


Solving an SDG Problem with Data

This presentation outlines a data-driven approach to address an SDG problem, focusing on SDG 3: Good Health and Well-being. The project utilizes a relational database to analyze health trends and create an interactive dashboard to demonstrate key insights.

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SDG Alignment

This project aligns with SDG 3 by aiming to improve healthcare data analysis and promote better health outcomes. By understanding health trends and identifying areas for improvement, we can contribute to achieving better health and well-being for all.

1

Goal 3.1

Reduce the maternal mortality ratio globally.

2

Goal 3.2

End preventable deaths of newborns and children under 5 years of age.

3

Goal 3.4

Reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination.

4

Goal 3.8

Achieve universal health coverage.



Problem Definition

The project focuses on addressing the lack of comprehensive and accessible healthcare data in a specific community. This limited data hinders accurate analysis of health trends and the development of targeted interventions.

Limited Data

Limited access to comprehensive health data poses a significant challenge in understanding the health needs of the community.

Inefficient Analysis

Lack of robust data analysis tools hinders the identification of health trends and the development of effective interventions.

Suboptimal Decision Making

Without accurate and timely data, healthcare decision-making becomes inefficient, leading to suboptimal health outcomes.

Database Design and ERD

A relational database named "Health" was designed to store and manage healthcare data. It includes entities such as "Patients", "HealthMetrics", "Conditions", and "Treatments".

Entity	Description
Patients	Information about patients, including demographics, contact details, and medical history.
HealthMetrics	Records of various health measurements, such as blood pressure, glucose levels, and weight.
Conditions	A list of diagnosed conditions or illnesses.
Treatments	Information about medications, therapies, and procedures prescribed to patients.

SQL Queries and Data Retrieval

SQL queries were used to retrieve and analyze health data from the database. Examples include querying for patients' medical history, identifying trends in health metrics, and analyzing health outcomes based on conditions.

Patient Information

```
SELECT * FROM Patients  
WHERE Age > 65;
```

This query retrieves information for patients older than 65 years old.

Health Trend Analysis

```
SELECT AVG(GlucoseLevel)  
FROM HealthMetrics WHERE  
Condition = 'Diabetes';
```

This query calculates the average glucose level for patients diagnosed with diabetes.

Health Outcome Analysis

```
SELECT COUNT(DISTINCT  
PatientID) FROM HealthMetrics  
WHERE Treatment = 'Insulin';
```

This query counts the number of unique patients who have been prescribed insulin.

Excel Analysis and Visualization

Data retrieved from the SQL queries was imported into Excel for further analysis. Pivot tables, charts, and dashboards were used to visualize the data and identify key insights.

1

Pivot Tables

Pivot tables were used to summarize and analyze the data, revealing patterns and trends.

2

Charts and Graphs

Various chart types, such as bar charts, line graphs, and scatter plots, were used to visualize the data and make it easier to understand.

3

Dashboards

Interactive dashboards were created to display key metrics and trends in a user-friendly and insightful manner.

