```
lt



csv"
_path, encoding="latin1", low_memory=False)


= pd.to_datetime(df_lab_new["Date_Collected"], errors="coerce")
= pd.to_numeric(df_lab_new["Numeric_Result"], errors="coerce")


new['Date_Collected'].min().year} - {df_lab_new['Date_Collected'].max().year})"


f_lab_new["Test_Name"].str.contains("Cholesterol", case=False, na=False)].dropna(subset=["Numeric_Result"])
esterol_df["Date_Collected"].dt.year
ol_df.groupby("Year")["Numeric_Result"].mean()


t_Name"].value_counts().head(10)

holesterol Test Results Over Time
e=(10, 5))
ex, cholesterol_trend.values, marker="o", linestyle="-", color="red")
terol Level (mg/dL)")
sterol Test Results Over Time {time_period_new}")
ax.set_xticks(np.arange(min(cholesterol_trend.index), max(cholesterol_trend.index) + 1, 5))
ax.spines['top'].set_visible(False)
ax.spines['right'].set_visible(False)
ax.grid(False)
plt.show()

# Visualization 2: Distribution of Different Lab Tests
fig, ax = plt.subplots(figsize=(12, 6))
ax.barh(test_counts.index[::-1], test_counts.values[::-1], color="skyblue")
ax.set_xlabel("Number of Tests Conducted")
ax.set_title(f"Top 10 Most Common Lab Tests {time_period_new}")
ax.spines['top'].set_visible(False)
ax.spines['right'].set_visible(False)
ax.xaxis.set_label_position('top')
ax.xaxis.tick_top()
ax.grid(False)
plt.show()

# Visualization 3: Histogram of Cholesterol Levels
fig, ax = plt.subplots(figsize=(10, 5))
ax.hist(cholesterol_df["Numeric_Result"], bins=20, color="purple", alpha=0.7, edgecolor="black")
ax.set_xlabel("Cholesterol Level (mg/dL)")
ax.set_ylabel("Frequency")
ax.set_title(f"Distribution of Cholesterol Test Results {time_period_new}")
ax.spines['top'].set_visible(False)
ax.spines['right'].set_visible(False)
ax.grid(False)
plt.show()
```

Trend of Cholesterol Test Results Over Time (2005 - 2014)