

DISEASE PREVALANCE & DEMOGRAPHIC PATTERNS

I worked on a dataset with 43778 rows & 7 columns, below is a sample (first 10 rows).

| Animal | Age | Temperature | Symptom 1 | Symptom 2 | Symptom 3 | Disease |
|---------|-----|-------------|--------------------|--------------------|--------------------|----------------|
| Cow | 3 | 103.1 | Depression | Painless lumps | Loss of appetite | Pneumonia |
| Buffalo | 13 | 104.5 | Painless lumps | Loss of appetite | Depression | Lumpy virus |
| Sheep | 1 | 100.5 | Depression | Painless lumps | Loss of appetite | Lumpy virus |
| Cow | 14 | 100.3 | Loss of appetite | Swelling in limb | Crackling sound | Blackleg |
| Sheep | 2 | 103.6 | Painless lumps | Loss of appetite | Depression | Pneumonia |
| Goat | 10 | 101.2 | Loss of appetite | Blisters on gums | Difficulty walking | Foot and mouth |
| Sheep | 6 | 103.3 | Loss of appetite | Depression | Painless lumps | Lumpy virus |
| Goat | 6 | 101.7 | Difficulty walking | Blisters on tongue | Loss of appetite | Foot and mouth |
| Buffalo | 9 | 102.5 | Depression | Painless lumps | Loss of appetite | Lumpy virus |
| Goat | 3 | 102.7 | Lameness | Blisters on mouth | Loss of appetite | Foot and mouth |

Four distinct Animal types

Total number of cows: 11254

Total number of buffalo: 11238

Total number of sheep: 10658

Total number of goat: 10628

Cows Dataset Information:

