# Hospital Wards and Patient Numbers in Germany Data Analysis Project

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## Purpose:

*The purpose of this project is to analyze the relationship between the number of hospital ward types in Germany and the corresponding patient numbers. The analysis aims to identify patterns in how ward availability aligns with patient demand. By comparing these ratios across different ward categories, the project seeks to uncover potential imbalances in the healthcare system. Specifically, the findings may indicate whether certain ward types are underrepresented or overrepresented relative to patient needs.*

Scope / Major Project Activities:

|  |  |
| --- | --- |
| Activity | Description |
| Define  Primary Variables | + total number of available beds per ward type  + total number of patient admissions per ward type  + create initial ratios by comparing capacity with demand |
| Identify  Influencing Factors | + explore additional factors that may affect the balance of   capacity and demand.  + e.g. length of stay, regional differences, seasonal variation |
| Data Collection | + gather hospital ward and patient statistics from reliable   sources *(e.g. federal health reports, hospital databases)* |
| Data Preparation | + clean, structure and validate the dataset for analysis |
| Analysis | + calculate ward availability/patient numbers ratios  + compare patterns across ward types |
| Visualization | + visualize findings with charts for clarity and interpretability |
| Interpretation | + identify wards with potential under- or overrepresentation |
| Insights | + highlight areas where healthcare capacity does not align with   the patient demand |

## This project does not include

*There is no inclusion of financial values planned. There will be no forecasting about the development of values. The focus will explicitly be on the healthcare system of Germany.*

## Deliverables:

|  |  |
| --- | --- |
| Deliverable | Description/ Details |
| Raw Data Accessed | + primary and secondary data collected from hospital statistics  + data sources documented and available |
| Cleaned Dataset | + missing values addressed  + irrelevant observations removed  + datasets merged for compatibility  + final dataset ready for analysis |
| Calculations Completed | + ratios of bed availability to patient admissions per ward type  computed and patterns identified for comparison |
| Visualizations Produced | + clear charts and graphs showing ratios  + differences across ward types  + identified imbalances |
| Analytical Report | + written summary interpreting findings  + highlighting potential under-/overrepresentation of ward types |

## Schedule Overview / Major Milestones:

|  |  |  |
| --- | --- | --- |
| Milestone | Expected Completion Date | Description/Details |
| Data Collection Completed | Day 2 | *All primary variables and influencing factors gathered* |
| Data Preparation Completed | Day 4 | *Dataset cleaned, validated, and ready for analysis* |
| Calculations Completed | *Day 5* | *Ratios calculated, patterns identified* |
| Visualizations Finished | *Day 7* | *Charts and Graphs prepared for interpretation* |
| Analytical Report | *Day 8* | *Written summary of key results and insights* |

## \*Estimated date for completion:

## 2025.09.06

## *\* If all goes well and I have everything I need*