ACOF can easily see which all locations are favorable to the tenants. Using the responses provided on common health issues that persists among the tenants, we developed a graph that will help the team determine which location should be focused with medical support for specific illnesses.

Our goal is to use these analyses to help ACOF make better decisions, especially when it comes to caring for veterans. That's why our project theme is "Empowering ACOF with Analytical Insights for Veteran Care."

As ACOF is recognized for its efforts to alleviate homelessness and offer substantial health and housing assistance within the United States. There are several other communities in the United States of America (USA) that focus on mitigating homelessness and providing health and housing support.

Therefore, we explored a dataset from New York, which profiles veteran tenants from various branches of the U.S. military and their tenure within the NYC Department of Veterans Services' VPC Program. Our analysis, presented as a line graph, illustrates the average duration of stay by service branch, which offers valuable insights.

Through carefully constructed visual representations, our aim is to bolster ACOF's strategic planning such that ACOF can assess the effectiveness of support systems and identify where enhancements might be needed to better serve the homeless veteran population.

DATA DESCRIPTION

S. No.	Dimension Name	Description of Dimension	File Name
1	Property Name	Name of ACOF building which offers accommodation to the veteran population	Fox Normandie
2	Age	The age range of the tenants	Gower
3	Gender	Gender of the tenants	Las Flores
4	Rate your Health after Accommodation	The rate of tenant's health condition after being accommodated	Las Palomas
5	High Blood Pressure	Illness recorded by tenant - High Blood	
6	High Cholesterol	Illness recorded by tenant - High Cholesterol	
7	Diabetes	Illness recorded by tenant - Diabetes	
8	Chronic Obstructive Pulmonary Disease	Illness recorded by tenant - Chronic Obstructive Pulmonary Disease	
9	Arthritis	Illness recorded by tenant - Arthritis	
10	Gum Disease	Illness recorded by tenant - Gum Disease	
11	None Ailments	Illness recorded by tenant - None Ailments	
12	Interest in Daily Activities	Mental illness recorded by tenant - Struggling in engaging in daily activities	
13	Feeling Depressed	Mental illness recorded by tenant - Experiencing feelings of depression	
14	Trouble Sleeping	Mental illness recorded by tenant - Sleeping difficulties	
15	Feeling Tired	Mental illness recorded by tenant - Feeling Tired	
16	Poor appetite / overeating	Mental illness recorded by tenant - Poor appetite / overeating	

S. No.	Dimension Name	Description of Dimension	File Name
17	Experiencing self-doubt	Mental illness recorded by tenant - Experiencing self-doubt	
18	Trouble Focusing	Mental illness recorded by tenant - Trouble Focusing	
19	Moving /speaking slowly - feeling restless	Mental illness recorded by tenant - Feeling restless	
20	Suicidal Thoughts	Mental illness recorded by tenant - Suicidal Thoughts	
S. No.	Measure Name	Description of Measure	File Name
21	Weight	Weight of tenant (in lbs)	Fox Normandie Gower Las Flores Las Palomas
22	Height	Height of tenant (in inches)	
23	Response ID	The unique Id assigned to each response given by the tenant	

Additional Data Set: <https://catalog.data.gov/dataset/veteran-peer-coordinator-vpc-program-moves>

S.No.	Dimension Name	Description of Dimension	File Name
1	Branch of Service	The branches of the US military whose members received home accommodation through the VPC program	Historical Veteran Peer Coordinator (VPC) Program Moves
2	State	The state where homeless assistance is offered to veterans (New York)	
3	Intake Date	The date when the veterans enrolls in the homeless assistance program (MM/DD/YYYY)	
4	Actual Move Out Date	The date when the veterans vacates the accommodation (MM/DD/YYYY)	

DATA CLEANING

Approach 1: Adding a new column - Zip Code

Pre-Cleaning Screen Shot:

Which ACOF building do you reside in?	What is your age?	Which is your gender?	Which race/ethnicity best describes you? (Please choose only one.)	What is your height?
Las Palomas	50-59	Male	Asian/Pacific Islander	5'3
Fox Normandie	50-59	Female	Black or African American	5'4.5
Fox Normandie	50-59	Female	Black or African American	5'5
Fox Normandie	60 or older	Male	Black or African American	5'8
Fox Normandie	50-59	Male	Black or African American	6'1
Fox Normandie	40-49	Female	White/Caucasian	5'4
Fox Normandie	50-59	Female	Black or African American	5'4
Fox Normandie	40-49	Female	Hispanic	5'6
Fox Normandie	60 or older	Female	Black or African American	5'9
Fox Normandie	50-59	Female	Black or African American	5'5
Fox Normandie	60 or older	Male	Black or African American	6'1

Post-Cleaning Screen Shot:

Property Name	Zip Code	Age	Gender	Race / Ethnicity	Height
Fox Normandie	90005	60 or older	Male	Black or African American	5'8
Fox Normandie	90005	50-59	Female	Black or African American	5'4.5
Fox Normandie	90005	50-59	Female	Black or African American	5'5
Fox Normandie	90005	50-59	Male	Black or African American	6'1
Fox Normandie	90005	60 or older	Male	White/Caucasian	5'10.5
Fox Normandie	90005	40-49	Female	White/Caucasian	5'4
Fox Normandie	90005	50-59	Female	Black or African American	5'4
Fox Normandie	90005	40-49	Female	Hispanic	5'6
Fox Normandie	90005	60 or older	Female	Black or African American	5'9
Fox Normandie	90005	50-59	Female	Black or African American	5'5
Fox Normandie	90005	50-59	Male	White/Caucasian	6'6

Data Cleaning Purpose:

By incorporating the "Zip Code" column into our analysis, we can provide the organization with a clear view of how their accommodations are performing in the four specific building locations they are already serving. With this tailored insight, the organization can identify which locations are thriving and where improvements might be necessary. It's a strategic way to ensure their efforts are making the intended impact, allowing for targeted enhancements and support where it's most needed to uplift the living conditions for the homeless.

