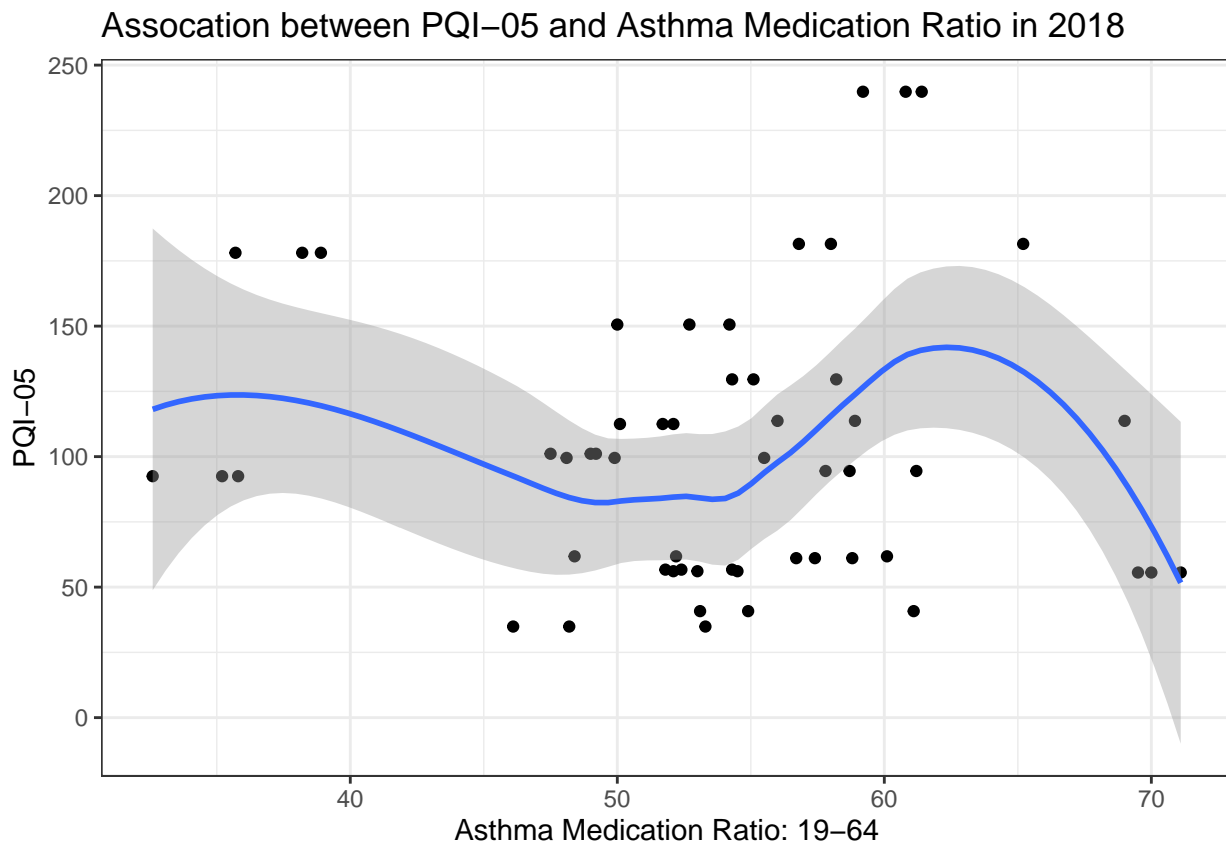


## Exploratory Plots of Medicaid Quality Health Measures Data 2018

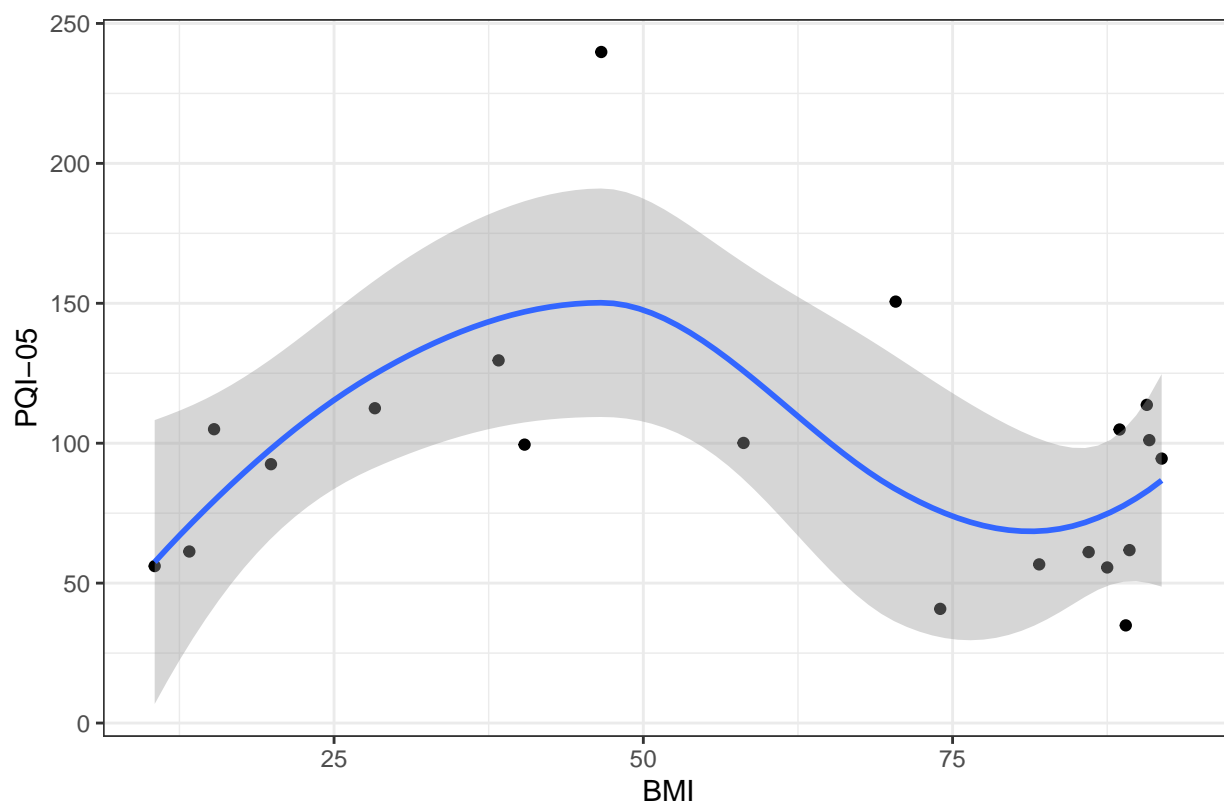
### Relevant Scatter Plots

```
#### SCATTER PLOTS
p1_d <- plot_measures_data(dat, "AMR-AD", "PQI05-AD")
(plot_1 <- ggplot(p1_d, aes(x = state_rate_m1, y = state_rate_m2)) +
  geom_point() +
  geom_smooth() +
  xlab("Asthma Medication Ratio: 19-64") +
  ylab("PQI-05") +
  ggtitle("Association between PQI-05 and Asthma Medication Ratio in 2018") +
  theme_bw())
```



