

MEM Working Example

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Load the library and look at the data

```
devtools::document()

## Updating basket documentation
## Writing NAMESPACE
## Loading basket
## Writing NAMESPACE
# Load the vemurafinib data for analysis.
data(vemu_wide)
vemu_wide

## # A tibble: 6 x 7
##   baskets enrolled evaluable responders one_or_fewer_pr~ two_prior_thera~
##   <chr>      <dbl>      <dbl>      <dbl>      <dbl>      <dbl>
## 1 NSCLC         20         19         8         11         4
## 2 CRC (v~        10         10         0         1         2
## 3 CRC (v~        27         26         1         5        11
## 4 Bile D~         8         8         1         2         1
## 5 ECD or~        18         14         6         9         7
## 6 ATC           7         7         2         5         1
## # ... with 1 more variable: three_or_more_therapies <dbl>
```

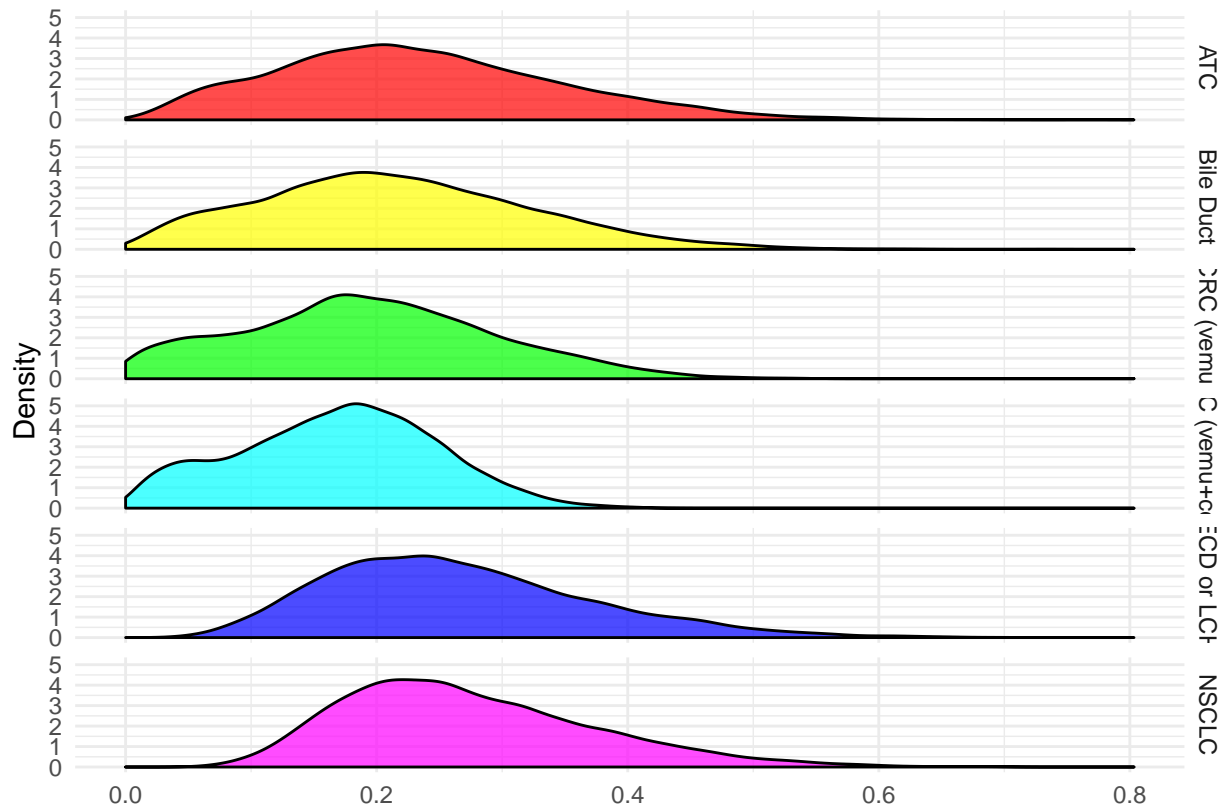
Fit the model

```
# Fit the MEM model using Empirical Bayes.
m <- mem_empirical_bayes(responses = vemu_wide$responders,
                        size = vemu_wide$evaluable,
                        name = vemu_wide$baskets)
m
```

```
## Ratio of basket responders to basket size:
```

Plot the posteriors

```
# Plot the response rate of each basket.
plot(m)
```



Questions

1. What is CDF? It doesn't look like a cumulative density function.
2. What is HPD?
3. Which information should be shown when we print an exchangeability model? Maybe the following:
 - Ratio of basket responders to basket size
 - ESS
 - number responses per basket
 - size of each basket
 - mean estimate
 - median estimate