Approach 2: Replacing Missing Values for Weight and Unit Conversion for Height

Pre-Cleaning Screen Shot:

What is your age?	Which is your gender?	Which race/ethnicity best describes you? (Please choose only one.	What is your height?	What is your weight?
50-59	Male	Asian/Pacific Islander	5'3	146
50-59	Female	Black or African American	5'4.5	200
50-59	Female	Black or African American	5'5	193
60 or older	Male	Black or African American	5'8	140
50-59	Male	Black or African American	6'1	215
40-49	Female	White/Caucasian	5'4	328
50-59	Female	Black or African American	5'4	220
40-49	Female	Hispanic	5'6	190
60 or older	Female	Black or African American	5'9	187
50-59	Female	Black or African American	5'5	130
60 or older	Male	Black or African American	6'1	216
40-49	Female	Black or African American	5'7	210
60 or older	Female	Black or African American	5'5	Don't Know
50-59	Male	Black or African American	5'5	165
40-49	Female	Black or African American	5'3	135

Post-Cleaning Screen Shot:

Property Name	Zip Code	Age	Gender	Race / Ethnicity	Height in Inches	Weight
Fox Normandie	90005	60 or older	Male	Black or African American	69.6	140
Fox Normandie	90005	50-59	Female	Black or African American	65.3	200
Fox Normandie	90005	50-59	Female	Black or African American	66	193
Fox Normandie	90005	50-59	Male	Black or African American	73.2	215
Fox Normandie	90005	60 or older	Male	White/Caucasian	61.7	175
Fox Normandie	90005	40-49	Female	White/Caucasian	64.8	328
Fox Normandie	90005	50-59	Female	Black or African American	64.8	220
Fox Normandie	90005	40-49	Female	Hispanic	67.2	190
Fox Normandie	90005	60 or older	Female	Black or African American	70.8	187
Fox Normandie	90005	50-59	Female	Black or African American	66	130
Fox Normandie	90005	50-59	Male	White/Caucasian	79.2	230
Fox Normandie	90005	40-49	Female	Black or African American	68.4	210
Fox Normandie	90005	60 or older	Female	Black or African American	66	182
Fox Normandie	90005	60 or older	Male	Black or African American	73.2	216

Data Cleaning Purpose:

In the dataset provided by the ACOF team, the "Height" variable was initially in string format.

We converted string into decimal numerical value. Through this data cleaning process, we were able to create a calculated field "BMI" in tableau. The BMI value for each tenant will specify the need to improve nutritional or fitness support by ACOF.

Approach 3: Renaming Column Names

Pre-Cleaning Screen Shot:

Which ACOF building do you reside	What is your age?	Which is your gender?	Which race/ethnicity best describes you?	What is your height?	What is your weight?	Do you visit a doctor on a regular basis?	Would you say that in general your health is:
Las Palomas	50-59	Male	Asian/Pacific Islander	5'3	146	Yes	Fair
Fox Normandie	50-59	Female	Black or African American	5'4.5	200	Yes	Poor
Fox Normandie	50-59	Female	Black or African American	5'5	193	Yes	Good
Fox Normandie	60 or older	Male	Black or African American	5'8	140	Yes	Fair
Fox Normandie	50-59	Male	Black or African American	6'1	215	Yes	Good
Fox Normandie	40-49	Female	White/Caucasian	5'4	328	Yes	Fair
Fox Normandie	50-59	Female	Black or African American	5'4	220	Yes	Poor
Fox Normandie	40-49	Female	Hispanic	5'6	190	No	Fair
Fox Normandie	60 or older	Female	Black or African American	5'9	187	Yes	Fair
Fox Normandie	50-59	Female	Black or African American	5'5	130	Yes	Very Good
Fox Normandie	60 or older	Male	Black or African American	6'1	216	Yes	Very Good
Fox Normandie	40-49	Female	Black or African American	5'7	210	Yes	Fair
Fox Normandie	60 or older	Female	Black or African American	5'5	Don't Know	No	Poor
Gower	50-59	Male	Black or African American	5'5	165	Yes	Good

Post-Cleaning Screen Shot:

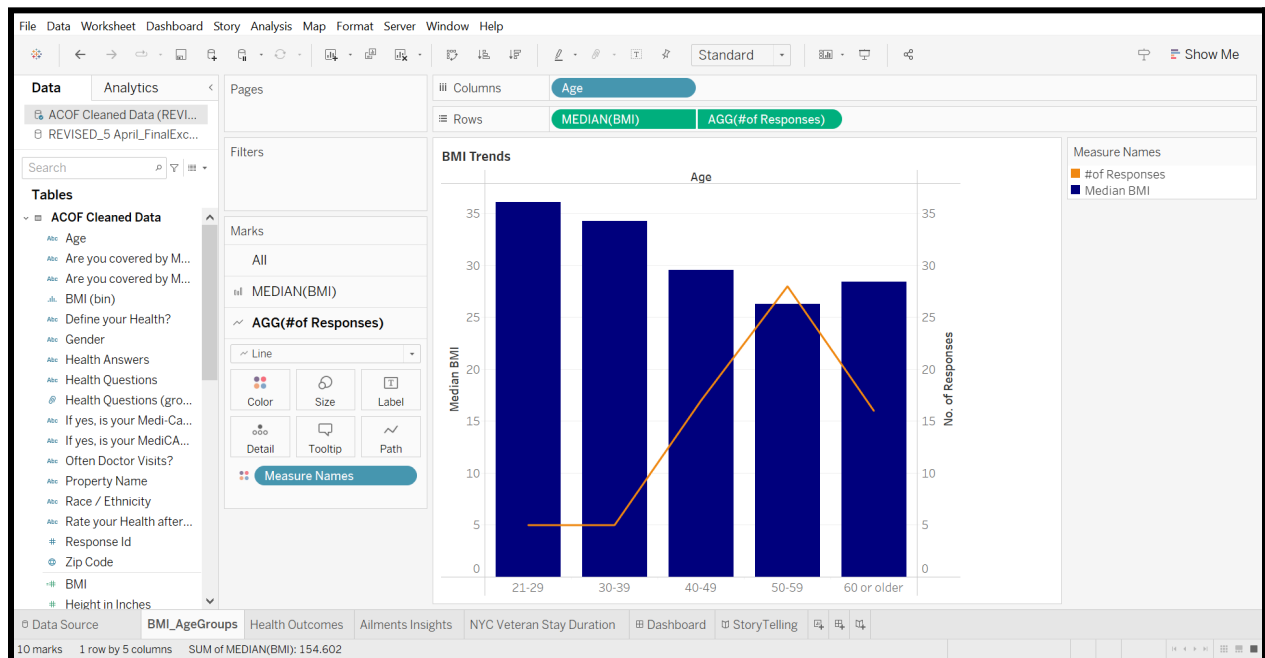
Property Name	Zip Code	Age	Gender	Race / Ethnicity	Height	Weight	BMI	Often Doctor Visits?	Define your Health?
Fox Normandie	90005	60 or older	Male	Black or African American	5'8	140	20.32	Yes	Fair
Fox Normandie	90005	50-59	Female	Black or African American	5'4.5	200	33.80	Yes	Poor
Fox Normandie	90005	50-59	Female	Black or African American	5'5	193	31.15	Yes	Good
Fox Normandie	90005	50-59	Male	Black or African American	6'1	215	28.21	Yes	Good
Fox Normandie	90005	60 or older	Male	White/Caucasian	5'10.5	175	27.58	Yes	Poor
Fox Normandie	90005	40-49	Female	White/Caucasian	5'4	328	54.91	Yes	Fair
Fox Normandie	90005	50-59	Female	Black or African American	5'4	220	36.83	Yes	Poor
Fox Normandie	90005	40-49	Female	Hispanic	5'6	190	29.58	No	Fair
Fox Normandie	90005	60 or older	Female	Black or African American	5'9	187	26.23	Yes	Fair
Fox Normandie	90005	50-59	Female	Black or African American	5'5	130	20.98	Yes	Very Good
Fox Normandie	90005	50-59	Male	White/Caucasian	6'6	230	25.78	Yes	Good
Fox Normandie	90005	40-49	Female	Black or African American	5'7	210	31.55	Yes	Fair
Fox Normandie	90005	60 or older	Female	Black or African American	5'5	182	29.37	No	Poor
Fox Normandie	90005	60 or older	Male	Black or African American	6'1	216	28.34	Yes	Very Good

