DAISy Cocaine Usage Statistics Report

1. Introduction

This report provides a comprehensive analysis of cocaine usage within the DAISy dataset, covering various aspects such as overall usage rates, distribution across different drug types, user characteristics, and trends over time. The dataset comprises a total of 32,939 records, spanning from October 23, 2020, to March 31, 2023.

2. Basic Statistics

Total Records

The dataset contains a total of 32,939 records.

Date Range

The data spans from October 23, 2020, to March 31, 2023.

3. Cocaine Usage Statistics

Overall Cocaine Usage Rate

- **Number of Cocaine Users**: 5,245
- **Percentage of All Drug Users**: 26%

Cocaine as a Main Drug

- **Cocaine - Powder**:
  - **Records where cocaine is one of the main drugs**: 1,894
  - **Percentage among cocaine users**: 36.1%

- **Cocaine - Crack**:
  - **Records where cocaine is one of the main drugs**: 3,410
  - **Percentage among cocaine users**: 65%

4. Characteristics of Cocaine Users

Comorbidity with Opioids

- **Cocaine users also using opioids**: 2,972 (56.7%)

Injection Behavior

The injection behavior distribution among cocaine users is as follows:

- **Never**: 1,671 (31.9%)
- **Yes in the last month**: 1,317 (25.1%)
- **Yes previous to the last month**: 2,257 (43.0%)

Accommodation Status

The accommodation status distribution among cocaine users is as follows:

- **Homeless - Roofless**: 97 (1.8%)
- **Homeless - Temporary**: 583 (11.1%)
- **In Prison/YOI**: 735 (14.0%)
- **Looked After Accommodation**: 12 (0.2%)
- **Owned/rented - at risk**: 377 (7.2%)
- **Owned/rented - stable**: 3,313 (63.2%)
- **Residential Rehab**: 4 (0.1%)
- **Supported Accommodation**: 124 (2.4%)

5. Cocaine Use Routes

The distribution of cocaine use routes among cocaine users is as follows:

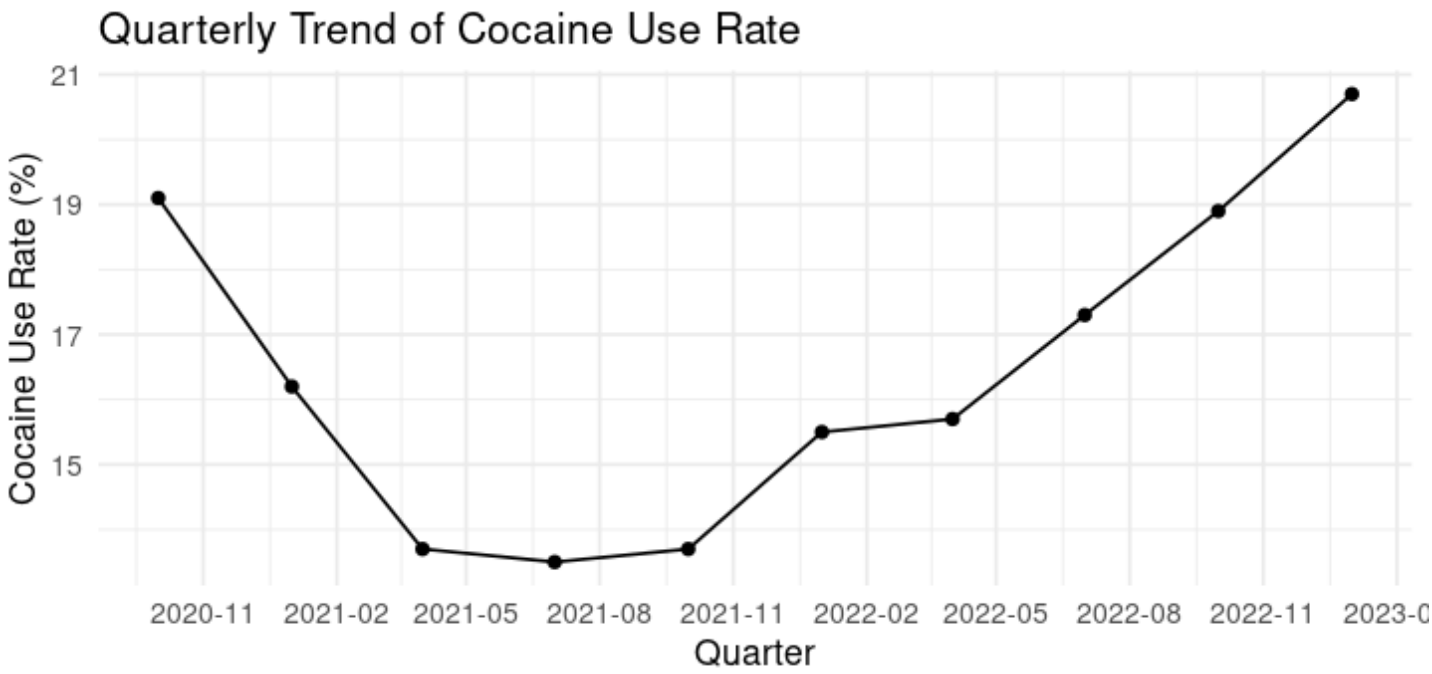
- **Injecting**: 1,660 (15.4%)