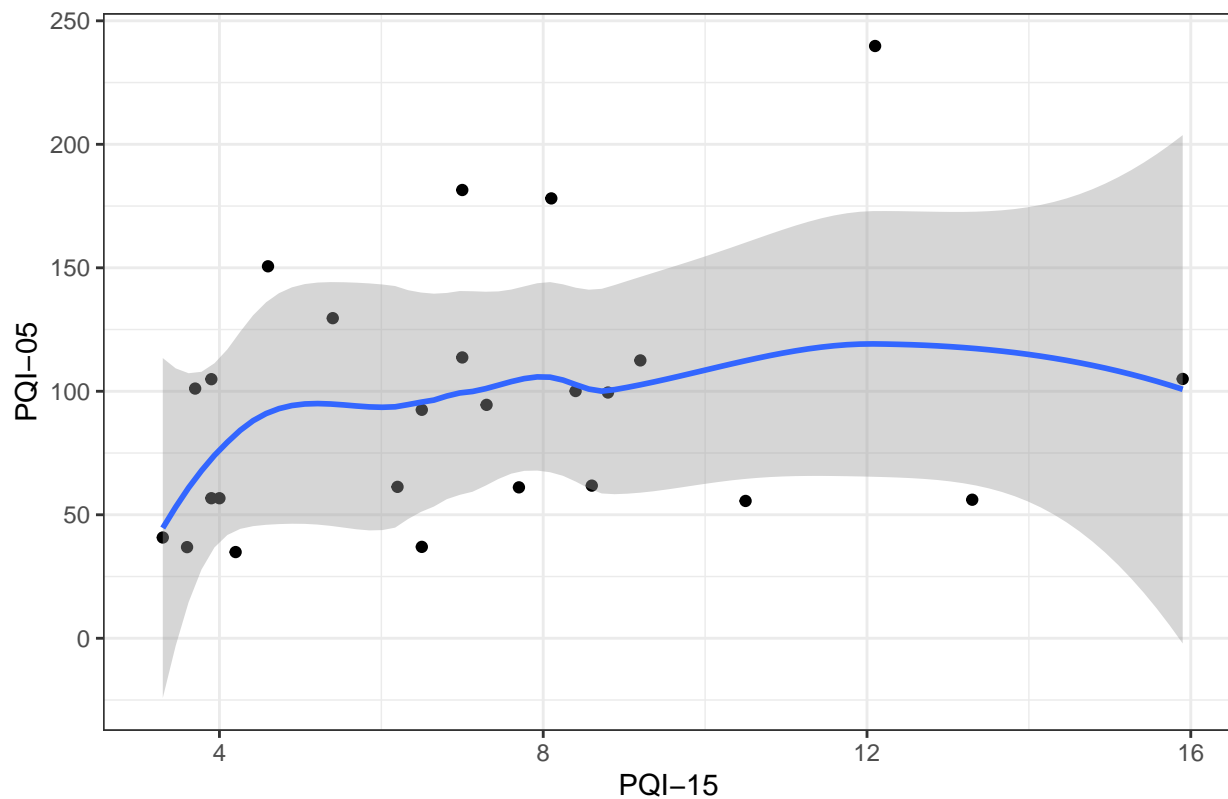
```
p2_d <- plot_measures_data(dat, "ABA-AD", "PQI05-AD")
(plot_2 <- ggplot(p2_d, aes(x = state_rate_m1, y = state_rate_m2)) +
  geom_point() +
  geom_smooth() +
  xlab("BMI") +
  ylab("PQI-05") +
  ggtitle("Association between PQI-05 and BMI in 2018") +
  theme_bw())
```

Association between PQI-05 and BMI in 2018



```
p3_d <- plot_measures_data(dat, "PQI15-AD", "PQI05-AD")
(plot_3 <- ggplot(p3_d, aes(x = state_rate_m1, y = state_rate_m2)) +
  geom_point() +
  geom_smooth() +
  xlab("PQI-15") +
  ylab("PQI-05") +
  ggtitle("Association between PQI-05 and PQI-15 in 2018") +
  theme_bw())
```