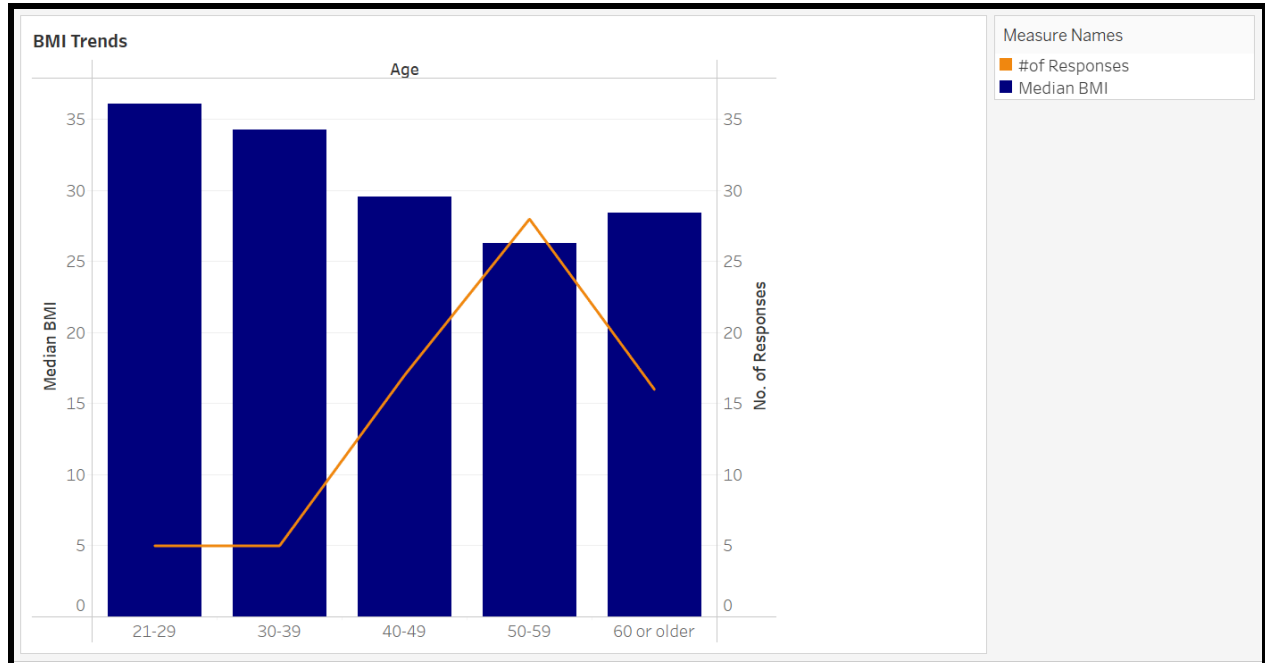
Data Cleaning Purpose:

Column names are important in data analysis as they provide context and meaning to the data. In our data set, column names are too long and complex, they may be difficult to understand, and chance of truncating the names in visualizations. Thus, renaming the columns can enhance the readability, significance, and consistency of our data, facilitating clear visualizations and better understanding [[Appendix](#)]

DATA VISUALIZATIONS

Question 1 - How does the distribution of BMI vary among different age groups and what does this reveal about potential health and wellness needs across these age groups?





Features Used - Calculated Field, Dual Axis Chart (Total Features = 2)

Explanation:

ACOF provided Height and Weight of each tenant residing in several building locations. With these values, we were able to calculate the Body Mass Index (BMI) of each tenant. This field will help ACOF identify which building location would need more attention on nutrition and fitness. If the BMI is higher, higher are the risks for certain diseases such as heart disease, high blood pressure, type 2 diabetes, gallstones, breathing problems, and certain cancers. To depict our analysis, we have used a Dual-axis chart, in which we have plotted the “Age Groups” on the x-axis, on the y-axis (drawn on the **left-hand side**) we have the Median of calculated BMI and on the y-axis (drawn on the **right-hand side**) we have the number of responses by each tenant. We converted the BMI into a “Median” measure that separates the higher half from the lower half of all the BMI values to get a better idea of the typical BMI.

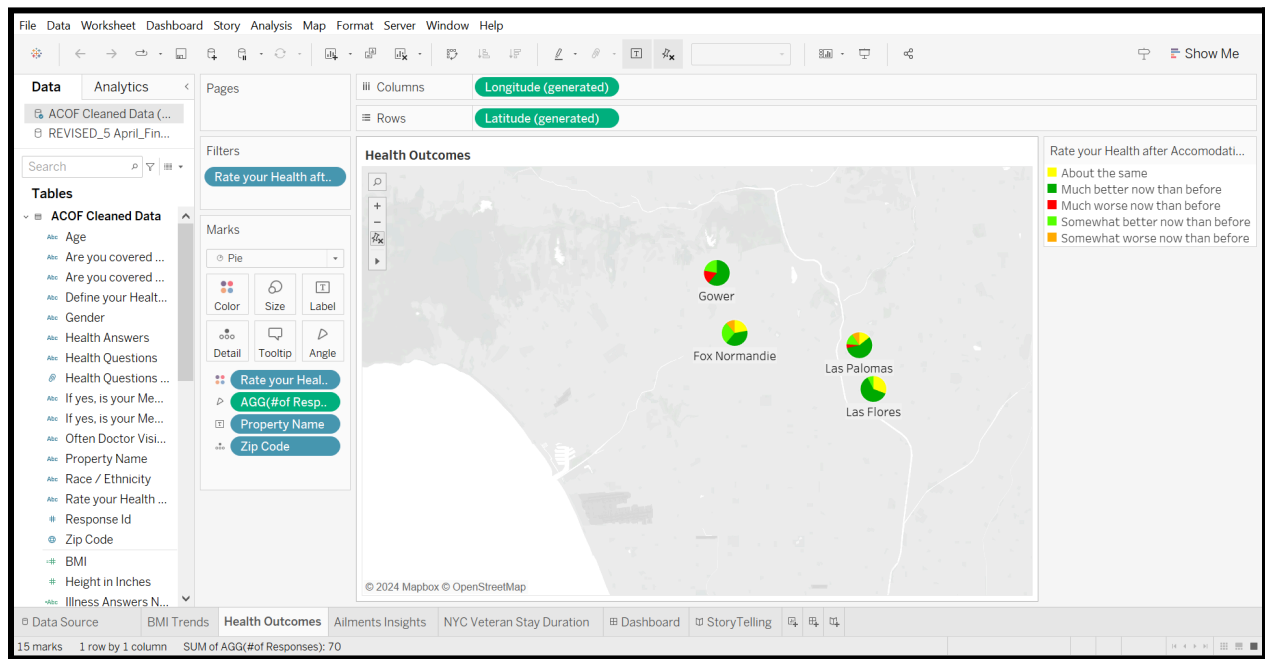
As a result of this visualization, 21-29 age group has a high median BMI, above 35, which indicates a tendency towards overweight or obesity for this group. The number of responses is low, under 5 responses. 30-39 age group shows a median BMI slightly below 35, indicating a similar trend as the 21-29 age group, with same number of responses that is 5.