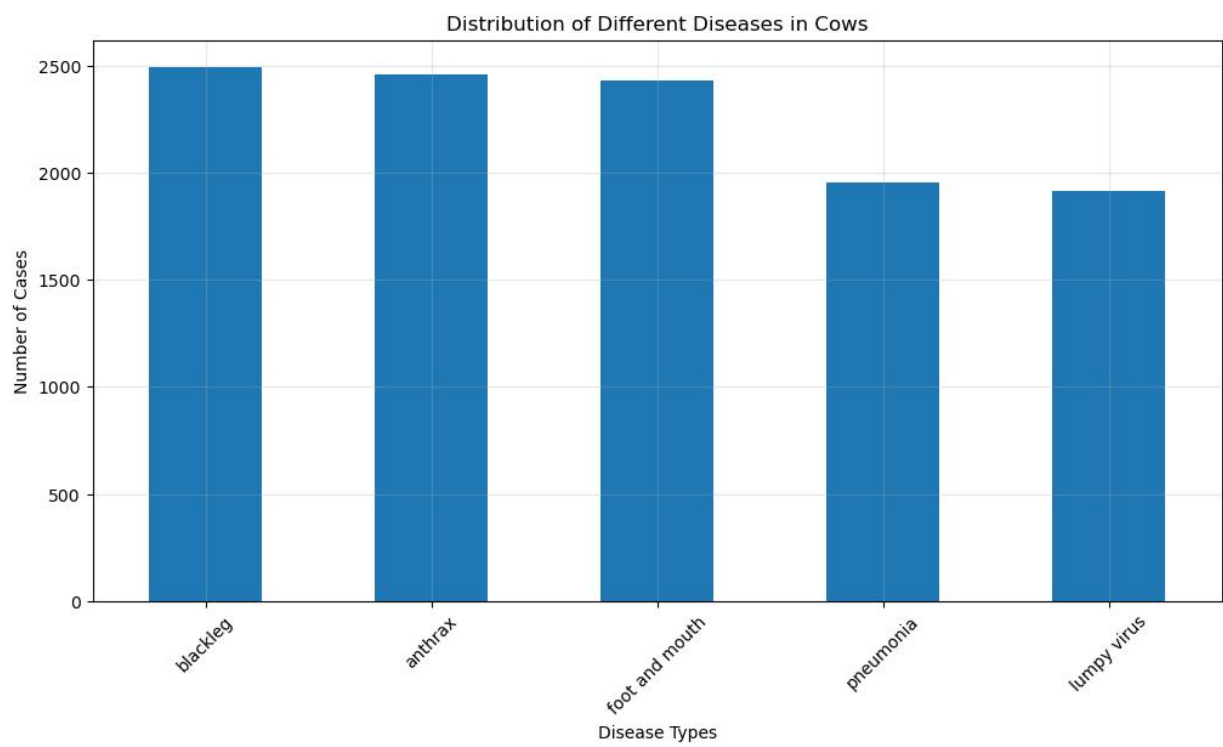
Total number of cow entries: 11254

Types of Diseases in the Dataset:

1. Pneumonia
2. blackleg
3. lumpy virus
4. anthrax

5. foot and mouth Disease

Disease Distribution: blackleg 2494, anthrax 2458, foot and mouth 2433, pneumonia 1955, lumpy virus 1914.

