Plotting the Mean Cumulative Function

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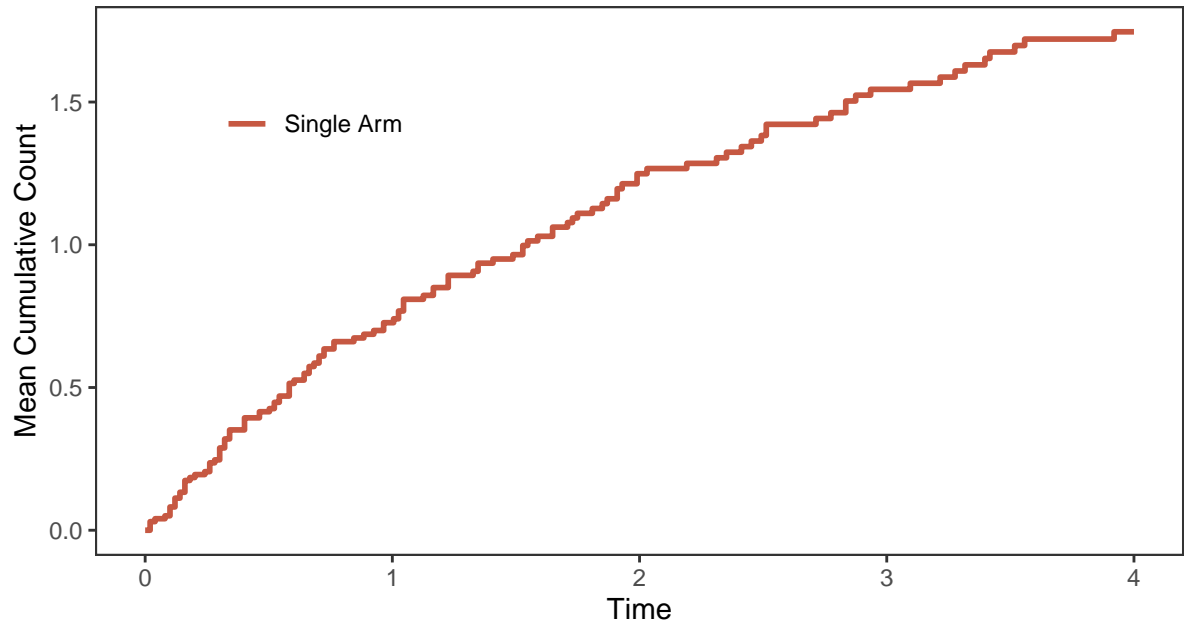
One sample setting

Simulate data for plotting

```
data <- MCC::GenData(n = 100)
```

**Plot the MCF with NARs**

```
q <- MCC::PlotOneSampleMCF(
  data = data,
  color_lab = "Single Arm"
)
q_nar <- MCC::PlotOneSampleNAR(
  data = data,
  x_breaks = seq(from = 0, to = 4),
  y_lab = "Single Arm"
)
q_main <- cowplot::plot_grid(
  plotlist = list(q, q_nar),
  nrow = 2,
  align = "v",
  axis = "l",
  rel_heights = c(3, 1)
)
show(q_main)
```