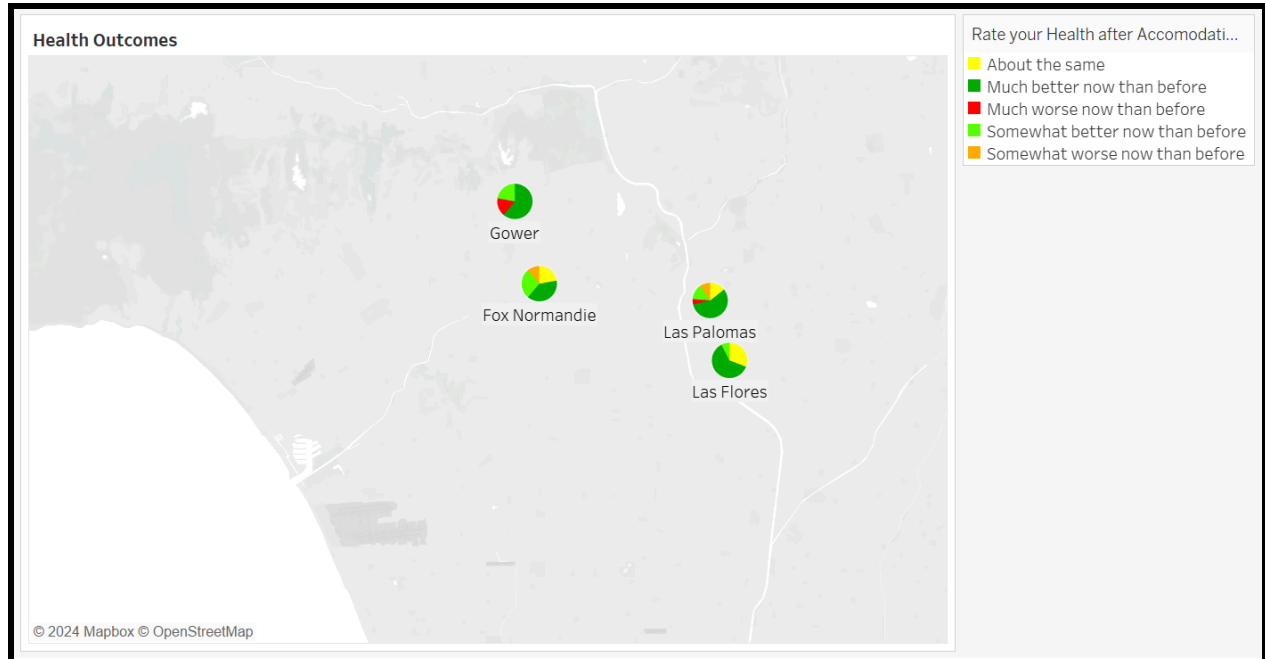
In the 40-49 age group, the median BMI value is lower as compared to the younger groups, around 29.5, but has the higher number of responses that is 17. The 50-59 age group, has the lowest median BMI of 26.2, with the highest number of responses around 28. This also means that the number of tenants are higher in this age group and their BMI indicates that these tenants are healthier as compared to others.

60 or Older Age group shows a median BMI of 28.4, suggesting a healthier average weight status relative to height compared to the younger age groups. The number of responses is also lower, close to 16.

To summarize, the tenants between the age groups of 21 - 29 and 30 - 39 have higher BMI index, therefore, will need more attention on nutrition and fitness.

Question 2 - How have health conditions of veteran tenants changed in all the building locations after getting accommodated?





Feature Used - Geographical Map (Total Feature = 1)

Explanation:

Each pie chart is placed on the map corresponding to geographical locations of the four buildings which are identified using a "Zip Code" field. The pie chart on the map is designed to depict the health conditions of homeless veterans after they have received accommodations from ACOF.

The size of the pie charts represent the “aggregate number of responses” received from each location. We have used color codes to depict the responses on the pie chart as follows:

Red: Much worse now than before | **Orange:** Somewhat worse now than before

Dark Green: Much better now than before | **Light Green:** Somewhat better now than before

Yellow: About the same

The pie chart at **Gower** has a small red slice, indicating that a minority of the veterans feel their health is much worse now than before. The presence of red suggests that there are indeed some individuals in Gower who believe that their health has declined, signaling a potential area for ACOF to investigate and improve services. While the majority seems to have a positive outcome (green and light green).

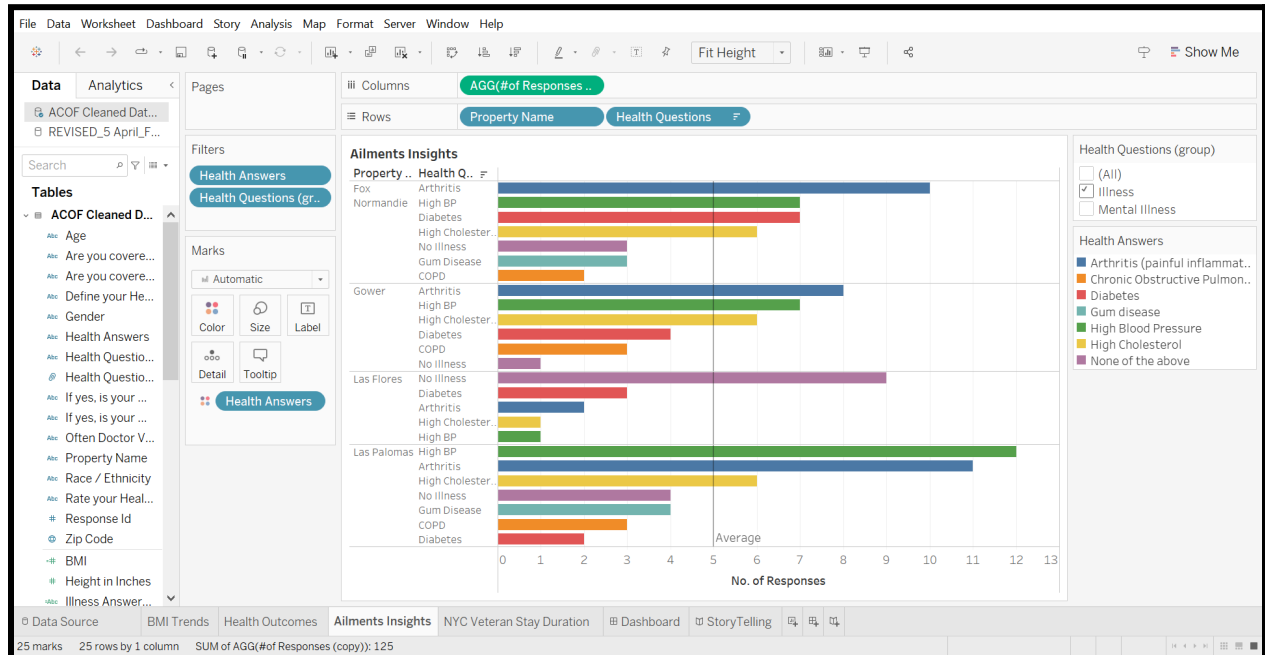
Contrary to the earlier observation, the pie chart for **Fox Normandie** does not contain a red segment. This means there are no reports of health being much worse than before from this location, which is a positive indication for ACOF's services there. The pie chart at **Las Palomas** shows a very small red segment, highlighting that there are a few veterans who feel their health has deteriorated. While the number may be small, it is important for ACOF to understand and address the concerns of these individuals.