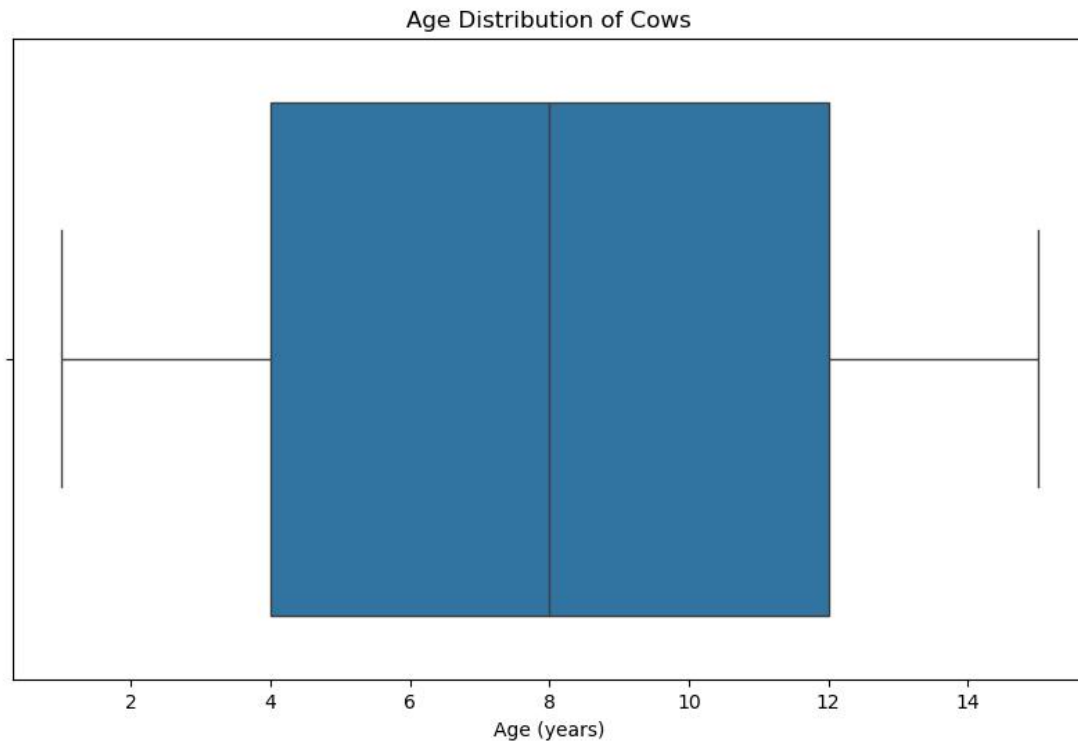
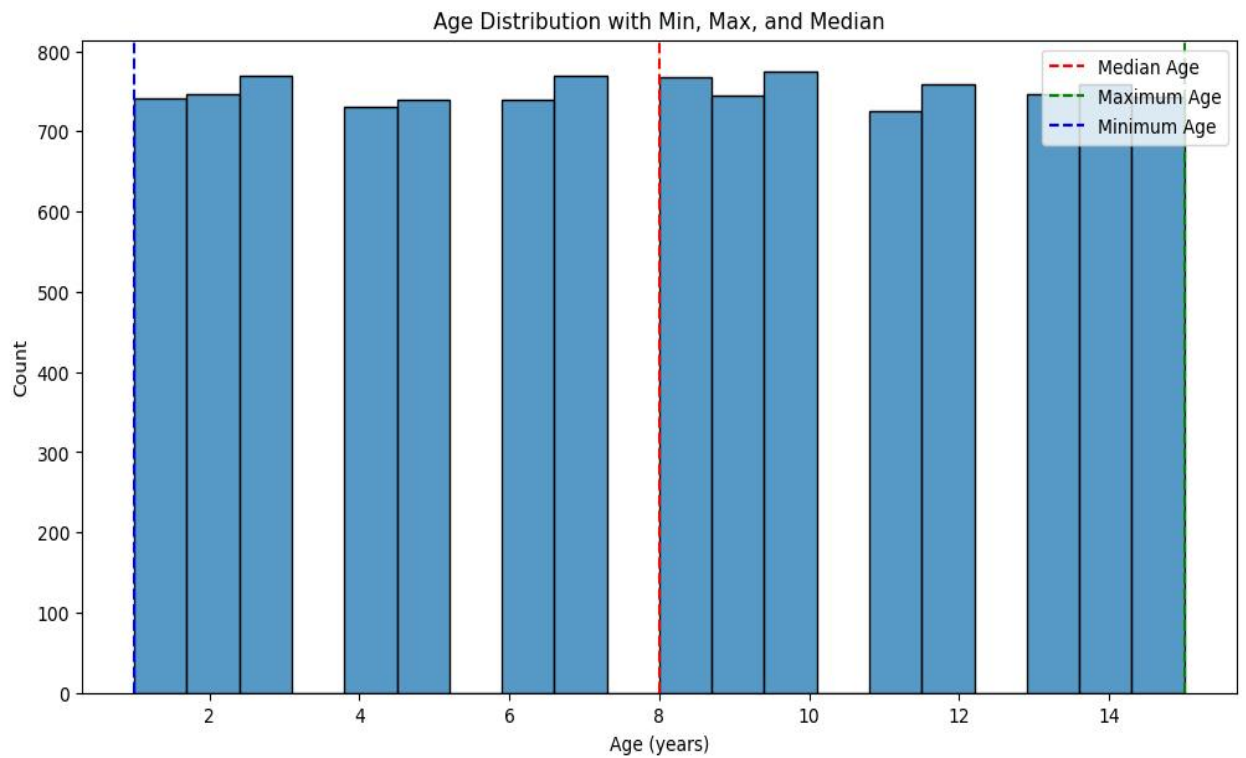


Age Statistics for Cows:

Maximum Age: 15.0 years

Minimum Age: 1.0 years

Median Age: 8.0 years



Distribution of Age Classes:

3-15 years 9766

1-2 years 1488

Maternity Status

Adults 9766

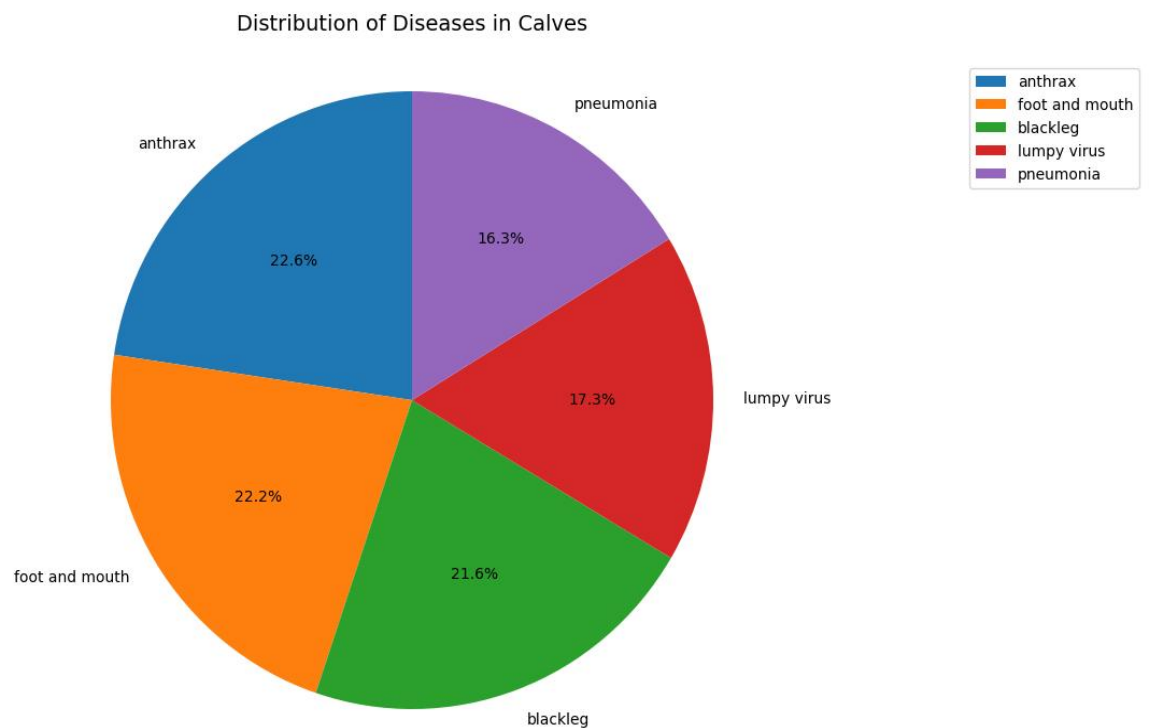
Calves 1488

Total number of calves: 1488

Percentage of calves in the population: 13.22%

Diseases in Calves: anthrax: 337 cases, foot and mouth: 330 cases, blackleg: 322 cases,, lumpy virus: 257 cases, pneumonia: 242 cases.

Disease Distribution in Calves (%): anthrax: 22.65% foot and mouth: 22.18% blackleg: 21.64% lumpy virus: 17.27% pneumonia: 16.26%