Plot area under the MCF with NARs

```r
q <- MCC::PlotOneSampleAUMCF(
  data = data,
  color_lab = "Single Arm"
)
q_nar <- MCC::PlotOneSampleNAR(
  data = data,
  x_breaks = seq(from = 0, to = 4),
  y_lab = "Single Arm"
)
q_main <- cowplot::plot_grid(
  plotlist = list(q, q_nar),
  nrow = 2,
  align = "v",
  axis = "l",
  rel_heights = c(3, 1)
)
show(q_main)
```
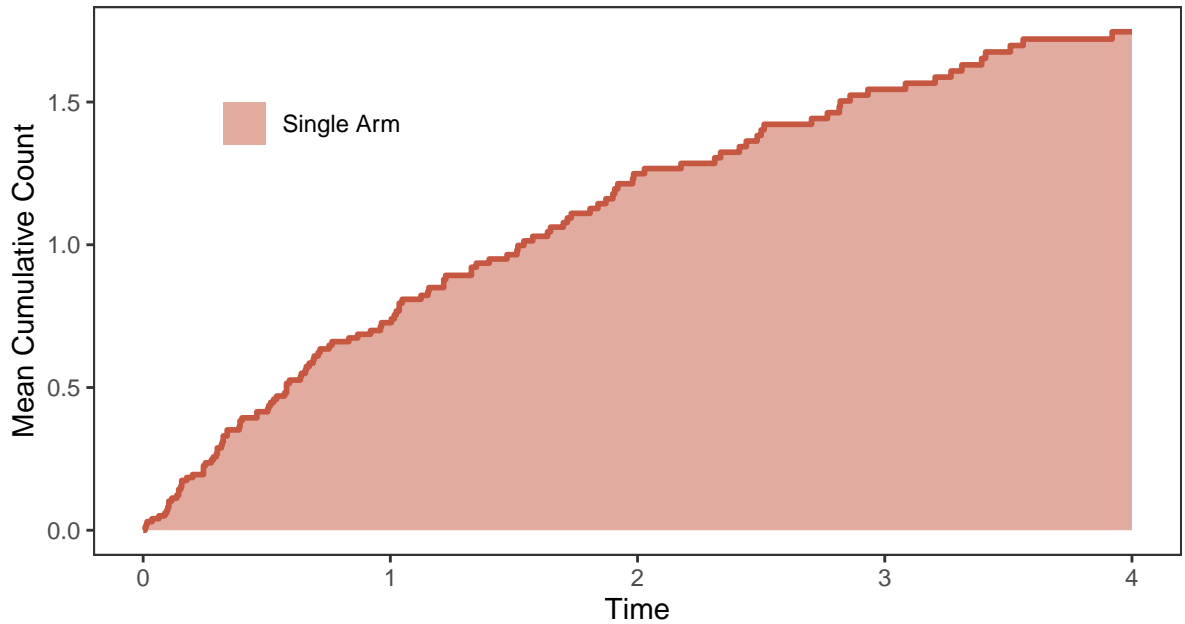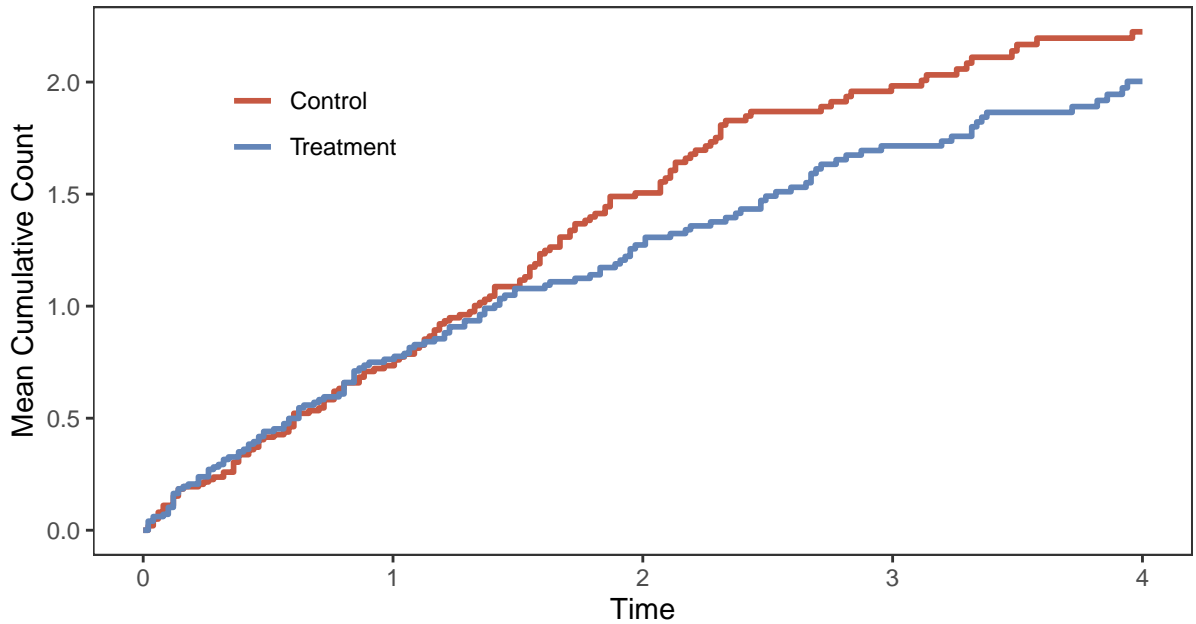
Two sample setting

Simulate data for plotting

```r
covariates <- data.frame(
  arm = c(rep(1, 100), rep(0, 100)),
  covar = stats::rnorm(200)
)
data <- MCC::GenData(
  beta_event = c(log(0.8), log(1.2)),
  covariates = covariates,
  frailty_variance = 0.2,
  tau = 4
)
```