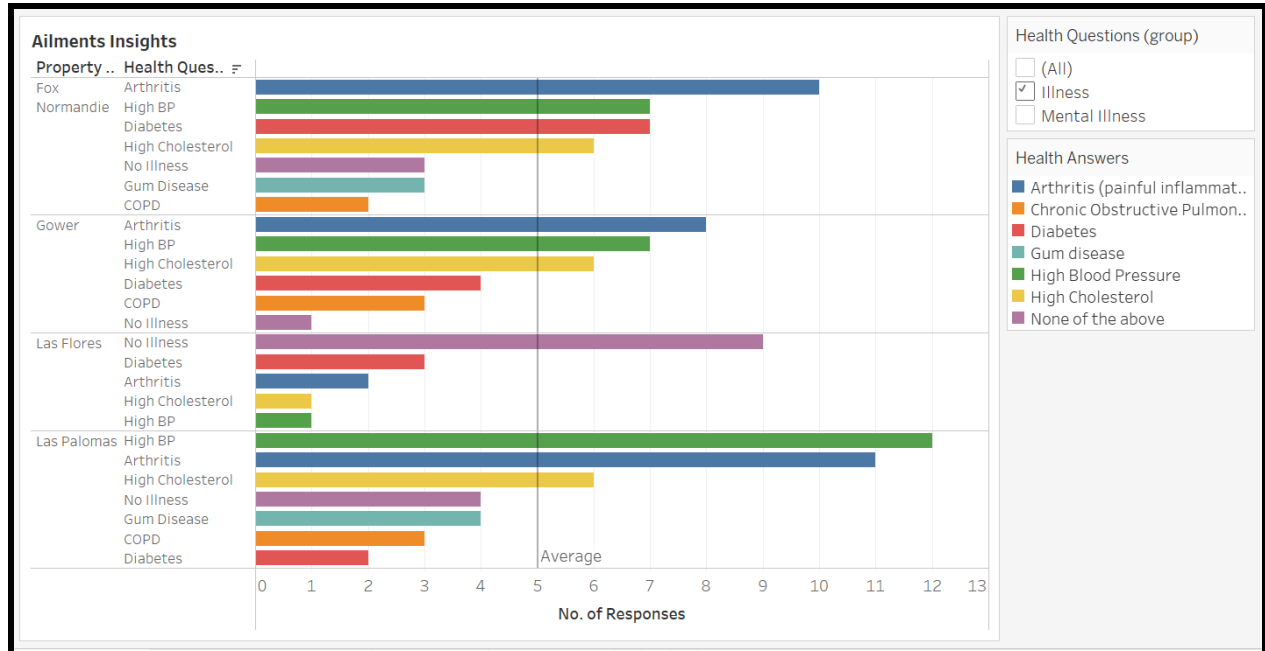
There is no red segment in the pie chart for **Las Flores**, indicating that veterans here did not report their health as being much worse post-accommodation.

To summarize, except for Gower and Las Palomas, where there are small proportions of veterans reporting a decline in health, the other locations do not exhibit this negative outcome.

For ACOF, this means focusing on understanding and improving services in Gower and Las Palomas, where the red segments suggest that not all veterans are experiencing positive health outcomes after accommodation.

Question 3 - What kinds of physical illnesses are prevalent among veteran tenants within specific building locations?





Features Used - **Pivot, Group and Reference Line** (Total Features = 3)

Explanation:

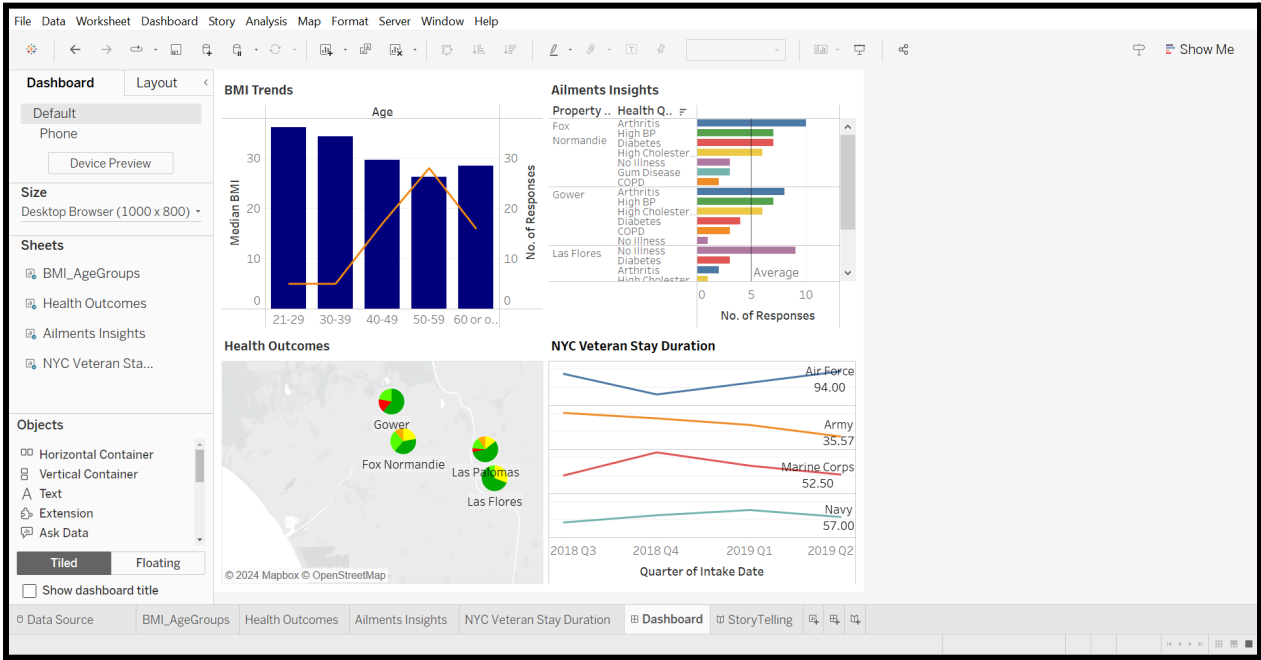
We used the **pivot** feature to combine all health-related survey questions and responses provided by tenants into separate columns: health questions and health answers. This was necessary since ACOF's survey form includes various types of illness questions, and in our analysis, we needed to consolidate all the health questions and respective responses. This new pivot column helps in our analysis by categorizing them into two groups: physical illness and mental illness using the **group** feature, allowing us to easily filter the physical illness-related questions and responses. We used a horizontal bar chart, depicting the "Distinct count of Response ID" on the x-axis and "Property name" and "Health questions" on the y-axis, to analyze the several types of physical illnesses that are prevalent among veteran tenants across different buildings.