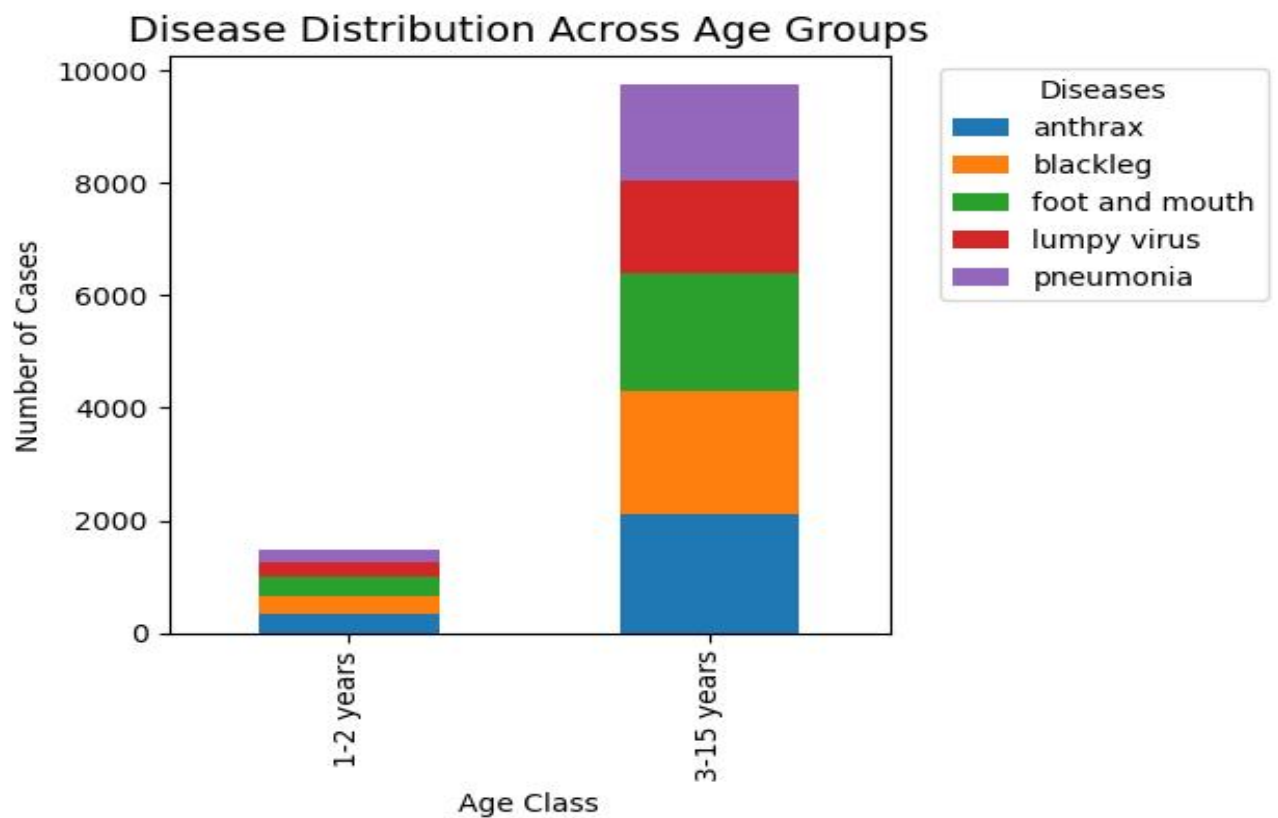


Total number of adult cows: 9766

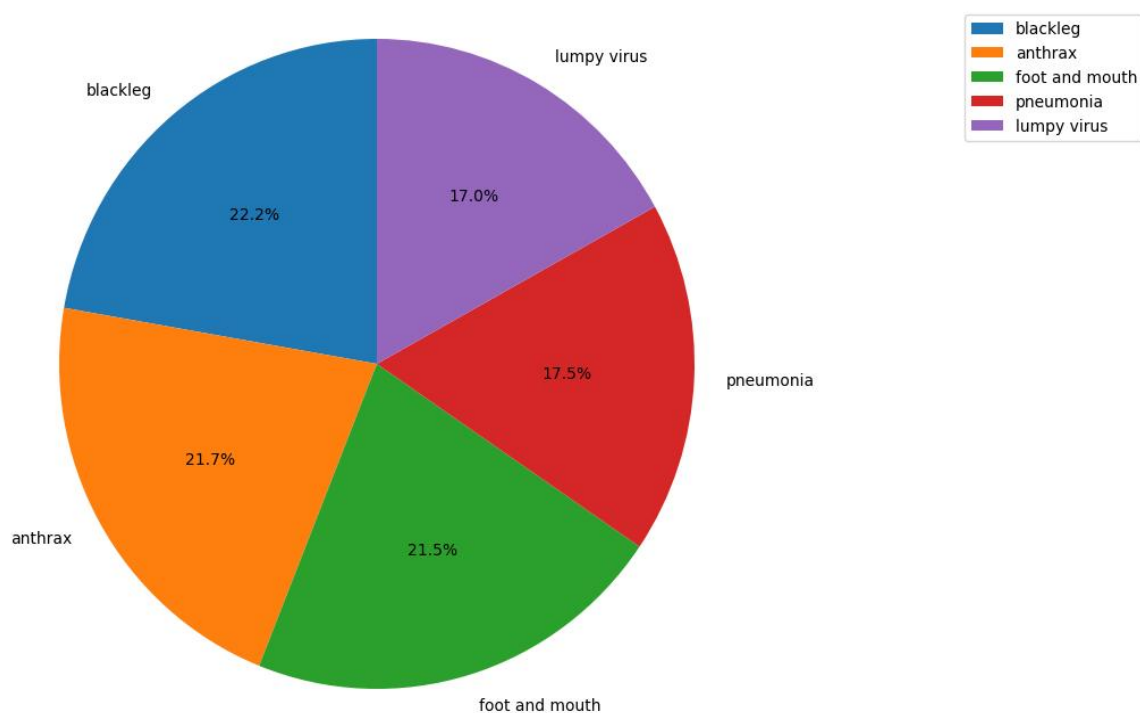
Diseases in Adult Cows: blackleg: 2172 cases, anthrax: 2121 cases, foot and mouth: 2103 cases, pneumonia: 1713 cases, lumpy virus: 1657 cases.

