SDMD Cocaine Usage Statistics Report

1. Introduction

This report provides a comprehensive analysis of cocaine usage within the SDMD dataset, covering various aspects such as overall usage rates, distribution across different drug positions, user characteristics, and trends over time. The dataset comprises a total of 258,016 records, spanning from 2009 to 2021.

2. Basic Statistics

Total Records

The dataset contains a total of 258,016 records.

Date Range

The data spans from 2009 to 2021.

3. Overall Cocaine Usage Rate

- **Number of Cocaine Users**: 15,333
- **Percentage of All Drug Users**: 12.6%

4. Distribution of Cocaine in Five Drug Positions

- 2201（Cocaine）
- 2202（Crack cocaine）
- 2203（Cocaine powder）

The dataset includes five main drug positions (`i1` to `i5`), and the distribution of cocaine across these positions is as follows:

- **Position 1**: 14,150
- **Position 2**: 20,326
- **Position 3**: 4,827
- **Position 4**: 830
- **Position 5**: 132

5. Characteristics of Cocaine Users

Comorbidity with Opioids

- **Cocaine Users Also Using Opioids**: 10,820 (70.6%)

Injection Behavior

The injection behavior distribution among cocaine users is as follows:

- **Missing**: 6,130 (40.0%)
- **Injected in the Past Month**: 3,926 (25.6%)
- **Injected in the Past, but Not in the Previous Month**: 3,083 (20.1%)
- **Has Never Injected**: 2,194 (14.3%)

Accommodation Status

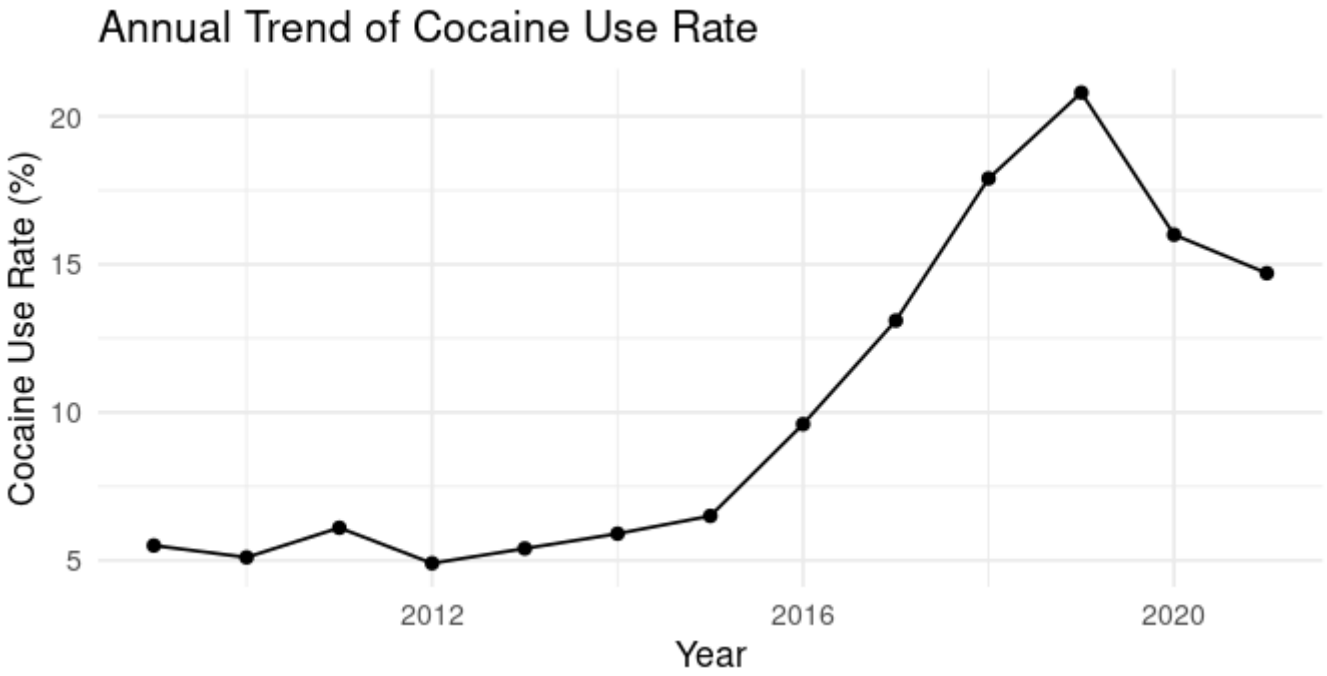
The accommodation status distribution among cocaine users is as follows:

- **Missing**: 640 (4.2%)
- **Owned/Rented**: 10,301 (67.2%)
- **Supported Accommodation (Drug Related)**: 224 (1.5%)
- **Residential Rehabilitation**: 14 (0.1%)
- **In Prison**: 973 (6.3%)
- **Homeless - Temporary/Unstable/Hostel**: 2,281 (14.9%)
- **Homeless - Roofless**: 873 (5.7%)
- **Other**: 27 (0.2%)

6. Trends Over Time (by Year)

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

Year	Total Cases	Cocaine Users	Cocaine Rate (%)
2009	6,474	358	5.5
2010	9,196	473	5.1
2011	8,935	542	6.1
2012	9,106	442	4.9
2013	10,234	548	5.4
2014	10,218	600	5.9
2015	9,666	632	6.5
2016	9,437	910	9.6
2017	8,537	1,120	13.1
2018	7,946	1,422	17.9
2019	7,424	1,545	20.8
2020	5,600	897	16.0
2021	1,079	159	14.7



7. Conclusion

The analysis reveals a significant increase in the cocaine usage rate from 2016 to 2019, peaking at 20.8% in 2019. The majority of cocaine users also use opioids (70.6%), 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.

Code block

```

# SDMD Data Analysis Script - Revised Version
# Count the number of cocaine users and perform preliminary analysis

# 1. Load necessary libraries
library(tidyverse)
library(lubridate)
library(haven) # For handling haven_labelled types

# 2. Data preparation
# Assume the data is already loaded as lookup_SDMD
sdmd_data <- lookup_SDMD

# Convert haven_labelled variables to regular types
sdmd_data <- sdmd_data %>%
  mutate(
```

```r
    ill_anydrug = as_factor(ill_anydrug),
    ill_opioids = as_factor(ill_opioids),
    ill_cocaine = as_factor(ill_cocaine),
    newinj = as_factor(newinj),
    accom = as_factor(accom)
  )

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

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

# 4.1 Overall cocaine usage rate
cocaine_users <- sdmd_data %>%
  filter(ill_cocaine == "Yes") %>%
  nrow()

total_users <- sdmd_data %>%
  filter(ill_anydrug == "Yes") %>%
  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 usage by five drug positions
# i1 to i5 are the five main drug positions
# First convert i1-i5 to numeric
sdmd_data <- sdmd_data %>%
  mutate(
    i1 = as.numeric(as.character(i1)),
    i2 = as.numeric(as.character(i2)),
    i3 = as.numeric(as.character(i3)),
    i4 = as.numeric(as.character(i4)),
    i5 = as.numeric(as.character(i5))
  )

cocaine_positions <- sdmd_data %>%
  summarize(
    position1 = sum(i1 %in% c(2201, 2202, 2203), na.rm = TRUE),
    position2 = sum(i2 %in% c(2201, 2202, 2203), na.rm = TRUE),
    position3 = sum(i3 %in% c(2201, 2202, 2203), na.rm = TRUE),
```

```r
    position4 = sum(i4 %in% c(2201, 2202, 2203), na.rm = TRUE),
    position5 = sum(i5 %in% c(2201, 2202, 2203), na.rm = TRUE)
  )

cat("=== Distribution of Cocaine in Five Drug Positions ===\n")
print(cocaine_positions)

# 5. Characteristics of cocaine users
cocaine_users_data <- sdmd_data %>%
  filter(ill_cocaine == "Yes")

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

# 5.1 Comorbidity with opioids
opioid_comorbidity <- cocaine_users_data %>%
  summarize(
    with_opioids = sum(ill_opioids == "Yes"),
    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(newinj) %>%
  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(accom) %>%
  mutate(percent = round(n / sum(n) * 100, 1))

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

# 6. Trends over time (by year)
if (!all(is.na(sdmd_data$dateass))) {
  yearly_trend <- sdmd_data %>%
    mutate(year = year(dateass)) %>%
    filter(!is.na(year)) %>%
    group_by(year) %>%
    summarize(
```

```r
        total_cases = n(),
        cocaine_users = sum(ill_cocaine == "Yes", na.rm = TRUE),
        cocaine_rate = round(cocaine_users / total_cases * 100, 1)
      )

  cat("\n=== Annual Trend of Cocaine Use ===\n")
  print(yearly_trend)

  # Simple visualization
  ggplot(yearly_trend, aes(x = year, y = cocaine_rate)) +
    geom_line() +
    geom_point() +
    labs(title = "Annual Trend of Cocaine Use Rate",
         x = "Year", y = "Cocaine Use Rate (%)") +
    theme_minimal()
} else {
  cat("\nDate data is incomplete, unable to analyze annual trend\n")
}

# 7. Save key results
results <- list(
  total_cocaine_users = cocaine_users,
  cocaine_rate = round(cocaine_users / total_users * 100, 1),
  position_distribution = cocaine_positions,
  opioid_comorbidity = opioid_comorbidity,
  injection_stats = injection_stats,
  accom_stats = accom_stats
)

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

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

```