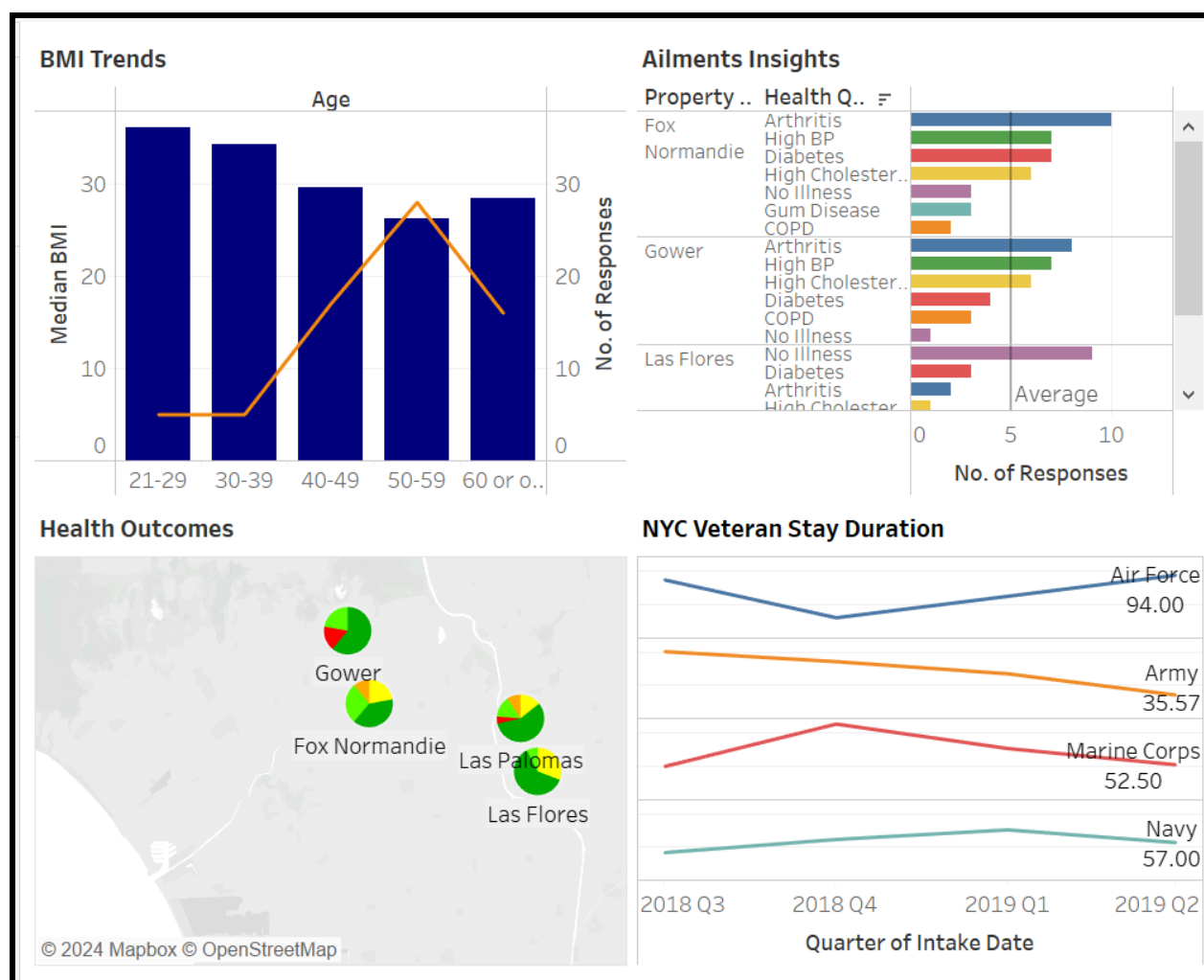
We have also included a **reference line** at the average number of responses to identify illnesses that are above average across the buildings.

As a result of this visualization, we found that more tenants than the average are suffering from arthritis, high blood pressure, high cholesterol, and diabetes in **Fox Normandie**.

Similarly, in **Las Palomas** and **Gower** buildings, more tenants than the average have arthritis, high blood pressure, and high cholesterol. However, most tenants in **Las Flores** are not suffering from any illness.

DASHBOARD





Explanation:

We have made our dashboard interactive by creating a filter where the Health outcome visualization serves as the source file, and the BMI trends and Ailments Insights serve as the target files. This facilitates the exploration of health outcomes, BMI trends, and ailment insights. Users can select specific data points on the pie chart of Health outcomes; subsequently, the remaining charts will be updated accordingly. Such a high level of interactivity enables understanding and action by presenting the data clearly, concisely, and also visually highlights key insights and recommendations.

In the fourth visual on the above dashboard we have used the **Date** feature. It displays a line chart illustrating the average duration of stay for homeless veterans across the different branches of the US military in the years 2018 and 2019 in the state of New York through the NYC Department of Veterans Services HSS VPC Program.

To create a line chart, we used the calculated field to compute the duration of stay of veteran tenants using formula: { DATEDIFF('day',[Intake Date],[Actual Move Out Date]) }, and we have used the date feature to plot the duration of stay across the quarter of years. On the x-axis, we represent Quarter of the intake date, while on the y-axis, we depict “Average duration of stay” and “Branch of services”. This chart provides insight into the average length of stay for different branches of the US military across various intake quarters. Some of the key findings from this vizualization is as follows:

Airforce: The average stays range from 87 days (2018 Q3) to 94 days(2019 Q2).

Army: Average stays vary from 101.33 days (2018 Q3) to 35.57 days (2019 Q2).