- **Nasal**: 1,316 (12.2%)
- **Oral**: 2,218 (20.6%)
- **Other**: 84 (0.8%)
- **Smoke**: 5,515 (51.1%)

6. Trends Over Time (by Quarter)

The quarterly trend of cocaine usage rate is analyzed based on the dataset, with the following results:

Quarter	Total Cases	Cocaine Users	Cocaine Rate (%)
2020-10-01	267	51	19.1
2021-01-01	1,031	167	16.2
2021-04-01	4,395	602	13.7
2021-07-01	4,725	638	13.5
2021-10-01	4,162	571	13.7
2022-01-01	3,845	596	15.5
2022-04-01	3,699	579	15.7
2022-07-01	3,871	668	17.3
2022-10-01	3,495	659	18.9
2023-01-01	3,449	714	20.7



7. Prescription Drug Use

The prescription drug use among cocaine users is as follows:

- **Prescribed Opioids**: 4,056 (77.3%)
- **Prescribed OST**: 4,042 (77.1%)
- **Any Prescription for Substance Abuse**: 4,161 (79.3%)

8. Conclusion

The analysis reveals a significant presence of cocaine usage within the DAISy dataset, with a notable increase in the usage rate over the quarters. The majority of cocaine users also use opioids (56.7%), and a substantial proportion have engaged in injection behavior. The accommodation status shows that a significant number of cocaine users are homeless or in unstable housing conditions. The primary route of cocaine use is smoking, accounting for over 50% of users.