Association between PQI-05 and PQI-15 in 2018

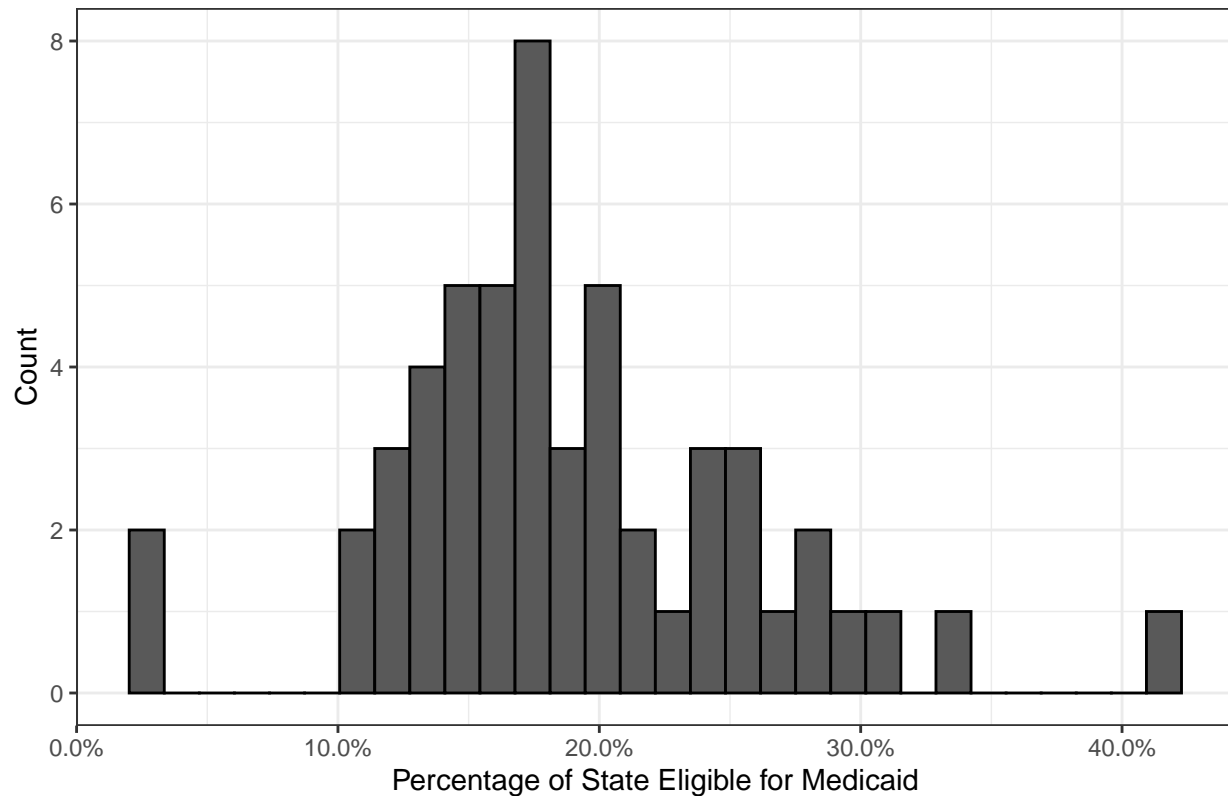


##### DEMOGRAPHIC DISTRIBUTIONS BY STATE

```
state1 <- state_demo %>%
  filter(county == "STATE TOTAL") %>%
  select(state, percent_eligible_for_medicaid) %>%
  mutate(
    percent_eligible_for_medicaid = as.numeric(str_replace(percent_eligible_for_medicaid, "[%]", "")) / 100
  )

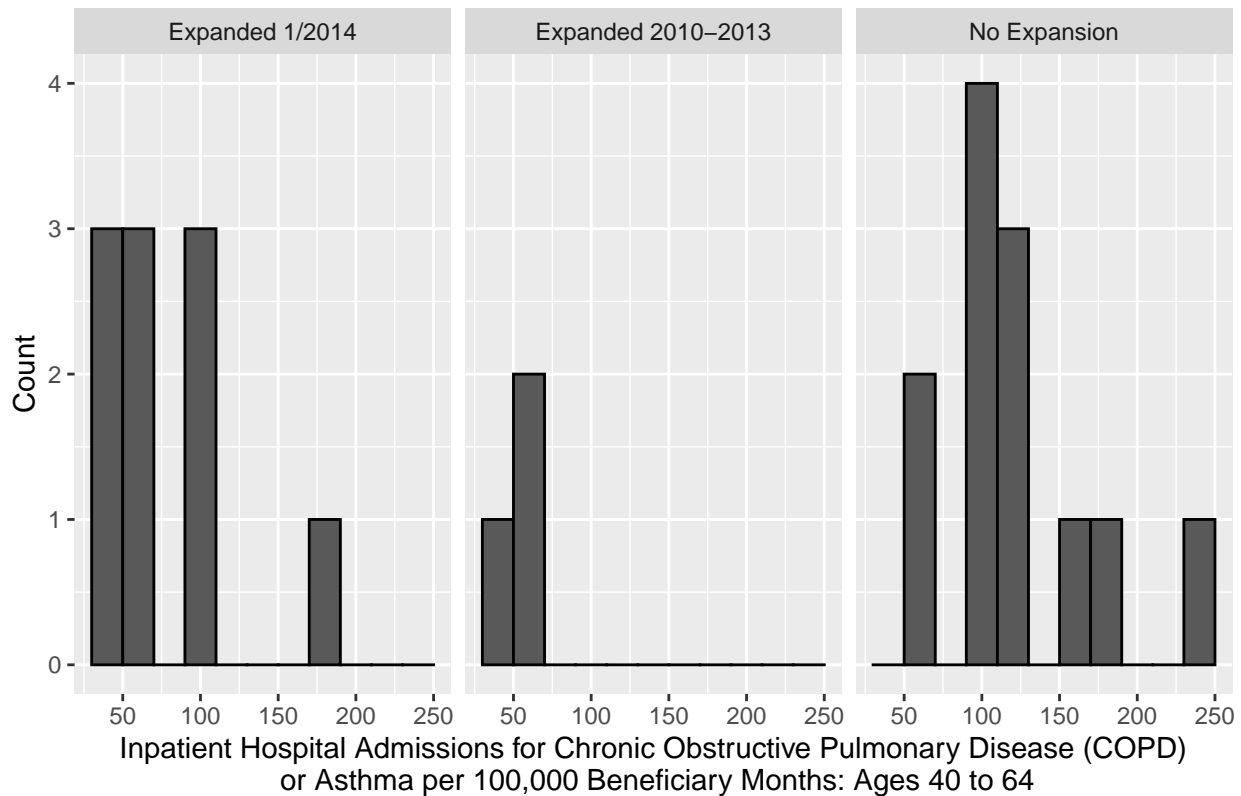
(plot_4 <- ggplot(state1, aes(x = percent_eligible_for_medicaid)) +
  geom_histogram(color = "black") +
  scale_x_continuous(labels = percent) +
  xlab("Percentage of State Eligible for Medicaid") +
  ylab("Count") +
  ggtitle("Distribution of Medicaid Eligibility in 2018") +
  theme_bw())
```

Distribution of Medicaid Eligibility in 2018



```
(plot_5 <- dat %>%
  filter(str_detect(measure_abbreviation, "PQI05")) %>%
  ggplot(aes(x = state_rate)) +
  geom_histogram(binwidth = 20,color = "black") +
  facet_wrap(~exp_time) +
  xlab("Inpatient Hospital Admissions for Chronic Obstructive Pulmonary Disease (COPD)\n or Asthma per 100,000") +
  ylab("Count") +
  ggtitle("Distribution of PQI-05 with Medicaid Expansion"))
```

## Distribution of PQI-05 with Medicaid Expansion



## Histograms of PQIs

```
### Create PQI histograms
histo_data <- dat %>%
  filter(str_detect(measure_name, "PQI")) %>%
  select(state, measure_abbreviation, state_rate)

(plot_6 <- ggplot(histo_data, aes(x = state_rate)) +
  geom_histogram(binwidth = 5, color = "black") +
  scale_x_continuous(labels = comma) +
  xlab("# of Admissions per 100,000 Beneficiary Months") +
  ylab("Count") +
  facet_wrap(~measure_abbreviation) +
  theme_bw() +
  ggtitle("Distribution of Prevention Quality Indicators"))
```

Distribution of Prevention Quality Indicators