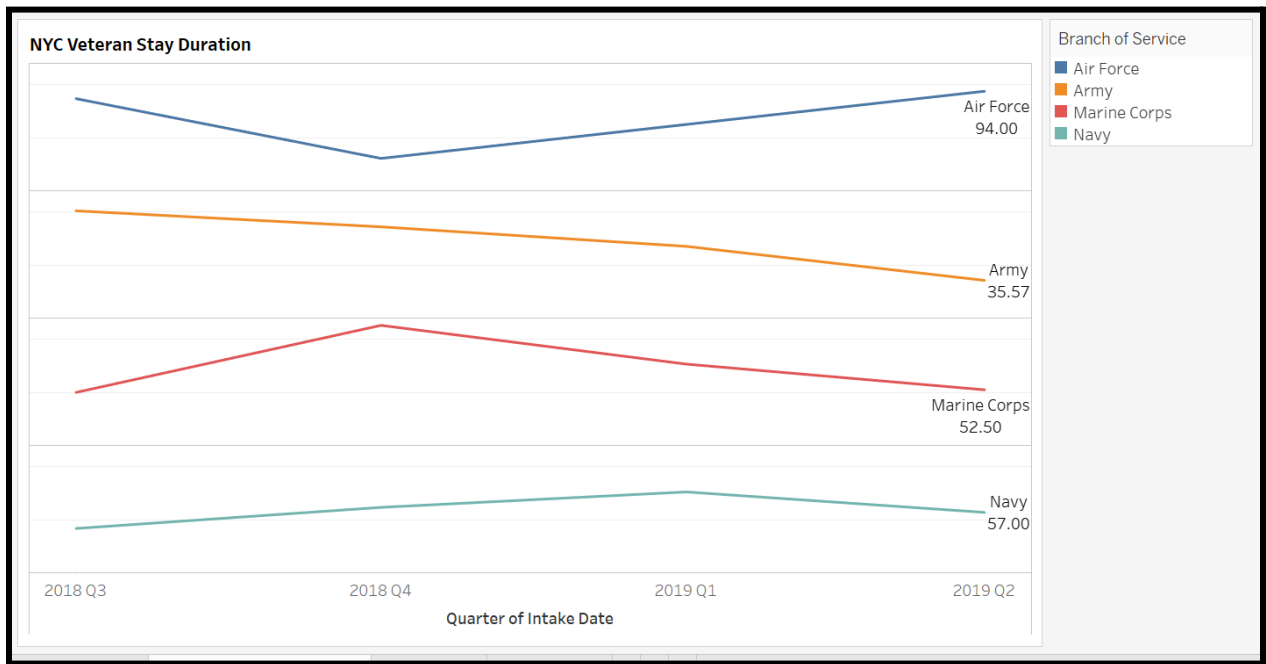
Marine Corps: Average stays vary from 50 days (2018 Q3) to 52.50 days (2019 Q2).

Navy: Average stays range from 41.8 days (2018 Q3) to 57 days (2019 Q2).

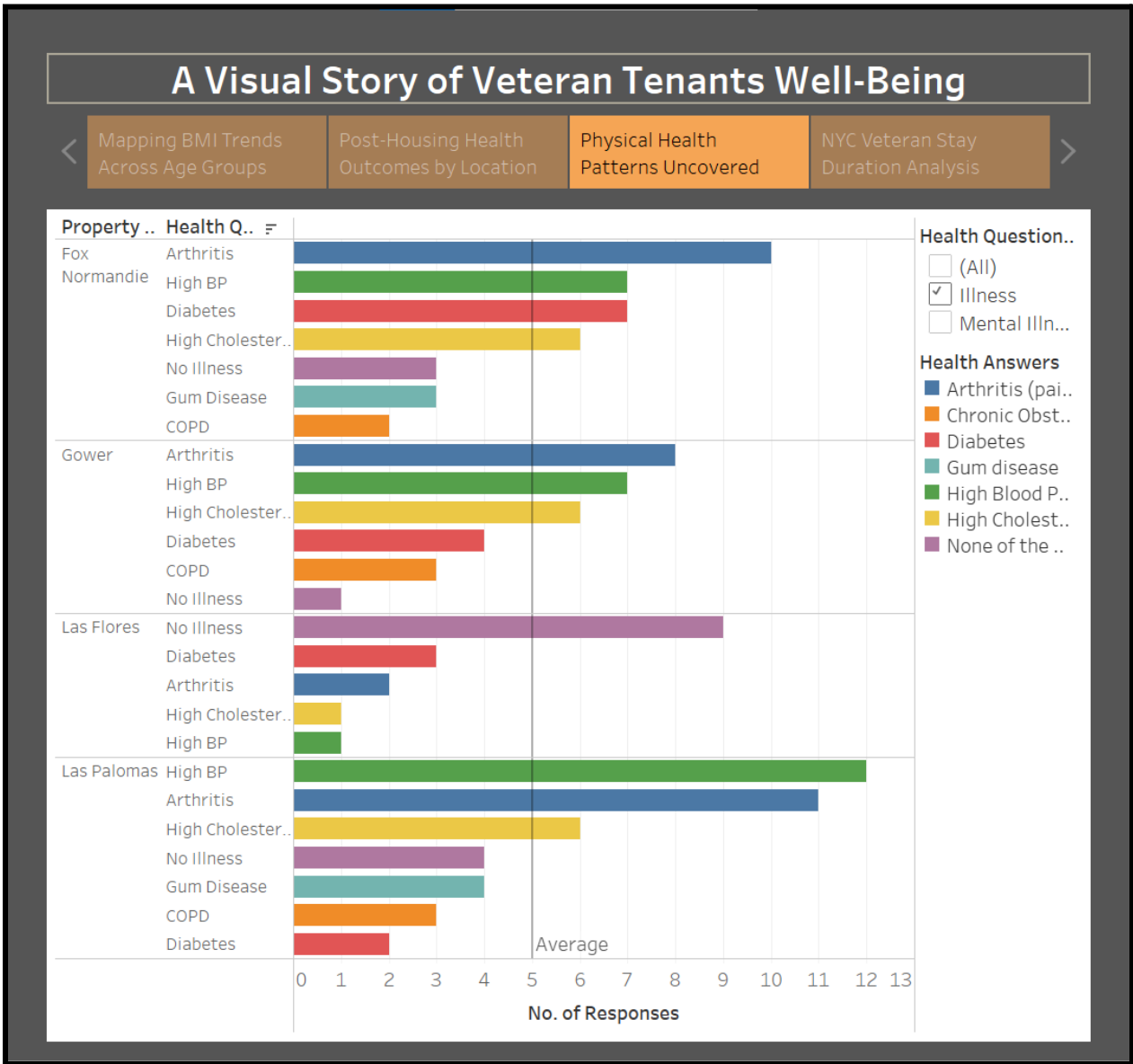
Across all branches, there’s considerable variation in average stays depending on the intake quarter.

To summarize, the **Air Force** veteran tenants generally have longer average stays compared to other branches, while the **Army** tends to have shorter stays on average. The **Marine** and **Navy** veteran tenants fall somewhere in between.