Code block

```
# DAISy Data Analysis Script
# Goal: Count the number of cocaine users and perform preliminary analysis

# 1. Load necessary libraries
library(tidyverse)
```

```r
library(lubridate)
library(haven)

# 2. Data preparation
# Assume the data is already loaded as lookup_DAISy
daisy_data <- lookup_DAISy

# 3. Basic statistics
cat("=== Basic Statistics of DAISy Data ===\n")
cat("Total records:", nrow(daisy_data), "\n")
cat("Date range:",
    as.character(min(daisy_data$assessment_date, na.rm = TRUE)), "to",
    as.character(max(daisy_data$assessment_date, na.rm = TRUE)), "\n\n")

# 4. Cocaine usage statistics
cat("=== Cocaine Usage Statistics ===\n")

# 4.1 Overall cocaine usage rate
cocaine_users <- daisy_data %>%
  filter(ill_cocaine == 1) %>%
  nrow()

total_users <- daisy_data %>%
  filter(ill_anydrug == 1) %>%
  nrow()

cat("Number of cocaine users:", cocaine_users, "\n")
cat("Percentage of all drug users:", round(cocaine_users / total_users * 100,
1), "%\n\n")

# 4.2 Cocaine as a main drug



cocaine_as_main <- daisy_data %>%
  filter(drug_type_description_1 == "Cocaine - powder" |
           drug_type_description_2 == "Cocaine - powder" |
           drug_type_description_3 == "Cocaine - powder" |
           drug_type_description_4 == "Cocaine - powder" |
           drug_type_description_5 == "Cocaine - powder") %>%
  nrow()

cat("Records where cocaine is one of the main drugs:", cocaine_as_main, "\n")
cat("Cocaine - powder Percentage among cocaine users:", round(cocaine_as_main
/ cocaine_users * 100, 1), "%\n\n")

cocaine_as_main <- daisy_data %>%
```

```r
  filter(drug_type_description_1 == "Cocaine - crack" |
           drug_type_description_2 == "Cocaine - crack" |
           drug_type_description_3 == "Cocaine - crack" |
           drug_type_description_4 == "Cocaine - crack" |
           drug_type_description_5 == "Cocaine - crack") %>%
  nrow()

cat("Records where cocaine is one of the main drugs:", cocaine_as_main, "\n")
cat("Cocaine - powder Percentage among cocaine users:", round(cocaine_as_main
/ cocaine_users * 100, 1), "%\n\n")


# 5. Characteristics of cocaine users
cocaine_users_data <- daisy_data %>%
  filter(ill_cocaine == 1)

cat("\n=== Characteristics of Cocaine Users ===\n")

# 5.1 Comorbidity with opioids
opioid_comorbidity <- cocaine_users_data %>%
  summarize(
    with_opioids = sum(ill_opioids == 1),
    percent = round(with_opioids / nrow(cocaine_users_data) * 100, 1)
  )

cat("Cocaine users also using opioids:",
    opioid_comorbidity$with_opioids,
    paste0("(", opioid_comorbidity$percent, "%)"), "\n")

# 5.2 Injection behavior
injection_stats <- cocaine_users_data %>%
  count(assessment_injection_history_description) %>%
  mutate(percent = round(n / sum(n) * 100, 1))

cat("\nInjection behavior distribution:\n")
print(injection_stats)

# 5.3 Accommodation status
accom_stats <- cocaine_users_data %>%
  count(assessment_accommodation_description) %>%
  mutate(percent = round(n / sum(n) * 100, 1))

cat("\nAccommodation status distribution:\n")
print(accom_stats)

# 6. Cocaine use routes
route_stats <- bind_rows(
```

```r
    cocaine_users_data %>%
      count(drug_route_description_1) %>%
      rename(route = drug_route_description_1),

    cocaine_users_data %>%
      count(drug_route_description_2) %>%
      rename(route = drug_route_description_2),

    cocaine_users_data %>%
      count(drug_route_description_3) %>%
      rename(route = drug_route_description_3)
  ) %>%
    filter(!is.na(route)) %>%
    group_by(route) %>%
    summarise(n = sum(n)) %>%
    mutate(percent = round(n / sum(n) * 100, 1))

  cat("\nCocaine use route distribution:\n")
  print(route_stats)

  # 7. Trends over time (by quarter)
  if (!all(is.na(daisy_data$assessment_date))) {
    quarterly_trend <- daisy_data %>%
      mutate(quarter = floor_date(assessment_date, "quarter")) %>%
      filter(!is.na(quarter)) %>%
      group_by(quarter) %>%
      summarize(
        total_cases = n(),
        cocaine_users = sum(ill_cocaine == 1, na.rm = TRUE),
        cocaine_rate = round(cocaine_users / total_cases * 100, 1)
      )

    cat("\n=== Quarterly Trend of Cocaine Use ===\n")
    print(quarterly_trend)

    # Visualization
    ggplot(quarterly_trend, aes(x = quarter, y = cocaine_rate)) +
      geom_line() +
      geom_point() +
      labs(title = "Quarterly Trend of Cocaine Use Rate",
           x = "Quarter", y = "Cocaine Use Rate (%)") +
      theme_minimal() +
      scale_x_date(date_breaks = "3 months", date_labels = "%Y-%m")
  } else {
    cat("\nDate data is incomplete, unable to analyze trend\n")
  }

```

```r
# 8. Prescription drug use
prescription_stats <- cocaine_users_data %>%
  summarize(
    prescribed_opioids = sum(pres_depdrug_opioids == 1),
    prescribed_ost = sum(pres_depdrug_ost == 1),
    any_prescription =
sum(assessment_has_been_prescribed_meds_for_substance_abuse_description ==
"Yes")
  ) %>%
  mutate(across(everything(), ~paste0(.x, " (", round(.x /
nrow(cocaine_users_data) * 100, 1), "%)")))

cat("\nPrescription drug use:\n")
print(prescription_stats)

# 9. Save key results
results <- list(
  total_cocaine_users = cocaine_users,
  cocaine_rate = round(cocaine_users / total_users * 100, 1),
  cocaine_as_main = cocaine_as_main,
  opioid_comorbidity = opioid_comorbidity,
  injection_stats = injection_stats,
  accom_stats = accom_stats,
  route_stats = route_stats,
  prescription_stats = prescription_stats
)

# Save as RDS file
saveRDS(results, "Temp/Fan/daisy_cocaine_analysis_results.rds")

cat("\nAnalysis complete. Results saved as
daisy_cocaine_analysis_results.rds\n")

```