Plot the MCFs with NARs

```r
q <- MCC::PlotMCFs(
  data = data,
  color_labs = c("Control", "Treatment")
)
q_nar <- MCC::PlotNARs(
  data = data,
  x_breaks = seq(from = 0, to = 4),
  y_labs = c("Control", "Treatment")
)
q_main <- cowplot::plot_grid(
  plotlist = list(q, q_nar),
  nrow = 2,
  align = "v",
  axis = "l",
  rel_heights = c(3, 1)
)
show(q_main)
```

Plot areas under the MCFs with NARs

```r
# Control arm.
q0 <- MCC::PlotAUMCFs(
  data = data,
  which_arm = 0,
  arm_label = "Control"
)
q0_nar <- MCC::PlotOneSampleNAR(
  data = data %>% dplyr::filter(arm == 0),
  x_breaks = seq(from = 0, to = 4),
  y_lab = "Control"
)
q0_main <- cowplot::plot_grid(
  plotlist = list(q0, q0_nar),
  nrow = 2,
  align = "v",
  axis = "l",
  rel_heights = c(3, 1)
)

# Treatment arm.
q1 <- MCC::PlotAUMCFs(
  data = data,
  which_arm = 1,
  color = "#6385B8",
  arm_label = "Treatment"
)
q1_nar <- MCC::PlotOneSampleNAR(
  data = data %>% dplyr::filter(arm == 1),
  x_breaks = seq(from = 0, to = 4),
  y_lab = "Treatment"
)
q1_main <- cowplot::plot_grid(
  plotlist = list(q1, q1_nar),
  nrow = 2,
  align = "v",
  axis = "l",
  rel_heights = c(3, 1)
)

# Overall figure.
q_main <- cowplot::plot_grid(
  plotlist = list(q0_main, q1_main),
  nrow = 1
)
show(q_main)
```
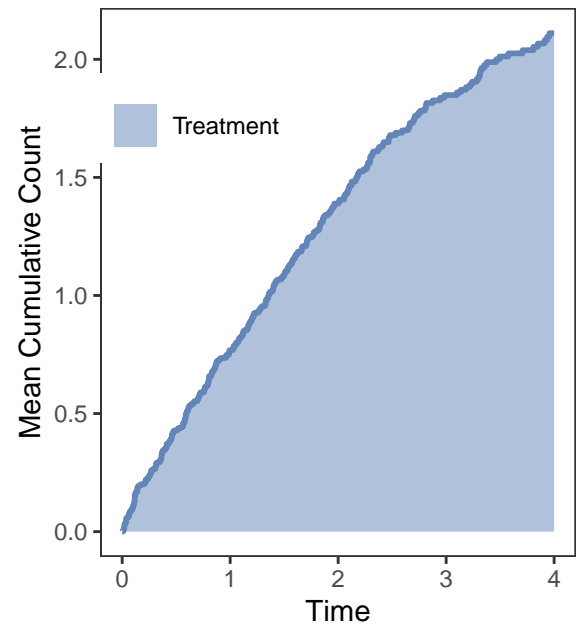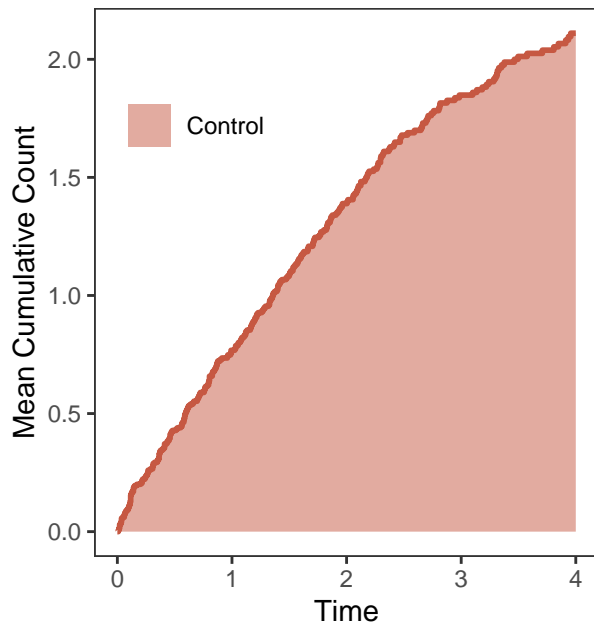
| Control | 100 | 59 | 38 | 17 | 9 |
| | 0 | 1 | 2 | 3 | 4 |

| Treatment | 100 | 60 | 37 | 25 | 17 |
| | 0 | 1 | 2 | 3 | 4 |