Cropped Screenshot of the Fourth Visual on Dashboard



STORY TELLING



A Community of Friends (ACOF) in Los Angeles, California, is dedicated to providing affordable housing for individuals and families at risk of homelessness or currently experiencing it. Their mission is to foster communities that empower people to regain their footing through housing and supportive services. ACOF provides support for all, whether they are classified as veterans or non-veterans. Tenant assessments are conducted through surveys across Los Angeles, with housing allocations based on various parameters such as age, ethnicity, nutrition levels, cooking knowledge, and insurance data.

Our team has utilized the dataset provided by ACOF to craft insightful visualizations that could significantly enhance ACOF's planning and improvement strategies.

One of our visualizations displays a horizontal bar chart with property names and health illnesses on the y-axis and number of responses on the x-axis. This portrays the count of tenants experiencing several chronic / non-chronic illnesses in each building location. Ten tenants in Fox Normandie suffer from Arthritis which is the highest among all other illnesses. If we consider the average of tenants, Arthritis, High BP, High cholesterol, and Diabetes are the common illnesses that prevail among the veteran tenants.

Moving on, our next visualization showcases the median of the BMI index in different age groups of tenants. Using a dual-axis plot, we were able to easily identify that age groups of 21-29 and 30 - 39 exceed the required BMI index, and there are some tenants that are on the verge of getting a higher BMI value. This insight suggests a pressing need for enhanced nutritional support and fitness programs for these tenants, potentially reducing their risk of illness.

Our third analysis focuses on the health outcomes of veteran tenants post getting housed by ACOF, offering valuable feedback on tenant satisfaction with the accommodations and services

provided. We created a pie chart with different color coding to show if the tenant's condition has improved or degraded after being allocated to the building locations. Through our analysis, ACOF can consider the tenants who voted "Much worse than before" for their accommodation and tailor services specifically to address their needs. Upon thorough research, we found that ACOF, a non-profit in Los Angeles, contrasts with New York City's Veteran Program Coordinator (VPC), a government led initiative focusing on homeless veterans.[\[1\]](#)

In our study, inspired by a January 2023 USA Facts report [\[2\]](#), we noted that California and New York are the top states with California having the highest numbers of individuals experiencing homelessness, and New York ranking second nationally. This report, along with findings from the U.S. Department of Veterans Affairs [\[3\]](#) which indicates that 50% of homeless veterans served in the Army. This prompted us to closely examine the specific situations of veterans in New York, through which we aimed to explore these findings from our dataset.

To this end, we focused our analysis on New York City's Veteran Program Coordinator (VPC), which enabled us to examine the average length of stay for veterans from various military branches. Our analysis reveals distinct patterns in the durations of stay, providing a nuanced view of the challenges faced by these individuals in different locales and among diverse groups. This investigation not only aligns with national data but also enhances our understanding of the unique aspects of veteran homelessness in New York City.

In the line chart, we displayed different US branch services with color coding to show the average duration of stay across the span of 2018 Q3 to 2019 Q2 in the city of New York. We found that Air Force veterans tend to have longer stays, while Army veterans have shorter stays, and Marine and Navy veterans' stays are intermediate.

If ACOF were to adopt strategies from the VPC program, their impact could be significantly amplified. The data indicating that Air Force veterans have the longest average stays suggests that they experience stable transitions, a model ACOF could replicate by forming partnerships with veteran organizations to ensure similar stability in their housing solutions. Moreover, by offering targeted employment and education support, ACOF could further assist veterans in integrating into civilian life. Additionally, the introduction of a peer coordinator role—a position filled by someone familiar with military life's intricacies—could provide invaluable personalized guidance and support, acting as a confidential advisor for navigating ACOF's health services.

According to the National Alliance to End Homelessness reports [\[4\]](#), there has been a notable 6% rise in homelessness in the U.S. since 2017, with California leading the way. This includes a spike in both chronic homelessness and unsheltered individuals. Such trends highlight the vital role of organizations like ACOF in providing essential housing and services in Los Angeles to those in need or at risk. Through careful examination of these data trends and patterns, ACOF can aim to advance their programs and initiatives to better support the homeless veteran population.

Last but not the least, we extend our deepest gratitude to ACOF for sharing such an enlightening dataset, and it was an honor to present our analyses for such a distinguished and impactful organization.

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APPENDIX

Old Headers	New Headers
Which ACOF building do you reside in?	Property Name
What is your age?	Age
Which is your gender?	Gender
Which race/ethnicity best describes you? (Please choose only one.)	Race / Ethnicity
What is your height?	Height
What is your weight?	Weight
Do you visit a doctor on a regular basis?	Often Doctor Visits?
Would you say that in general your health is:	Define your Health?
Little interest or pleasure in doing things	Interest in Daily Activities
Feeling down, depressed, or hopeless	Feeling Depressed?
Trouble falling or staying asleep, or sleeping too much	Trouble Sleeping?
Feeling tired or having little energy	Feeling Tired?
Poor appetite or overeating	Poor appetite/overeating
Feeling bad about yourself - or that you are a failure or have let yourself or your family down	Experiencing self-doubt?
Trouble concentrating on things, such as reading the newspaper or watching television	Trouble Focusing?
Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual	Moving /speaking slowly - feeling restless?
Thoughts that you would be better off dead or of hurting yourself in some way	Suicidal Thoughts?

Old Headers	New Headers
How would you rate your health now compared to not being housed?	Rate your Health after Accommodation?
Do you smoke cigarettes or cigars or use any other kinds of tobacco?	Do you Smoke?
Do you use any drugs or medicines to go to sleep, relax, calm down, feel better, or lose weight?	Do you consume Drugs?
High Blood Pressure:Below is a list of common health issues one may have. Please check any of the following if you think you may have these issues or are being treated for them:	Ailment 1- High Blood Pressure
High Cholesterol:Below is a list of common health issues one may have. Please check any of the following if you think you may have these issues or are being treated for them:	Ailment 2-High Cholesterol
Diabetes:Below is a list of common health issues one may have. Please check any of the following if you think you may have these issues or are being treated for them:	Ailment 3-Diabetes
Chronic Obstructive Pulmonary Disease (lung disease):Below is a list of common health issues one may have. Please check any of the following if you think you may have these issues or are being treated for them:	Ailment 4-Chronic Obstructive Pulmonary Disease
Arthritis (painful inflammation and stiffness of the joints):Below is a list of common health issues one may have. Please check any of the following if you think you may have these issues or are being treated for them:	Ailment 5-Arthritis
Gum disease:Below is a list of common health issues one may have. Please check any of the following if you think you may have these issues or are being treated for them	Ailment 6-Gum Disease
All of the above:Below is a list of common health issues one may have. Please check any of the following if you think you may have these issues or are being treated for them	All Ailments
None of the above:Below is a list of common health issues one may have. Please check any of the following if you think you may have these issues or are being treated for them	None Ailment