

# PH241 HW7

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```
knitr::opts_chunk$set(echo = TRUE)
library(epitools)
```

## Part A

```
matrix1 = matrix(c(59, 119,
                   136, 186),
                 ncol=2)
colnames(matrix1) = c("Dead", "Alive")
rownames(matrix1) = c("Low-Fat Diet", "Other Diet")
pooled2x2 = as.table(matrix1)
```

pooled2x2

```
##           Dead Alive
## Low-Fat Diet    59   136
## Other Diet     119   186
```

```
oddsratio(pooled2x2)
```

```
## $data
##           Dead Alive Total
## Low-Fat Diet    59   136   195
## Other Diet     119   186   305
## Total          178   322   500
##
## $measure
##           NA
## odds ratio with 95% C.I. estimate lower upper
##           Low-Fat Diet 1.0000000      NA      NA
##           Other Diet   0.6791653 0.4612773 0.9934943
##
## $p.value
##           NA
## two-sided midp.exact fisher.exact chi.square
## Low-Fat Diet      NA      NA      NA
## Other Diet    0.04617466 0.05535248 0.04600548
##
## $correction
## [1] FALSE
##
## attr("method")
## [1] "median-unbiased estimate & mid-p exact CI"
```

## Part C

```

matrix2 = matrix(c(17, 75, 28, 40, 10, 14, 4, 7,
                   22, 75, 36, 45, 37, 34, 24, 32),
                 ncol=2)
colnames(matrix2) = c("Dead", "Alive")
rownames(matrix2) = c("AL 0 Low-Fat Diet", "AL 0 Other Diet",
                      "AL 1 Low-Fat Diet", "AL 1 Other Diet",
                      "AL 2 Low-Fat Diet", "AL 2 Other Diet",
                      "AL 3 Low-Fat Diet", "AL 3 Other Diet"
                      )
stratified2x2 = as.table(matrix2)

oddsratio(stratified2x2[1:2,])

```

```

## $data
##               Dead Alive Total
## AL 0 Low-Fat Diet    17    22    39
## AL 0 Other Diet     75    75   150
## Total                92    97   189
##
## $measure
##               NA
## odds ratio with 95% C.I. estimate lower upper
##      AL 0 Low-Fat Diet 1.0000000      NA      NA
##      AL 0 Other Diet  0.7751425 0.3753545 1.577818
##
## $p.value
##               NA
## two-sided      midp.exact fisher.exact chi.square
## AL 0 Low-Fat Diet      NA      NA      NA
## AL 0 Other Diet    0.4831785    0.5899974 0.4755258
##
## $correction
## [1] FALSE
##
## attr("method")
## [1] "median-unbiased estimate & mid-p exact CI"

oddsratio(stratified2x2[3:4,])

```

```

## $data
##               Dead Alive Total
## AL 1 Low-Fat Diet    28    36    64
## AL 1 Other Diet     40    45    85
## Total                68    81   149
##
## $measure
##               NA
## odds ratio with 95% C.I. estimate lower upper
##      AL 1 Low-Fat Diet 1.0000000      NA      NA
##      AL 1 Other Diet  0.8762626 0.4532086 1.686645
##
## $p.value
##               NA
## two-sided      midp.exact fisher.exact chi.square

```

```
## AL 1 Low-Fat Diet NA NA NA
## AL 1 Other Diet 0.6927384 0.741056 0.6881312
##
## $correction
## [1] FALSE
##
## attr("method")
## [1] "median-unbiased estimate & mid-p exact CI"
oddsratio(stratified2x2[5:6,])
```

```
## $data
##           Dead Alive Total
## AL 2 Low-Fat Diet    10    37    47
## AL 2 Other Diet     14    34    48
## Total                24    71    95
##
## $measure
##           NA
## odds ratio with 95% C.I. estimate lower upper
## AL 2 Low-Fat Diet 1.0000000 NA NA
## AL 2 Other Diet 0.6615922 0.2509685 1.691404
##
## $p.value
##           NA
## two-sided midp.exact fisher.exact chi.square
## AL 2 Low-Fat Diet NA NA NA
## AL 2 Other Diet 0.389659 0.4800262 0.376229
##
## $correction
## [1] FALSE
##
## attr("method")
## [1] "median-unbiased estimate & mid-p exact CI"
oddsratio(stratified2x2[7:8,])
```

```
## Warning in chisq.test(xx, correct = correction): Chi-squared approximation
## may be incorrect
```

```
## $data
##           Dead Alive Total
## AL 3 Low-Fat Diet    4    24    28
## AL 3 Other Diet     7    32    39
## Total                11    56    67
##
## $measure
##           NA
## odds ratio with 95% C.I. estimate lower upper
## AL 3 Low-Fat Diet 1.0000000 NA NA
## AL 3 Other Diet 0.7752327 0.1778887 2.95251
##
## $p.value
##           NA
## two-sided midp.exact fisher.exact chi.square
## AL 3 Low-Fat Diet NA NA NA
```

```
## AL 3 Other Diet    0.7137313    0.7504788  0.6897423
##
## $correction
## [1] FALSE
##
## attr("method")
## [1] "median-unbiased estimate & mid-p exact CI"
```