

DIABETES PATIENT ANALYSIS REPORT

Comprehensive Clinical Feature Analysis

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Generated by Insight Hub Analysis Program - <https://github.com/MwendaKE/InsightHub>

Executive Summary

- Comprehensive analysis of 752 patient records
- Diabetes prevalence: 35.1% (264 patients)
- Non-diabetic: 488 patients
- Glucose difference: +31.7 mg/dL in diabetic patients
- BMI difference: +4.5 in diabetic patients
- Age difference: +5.7 years
- Pregnancies difference: +1.5

Detailed Statistics

GLUCOSE LEVELS:

Diabetic average: 142.5 mg/dL

Non-diabetic average: 110.8 mg/dL

Difference: +31.7 mg/dL

BMI ANALYSIS:

Diabetic average: 35.4

Non-diabetic average: 30.9

Difference: +4.5

OTHER FACTORS:

Average age (diabetic): 37.0 years

Average age (non-diabetic): 31.3 years

Average pregnancies (diabetic): 4.8

Average pregnancies (non-diabetic): 3.3

Feature Correlation Analysis

Top Predictive Features (correlation with diabetes outcome):

1. Glucose: 0.494
2. BMI: 0.310
3. Age: 0.233
4. Pregnancies: 0.213
5. DiabetesPedigreeFunction: 0.178
6. Insulin: 0.130
7. SkinThickness: 0.070
8. BloodPressure: 0.051

Clinical Recommendations & Insights

1. RISK ASSESSMENT:

- Focus on patients with glucose levels >126 mg/dL
- Monitor individuals with BMI > 30 closely
- Consider age and pregnancy history in assessment

2. PREVENTION STRATEGIES:

- Weight management programs for high-BMI individuals
- Regular glucose monitoring for at-risk patients
- Lifestyle modification education

3. EARLY DETECTION:

- Regular screening for patients with multiple risk factors
- Use feature correlations for risk stratification
- Implement predictive modeling for early intervention