

Median Age at Death and Modal Age at Death

2021-12-19

Calculating the Median Age at Death with Decimals

downloaded from HMD.

```
setwd("d:/Rcode/Data/USA")

LT.women <- read.table("fltper_1x1.txt", header=TRUE, skip=2)
LT.men <- read.table("mltper_1x1.txt", header=TRUE, skip=2)
LT.both <- read.table("bltper_1x1.txt", header=TRUE, skip=2)

###Median
###like Canudas-Romo (2010)
lx = LT.women$lx[LT.women$Year==2019]
age = 0:110
Sx = lx/lx[1]
x = Sx - 0.5
the.x = which(x==min(x[x>0]))
Median = age[the.x] + ((0.5 - Sx[the.x]) / (Sx[the.x+1] - Sx[the.x]))

###corresponding function
Median1.fun <- function(lx) {

  Sx = lx/lx[1]
  x = Sx - 0.5
  the.x = which(x==min(x[x>0]))
  Median = age[the.x] + ((0.5 - Sx[the.x]) / (Sx[the.x+1] - Sx[the.x]))

  return(Median)
}

Median1.fun(lx = LT.women$lx[LT.women$Year==2019])

## [1] 85.29959

Median1.fun(lx = LT.men$lx[LT.women$Year==2019])

## [1] 80.6744

Median1.fun(lx = LT.both$lx[LT.women$Year==2019])

## [1] 83.1046
```

References

- Canudas-Romo, V. (2010). Three Measures of Longevity: Time Trends and Record Values. **Demography** 47(2):299–312.