Disease Distribution in Adult Cows (%): blackleg: 22.24%, anthrax: 21.72%, foot and mouth: 21.53%, pneumonia: 17.54%, lumpy virus: 16.97%.

Total number of diseases found in adults: **5**
Most common disease: **blackleg (2172 cases)**



Distribution of Diseases in Adult Cows



| Disease Distribution by Age Class: Absolute Numbers | Anthrax | Blackleg | Foot and Mouth | Lumpy Virus | Pneumonia |
|---|---------|----------|----------------|-------------|-----------|
| 1-2 years | 337 | 322 | 330 | 257 | 242 |
| 3-15 years | 2121 | 2172 | 2103 | 1657 | 1713 |

| Percentage Distribution | Anthrax | Blackleg | Foot and Mouth | Lumpy Virus | Pneumonia |
|-------------------------|---------|----------|----------------|-------------|-----------|
| 1-2 years | 22.65 | 21.64 | 22.18 | 17.27 | 16.26 |
| 3-15 years | 21.72 | 22.24 | 21.53 | 16.97 | 17.54 |

Overall Most Prevalent Diseases:

blackleg: 2494 cases (22.16%)

anthrax: 2458 cases (21.84%)

foot and mouth: 2433 cases (21.62%)

pneumonia: 1955 cases (17.37%)

lumpy virus: 1914 cases (17.01%)

Disease Distribution Within Each Age Group (%):

| Disease Distribution Within Each Age Group (%) | Anthrax | Blackleg | Foot and Mouth | Lumpy Virus | Pneumonia |
|--|---------|----------|----------------|-------------|-----------|
| 1-2 years | 22.65 | 21.64 | 22.18 | 17.27 | 16.26 |
| 3-15 years | 21.72 | 22.24 | 21.53 | 16.97 | 17.54 |

Overall Disease Distribution:

The diseases are fairly evenly distributed in the population

Foot and mouth follows closely at 21.62%

Pneumonia and lumpy virus have slightly lower prevalence at around 17% each

Age Group Patterns:

The distribution is remarkably consistent across both age groups

Young cows (1-2 years) show slightly higher rates of:

Anthrax (22.65%)

Foot and mouth (22.18%)

Lumpy virus (17.27%)

Adult cows (3-15 years) show marginally higher rates of:

Blackleg (22.24%)

Pneumonia (17.54%)

Key Insights:

No disease shows strong age-specific preference (all ratios are close to 1.0)

The balanced distribution suggests these diseases affect both age groups similarly

The slight variations in prevalence between age groups are not clinically significant

This even distribution pattern indicates that age might not be a primary factor in disease susceptibility for these particular conditions.